ORLEN Group 2018
Integrated Report

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Table of Contents

1. Our Report

1.1. Concept and Key Functionalities 4
1.2. Our Stakeholders 8
1.3. Relevance Matrix 9
1.4. GRI Table 11

2. The ORLEN Group and its Environment

2.1. ORLEN Group 2018

2.1.1. Letter from the President of the Management Board 15
2.1.2. ORLEN Group 2018 17
2.1.3. Our Capitals 29
2.1.4. Business Model 44
2.1.5. Value Creation 50
2.1.6. Shares and Shareholding Structure 51
2.1.7. Our Products, Services and Brands 54
2.1.8. Our Markets 59
2.1.9. Our Operations in 2018 60

2.2. Our Environment

2.2.1. Macroeconomic Environment 93
2.2.2. Market Environment 95
2.2.3. Competitive Environment 103
2.2.4. Regulatory Environment 107
2.2.5. Suppliers and Customers 116
2.2.6. Social Environment 120

3. Management Rules

3.1. Letter from the Chairwoman of the Supervisory Board 123
3.2. ORLEN Group's Structure 124
3.3. Corporate Governance 132
3.4. Integrated Management System and Key Policies 159
3.5. Remuneration Policy 168

4. Our Strategy

4.1. Update of PKN ORLEN's Strategy for 2019-2022 174
4.2. Strategy Implementation in 2018 180
4.3. Implementation of Investment Projects 187
4.4. Monitoring of Strategy Implementation 189
4.5. Short-term Market Outlook 190

5. Social Responsibility

5.1. CSR Strategy

5.1.1. CSR Strategy Implementation 192
5.1.2. Responsible Year 196
5.1.3. Our Commitments 209

5.2. Employee Related Issues and Respecting Human Rights

5.2.1. Core Values and Standards of Conduct 212
5.2.2. Responsible Employer 215
5.2.3. Diversity and Equal Opportunities 224
5.2.4. Safety of Employees and Contractors 226

5.3. Social Issues

5.3.1. Responsibility towards Society 241
5.3.2. Responsibility towards Suppliers and Customers 245
5.3.3. Product Responsibility 253

5.4. Environmental Issues

5.4.1. Environmental Responsibility 259
5.4.2. Water 261
5.4.3. Effluents 262
5.4.4. Emissions to the Air 263
5.4.5. Waste 265
5.4.6. Environmental Regulations 266
5.4.7. Capital Expenditure on Environmental Protection 267
5.4.8. Best Practices in the Area of Education 269
5.4.9. Environmental Grievance 271

5.5. Counteracting Corruption and Bribery 272

6. Risks and Opportunities

6.1. Risk Management 276
6.2. Opportunities 288

7. Financial Results

7.1. Management’s Discussion and Analysis of 2018 Financial Results 291
7.2. Consolidated Financial Statements 295
7.3. Basic Information 303
7.4. ORLEN Group's Structure 314
7.5 Segment's Data 322
7.6. Notes and Other Information 325

8. Outlook 2019+ 424

Concept and Key Functionalities

We present the ORLEN Group's Annual Report, prepared as an integrated report. This document is our fifth integrated report, showing interactions and interrelations between the financial and non-financial aspects of the ORLEN Group's operations.

As such, this Report provides a comprehensive and coherent overview of the Group's activities, business model, strategy, value creation process and financial performance from the point of view of our key Stakeholders.

This Report includes data on the Polski Koncern Naftowy ORLEN Group (the "ORLEN Group") and Polski Koncern Naftowy ORLEN S.A. ("PKN ORLEN", the "Company") for 2018. The previous Report, for 2017, was published in June 2018. Integrated reports are issued on an annual basis and are continuously evolving, to reflect changes within the ORLEN Group and in its environment.There were no significant changes from the previous reporting period in the scope, boundary, or measurement methods applied in this Report. Changes in this Report:

- This Report is based on the international GRI Standards (previously – GRI G4).
- Selected information presented in this Report, including the information on employees and training, covers the entire ORLEN Group, and not only its selected members, as was the case in the 2017 report. The presentation of data for Indicator 102-8 "Information on employees and other workers" has been changed to make it compliant with the GRI Standards guidelines and the data presentation requirements.

In 2018, PKN ORLEN finalised repurchase of minority interests in Unipetrol, thus becoming the sole shareholder in the company. In 2018, we continued implementation of the 2016 strategy, and in December 2018 a revised ORLEN Group strategy for 2019–2022 was presented.

Reporting is a fixed and important part in the process of communicating information on the ORLEN Group's activities. Until 2014, we published annual reports and CSR reports separately. Since 2008, we have produced our CSR reports in line with the Global Reporting Initiative standards. Until 2013, also ecology and environmental reports were issued as separate publications. One of the cornerstones of our CSR strategy is the objective of being perceived as a CSR leader by our stakeholders. To that end, we have committed to implementing a number of initiatives and measures, including the adoption of integrated reporting. In August 2015, PKN ORLEN published its first integrated report, covering 2014.

Since its inception, PKN ORLEN has published 14 annual reports, 10 corporate social responsibility (CSR) reports, 10 environmental reports and 5 integrated reports.

Reporting standards

The layout and content of this document are based on the **IIRC (International Integrated Reporting Council**) and **GRI (Global Reporting Initiative**) guidelines. This Report also reflects the latest directions in the EU legislation on **disclosure of non-financial and diversity information** (Directive 2014/95/EU). The EU regulations have been implemented into Polish law by **amending the Accounting Act** (the Act amending the Accounting Act of December 15th 2016– the new Art. 49b and related amendments to its other Articles – applicable to financial statements prepared for the financial year beginning on January 1st 2017) and by amending the Minister of Finance's Regulation on current and periodic information of May 25th 2016. In March 2019, we issued the Non-Financial Statement of the ORLEN Group and PKN ORLEN S.A. for 2018.

Integrated reporting is an effective method for communicating our business model. Preparation of an integrated report includes performing analyses and collecting information which is of key relevance to the ORLEN Group Stakeholders. As a result, a complete integrated report is compiled, which, among other things, provides information on how the business strategy pursued by the Group and its risk management system translate into the Company's value creation over time, taking into account the Company's environmental impact. This integrated Report presents the activities of the ORLEN Group in 2018, shows results and effects of its operations, and the key aspects of the Group's financial and non-financial performance vital to value creation. In accordance with the guidelines on integrated reporting, our Report describes the ORLEN Group's current operations, its market, regulatory and social environments, governance principles, strategy implementation, risks and opportunities, financial performance, Outlook (which shows how the Company sees the future), trends, and market forecasts. It focuses on a description of the Company's business model, presentation of its respective capitals (including the financial, production, human, intellectual, social, and natural capital), changes that occurred over the year, and performance management. Presentation of the value creation process is another vital component of the Report.

Non-financial reporting is a material element of an integrated report. The ORLEN Group's integrated report was for the first time prepared in accordance with the Core option of GRI Standards (until 2017, the ORLEN Group prepared its reports in line with the GRI G4 guidelines). The issues discussed include economic, environmental and social aspects. This Report presents indicators from three Universal Standards (Foundation, GRI 101), General Disclosures (GRI 102), Management Approach (GRI 103), and selected Topic-specific Standards from the Economic (GRI 200), Environmental (GRI 300) and Social (GRI 400) series.

Reporting methodology

Preparation of this Report included the following stages:

- Confirmation of significant business and social responsibility issues relevant to the ORLEN Group, and their materiality.
- Confirmation of the Stakeholder Map and relevant reporting aspects.
- Collection of data showing implementation of the policies, strategies and objectives of corporate social responsibility, as well as the due diligence procedures and risk management policies and how they are put into effect at the ORLEN Group.
- Preparation of this ORLEN Group Report for 2018, based on the collected data in accordance with the Polish Accounting Act of December 15th 2016 (Dz.U. of 2017, item 61), GRI Standards 2016 (Core option), and guidelines for integrated reporting issued by the Integrated Reporting Council.
- External assurance of this Report based on the ISAE3000 standard.

Significant changes in the organisation's size, structure, ownership, and its supply chain during the reporting period

No material changes in the ORLEN Group's size or structure occurred in the reporting period.
The key ownership changes included repurchase of shares from minority shareholders of Unipetrol in 2018 and acquisition by PKN ORLEN S.A. of 100% of the company's share capital.

As regards feedstock supplies, in 2018 two long-term contracts for oil deliveries via pipeline to the Płock refinery (with Rosnieft Oil Company and Tatneft Europe AG) and one long-term contract for oil supply by sea (with Saudi Arabian Oil Company) were in force. These contracts covered almost 78% of crude oil supplies to PKN ORLEN.
Under separate contracts, PKN ORLEN supplies crude oil to three ORLEN Group refineries, in Litvinov and Kralupy in the Czech Republic, and in Mazeikiai in Lithuania.
Most deliveries of natural gas to the ORLEN Group companies in Poland are made under a five-year contract signed in 2016 by PKN ORLEN and PGNiG, and under additional contracts with major European gas suppliers. Gas is also purchased on the Polish Power Exchange. The ORLEN Group takes steps to ensure stability of supplies and to lower gas procurement costs through such measures as diversification of supply sources, centralisation of gas trading functions and further development of the trading expertise. The current portfolio of gas contracts allows the Group to optimise gas procurement costs by selecting the underlying gas indices and delivery points.

Key functionalities

This integrated Report is only available online, with a number of functionalities and tools facilitating access to its contents, including:

- **Interactive key performance indicators** reflecting current and historical data.
- **Glossary of financial and industry-specific terms**.
- **Table of GRI Indicators** based on which non-financial performance is reported.
- All multimedia contents of the Report are available in the **Multimedia Centre**.
- Key publications relating to the ORLEN Group's operations in 2018 are downloadable from the **Document Centre**.
- Selected figures are available in the **Charts and Tables Centre** and **ORLEN in figures**.
- An instructional video on how to navigate this Report is available in the **Help** section.

This Report also contains interactive infographics, including the **business model**, the **value creation model**, and the **map of markets**.

It is possible to generate a **pdf file** of the Report.

Users can complete an interactive **questionnaire** to provide feedback on the Report.

Integration

We have defined our key areas with the principle of integration in mind, which is reflected in the very structure of this Report:

- **Our report**
  Concept, methodology and key functionalities.
- **The ORLEN Group and its environment**
  What the organisation deals with and under what external conditions it operates; achievements in each area of operations (business segment).
- **Governance principles**
  The Group's corporate governance, relations between corporate units and key assumptions underlying management of the ORLEN Group.
- **Our strategy**
  Pillars of our strategy, its implementation and development directions.
- **Corporate Social responsibility**
  The CSR strategy, employee-related issues, social issues, environmental issues, respect for human rights, counteracting corruption and bribery.
- **Risks and opportunities**
  The enterprise risk management system, opportunities and challenges faced by the ORLEN Group.
- **Financial results**
  To what extent we have achieved our strategic goals.
- **Outlook 2019+**
  Prospects for the future.

Connectivity

The contents of this Report are not static. Its pages are interlinked, forming a unique, chain-like structure.

Each sub-section is linked to:

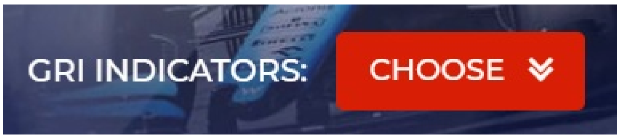
- **Capitals**

The contents may be defined through different kinds of capital − whether financial, production, human, intellectual, social or natural.

This linkage enables easier access to information on the capitals, which often overlap, building the Company value in different areas.

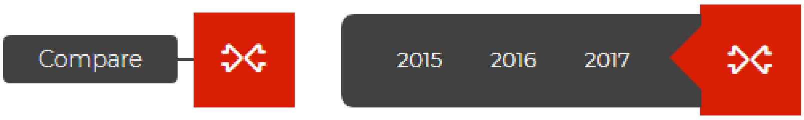
- **GRI indicators**

This Report presents non-financial data in compliance with the Core version of the Global Reporting Initiative Standards. Each internal page contains information on the relevant GRI indicator, along with several other tools, such as the GRI search and the GRI content index.



- **Contents of previous reports**

Selected internal pages link back to data from the Company's integrated reports for the last three years, allowing users to compare relevant data and trends over that period.



Related sections

Each page of this Report is linked to two other pages with similar or supplementary topics.

Read also:

- Product Responsibility
- Strategy Implementation in 2018

Our Stakeholders

Responsibility and dialogue are the underlying principles of our Stakeholder relations. We seek to build them on integrity, transparency, mutual respect and professionalism.

To ensure highest quality of Stakeholder relations, the frequency and methods of communication are tailored to the characteristics and current expectations of each Stakeholder group. A number of such activities are described in this Report.

Attendees of the Stakeholder panel held in December 2017, that is representatives of the ORLEN Group and its Stakeholders, reviewed the Stakeholder Map. In late 2018, following internal consultations, the document was updated with respect to the following:

- The key Stakeholder group was expanded to include capital market and ORLEN Group foundations.
- Shareholders and the State Treasury were included in the 'capital market' group.
- Society was not included in the group of important Stakeholders. Society encompasses different groups which are presented on the Stakeholder Map.

The updated Stakeholder Map with a description of the respective Stakeholder groups is presented in the diagram below.

Relevance Matrix

External and internal Stakeholders are involved in the process of selecting relevant aspects to be reported by the ORLEN Group.

The process of defining relevant reporting aspects at the ORLEN Group included the following activities:

Identification:

- In December 2017, representatives of the ORLEN Group and its Stakeholder environment took part in a meeting (Stakeholder panel) organised according to the international AA1000SES standard on managing stakeholder relations. The consultations concerned priority directions for sustainable and responsible business, as well as formulating expectations as to disclosures relating to the Company's operations and their social and economic impacts, including determination of their materiality. The panel was attended by representatives of industry organisations and institutions, academics, social partners, suppliers, and customers.

Prioritisation:

- To update and select relevant aspects to be reported by the ORLEN Group, consultations were held in late 2018 and early 2019 with the ORLEN Group's key reporting areas.

Validation:

- External and internal Stakeholders completed questionnaires covering economic, social and environmental reporting aspects. The Stakeholders assessed the materiality of each aspect as 'low', 'medium', or 'high'.

As a result, the final list of the ORLEN Group's relevant reporting aspects was prepared, specifying their materiality to the ORLEN Group and its Stakeholders.

Relevant reporting aspects identified by external and internal Stakeholders:

Following the analyses and consultations with internal and external Stakeholders, the list of aspects was extended to include the following issues:

- Economic aspects: expanding the product and service portfolio and building customer loyalty, mega trends of the future.
- Social aspects: employee-related issues, respect for human rights, counteracting corruption.
- Environmental aspects: ensuring environmental compliance, environmental impacts; environmental protection efforts.

Relevant reporting aspects identified by external and internal Stakeholders:

Economy	Social
Strategy implementation and financial position	Employee related issues
Innovation, research and development	Respecting human rights
Workplace and industrial process safety	Compliance with ethical standards
Feedstock security	Counteracting corruption

- Expanding product range and building customer loyalty
- Compliance with regulations
- Impact of changes in market and business environment
- Mega trends of the future

Environmental

- Ensuring environmental compliance
- Environmental impacts
- Environmental protection efforts

- Diversity and equal opportunities
- Communication with external stakeholders
- Participation in social life and impact on local communities
- Responsibility towards key stakeholders
- Responsible supply chain

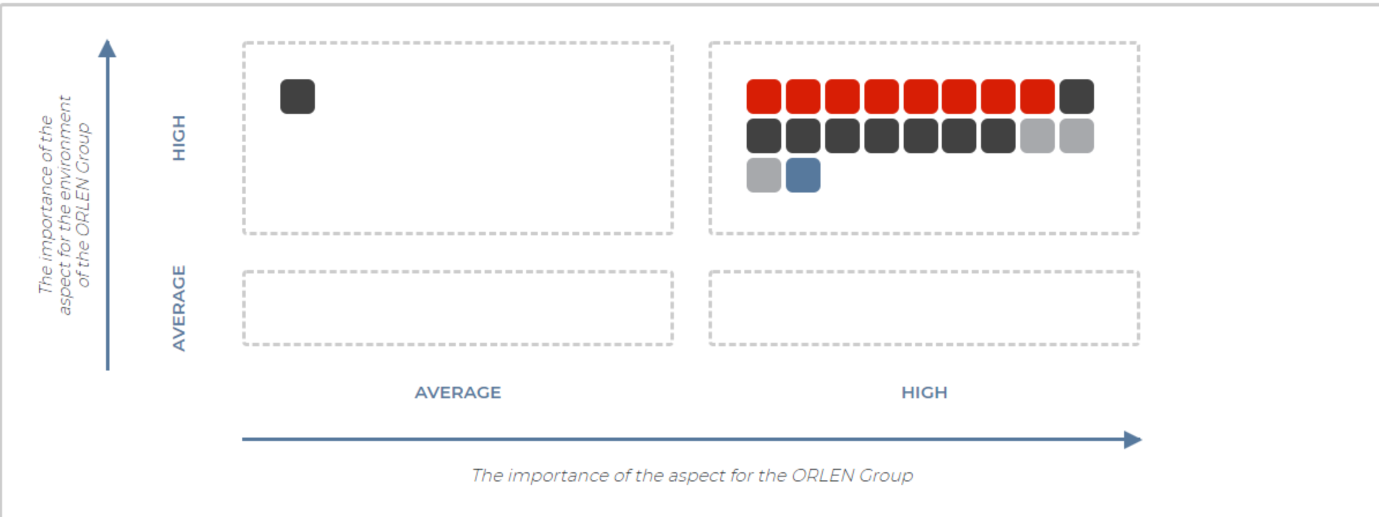
Other

- Significance of the ORLEN Group's activities for the development of the national economy

As a result, the final list of the ORLEN Group's relevant reporting aspects was prepared, specifying their materiality (i.e. low, medium and high) to the ORLEN Group and its Stakeholders.

External Stakeholders, i.e. representatives of the ORLEN Group's environment, considered all aspects as being highly material. Internal Stakeholders, i.e. representatives of the ORLEN Group, identified one aspect of medium materiality, that is: diversity and equal opportunities. They considered other aspects as highly material.

Relevance Matrix of the ORLEN Group:



GRI Table

The Integrated Report describes the financial and non-financial activities of the entire ORLEN Group.

Some aspects of non-financial activities are presented on the examples of selected, key in terms of the scope of activities of the ORLEN Group companies.

GRI Standard Number	GRI Standard Title	Disclosure Number	Disclosure Title
GRI 101			Foundation
GRI 102	General Disclosures 2016	102-1	Name of the organization
GRI 102	General Disclosures 2016	102-2	Activities, brands, products, and services
GRI 102	General Disclosures 2016	102-3	Location of headquarters
GRI 102	General Disclosures 2016	102-4	Location of operations
GRI 102	General Disclosures 2016	102-5	Ownership and legal form
GRI 102	General Disclosures 2016	102-6	Markets served
GRI 102	General Disclosures 2016	102-7	Scale of the organization
GRI 102	General Disclosures 2016	102-8	Information on employees and other workers
GRI 102	General Disclosures 2016	102-9	Supply chain
GRI 102	General Disclosures 2016	102-10	Significant changes to the organization and its supply chain
GRI 102	General Disclosures 2016	102-11	Precautionary Principle or approach
GRI 102	General Disclosures 2016	102-12	External initiatives
GRI 102	General Disclosures 2016	102-13	Membership of associations
GRI 102	General Disclosures 2016	102-14	Statement from senior decision-maker
GRI 102	General Disclosures 2016	102-15	Key impacts, risks, and opportunities
GRI 102	General Disclosures 2016	102-16	Values, principles, standards, and norms of behaviour
GRI 102	General Disclosures 2016	102-17	Mechanisms for advice and concerns about ethics

GRI 102	General Disclosures 2016	102-18	Governance structure
GRI 102	General Disclosures 2016	102-22	Composition of the highest governance body and its committees
GRI 102	General Disclosures 2016	102-35	Remuneration policies
GRI 102	General Disclosures 2016	102-40	List of stakeholder groups
GRI 102	General Disclosures 2016	102-41	Collective bergaining agreements
GRI 102	General Disclosures 2016	102-42	Identifying and selecting stakeholders
GRI 102	General Disclosures 2016	102-43	Approach to stakeholder engagement
GRI 102	General Disclosures 2016	102-44	Key topics and concerns raised
GRI 102	General Disclosures 2016	102-45	Entities included in the consolidated financial statements
GRI 102	General Disclosures 2016	102-46	Defining report content and topic Boundaries
GRI 102	General Disclosures 2016	102-47	List of material topics
GRI 102	General Disclosures 2016	102-48	Restatements of information
GRI 102	General Disclosures 2016	102-49	Changes in reporting
GRI 102	General Disclosures 2016	102-50	Reporting period
GRI 102	General Disclosures 2016	102-51	Date of most recent report
GRI 102	General Disclosures 2016	102-52	Reporting cycle
GRI 102	General Disclosures 2016	102-53	Contact point for questions regarding the report
GRI 102	General Disclosures 2016	102-54	Claims of reporting in accordance with the GRI Standards
GRI 102	General Disclosures 2016	102-55	GRI content index
GRI 102	General Disclosures 2016	102-56	External assurance
GRI 103	Management Approach 2016	103-1	Explanation of the material topic and its Boundary
GRI 103	Management Approach 2016	103-2	The management approach and its components

GRI 103	Management Approach 2016	103-3	Evaluation of the management approach
GRI 201	Economic Performance 2016	201-1	Direct economic value generated and distributed
GRI 203	Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported
GRI 203	Indirect Economic Impacts 2016	203-2	Significant indirect economic impacts
GRI 204	Procurement Practices 2016	204-1	Proportion of spending on local suppliers
GRI 205	Anti-corruption 2016	205-1	Total number and percentage of operations assessed for risks related to corruption Significant risks related to corruption identified through the risk assessment
GRI 301	Materials 2016	301-1	Materials used by weight or volume
GRI 302	Energy 2016	302-1	Energy consumption within the organization
GRI 302	Energy 2016	302-4	Reduction of energy consumption
GRI 303	Water 2016	303-1	Water withdrawal by source
GRI 304	Biodiversity 2016	304-4	IUCN Red List species and national conservation list species with habitats in areas affectedby operations
GRI 305	Emissions 2016	305-1	Direct (Scope 1) GHG emissions
GRI 305	Emissions 2016	305-7	Nitrogen oxides (NOx), dulfur oxides (SOx), and other significant air emissions
GRI 306	Effluents and Waste 2016	306-1	Water discharge by quality and destination
GRI 306	Effluents and Waste 2016	306-2	Waste by type and disposal method
GRI 306	Effluents and Waste 2016	306-4	Transport of hazardous waste
GRI 307	Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations
GRI 308	Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria
GRI 401	Employment 2016	401-1	New employee hires and employee turnover*
GRI 401	Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees
GRI 403	Occupational Health and Safety 2016	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work –related fatalities
GRI 403	Occupational Health and Safety 2016	403-3	Workers with high incidence or high risk of diseases related to their occupation
GRI 403	Occupational Health and Safety 2016	403-4	Health and safety topics covered in formal agreements with trade unions*
GRI 404	Training and Education 2016	404-1	Average hours of training per year per employee

GRI 404	Training and Education 2016	404-2	Programs for upgrading employee skills and transition assistance programs
GRI 405	Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees
GRI 414	Supplier Social Assesement 2016	414-1	New suppliers that were screened using social criteria
GRI 416	Customer Health and Safety 2016	416-1	Assesment of the health and safety impacts of product and service categories
GRI 416	Customer Health and Safety 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services
GRI 417	Marketing and Labeling 2016	417-1	Requirements for product and service information and labeling
GRI 418	Customer Privacy 2016	418-1	Substantiated complaints regarding concerning breaches of customer privacy and losses of customer data

* Partly reported indicator.

Indicators specified in the Oil and Gas Sector Supplement

OG-8	Benzene, lead and sulfur content in fuels
OG-13	Number of process safety events, by business activity
OG-14	Volume of biofuels produced and purchased meeting sustainability criteria

Auditor’s opinion

It is our policy to arrange for external assurance of the Report by an independent organisation. The auditor performs an independent assessment of profile and specific indicators developed in accordance with GRI Standards. The ORLEN Group's Integrated Report for 2018 was audited by Deloitte Advisory.

Auditor’s opinion.

Letter from the President of the Management Board

Ladies and Gentlemen,
Dear Shareholders,

The decisions we made in 2018 will have a significant impact on the future of the ORLEN Group. We have strong foundations for further growth. In 2018, our LIFO-based EBITDA before adjustment for the reversal of impairment losses on non-current assets amounted to over PLN 8.3bn, with contributions from all our business lines, including the record-high Retail segment's EBITDA of PLN 2.8bn.

One of the 2018 highlights for the ORLEN Group was an update of its strategy for 2019–2022. The principal strategic objectives are to expand and enhance the Group's petrochemical production capacity, further the integration of its refinery assets, maintain its commitment to low-carbon energy, consistently drive retail sales growth, and focus on strengthening the R&D base and deploying innovations to support all business lines.

The key project we initiated in 2018 and are now moving forward with is the acquisition of Grupa LOTOS. Successful completion of this venture will strengthen the position of both companies and increase Poland's energy security. Closing of the transaction will also bring measurable benefits to the local communities, Shareholders and Customers. We plan to complete the process by the end of 2019, as announced.

The market of fertilizer products seems equally promising, as demand for fertilizers is forecast to grow strongly over the coming years. That is why we decided to expand ANWIL's fertilizer production capacities. Following completion of the project, ANWIL's product mix will be expanded to include new types of high-quality fertilizers, allowing the company to successfully compete with foreign manufacturers.

In an effort to strengthen the position of our assets in the south of Poland, we launched a number of pro-environmental projects. To enhance our capabilities in modern bio-refining, in 2019 we signed a contract for the construction of a 'green' propylene glycol unit to utilise our glycerine output. The Trzebinia refinery's annual glycol capacity will amount to 30,000 tonnes, its output sufficient to meet 75% of Poland's overall demand. We are also developing our production plant in Jedlicze, where conceptual work is under way to construct a 2G bioethanol unit.

As we closely watch new trends in the fuel market, we are already working on the use of alternative energy sources. This year we intend to have 50 new EV chargers installed at ORLEN stations, with their total number planned to reach 150. They will be strategically deployed across Poland – in big cities and at main transit roads. Our plans are far more ambitious, though. The ORLEN Group has commenced environmental and wind surveys under a licence it has secured for the construction of an offshore wind farm in the Baltic Sea, with a total capacity of up to 1,200 MW.

Poland's energy security being one of our priorities, we are also looking for new domestic sources of hydrocarbons. In 2018, we made another high quality gas discovery in Bystrowice (the Rzeszów province), and we continue exploration work. The ORLEN Group's 2P reserves are growing and we are taking a number of measures to sustain this welcome trend – in 2018, a nearly 38% increase was recorded in our recoverable reserves, to 211m boe.

We are increasing our independence in feedstock supplies and strengthening the stability of our production by forging new business ties with oil suppliers around the world, including from Saudi Arabia, the United Arab Emirates, the US or Africa. We are continuing to diversify oil supply sources, thus increasing our procurement capabilities. The volumes supplied by Rosneft Oil Company were reduced by some 30%. At present, only 50% of the oil delivered to the Płock refinery comes from sources east of Poland.

The ORLEN Group is also investing in its foreign assets, with substantial benefits for the region's energy security. We became the sole owner of the Czech Unipetrol, which may springboard our expansion into new foreign markets. Drawing on our competence in international expansion, in 2019 we entered the Slovak market, where we plan to open service stations under the Benzina brand, recognisable to local motorists and associated with good quality. In Lithuania, we reinforced our cooperation with the Lithuanian Railways regarding Poland-bound transport of products. Notably, a long-standing dispute to restore traffic on the Reņģe rail line was resolved, allowing the Mažeikiai refinery to regain the shortest route for delivering its products to Latvia and Estonia. In addition, thanks to its ongoing PPF Splitter project, the Mažeikiai refinery is going to launch the production of high quality propylene.

Robert Kubica's Formula 1 comeback is certainly good news, especially given the ORLEN Group's role in bringing it about. We see our sponsorship of the Williams racing team and the Polish driver as an investment promoting ORLEN's international presence. It is an important move boosting recognition of the ORLEN brand, whose products are already available in over 100 countries, as Formula 1 events are followed by a worldwide audience of approximately 2 billion. Our sponsorship is also extended to other sports, including volleyball as well as track and field athletics. In 2018 and 2019, new prize-winning sportsmen and women joined the ORLEN Sports Group, and we will help our champions compete for participation in the 2020 Olympic Games in Tokyo.

We are committed to ensuring that the ORLEN Group's business is carried out with due regard to the needs of all our Stakeholders. Aware of the Company's importance to Poland's economy, we pursue growth-oriented projects, seek to maintain security of feedstock supplies, consistently expand our offering, and conduct our business in line with the principles of sustainability. We are involved in low-emission economy projects in the Downstream segment, prepare for the construction of offshore wind farms and step up the process of adapting our service stations chain to distributing alternative fuels. We are determined to leverage the enormous potential of the ORLEN Group in the coming years. We also strive to ensure that all our Stakeholders are not only aware of the objectives of our business endeavours but that they could also be their beneficiaries. Our top priority is to develop social conscience and take full responsibility for the natural environment.

Our excellent financial performance and delivery of the targets for 2018 were the result of a combined effort and cooperation of a great team of people. I would like to thank the Members of our Supervisory Board and all employees of the ORLEN Group for their hard and fruitful work. We are facing further ambitious challenges related to completion of the merger with Grupa LOTOS, further expansion into the Slovak market and implementation of the Petrochemicals Development Programme with an extensive R&D base. I believe the enthusiasm and commitment of our staff will help us smoothly follow these projects through. I also hope that the objectives we have set will take the ORLEN Group's growth momentum and benefits from all our investment projects to an even higher level in the years to come.

Daniel Obajtek
President of the Management Board, Chief Executive Officer
PKN ORLEN S.A.

ORLEN Group 2018

PKN ORLEN is a leading-edge player on the fuels and energy markets, and the largest company in Central and Eastern Europe, listed in prestigious global rankings such as Fortune Global 500, Platts TOP250 and Thompson Reuters TOP100.

Polski Koncern Naftowy ORLEN together with the ORLEN Group companies are one of the largest refining and petrochemical producers in Central and Eastern Europe.

The ORLEN Group operates on 6 home markets: in Poland, the Czech Republic, Germany, Lithuania, Slovakia[1] and Canada. It owns state-of-the-art integrated assets capable of processing more than 35 million tonnes of various crude types per annum, and markets its products through the CEE region's largest chain of more than 2,800 service stations. The Group's offering encompasses over 50 top-quality petrochemical and refining products, which are sold in more than 100 countries across 6 continents. PKN ORLEN is also a major player on the Polish energy market and Poland's largest industrial electricity producer, with a generation capacity of 1.9 GWe. The Group's upstream assets include 2P oil and gas reserves estimated at close to 211 mboe at the end of 2018. For several consecutive years, ORLEN has been recognised as the most valuable Polish brand, worth PLN 4.7bn. PKN ORLEN is the only company in the region to be included for the sixth consecutive time in the list of The Most Ethical Companies by the US-based Ethisphere Institute.

[1]Entering the Slovak market in 2019

Key figures in 2018

PLN 8.3 bn EBITDA LIFO[1]	PLN 2.8 bn Record-high EBITDA in Retail	42.9 m tonnes Record-high sales volume
PLN 5.0 bn Operating cash flow	PLN 4.3 bn Capital expenditure	33.4 m tonnes Record-high oil throughput (95% capacity utilisation)
PLN 1.3 bn Dividend paid (PLN 3.00 per share)	15.7 % Financial leverage	PLN 5.6 bn Net debt
21,282 Employees		

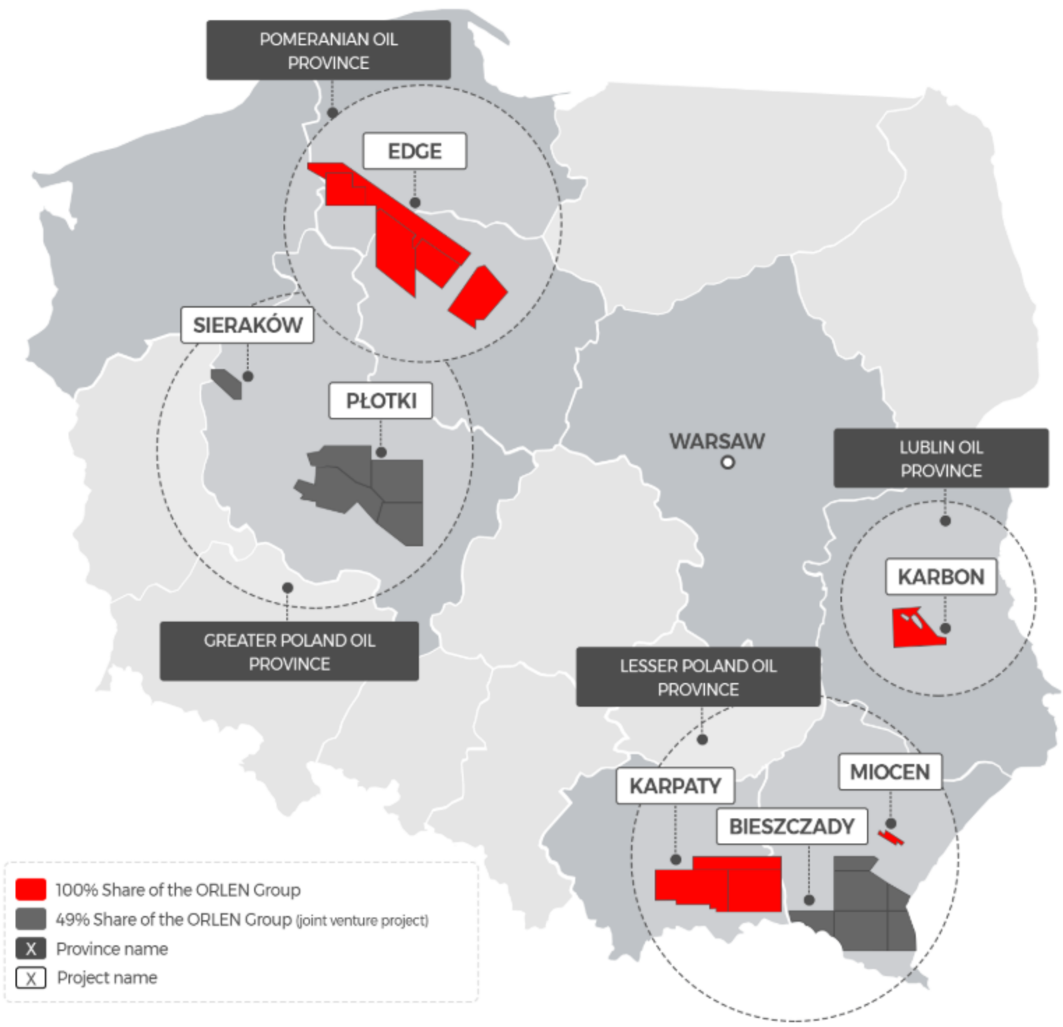
[1]Before impairment of non-current assets of PLN 0.7bn.

Operating segments of the ORLEN Group

UPSTREAM

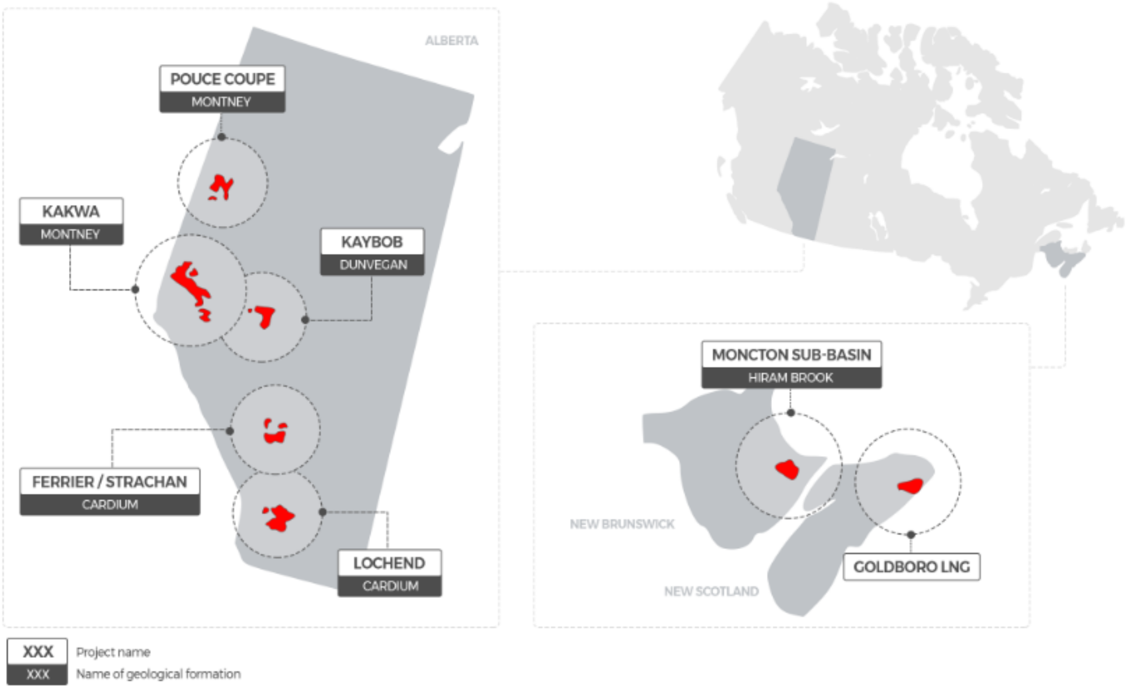
Exploration and production projects in Poland and Canada	**211** mboe[2] total 2P[3] oil and gas reserves	**18,000** boe/d average production in 2018

Poland



[2] *Barrel of oil equivalent.*
[3] *Proven and probable reserves.*

Canada



DOWNSTREAM

More than **35** m tonnes

refining capacities of six ORLEN Group refineries[4] in Poland, the Czech Republic and Lithuania

3,700 km

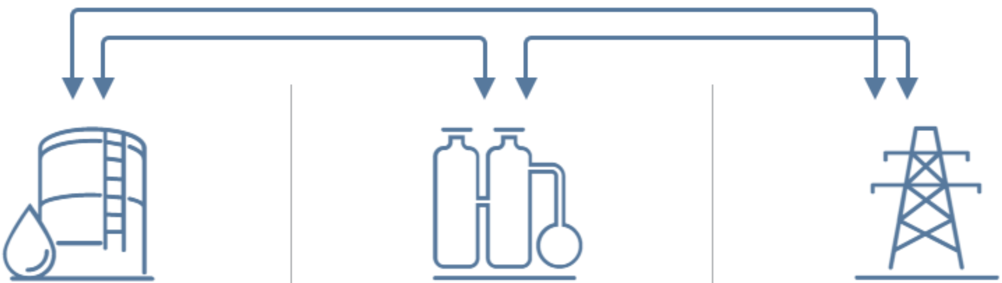
long pipeline network and **39** storage facilities and terminals

Growth projects:

- Construction of a polyethylene unit in the Czech Republic.
- Construction of a methathesis unit in Płock.
- Construction of a PPF splitter in Lithuania.

[4]Refineries in Płock, Trzebinia, Jedlicze, Mažeikiai, Kralupy and Litvinov.

Production



REFINING

PKN ORLEN, Unipetrol ORLEN Lietuva, ORLEN Południe

PETROCHEMICALS

PKN ORLEN, Unipetrol, ANWIL and Basell ORLEN Polyolefins

POWER GENERATION

CCGT Włocławek i Płock, Elektrociepłownia Płock and other locations

Logistics

ROAD TANKERS

RAIL

PIPELINES

TERMINALS

Sales

WHOLESALE
fuels and other refined products

WHOLESALE
petrochemicals

RETAIL SALE
fuels and non-fuel products

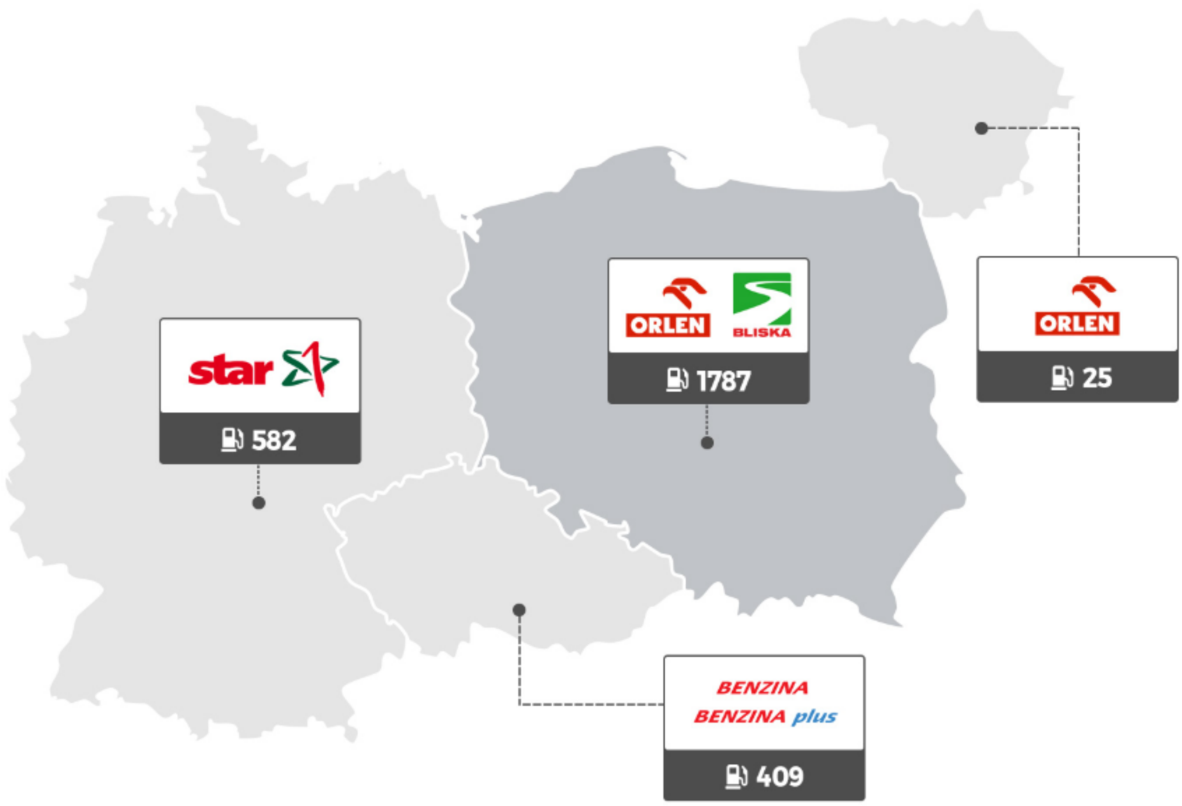
RETAIL

Over **2,800** service stations

17.7%
total share of the retail market (Poland, Germany, Czech Republic, Lithuania) at the end of 2018

1,700
Stop Cafe and Stop Cafe Bistro locations in Poland, Czech Republic and Lithuania

Retail



Main production assets of the ORLEN Group

Key events in 2018

January

- Launch of a pilot project to install electric vehicle chargers
- Extension of the Szczecin Fuel Terminal
- New tank placed in service at the Būtingė terminal by ORLEN Lietuva
- PKN ORLEN's innovative projects under the INNOCHEM project
- PKN ORLEN becomes a strategic partner of the IATA
- Completion of a key project as part of the Cavern Strategy

February

- Letter of intent signed on the acquisition of the LOTOS Group by PKN ORLEN
- PKN ORLEN Extraordinary General Meeting
- Daniel Obajtek appointed President of the PKN ORLEN Management Board
- Contract signed for PKN ORLEN to supply fuel to the US army

March

- 2017 dividend recommendation
- PKN ORLEN's involvement in the international BioRECO2VER project
- Agreement signed by PKN ORLEN and PERN

April

- New EFECTA 95 and EFECTA Diesel fuels
- Decision to sign an annex to the current long-term contract with Saudi Aramco
- Issue of the third series of PKN ORLEN retail bonds
- PKN ORLEN joins the 'Accessibility Plus' government programme
- ORLEN Warsaw Marathon
- Delivery of oil from Iran

May

- ORLEN committed to promoting advancement of electric mobility
- Fourth series of PKN ORLEN retail bonds
- Letter of intent signed between PKN ORLEN and Bank Ochrony Środowiska

June

- Record-high petrochemical investments at PKN ORLEN
- Clearance from the Czech National Bank for the repurchase of Unipetrol shares
- Fifth series of PKN ORLEN retail bonds
- PKN ORLEN Annual General Meeting
- Launch of aviation fuel production at the Litvínov refinery

July

- Launch of the ‘Drink Polish Juices’ project
- Preliminary design work on the construction of a 2G bioethanol unit
- Commissioning of a CCGT unit in Płock

August

- Memorandum of Understanding signed by PKN ORLEN and Lithuanian Railways to expand their cooperation
- New gas field discovered by PKN ORLEN and PGNiG in the Wielkopolska region

September

- Closing of the tender procedure to select suppliers of vehicle charging stations
- Further drilling work conducted by PKN ORLEN and PGNiG at the Miłosław E field
- Line of products for vegans and vegetarians at ORLEN service stations

October

- Discovery of a natural gas deposit in Bystrowice in the Province of Rzeszów
- Expansion of the fertilizer production capacities at ANWIL
- PKN ORLEN to buy oil from Nigeria
- Closing of the transaction to acquire 100% equity interest in Unipetrol by PKN ORLEN
- ORLEN Pay App for ORLEN service station customers
- Launch of the first service station in the ORLEN Drive format
- Environmental investment projects at ORLEN Południe
- Letter of intent signed by PKN ORLEN, TAURON and Spolana to define the terms under
- Launch of the ‘We Drive Poland Together’ PKN ORLEN image campaign

November

- Draft application filed with the European Commission to clear the proposed acquisition of Grupa LOTOS by PKN ORLEN
- PKN ORLEN as the official partner of the Formula 1 Williams Martini Racing team and Robert Kubica
- Launch of the ORLEN IN YOUR PORTFOLIO programme for retail investors
- PKN ORLEN joins the ‘Pilot Maker Electro’ acceleration programme
- Three mobile laboratories granted by PKN ORLEN to the National Reserve Administration
- PKN ORLEN to buy crude oil from the UAE

December

- Updated ORLEN Group Strategy for 2019–2022
- Biofuel development programme
- PKN ORLEN to buy oil from Angola
- PKN ORLEN in the RESPECT Index
- First electric vehicle charger at the ORLEN service station in Siewierz

Awards and distinctions received in 2018

Fortune GLOBAL 500

PKN ORLEN is the only Polish company in the Fortune Global 500 list (469th place) [more]

1st quarter

February

Polish Brand
ORLEN as Poland's Most Valuable Brand according to the Rzeczpospolita daily

The World's Most Ethical Company
PKN ORLEN for the fifth consecutive time among companies awarded the 'World's Most Ethical Company' title

Top Employer
PKN ORLEN named 'Top Employer' for the seventh consecutive time

Mastercard Trader of the year 2018
First place for Unipetrol in the 'Mastercard Trader of the Year 2018' competition in the category of 'Service Stations with a Store'

March

Best Service Station 2018
The ORLEN Wiśniowa Góra Zachód motorway service area named the 'Best Service Station 2018' in a poll organised by BROG B2B

The most trusted brand for 2018
Unipetrol ranks first in the 'Service Stations' category of 'The Most Trusted Brand 2018' competition

Handelsblatt YouGov Price - Performance ratio
3rd place for the Star network in Germany in the 'Service Stations' category - Handelsblatt YouGov 'price-performance ratio'

Welt/Service Value „Service champions"
Star network among the finalists in the Welt / Service Value, 'service champions', diverse industries

2nd quarter

April

Investment of the Century
ORLEN Lietuva hailed ‘Investment of the Century’ in Lithuania

Techno Biznes
Energy Management System and Advanced Control System awarded in the ‘Industry 4.0’ category of the ‘Techno Biznes’ competition organised by the *Gazeta Bankowa* monthly

Distinction at the 7th CSR Fair
Distinction at the 7th CSR Fair received by PKN ORLEN as a company that consistently implements and promotes sustainability in business

Green Frog Award 2018
‘Green Frog Award 2018’ for the ORLEN Group 2016 Integrated Report

May

Ranking Wprost
ORLEN tops the *Wprost* weekly ranking of 200 largest companies

'Best Service Station Store Concept' Distinction
‘Best Service Station Store Concept’ distinction for O!Shop and Stop Cafe in the ‘Market of the Year’ poll

The Hermes statuette
The Hermes statuette for PKN ORLEN awarded by the *Poradnik Handlowca* monthly in the ‘Innovative Sale of FMCG’ category

Golden Service Station
The ORLEN 7415 Szewce service station at the 342 regional road awarded the ‘Golden Service Station’ title in a competition organised by the Polish Chamber of Liquid Fuels

Golden CSR Leaf
‘Golden CSR Leaf’ award for PKN ORLEN

White CSR Leaf
‘White CSR Leaf’ award for ANWIL

Distinction „Rynek Inwestycji”
ANWIL awarded in recognition of successful development efforts and continuous improvement of operating capacity by the *Rynek Inwestycji* quarterly

Annual Employer of the Year Awards
Unipetrol awarded in the 16th Annual Employer of the Year Awards

Employer of the Year for 2018 (Ústí region)
Unipetrol ranks second in the ‘Employer of the Year for 2018’ competition (Ústí region)

June

The list of 500 by Rzeczpospolita
PKN ORLEN ranks first on the list of 500 largest Polish companies compiled by the *Rzeczpospolita* daily and wins the 'Pillars of the Budget' poll

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Ranking of the most sought-after employers
PKN ORLEN tops the ranking of the most sought-after employers: first place in the energy, fuels and upstream sector

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Polish Radio Economic Award
ORLEN among winners of the Polish Radio Economic Awards granted by the Polish Radio Chief Business Editorial Staff

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FLEET DERBY 2018
MFlota mobile application named the best product in the 'FLEET DERBY 2018' poll in the 'Fleet Service' category

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Teraz Polska
The stop.cafe food service and O!Shop store format awarded the 'Teraz Polska' award in the 'Best Products and Services' category

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Patron of Culture
Award for PKN ORLEN in the 'Patron of Culture' category of the Annual Awards of the Minister of Culture

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Employer Branding Excellence Awards 2018
The 'Year of Benefits with ORLEN' project distinguished in the Employer Branding Excellence Awards 2018 competition in the 'Internal Image Campaign' category

3rd quarter

September

TOP 500 CEE 2018
PKN ORLEN tops the 'TOP 500 CEE 2018' ranking of the *Rzeczpospolita* daily and Coface

4th quarter

October

Forbes 500
PKN ORLEN as the only Polish company in the Forbes world's best 500 employers ranking

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Platts TOP250
45th place for PKN ORLEN in the 'Platts TOP250' list of the world's largest energy companies

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Polish Compass 2018
Daniel Obajtek, President of the PKN ORLEN Management Board, receives the 'Polish Compass 2018' award for the best managers of Polish companies from the *Gazeta Bankowa* monthly

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Golden Laurel by the Super Biznes
PKN ORLEN wins the fifth edition of the ‘Golden Laurel’ award by the *Super Biznes* daily in the ‘Promoter of Economic Patriotism’ category for its ‘Drink Polish Juices’ campaign

The Best Annual Report 2017
ORLEN Group 2017 Integrated Report and PKN ORLEN financial statements awarded in ‘The Best Annual Report 2017’ competition

Brand of the year 2018
4th place for the Star service station network – Handelsblatt/ YouGov ‘Brand of the Year 2018’, the ‘Service Stations’ category

November

Global Finance Magazine
PKN ORLEN wins a distinction for the best corporate FX risk management team in Central and Eastern Europe in a ranking by the *Global Finance* magazine

Top Brand
ORLEN awarded in the 11th edition of the ‘Top Brand’ ranking of media presence of brands on the Polish market, in the category of service stations

Company of 100 Years of Independence
PKN ORLEN receives the ‘Company of 100 Years of Independence’ title as the most ‘international’ Polish company in the *Gazeta Polska* poll

December

Rzeczpospolita 2000 List
PKN ORLEN tops the ‘*Rzeczpospolita 2000 List*’ of largest Polish companies

Golden Laurels of Independence
‘Golden Laurels of Independence’ for PKN ORLEN in the ‘Brand Recognition and Building a Positive Image of Poland’ category

Leader and pioneer of the Fairtrade product sales
PKN ORLEN distinguished as a leader and pioneer of the Fairtrade product sales in Poland

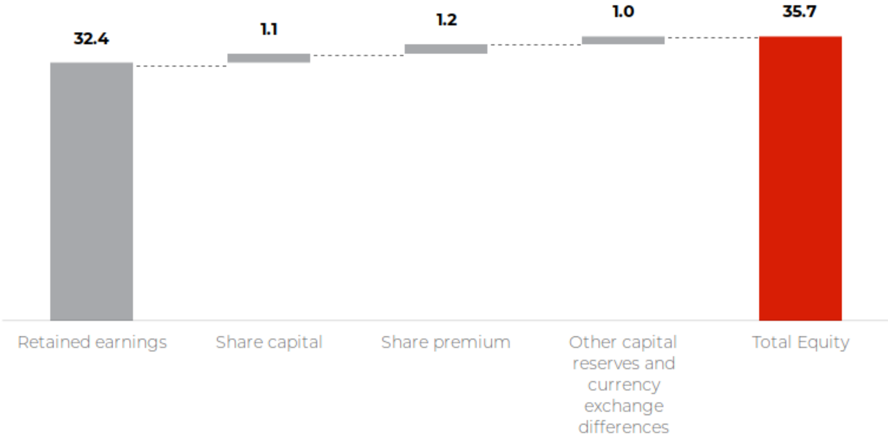
Our Capitals

Financial capital

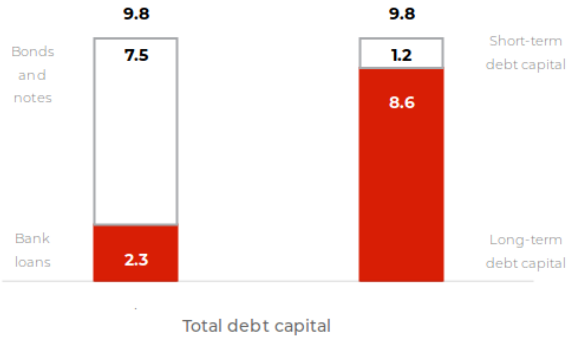
Financial capital represents the financial resources we currently hold, obtained from internal or external sources and generated as part of our business.

Our financial capital includes equity and debt capital, mainly in the form of borrowings.

Equity of the ORLEN Group [PLN bn]



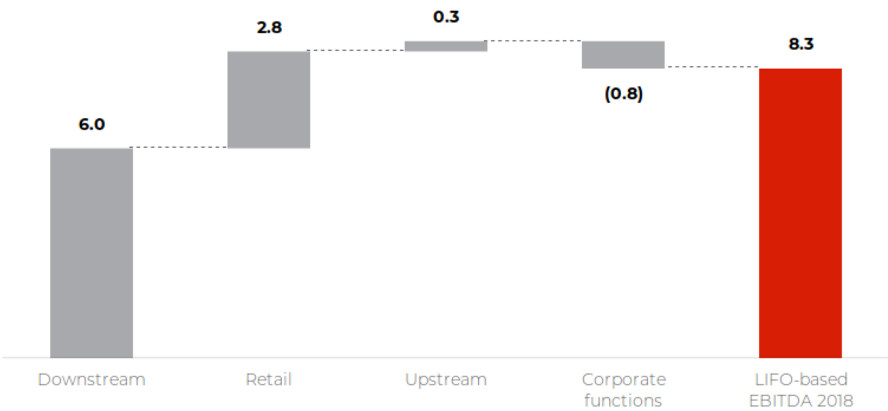
Debt capital of the ORLEN Group [PLN bn]



In 2018, **LIFO-based EBITDA**[1] before net reversals of impairment losses on assets, delivered by the ORLEN Group operating segments reached **PLN 8.3m**.

[1]Earnings before depreciation and amortisation net of the effect of crude price movements on the value of inventories.

LIFO-based EBITDA 2018 - results in operating segments [PLN bn]



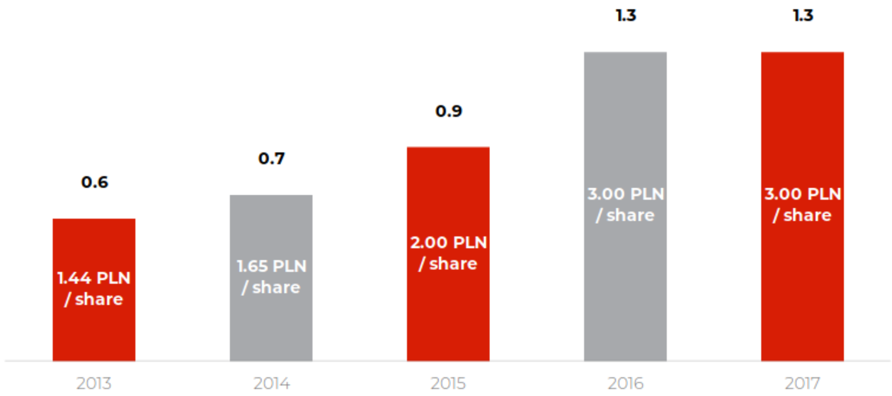
Taking into account the effect of net reversal of impairment losses on assets of PLN 0.7bn, **LIFO-based EBITDA** was **PLN 9.0bn**.

With the positive effect of changes in crude oil prices on the valuation of inventories included (PLN 0.9bn), the ORLEN Group's **EBITDA** for 2018 stood at **PLN 9.9bn**.

Impact of write-downs and inventory valuation on EBITDA level [PLN bn]

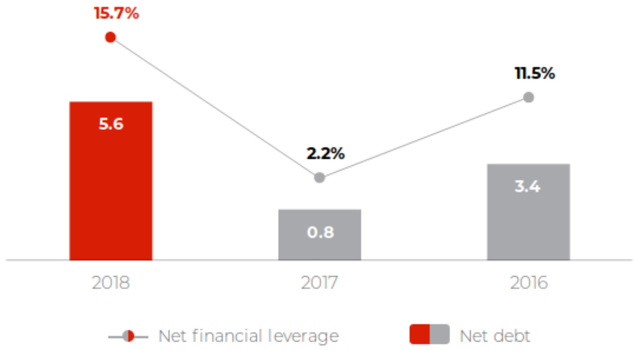
The high EBITDA translated into operating cash flows of PLN 5.0bn, enabling us to allocate PLN 4.3bn to investment projects and pay dividend of PLN 1.3bn (PLN 3 per share) to the shareholders, in line with PKN ORLEN's dividend policy.

Dividend payment in PLN bn



Following acquisition of 100% of the Unipetrol share capital by repurchasing remaining 37% of shares from the company's existing shareholders for PLN 4.2bn, the ORLEN Group's net debt was PLN 5.6bn and its net leverage stood at 15.7%.

Net debt / financial leverage [PLN bn / %]



Production capital

PKN ORLEN together with the other ORLEN Group companies are among the largest operators in the fuel sector in Europe.The Group owns an integrated infrastructure capable of processing more than 35 million tonnes of various crude oils per annum, and markets its products through the CEE region's largest network of service stations. PKN ORLEN is also an important player on the Polish energy market, and the largest industrial electricity producer. The Group's upstream assets include 2P oil and gas reserves in Poland and Canada.

The ORLEN Group's property, plant and equipment and intangible assets were valued at more than PLN 30bn as at the end of 2018

Refining

- 6 refineries located in Poland, Lithuania and the Czech Republic; total annual oil throughput capacity of 35.2m tonnes, including: 16.3m tonnes at Płock, 10.2m tonnes at ORLEN Lietuva, and 8.7m tonnes at Unipetrol.
- Strategic location with a good access to feedstock and product pipelines, as well as sea terminals: 3,700 kilometre-long pipeline network and 39 storage facilities and terminals.

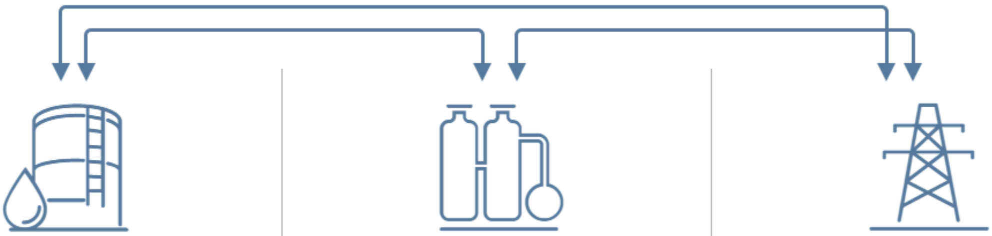
Petrochemicals

- Integrated petrochemical and refining assets.
- PX/PTA – one of Europe's most advanced facilities with an annual production capacity of 690 kt of PTA.
- ANWIL of Włocławek is the only Polish producer of polyvinyl chloride (PVC) and a major producer of fertilizers and sodium hydroxide in Poland.

Power Generation

- The ORLEN Group operates power generation units in three countries, including:
  - Poland's largest industrial generating unit: EC Płock (415 MWe, 2,150 MWt).
  - Modern CCGT units in Poland: CCGT Włocławek and CCGT Płock, with a total capacity of over 1,000 MWe.
- Development of low-emission power generation: PKN ORLEN holds a licence to construct a wind farm in the Baltic Sea, with a maximum capacity of 1,200 MWe.

Production



REFINING	PETROCHEMICALS	POWER GENERATION
PKN ORLEN, Unipetrol ORLEN Lietuva, ORLEN Południe	PKN ORLEN, Unipetrol, ANWIL and Basell ORLEN Polyolefins	CCGT plants in Włocławek and Płock, CHP plants in Płock and other locations

Logistics

ROAD TANKERS | RAILWAY | PIPELINES | TERMINALS

Sales

WHOLESALE

of fuels and other refined products

WHOLESALE

of petrochemicals

RETAIL SALES

of fuels and non-fuel products

RETAIL

- The largest retail chain in Central Europe: 2,803 service stations, including 1,787 in Poland, 582 in Germany, 409 in the Czech Republic, and 25 in Lithuania.
- 2,327[1] Stop Cafes: 1,667 in Poland (including 354 O! SHOPs), 270 in the Czech Republic, 361[1] in Germany, and 23 in Lithuania.

[1]Number of Star (Germany) fuel stations including those with previous Star Cafe gastronomic format (data not reported in previous years).

UPSTREAM

- Poland:

  In Poland, the ORLEN Group works independently or with a partner (PGNiG S.A.) in 22 exploration and appraisal licence areas, covering more than 14,000 km^2 and spread over six provinces. The ORLEN Group holds 100% interests in 10 licences, and 49% interests in another 10 licences. In addition, in partnership with PGNiG S.A., the Group carries out operations under an exploration and production project in two licence areas located in the Polish Lowlands.

- Canada:

  In Alberta, Canada, the ORLEN Group is a recognised operator, holding exploration and production assets covering a total area of 312,600 acres (1,300 km^2).In 2018, the capital expenditure programme focused on the Ferrier and Kakwa areas in the province of Alberta.

Key performance indicators in each segment

	UoM	Actual performance 2018	Actual performance 2017
Downstream			
Share of Polish fuel market	%	57.4	54.2
Refining capacity utilisation	%	95	94
Olefins production capacity utilisation	%	74	78
Crude throughput at the ORLEN Group	million tonnes	33.4	33.2
Fuel yield at PKN ORLEN	%	81	80
Retail			

Share of fuel sales in home markets	%	16.2	15.2
Sales per service station	million litres	4.3	4.1
Number of service stations effectively in operation	x	2,748	2,742
Upstream			
Hydrocarbon production	mboe/year	6.6	5,7
Hydrocarbon reserves	mboe	210,6	152.6
Number of new wells (net)	x	19.4	17.5

Directions of the PKN ORLEN strategy for 2019–2022:

DOWNSTREAM

scaling up petrochemical production, further integration of refining assets and expanding low-emission power generation

- Feedstock security.
- Strengthening of market position.
- Operational excellence.

RETAIL

expanding the retail network and strengthening customer relations

- Modern service station network.
- Unique purchasing experience.
- Operational excellence.

UPSTREAM

cautious continuation

- Continued growth of hydrocarbon production in Poland and Canada.
- Cautious continuation.
- Operational excellence and financial strength.

Growth projects:

- Petrochemistry: construction of a complex of derived aromas, extension of the olefin complex, expansion of the phenol production capacity, development of R & D facilities, expansion of the fertilizer installation in ANWIL.
- Refinery: development of installations in the production of biofuels, including independent HVO unit, Visbreaking, Hydrocracking of Vacuum Residue in Lithuania (analysis of the pre-investment phase based on the purchased base project and license).
- Energetics: preparation of investments in offshore wind energy.

Social capital

In each area where we operate we feel responsible for our Stakeholders, especially for the employess, local communities in the places where we conduct our business, as well as for our customers, suppliers and trading partners. As a national champion, we feel obliged to support Polish sports and culture, and thus build the image of Poland abroad.

Organisation

- Organising **medical check-ups and health campaigns** in the workplace: 'Health 50+', 'Health Zone', 'No to Cancer in Children', 'Health First', open meetings on disabilities for the employees.
- The '**Family-Friendly Employer' programme –** employees are offered various benefits and conveniences related to their family lives.
- The **Employee Volunteering Programme** – the employer supports employees' grass-roots initiatives, both financially and organisationally, and organises campaigns which can be joined by volunteers.
- The **ORLEN Olympics** – sports games joined each year by two thousand employees of the ORLEN Group.

Close Environment

- **Corporate foundations:**
  - The **ORLEN – GIFT FROM THE HEART Foundation** partners with approximately 300 Family Group Homes across Poland, is involved in scholarship programmes such as 'For Eagles' and 'My Above Average Interests', and implements projects in various areas, including education, healthcare, safety and culture. Local communities are important beneficiaries of its activities. In 2018, the foundation launched new social projects, including 'My Place on Earth' grant programme, 'Bona Fide' scholarship programme, and 'We keep watch! We remember!'programme.
  - The **ANWIL for Włocławek Foundation** runs competitions for the grants it offers to co-finance projects aimed at raising the level of education of the Włocławek residents, counteracting social and economic exclusion, improving the condition of the natural environment, preserving the historical heritage, as well as protecting and promoting health.
  - The **Unipetrol Foundation** provides support to students of natural sciences- and technology-oriented faculties through internships and work placements and through grant programmes dedicated to secondary school students. In 2018, the foundation provided CZK 2.7m to secondary schools in the Czech Republic, including CZK 1.8m for scholarships.
- **Support for the foundations whose founder or participant is PKN ORLEN:** the Grant Fund for Płock Foundation, the Foundation of the Ignacy Łukasiewicz Oil and Gas Industry Museum in Bóbrka, the Polish National Foundation, the Grow Up with Us Foundation and the Polish Economic Security Consortium through the 'Polish Economic Security. Legal and Economic Dialogue and Analysis Institute' Foundation.

- **Support for professional and amateur sports:**
  - Cooperation with the **Polish Volleyball Federation**, **Polish Athletics Federation**, **Wisła Płock Sports Club** (football and handball teams), and **Polish Olympic Committee**.
  - The **ORLEN Sports Group**, including Anita Włodarczyk, Paweł Fajdek, Piotr Małachowski, Piotr Lisek, Justyna Święty-Ersetic, Iga Baumgart-Witan.
  - Motorsports – in 2018, PKN ORLEN signed **a sponsorship contract with the Williams Racing Team**, which was joined in the 2019 season by Polish driver **Robert Kubica**; PKN ORLEN supports the **ORLEN Team** (Kuba Przygoński, Maciej Giemza, Adam Tomiczek), **Orlen Team Academy** (motocross and kart racing team), as well as **paragliding** (Wojciech Bógdał).
  - Support for the **School Sports Club** project, addressed to nearly 350 thousand students across Poland.
  - Organising PKN ORLEN's sporting events: **ORLEN Warsaw Marathon** and **VERVA Street Racing**.
- **Protection of Polish national heritage** – cooperation with the **Fryderyk Chopin Institute**: the 1st International Chopin Competition on Period Instruments, the 'Chopin's Warsaw Piano' Extraordinary Concert organised to mark completion of reconstruction of the Buchholtz piano, financed with funds from PKN ORLEN and the ORLEN – GIFT FROM THE HEART Foundation, and the 14th edition of the Chopin and His Europe Festival.
- **Involvement with local communities:**
  We cooperate with local communities, mainly in Płock and other places where we operate. For the last three years, the Company has implemented its **ORLEN for Płock** programme, under which a number of projects have been carried out, including for instance 'Płock Gardens of Light', financing of teaching aids for the Physics and Chemistry laboratories of secondary schools in Płock, organisation of Chemists' Days (about 25 thousand participants each year), provision of support to the Płock voluntary water rescue service WOPR (with whom the Company arranged a safe public bathing spot in Grabina near Płock), free swimming lessons for the city residents; 2018 saw the launch of a **Free Information System for the inhabitants of the Płock region**.
- **Initiatives targeted at suppliers and customers:**
  - The **Fair for PKN ORLEN Suppliers,** during which the Company explains its procurement process and expectations and requirements towards suppliers.
  - **Open day events for ORLEN Lietuva subcontractors**.
  - Possibility of donating points collected under the **VITAY loyalty programme and in the YANOSIK application to support charitable purposes**.
  - The **Large Family Card** programme – holders of the card are offered discounts at ORLEN service stations across Poland.
  - For over 10 years now, **Fairtrade-certified coffee** has been available at over 1,600 Stop Cafe outlets at ORLEN service stations.

- **Educational activity:**
  - In 2018, we launched the '**ORLEN IN YOUR PORTFOLIO**' loyalty scheme for retail shareholders, offering the opportunity to enrol on the Investment Academy programme; publication of another volume in the 'We Fuel the Future' series, entitled **'Pillars of Business Sustainability – Vision, Raw Materials and Talent'**; publication of **integrated reports of the ORLEN Group**.

Distant Environment

- PKN ORLEN among companies included in the **RESPECT Index** of socially responsible companies.
- Operating in compliance with a **declaration of 'Partnership for Accessibility'**, signed by PKN ORLEN in 2018:
  - Implementation of the **Policy Defining the Work Conditions and Rules for the Disabled** with the aim of ensuring that such persons are offered equal opportunities in access to employment, continuous professional advancement and promotion, as well as raising awareness of the necessity to respect the rights of people with disabilities (the 'Family-Friendly Employer' programme, Company Social Benefits Fund).
  - **Facilities for people with disabilities at PKN ORLEN stations:** 1,350 service stations have toilets adapted to the needs of the disabled; at more than 1,000 stations there are special parking spaces for the disabled.
- Key projects pursued in 2018: marketing of new **EFECTA 95 and EFECTA Diesel fuels**, launch of an **offshore wind farm project**, implementation of the **LDAR system** in the refining section of the production plant in Płock, and **construction of an electric vehicle charging station network (a pilot scheme)**.
- **Environmental protection solutions**: a wildlife survey carried out at the production plant in Płock, the peregrine falcon restoration project, stocking of rivers, the 'Clean River Week', and Eco-Volunteering.
- Deployment of a number of customer-oriented solutions to improve the availability of services: the **ORLEN Pay** mobile payment application, and the first drive-through service station – **ORLEN Drive**.
- By participating in important **conferences devoted to industry-specific or economic issues** (e.g. Congress 590, COP24, Economic Forum in Krynica, European Economic Congress, Development Vision Forum) representatives of the ORLEN Group share best practices applied in the organisation.

Item:	UoM	2018	2017
Cooperation of the ORLEN – DAR SERCA Foundation with Family Group Homes			
Family Group Homes cooperating with the Foundation	[number]	approx. 300	approx. 350
Children living in Family Group Homes under the care of the Foundation	[number]	approx. 2 000	approx. 2 500
Children living in Family Group Homes who went on summer and winter holidays	[number]	480	438
Children living in Family Group Homes who receive scholarships	[number]	89	109
Scholarship programmes of the ORLEN – DAR SERCA Foundation			
Scholarships for children of the ORLEN Group companies – 'For Eagles'[1]	[number]	113	106
Scholarships for students from Płock and the neighbouring area – 'My Above-Average Interests'[2]	[number]	123	134
Scholarships for undergraduates – 'Bona Fide'[3]	[number]	6	-
Grant programmes of the ORLEN – DAR SERCA Foundation			
The 'My Place on Earth'[4] programme – submitted applications	[number]	1,135	-
The 'My Place on Earth'[4] programme – grant-winning applications	[number]	293	-
Fire-Fighting Unit Support Programme[5] – submitted applications	[number]	approx. 4,000	approx. 1,400
Fire-Fighting Unit Support Programme[5] – grant-winning applications	[number]	360	169

Promoting healthy lifestyles and disease prevention			
Disease prevention consultations under the 'Health First'[6] programme	[number]	1,058	-
The 'Health 50+'[7] disease prevention programme – participants	[number]	100	-
Health Zone[8] – participants	[number]	634	370
ORLEN Warsaw Marathon – participants	[number]	20,000	21,000
Marketing projects for Płock residents	**[number]**	**98**	**92**
Customer involvement in social projects[9]			
Charitable purposes supported in partnership with customers	[number]	11	16
Points donated by customers for charitable purposes	[number]	40,730,211	53,518,524
PKN ORLEN's suppliers required to read the PKN ORLEN Supplier Code of Conduct	**[%]**	**100**	**100**

[1]The 'For Eagles' scholarship programme – a programme addressed to children of PKN ORLEN and other ORLEN Group companies' employees, designed to support the employees and their families, honour and promote students' effort in seeking knowledge and developing their skills and abilities, as well as to inspire students to engage in community outreach initiatives.

[2]The 'My Above-Average Interests' scholarship programme – a programme addressed to students from Płock and the neighbouring area, designed to honour and promote students' effort in seeking knowledge and developing their skills and abilities, as well as to inspire students to engage in community outreach initiatives.

[3]The 'Bona Fide' scholarship programme – a programme with a nationwide reach, intended to enable the most talented Polish undergraduates to study at either of the best 30 universities included in the Shanghai Ranking (ARWU). The programme is run by five corporate foundations established by state-owned companies: the J.K. Steczkowski BGK Foundation, the Energa Foundation, the LOTOS Foundation, the Lotto Foundation and the ORLEN – DAR SERCA Foundation.

In the first edition of the project in 2018 scholarships were awarded to six undergraduates, who were thus able to start studying at the University of Oxford, University College London, Columbia University, the University of Cambridge, and Imperial College London.

[4]The 'My Place on Earth' grant programme – a nationwide programme to support the development of local communities, including by reaching small towns and encouraging activity of rural communities. As part of the first edition of the programme, held in 2018, 293 entities received grants totalling PLN 2,001,000.00 for projects that would make a positive difference in their closest environment. The projects could benefit such areas as sports, safety, education, history, culture or environmental protection.

[5]Fire-fighting Unit Support Programme – a nationwide programme run for a number of years, designed to support fire fighters, who risk their lives every day while protecting the lives of others, to promote heroic attitudes and values among the public, as well as to contribute to the development of local communities. Fire-fighting units may apply for co-financing of fire-fighting equipment, water and flood rescue equipment, road and technical rescue equipment, as well as medical, chemical, environmental and technical rope rescue equipment. The 2018 edition of the programme was record-breaking in terms of the number of submitted applications and the value of support granted.

[6]The 'Health First' programme – in 2018, PKN ORLEN and the ORLEN – DAR SERCA Foundation offered residents of Płock, Włocławek and Ostrów Wielkopolski, including the ORLEN Group employees and their families, an opportunity to receive preventive medical examinations as part of the nationwide Health First It is a multidisciplinary programme for preventing lifestyle diseases in Poland, held under the auspices of the Ministry of Health. The participants had the opportunity to see physicians specialising in audiology, spirometry, ophthalmology, otorhinolaryngology and oncology.

[7]The 'Health 50+' disease prevention programme – under the project, employees aged 50 or more can undergo necessary medical examinations and attend disease prevention consultations whose scope has been tailored to the age and sex of the participants. The programme offers, among others, laboratory and imaging tests and medical consultations. Its aim is to have the participants receive an overall health assessment and, if any potential health risks are identified, to refer them for further check-ups and treatment.

[8]Health Zone – in October and November 2018, PKN ORLEN employees had the opportunity to visit special health zones in Płock, Warsaw and Włocławek, arranged in partnership with the PZU Group. They could visit massage salons and ask advice from nutritionists.

[9]Customer involvement in social projects – customers can donate their points collected under the VITAY loyalty programme and in the YANOSIK application to support charitable purposes, such as Family Group Homes (one day of holidays, school utensils, an hour of rehabilitation therapy), a month's care for a falcon, a day's food for a falcon, falcon ringing, a month's care for a stork, a month's care a roe deer, planting trees, eagle treatment and rehabilitation, 1,000 points for educational institutions that were damaged by storms.

Goals and directions of capital management

- **Organisation**

  In the first pillar, Organisation, the key goal is to build lasting relations with employees based on diversity, sense of security, development opportunities, and combining social and professional roles.

- **Close Environment**

  In the Close Environment, priority is given to developing social conscience and responsibility in trading partners and customers through sharing best practices and knowledge, and implementing most exacting CSR standards. Our activities in this area are centred around building the image of a responsible company, pursuing social outreach projects, promoting CSR concepts among Stakeholders, and encouraging their responsibility.

- **Distant Environment**

  Distant Environment is the area where PKN ORLEN aspires to implement its strategy, promote innovation and set top industry standards in business ethics and environmental protection.

Intellectual capital

Intellectual capital is the ORLEN Group's strategic asset and a source of sustained competitive advantage. Employees' knowledge and experience, customers' trust, as well as our values and rules of conduct contribute to building enterprise value in the short, medium and long time horizon.

Knowledge and unique experience – over 21,000 committed and highly qualified employees, including:

- Outstanding technical and engineering staff with extensive experience in the refining, petrochemical, power and upstream sectors.
- Experts, including in management, finance, HR, etc.
- Experienced R&D team engaged in projects involving implementation of new products and technologies to ensure regulatory compliance.

Key directions in R&D activities:

- Next generation fuels and biofuels.
- New or improved processes, technologies and products.
- Unconventional raw materials for the chemical sector.
- Next generation polymers and materials.
- Operational excellence and key technological processes.

Management systems – we are committed to ensuring best operating standards and the highest possible operational efficiency.
These objectives are supported by our Integrated Management System , which consists of:

- Quality Management System based on ISO 9001.
- Quality Management System based on AQAP 2110.
- Environmental Management System based on ISO 14001.
- Occupational Health and Safety Management System based on the PN-N-18001 standard.
- Information Security Management System based on the PN-ISO/IEC 27001 standard.
- Food Safety Management System − HACCP.
- ISCC EU certification system.
- Factory Production Control (ZKP).

Due diligence policies and procedures for individual areas of our operations, ensuring the highest management standards.

Culture of innovation

- Motivating staff to develop innovative technical and technological solutions, for instance by implementing internal projects and intranet platforms to promote innovative processes and knowledge management.
- Motivating staff to implement innovation from outside the Group, including by active participation in the Group's initiatives designed to deliver innovative solutions, for instance those developed by start-ups.

Key R&D projects implemented in 2018:

- Development of process technology for the co-hydrogenation of diesel oil fractions with vegetable oils as a potential source of biocomponents for diesel oil (PKN ORLEN).
- Monitoring of overall corrosion and hydriding with the use of an integrated system of dual corrosion sensors (PKN ORLEN).
- Motor gasoline production technology and method for motor gasoline storage in salt caverns as an element in counteracting disturbances in the raw materials and product management (PKN ORLEN).
- BioRECO2VER – Biological CO2 conversion to base monomer.

Projects supporting the culture of innovation:

We are gaining experience in carrying out innovative projects under the Group's programmes (including acceleration programmes) to enhance our innovation implementation system, one aspect of which is discovering our staff's talent in innovation:

- 'Creator' programme for submitting projects of a technical or technological nature, including initiatives which may become invention proposals (inventions, utility designs, industrial designs, and integrated circuit topographies).
- Promotion of employee initiatives, including the 'Innovative Project of the Year' competition; the winning project in 2018 was the 'Alarm Management System / CLMP – Quality Monitoring' solution, involving systematic organisation, standardisation, review and rationalisation of alarm systems generated from control and security systems.
- Engagement of employees in acceleration programmes, including 'Electro Scale Up' and 'Scale Up', designed to estimate the need to search for innovative solutions and to carry out their pilot implementations.
- Promoting openness among employees with respect to entities offering innovations, including engagement of employees in reviewing and forming opinions on innovative solutions offered by start-ups, organising meetings with potential suppliers of new services/products, and active scouting for potential partners through participation of employees in trade conferences/meetings focused on innovation.

Cooperation with scientific and research institutions:

- Annually, over 100 research and conceptual studies and designs, as well as over 10 student theses are prepared as a result of cooperation between PKN ORLEN and university or college representatives.
- In partnership with the University of Warsaw, 7 doctoral implementation research projects were started under a programme funded by the Ministry of Science and Higher Education.
- Organisation of internships/work placements and recruitment of the best students and graduates.
- Participation of PKN ORLEN employees in the doctoral implementation research programme.
- Competitions for the best research papers and student theses.
- ORLEN Knowledge Day, Case Week.
- Innovation Day (workshops with scientific organisations devoted to the presentation of R&D and technological challenges faced by PKN ORLEN, and projects run by universities/scientific institutes) and seminars.
- Joint R&D projects.
- Ordering of research, conceptual work, analyses and expert studies.

Goals and directions of capital management:

- Promoting internal and external innovation within the organisation.
- Creating an innovative environment in the ORLEN Group.
- Developing the PKN ORLEN Strategic Research Agenda.
- Deploying innovation acquisition tools: accelerator and CVC fund.
- Fostering collaboration with start-ups.
- Building the Research and Development Centre as a platform for collaboration with the scientific and business communities.
- In-house research and testing to improve processes, products and inputs.
- Developing proprietary technologies.

Human capital

People are one of the key pillars of the ORLEN Group's strategy.We provide fair and friendly working conditions for our employees. Relations with internal Stakeholders and the external business environment are based on integrity, respect and on dialogue, cooperation and involvement of each staff member in building a culture consistent with the Company's core values. Our priorities are to increase employee efficiency, develop employees' knowledge, skills and abilities, promote cooperation in the workplace, improve leadership, maintain commitment to robust workplace safety standards and build a culture of innovation.

- **Over 21,000 dedicated staff** making up a team of experienced specialists.

	UoM	2018
Total headcount:	[persons]	21,282
Employment by gender, including:		
Women	[%]	27
Men	[%]	73
Workforce by type of job, including:		
White-collar staff	[%]	46
Blue-collar staff	[%]	54

Workforce by education, including:		
Tertiary	[%]	41
Secondary	[%]	35
Vocational	[%]	22
Primary	[%]	2

- A **diverse and wide range of development activities** addressed to employees: specialist training (open and closed), postgraduate studies, MBA courses, coaching, and mentoring.
- **Culture of knowledge sharing**: in-company portals for sharing knowledge and ideas: ORLEN Insight, ORLEN Idea; Project Management & Innovation Day.
- **Medical care and an employee benefits package**, including holiday allowances to partly pay for holidays or sanatorium treatment, child care, leisure activities for children and youth, school starting kits for children, recreation and sports activities, rehabilitation therapies, cultural and educational activities, rehabilitation camps for a disabled child and an accompanying adult, support for low-income families, non-returnable financial support, returnable housing loans, and purchase of Christmas gifts for children.
- **Maintaining the highest workplace safety standards, building the awareness of safe work procedures and creating proactive attitudes among our employees and contractors**. In practice, this means that the Group does everything it can to prevent accidents, industrial failures, fires and other unwanted incidents. The key projects currently in progress include:
  - The '**Safety Plus**' project, as part of which 15 standards are being implemented, representing the highest safety standards identified in the fuel and energy industry.
  - Development of the **Process Safety Management System** based on the OSHA 1910.119 standard; it will provide a more effective framework for achieving operational excellence as it guarantees technical safety of the process, storage and auxiliary units.

Results - key data

- **Managing human resources**

  The adaptation of new employees, cooperation with trade unions in the implementation of Company Collective Bargaining Agreements and partnership in working towards the Group's business objectives, development of non-financial employee incentives (the 'Family-Friendly Employer' programme). In 2018, work was completed with a view to implementing a uniform standard of medical care across the ORLEN Group as of the beginning of 2019.
- **Education and talent acquisition**:
  - Internship programmes: The 'Headed for ORLEN' and the '#Energy for the Future' projects run in cooperation with the Ministry of Energy, a programme carried out jointly with the Faculty of Power and Aeronautical Engineering - Mechanics Division of the Warsaw University of Technology, and a work placement programme for future lawyers with the Cardinal Stefan Wyszyński University in Warsaw.
  - Student internships – in the production segment and in other business areas.
  - Signing by PKN ORLEN of a Declaration of Cooperation with the Mazovia Education Office (Mazowieckie Kuratorium Oświaty), based on which ORLEN Group companies can take patronage over school classes which run curricula matching the companies' business profiles.
  - Active participation in Industry Seminars, a series of meetings at the Faculty of Chemistry of the Warsaw University of Technology.
  - Participation in Job Fairs at universities of technology: Job Fair in Płock, Absolvent Talent Days in Warsaw, Academic Job Fair in Łódź, Job Fair at the Silesian University of Technology and the AGH University of Science and Technology in Kraków, Engineering Job Fair at the Warsaw University of Technology.
  - Educational and informational projects, including: the Knowledge Day or the Dignity Day organised by the PKN ORLEN Ethics Officer.
- **Development and training**:
  - A comprehensive management staff development programme, training programmes in anti-harassment, labour law, and management and business ethics.
  - Competence development programmes in project management, trade and business negotiations, effective communication and cooperation on a team, innovation focused on pragmatic techniques, and an in-house production coach.
  - Initiatives fostering the culture of work safety: from educational projects to mandatory training and post-graduate courses in the field of industrial process safety; the ORLEN Safe Driving Academy.
  - Academy of Languages and summer English courses.
- **Health promotion**:

  Preventive programmes: 'Health 50+', 'Health Zone', 'No to Cancer in Children'; preventive examinations held in Płock, Włocławek and Ostrów Wielkopolski under the nationwide 'Health First' programme; open meetings on disabilities for the employees.
- **Ensuring highest safety standards**
  - Further development of the work safety culture – the 'Employee Support System' programme.
  - Mandatory safety training programmes for employees and contractors.
  - Internal audits at ORLEN Group companies and safety audits at the contractors.
  - Incentive programmes and information campaigns focusing on occupational safety and promoting healthy lifestyles and work-life balance: the 'Safe Maintenance' and the ' Safe Contractor' competitions, the 'OHS Incentives' programme; information campaigns Occupational Safety and Healthcare Days.
  - Event analysis and risk assessment system – 'Safety Alerts' and 'Lesson Learned'.
  - Company Fire Brigade, emergency drills involving employees and rescue and firefighting services.

Key performance indicators	UoM	2018	2017
Average training hours per employee, including			
Women	[number]	18,3	-
Men	[number]	20,7	-
Managers	[number]	24,5	-
Non-managers	[number]	19,6	-
Company Social Benefits Fund	[persons]	28 317	25 197
Accident rate (Total Recordable Rate[1])	[number]	1,03	0,95
Number of T1 safety events (Process Safety Events Rate[2])	[number]	0,07	0,06
Safety Culture Indicator[3]	[%]	100	100

[1]Total Recordable Rate – an internationally recognised metric of a company's rate of workplace accidents calculated as follows: (number of workplace accidents in a period of time / number of man-hours worked in the period) x 1,000,000.

[2]Tier 1 Process Safety Events Rate – number of events of greater consequence related to substance release into the atmosphere x 1,000,000/number of man-hours.

[3]The Safety Culture Indicator is a sum of:

- the product of the percentage showing achievement of the target for the combined TRR (company and contractors) by a company and 0.7 (accident rate weight in the Safety Culture Indicator).

- the product of the percentage showing achievement of the target for the Risk Notification and Handling Indicator by a company and 0.3 (risk notification weight in the Safety Culture Indicator).

Employee engagement and satisfaction survey (carried out every two years)	UoM	2017
Number of ORLEN Group companies surveyed	[x]	16
Number of respondents – PKN ORLEN	[x]	4,005
Employee engagement rate	[%]	65
Job satisfaction rate	[%]	73
Average rates in Poland in 2016[1]		
Employee engagement rate	[%]	51
Job satisfaction rate	[%]	66

[1]Based on Aon Hewitt.

Goals and directions of capital management

- **Efficiency and safety**
  - We believe in social dialogue based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules.
  - We ensure the highest safety standards in the operational areas of the Group.
  - We build awareness of a safe work environment and promote proactive attitudes among our staff and contractors.
- **Responding to challenges**
  - We focus on the development of specialist competences among our staff that are aligned with the Group's strategic goals, and we promote the desired corporate culture, in particular with respect to the building of an engaging workplace and innovation.
  - We build leadership through development of management skills in line with an approach that managers have the greatest influence on stimulating employee engagement at a company.
  - We implement modern solutions that facilitate maintaining a good work-life balance.
  - We have a recruitment policy in place whose aim is to attract top talent.
- **Culture of innovation**
  - We work to adjust our HR and payroll solutions as well as IT systems so that they properly and effectively support business processes.
  - We run internal programmes for employees that provide a platform for sharing knowledge and experience in technological innovations and advances.
  - We promote employee initiatives in the field of innovation.
  - We forge partnerships with scientific and academic communities.

Natural capital

The ORLEN Group uses renewable and non-renewable natural resources in its operations. All our business activities are carried out in a responsible manner, with due consideration to the effects of current and future environmental impacts.

- In production processes we use **renewable resources** (air, water, esters, bioethanol) and **non-renewable** ones (crude oil, natural gas and auxiliary chemicals).
  In 2018, resources used by the ORLEN Group included:
  - **Over 33m tonnes of crude oil.**
  - **Over 800,000 tonnes of esters.**
  - **Over 250,000 tonnes of bioethanol.**
  - **Over 90m m^3 of water.**

- The ORLEN Group has **2P crude oil and natural gas reserves in Poland and Canada, which amounted to 211 mboe at the end of 2018.**
- **ORLEN Group's upstream assets:** at the end of 2018, the ORLEN Group was the sole owner or a joint owner (with PGNiG) **of 22 exploration and appraisal licences with a total area of more than 14,000 square kilometres in Poland**, spread over six provinces, and held **exploration and production assets spanning 1,300 square kilometres in Alberta, Canada.**

ORLEN Group's environmental KPIs	UoM	2018	2017
Total withdrawal of surface water, groundwater and mains water	[million m^3]	90.3	88.4
Surface water	[million m^3]	85.7	84.3
Groundwater	[million m^3]	3.9	3.3
Mains water	[million m^3]	0.7	0.8
Effluents discharged to the environment, including	[million m^3]	51.5	51.3
Industrial wastewater	[mln m^3]	44.9	44.9
Summary of selected substances	[Mg]	15,959,041	15,226,911
Sulfur dioxide	[Mg]	18,290	20,462
NOx	[Mg]	10,436	10,516
Carbon monoxide	[Mg]	4,559	4,794
Particulate matter	[Mg]	1,088	1,665
Carbon dioxide	[Mg]	15,907,824	15,176,145
Other substances	[Mg]	16,844	13,329
Quantity of generated waste	[Mg]	176,827	212,991
Hazardous waste	[Mg]	83,840	100,128
Non-hazardous waste	[Mg]	92,988	112,863

- The total spending on environmental projects by all ORLEN Group companies in 2018 amounted to EUR 124m, of which almost EUR 28m was spent on projects involving anti-pollution measures and environmental protection management, while the costs of reducing emissions to air and in wastewater totalled approximately EUR 96m.
- Key projects in 2018:

PKN ORLEN:

- Implementation of the leakage detection and repair system for refinery units (LDAR).
- Upgrade of the existing vapour recovery units VRU 3 and VRU 5 at the railway terminal.
- Installation of a dust extraction system on the catalyst regeneration node at the FKK II unit.
- Installation of new low-emission burners in process furnaces at the alkylation and HROS units.
- Construction of a continuous flue gas emission monitoring system at 12 emitters of the refinery, including the DRW II, DRW III, DRW IV, DRW VI, REF V, REF VI, HRK, WW I, WW II, HOG, FKK II, Claus (OGK I and OGK II) units.
- Investment projects at PKN ORLEN's distribution facilities: projects to ensure proper water and wastewater management and to upgrade linear drains and separators at service stations and car washes.
- Upgrade of fuel terminals, in Mościska and in Sokółka, to reduce air emissions.

The investment projects helped reduce VOC emissions from loading and unloading operations, reduce particulate matter and NOx emissions, and cut down on fuel consumption, resulting in lower CO2 emissions and savings on air emission charges.

Other ORLEN Group companies:

- Upgrade of a VRU unit at a fuel loading terminal and replacement of boiler burners in the Paramo CHP plant.
- Equipping Z27–Z30 tanks with trays at ORLEN Oil in Trzebinia.
- Installation of new burners on the K2 boiler of the CHP plant and putting into service of a continuous emission monitoring system (CEMS) for sulfur recovery and hydrogen production units at ORLEN Lietuva.
- Replacement of old coal-fired boilers with new gas-fired sources of heat at ORLEN Południe's Trzebinia plant.
- Construction of a new boiler house for the steam cracker and upgrade of the flue gas desulfurisation and denitrification technology at the boilers of the T 700 CHP plant at Unipetrol.

Goals and directions of Capital management

- We take care to ensure that our production processes are environmentally friendly: our environmental projects involved adaptation of plant and process units to new environmental requirements and standards defined in the EU regulations and BAT Conclusions. Those efforts included administrative work to have the terms of the integrated permits for the Group's plants amended, as well as capex projects related to the production plant and equipment.
  - We identify the environmental aspects of our technological processes, and we seek to minimise their impacts on the natural environment and human life and health.
  - We comply with the requirements stipulated under integrated permits secured for our installations.
  - We effectively manage carbon emission allowances.
  - We implement investment projects to adapt process units to new environmental requirements and standards.
  - We ensure effective wastewater and waste management.
  - We effectively manage land remediation.
  - We engage in initiatives that promote environmental awareness and social responsibility.
  - We provide access to information on the environmental impact of our operations and on efforts taken to improve workplace health and safety standards and implement best practices of the Responsible Care Programme.

Business Model

The ORLEN Group is a leading player on the fuels and energy markets, and the largest company in Central and Eastern Europe. It operates in 6 home markets – Poland, the Czech Republic, Germany, Lithuania, Slovakia[1] and Canada. The ORLEN Group operates through 3 segments: Downstream, Retail and Upstream, as well as the supporting Corporate Functions area.

[1]Entry to the Slovak market in 2019

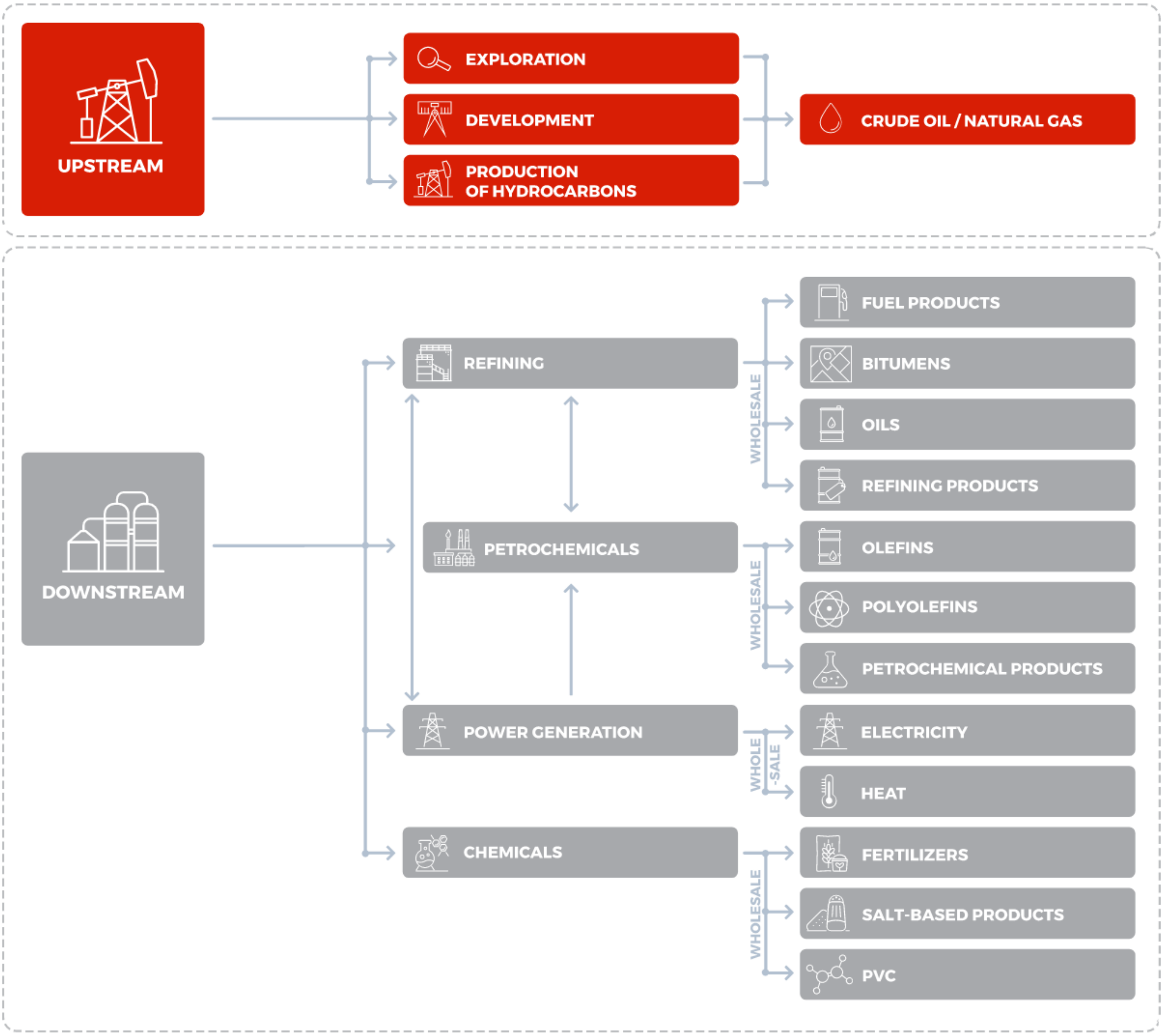
Our mission

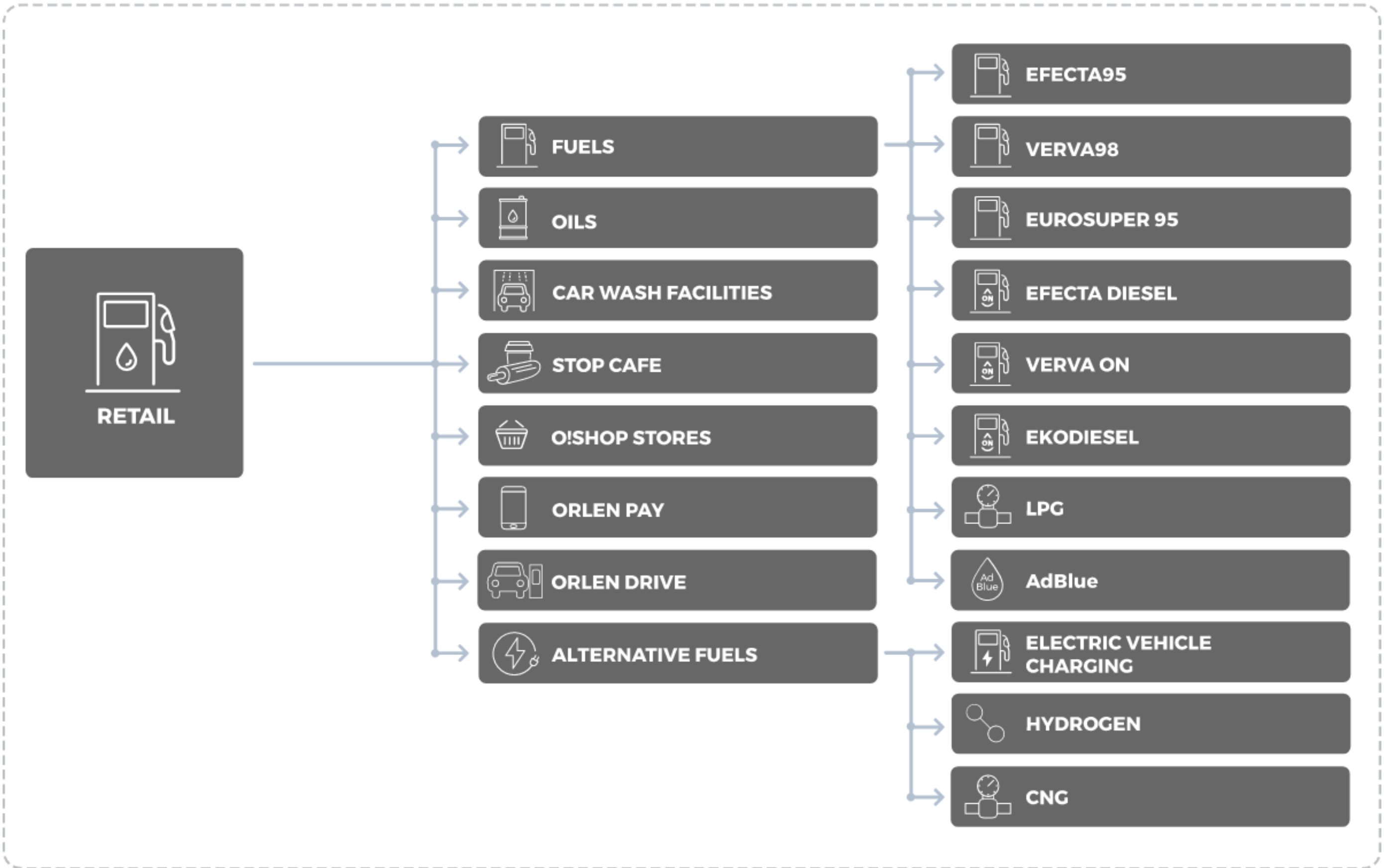
By discovering and processing natural resources, we fuel the future.

Credo

ORLEN. We fuel the future.

Business model





Diagrams of the PKN ORLEN production complex in Płock:

- Refinery section diagram
- Petrochemical and power generation section diagram

Operating segments:

- **Downstream**

The ORLEN Group manages refining assets and is the leading fuel producer in Poland, Lithuania and the Czech Republic. It is also a leading producer of petrochemicals, with the production processes in this area carried out by selected units at PKN ORLEN, the Unipetrol Group, the ANWIL Group, and Basell Orlen Polyolefins (BOP). Total processing capacity of the Group's refineries exceeds 35 million tonnes per year.

Full integration of the refining and petrochemical units at PKN ORLEN and the Unipetrol Group as well as pipelines connecting PKN ORLEN with the ANWIL Group and BOP are a source of major competitive advantage. Likewise, efficient logistics infrastructure, consisting of surface and underground storage depots and pipeline networks, is a key element of value creation on the fuel market. The ORLEN Group is also a producer of heat and electricity – the main generation assets of the Downstream segment are the PKN ORLEN power plant in Płock (being the largest commercial power generating unit in Poland used to supply utilities to the refinery), the CHP plants of the Unipetrol Group and ORLEN Lietuva, as well as a CCGT unit in Włocławek and Plock, which were put into operation in 2017 and 2018 respectively.

- **Retail**

The ORLEN Group is the region's leader in retail fuel sales, managing a network of over 2.8 thousand service stations in the premium and economy segments.

In Poland, our service stations operate under the ORLEN brand in the premium segment and under the Bliska (only 3% of chain) brand in the economy segment. In the Czech Republic, the brands are Benzina Plus, Benzina, and in Lithuania − ORLEN (premium segment) On the German market, ORLEN Deutschland operates economy stations under the STAR brand and the network is complemented by more than a dozen of Familia supermarket stations. The Retail segment is implementing an ambitious investment programme which has seen us open new service stations and other motorway facilities (Motor Service Areas), upgrade existing sites, rebrand Bliska stations, implement corporate loyalty schemes, further develop our catering services, and roll out new store formats. Currently, the modern store concept under the proprietary O!Shop brand is being dynamically developed across Poland.

- **Upstream**

The ORLEN Group is engaged in exploration and production in Poland and has production operations in Canada. The upstream operations are carried out by ORLEN Upstream, a wholly-owned subsidiary of PKN ORLEN. Its base of hydrocarbon reserves is gradually expanded, production is stepped up and the project portfolio is diversified, while concentrating on the best performing and prospective assets.

The objectives are to constantly increase production output and the volume of 2P reserves, focusing on good quality assets and the most profitable projects, and responding flexibly to changes on the oil and gas market. At the end of 2018, 2P reserves of the Upstream segment companies amounted to approximately 211 million boe, while total production volume in 2018 reached 18.0 thousand boe/d.

- **Corporate Functions**

Corporate Functions comprise activities involving management, administration and other auxiliary functions performed by certain ORLEN Group companies for the operating segments. The companies performing corporate functions engage in a wide range of activities, including:

- Protection of people and property and technical security, comprehensive accounting and bookkeeping, HR/payroll and inventory management services.
- Laboratory services, including testing of petroleum products, water, sewage, soil and air.
- Engineering design and building supervision services for the refining, petrochemical and power industries.
- Financing and insurance services.
- Real estate management and office administration.

The key subsidiaries

Unipetrol Group

Unipetrol a.s. is a parent company of the Unipetrol Group, which was established in 1994 due to restructuring of the Czech oil industry. In 2005 PKN ORLEN acquired 62.99% of Unipetrol a.s. shares. In 2018 PKN ORLEN completed the process of acquisition of the rest of the shares from the shareholders and as a result became a 100% owner of Unipetrol. The core business activity of the Unipetrol Group is crude oil throughput, production and distribution of refining, petrochemical and chemical products.

ORLEN Lietuva Group

AB ORLEN Lietuva is a parent company of the ORLEN Lietuva Group and it was registered in the Lithuanian Register Court on 24 January 1991 under name of AB Mazeikiu Nafta. On 15 December 2006 PKN ORLEN purchased majority stake of the Company from Yukos International UK B.V., and on 29 April 2009 became the sole owner through purchase of stock from the Lithuanian Republic Government. Since 1 September 2009 the Company run its operations under AB ORLEN Lietuva name. The core business activity of AB ORLEN Lietuva is crude oil throughput, production of refining products and wholesale of the Company's product on local market, land and sea export utilising Klajpedos Nafta terminal.

ANWIL

Anwil was established on 15 March 1993 due to transformation of the State-owned company into sale-owner, joint-stock company owned by the State Treasury. The share capital of the Company was fully covered by PKN ORLEN as at 31 December 2018. The business activities of Anwil include production of nitrogenous fertilisers, plastic materials (polivinyl chloride, granulates, mixtures and PVC sheets), as well as chemicals for processing industry and agriculture (ammonia, chlorine, nitric acid, industrial salt, caustic soda).

ORLEN Deutschland GmbH

ORLEN Deutschland GmbH was established as the result of PKN ORLEN's purchase of fuel stations network in North and East Germany from Deutsche BP AG in December 2002. The share capital of the Company was fully covered by PKN ORLEN as at 31 December 2018. ORLEN Deutschland GmbH carries out mostly activities related to retail sales of fuel activities in Germany.

ORLEN Upstream Group

ORLEN Upstream sp. z o.o. is a parent company of the ORLEN Upstream Group. The share capital of the Company is fully covered by PKN ORLEN as at 31 December 2018. The business activities of the Company include: exploration and recognition of hydrocarbons reserves, extraction of crude oil and natural gas.

Our competitive advantages

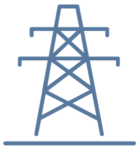
DOWNSTREAM – REFINING

- Refinery in Plock classified as a super-site (acc. to WoodMackenzie) considering the depth and throughput capacity as well as integration with petchem.
- Diversification of crude oil and security of natural gas supplies.
- Prepared for changes in regulatory and market trends due to execution of investment projects.
- Leader in the fuel market in the Central Europe (Poland, Lithuania, Czech Republic).

DOWNSTREAM – PETROCHEMICALS

- The largest petrochemical company in Central Europe (Poland, Lithuania, Czech Republic).
- Petchem assets integrated with refining allows savings.
- Attractive portfolio of products including: monomers, polymers, aromatics, PTA, fertilizers and PVC.
- Strategic regional supplier for chemical industry.

DOWNSTREAM – ENERGY



- ORLEN Group – one of the key producers of electric power and heat used in a big portion for own purpose. Electric power production is ca. 4,7 TWh.
- ORLEN Group possess energy units in 3 countries, of which:
  - The biggest industrial block in Poland: EC Płock (415 MWe, 2150 MWt).
  - Modern Combined Cycle Gas Turbines in Poland: CCGT Włocławek and CCGT Płock. In total over 1000 MWe.
- PKN ORLEN – one of the biggest gas consumers in Poland, ca. 2,5 bn m3. In total gas consumption is ca. 2,7 bn m3.

RETAIL

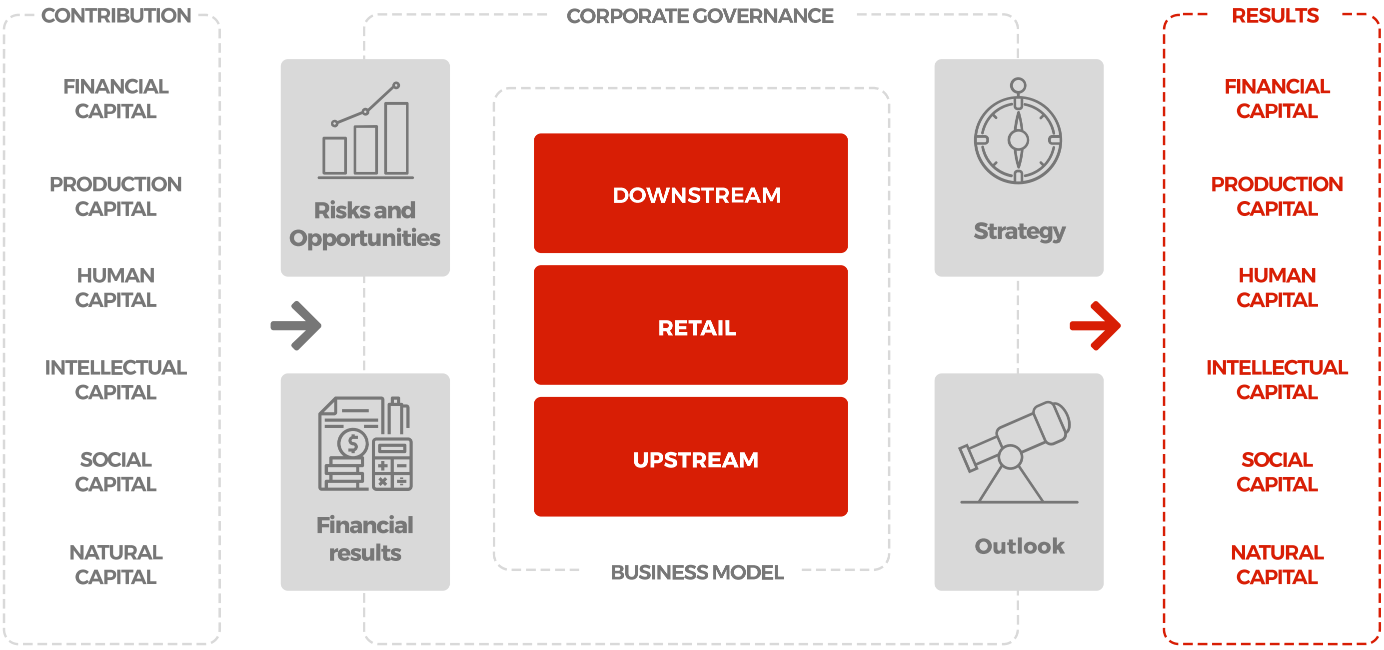
- Modern and the largest network of fuel stations in Central Europe.
- ORLEN – strong, recognizable and the most valuable brand in Poland (PLN 4,7 bn).
- Attractive loyalty programs.
- Dynamic growth of non-fuel offer by launching new Stop Cafe locations including convenience stores O!SHOP.

UPSTREAM

- Flexible response to changes in the oil and gas market.
- Adjusting capital expenditure plans to the macro situation.
- Leveraging segment synergies in Poland and Canada.

Value Creation

By integrating all elements of the oil sector value chain, the ORLEN Group is able to match the operations of each element of the value chain to its other elements. This allows the Group to build and maintain a sustainable competitive advantage, especially in changing market conditions.

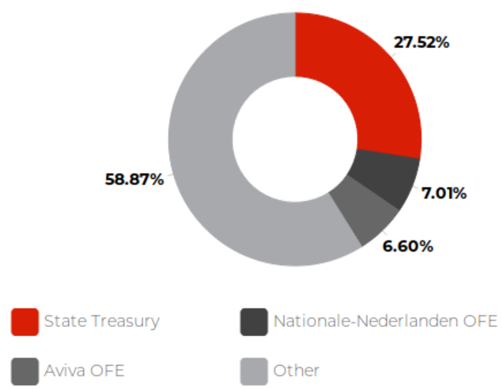


Shares and Shareholding Structure

PKN ORLEN shares are traded on the main market of the Warsaw Stock Exchange in the continuous trading system and are included in the WIG, WIG20, WIG30, WIG-Poland general market indices and in the WIG-FUELS industry index.

In 2018, the blue-chip WIG20 index and the all-cap WIG index decreased by, respectively, (7.5)% and (9.5)% year on year. In this period, the price of PKN ORLEN shares increased by 2.0% year on year. Total return on PKN ORLEN shares (price appreciation + dividend) was 5.69% in PLN and 2.59% in EUR. In the previous year, 210 716 551 PKN ORLEN shares were traded on the main market, a decrease of (0.77)% on 2017.

Shareholding structure of PKN ORLEN[1]



[1]According to information from the PKN ORLEN AGM convened for June 26th 2018 and adjourned to July 17th 2018.

The current shareholding structure of PKN ORLEN S.A. is available on the corporate website at: https://www.orlen.pl/EN/Company/ShareHoldersStructures/Pages/default.aspx

- The share capital of PKN ORLEN is divided into 427 709 061 ordinary bearer shares with a par value of PLN 1.25 per share. PKN ORLEN shares are freely transferable.
- The PKN ORLEN Management Board has no knowledge of any agreements which would results in future changes of holdings of Company shares.
- In 2018, the ORLEN Group did not operate any employee stock option scheme.
- In 2018, PKN ORLEN did not buy back its own shares.
- As at 31 December 2018, members of the PKN ORLEN Management Board did not hold any shares of the Company.
- Members of the Parent's Supervisory Board as at December 31, 2018 did not hold PKN ORLEN shares

Key data regarding PKN ORLEN's share

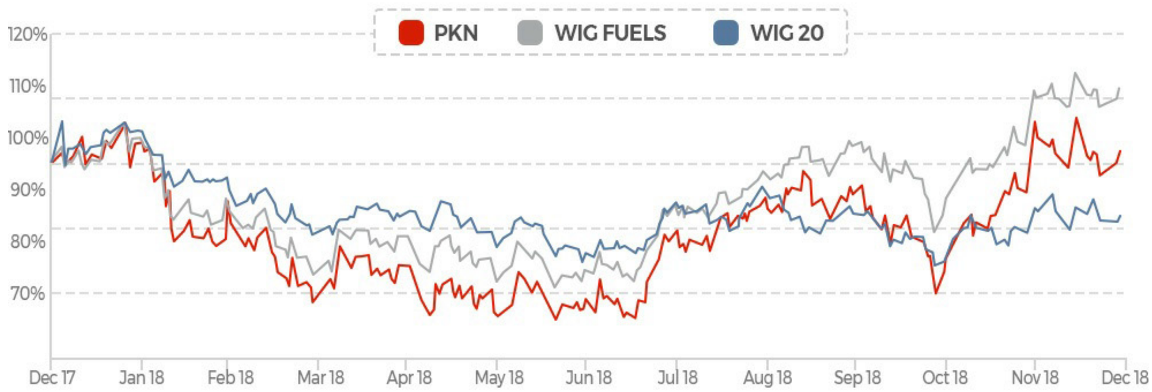
Key data	Unit	2018	2017	2016	change %
1	2	3	4	5	6=(3-4)/4
Net profit attributable to equity owners of the Parent Company	PLN mn	5,556	6,655	5,261	(16.5)%
Highest share price[1]	PLN	113.50	134.00	87.17	(15.3)%
Lowest share price[1]	PLN	80.76	81.18	57.64	(0.5)%
Share price at the year-end[1]	PLN	108.15	106.00	85.30	2.0%
Average price in the period[1]	PLN	94.83	109.37	68.56	(13.3)%
P/E[2] ratio average		7.3	7.0	5.6	4.3%
P/E[2] ratio at the end of the year		8.4	6.8	6.9	23.5%
Number of shares	Item	427,709,061	427,709,061	427,709,061	-
Capitalisation at the year end	PLN mn	46,257	45,337	36,484	2.0%
Average daily trading value	PLN mn	81	91	73	(11.0)%
Average daily trading volume	Item	853,103	849,437	1,059,622	0.4%

[1]Share price according to a closing share price.
[2]P/E – stock market price (P) / value of net profit per one share (earnings per share – EPS).

Quotations of PKN ORLEN on WSE in 1999 – 2018:

Source: Own preparation based on the Warsaw Stock Exchange.

Quotations of PKN ORLEN, WIG20 and WIG-FUELS on WSE in 2018[1]



[1]Percentage change of quotations of PKN ORLEN, WIG 20 in relation to the listing of 29 December 2017.
Source: Own preparation based on the Warsaw Stock Exchange.

Major shareholdings

In 2018 there were no changes in the structure of shareholders holding more than 5% of the PKN ORLEN share capital. The number of shares held by shareholders is presented based on the most recent official data acquired by the Company. The Company's Articles of Association do not impose any restrictions on the transferability of PKN ORLEN shares. However, such restrictions may be stipulated by generally applicable laws including, without limitation, the Act on State Property Management and the Act on Control of Certain Investments.

PKN ORLEN's shareholding structure

Shareholder	Number of shares and votes at a general meeting (as at Jan 1 2018*)	Percentage of share capital and total voting rights at the General Meeting (as at Jan 1 2018*)	Number of shares and voting rights at the General Meeting (as at Dec 31 2018**)	Percentage of share capital and total voting rights at the General Meeting (as at Dec 31 2018**)	Number of shares and voting rights at the General Meeting (as at the report authorisation date**)	Percentage of share capital and total voting rights at the General Meeting (as at the report authorisation date**)
State Treasury	117,710,196	27.52%	117,710,196	27.52%	117,710,196	27.52%
Nationale-Nederlanden OFE	33,000,000	7.72%	30,000,000	7.01%	30,000,000	7.01%
Aviva OFE	29,900,000	6.99%	28,240,000	6.60%	28,240,000	6.60%
Others	247,098,865	57.77%	251,758,865	58.87%	251,758,865	58.87%
Total	**427,709,061**	**100,00%**	**427,709,061**	**100.00%**	**427,709,061**	**100.00%**

**According to information from the PKN ORLEN AGM convened for June 30th 2017.*
***According to information from the PKN ORLEN AGM convened for June 26th 2018 and adjourned to July 17th 2018.*

Special control powers and voting rights

Detailed rules for the exercise of special control powers and voting rights are laid down in PKN ORLEN's Articles of Association. According to the provisions of the Articles of Association, one PKN ORLEN share confers one voting right at the Company's General Meeting. The voting rights of shareholders have been capped in the Articles of Association so that none of them may exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held. The cap on voting rights does not apply to the State Treasury and the depositary bank which has issued, on the basis of an agreement with the Company, depositary receipts in respect of Company shares (if this entity exercises voting rights conferred by Company shares).

Shareholders whose voting rights are aggregated or reduced are jointly referred to as a Shareholder Grouping. Detailed rules of such aggregation and reduction are specified in the Articles of Association. Shareholders forming a Shareholder Grouping may not exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held.

If the aggregated number of shares registered at the General Meeting by shareholders forming a Shareholder Grouping exceeds 10% of total voting rights at the Company, the voting rights resulting from the number of shares held are subject to reduction, the rules of which have been specified in detail in the Articles of Association.

The cap on voting rights described above does not apply to subsidiaries of the State Treasury.

The State Treasury is entitled to appoint and remove one Member of the Supervisory Board. Furthermore, one Member of the PKN ORLEN Management Board is appointed and removed by the Supervisory Board upon the State Treasury's motion.

Additionally, in accordance with the Articles of Association, as long as the State Treasury is entitled to appoint a Member of the Supervisory Board, a resolution granting consent for transactions involving any sale or encumbrance of shares in the following companies: Naftoport Sp. z o.o., Inowrocławskie Kopalnie Soli S.A. as well as the company to be established to operate the pipeline transport of liquid fuels, will require a vote in favour of its adoption by the Supervisory Board Member appointed by the State Treasury.

Special rights vested in the State Treasury as the Company's shareholder may also result from generally applicable provisions of law, i.e:

- The Act on Special Rights Vested in the Minister Competent for Energy and their Exercise in Certain Capital Companies or Groups Conducting Business Activities in the Electricity, Crude Oil and Gas Fuel Sectors, dated March 18th 2010.
- The Act on Control of Certain Investments, dated of July 24th 2015.
- The Act on State Property Management, dated December 16th 2016.

Dividend policy

For the past six years, the Company has implemented a dividend policy factoring in its financial ratios, overall financial condition and expansion plans. The recommendation of profit distribution for PKN ORLEN for 2018 is presented section 10.2.8.5 of Consolidated Financial Statement for 2018.

Ratings

In 2018 PKN ORLEN ratings at the investment level in two leading rating agencies: Fitch Ratings Ltd. and Moody's Investor Services remained unchanged, respectively BBB- with a stable outlook and Baa2 with a stable outlook.

Our Products, Services and Brands

Our products and services are highly valued by both retail and institutional customers. For years, ORLEN has been the leader of the 'Most Valuable Polish Brands' ranking compiled by the Rzeczpospolita daily.

Feedstock used in production processes

UPSTREAM

Non-renewable feedstock

- CRUDE OIL
- NATURAL GAS
- AUXILIARY CHEMICALS

Renewable feedstock

- WATER
- ESTERS
- BIOETHANOL
- AIR

Our products

FUEL PRODUCTS

Gasolines, diesel oil, heating oil, light heating oil, liquefied petroleum gas, natural gas, biofuels, marine fuels, jet fuels

BITUMENS

Paving grade, industrial grade, modified, multigrade

OILS

Base, engine, gear, hydraulic, industrial, for agriculture, car grease, grease

REFINING PRODUCTS

Solvents, slack waxes, waxes, sulphur, napthas, technical glycerin, paraffins

OLEFINS

Ethylene, propylene

POLYOLEFINS

Polyethylene, polypropylene

FERTILIZERS

Nitrogen fertilizers, liquid ammonia, CANWIL, ammonium nitrate, ammonium sulfate, sodium hydroxide, caustic soda, sodiumm hypochlorite

PETROCHEMICAL PRODUCTS

Petrochemicals (acetone, butadiene for industrial use, ethyl tert-butyl ether - ETBE, polymerizable ethylene, phenol for industrial use, glycols, terephaltic acid PTA, petrollent, ethylene polyglycols, polymerizable propylene, liquified ethylene oxide), aromatic hydrocarbons (raffinate, paraxylene, benzene, benzene-toluene fraction), polyvinyl chloride (PVC), PVC granulate, PVC based mixes, PVC boards, brake fluids, operating fluids

SALT BASED PRODUCTS

Iodized salt, pickling salt, salt tablets, salt briquettes, industrial salt, feed salt, scrap salt, industrial salt brine, table salt, common salt, salt dust

ENERGY

Electricity, heat energy

OTHER

Fuel cards, Ad-Blue and LPG fuel dispenser, control and measurement systems for fuel stations, car comsetics and chemicals

TOP10 products by share of revenue [PLN]

TOP 10 PRODUCTS BY SHARE OF REVENUE

DIESEL OIL	PLN 49,539 m
GASOLINES	PLN 24,611 m
HEAVY FUEL OIL	PLN 4,661 m
JET-A1	PLN 3,747 m
LPG	PLN 2,580 m
BITHUMENS	PLN 2,205 m
ETHYLENE	PLN 1,930 m
PTA	PLN 1,528 m
EKOTERM FUEL OIL	PLN 1,380 m
POLYPROPYLENE	PLN 1,373 m
PROPYLENE	PLN 1,330 m
POLYETHYLENE	PLN 1,270 m
POLIVINYL CHLORIDE	PLN 1,147 m

Our brands

PETROL STATIONS

- ORLEN
- BLISKA
- BENZINA
- star

FUEL AND SERVICES AVAILABLE AT PETROL STATIONS

- efecta ORLEN
- verva
- Paliwa BAQ MONITOROWANA JAKOŚĆ
- O! SHOP ORLEN
- ORLEN DRIVE
- stop cafe

LOYALTY PROGRAMS ENABLING NON-CASH PURCHASES AT ORLEN STATIONS

- FLOTA
- MIKROFLOTA
- Pay
- BIZNESTANK
- OPEN DRIVE

OTHER COMMERCIAL BRANDS

- petrygo
- ekoterm ORLEN
- Platinum ORLEN OIL
- CANWIL
- QGAZ NOWA JAKOŚĆ LPG
- orbiton

LOYALTY PROGRAMS

- CLUB VITAY

Our services

- Wholesale and retail sale of motor fuels, fuel storage and logistics.
- End-to-end waste management, ground and water environment monitoring, environmental protection (documentation, etc.), cleaning of industrial units, full range of occupational health and safety and fire safety services.
- End-to-end construction and maintenance of fuel and LPG stations; manufacture and assembly of steel structures.
- Comprehensive real estate management, lease of office, training and conference space.
- Personal and property protection, cash-in-transit services, installation and maintenance of technical security systems, monitoring of alarm systems, fuel transport control, safety audits, facility cleaning services.
- Railway transport, lease of rail cars and end-to-end management of rolling stock.
- Sale of gas pumps, tank monitoring systems, management systems, automation controls; maintenance and repair of equipment associated with service stations and fuel terminals.
- Road transport of fuels and other flammable liquid products.
- Bunkering of ships with marine fuels, port services for ships.
- Power Service – specialist oil service.
- Designing of industrial facilities and solutions.
- Mechanical, electric system and automation services.

- Accounting and HR services.
- Laboratory services.
- Training services, language schools, postgraduate courses, HR consultancy services.
- Catering services.

Our Markets

The ORLEN Group operates on 6 home markets - in Poland, the Czech Republic, Germany, Lithuania, Slovakia and Canada. Our products reach over 100 countries located on 6 continents.

**Entering the Slovak market in 2019.*

Our Operations in 2018

Research and Development

Extending the petrochemical value chain and enhancing the refinery's competitive position are the key elements of the ORLEN Group's Strategy for the coming years. In 2018, significant efforts were put into the preparation of the Strategic Plan for Development and New Technologies (SPRINT) for PKN ORLEN and the ORLEN Group. The aim is to develop a long-term vision (until 2032 and beyond) for expanding ORLEN Group's production and logistics assets.

PKN ORLEN has approved **the Petrochemicals Development Programme (PDP)**, which seeks to significantly expand the Company's petrochemical production capacity, enhance its competitive position and consolidate its leadership in the petrochemical market in the region. The PDP offers potential for long-term generation of added petrochemical margins as well as flexibility in responding to changes in the macroeconomic conditions that have impact on the Company's refining and petrochemical businesses. The PDP will comprise three projects: extension of the olefins complex, expansion of the phenol production capacity, and construction of an Aromatic Derivatives Complex and a Research and Development Centre.

Following the completion of conceptual and detailed design work on the project to construct a**Research and Development Centre**, a concept design was developed, environmental permits were secured and construction plans and specifications were prepared. Also, the site preparation process and the procedure to obtain a building permit commenced, and the procurement procedure to select the EPC contractor for the project was opened.

In 2018, PKN ORLEN maintained and strengthened its collaborative partnerships with universities and research institutions. During the year, PKN ORLEN had contractual relationships with 17 research institutions based in Poland and abroad. The Company also collaborates with other institutions in implementing promising ideas and research projects. More than 30 research and development projects were in the pre-implementation or implementation phase in 2018, of which five were co-financed from national public funds (INNOCHEM sectoral programme) and EU programmes (Horizon 2020 Programme).

A full-scale test of co-hydrogenation of petroleum and vegetable oils was one of the successful innovation projects that received funds under**the INNOCHEM programme**. The demonstration test of the new technology was preceded by a multi-stage laboratory and pilot testing process carried out by the Industrial Chemistry Research Institute. The test results confirmed that rapeseed oil can be co- hydrogenated with crude oil fractions in specified proportions. The experience with HON I paves the way for trials on other HON units and incorporating co-hydrogenation into the continuous production process as an element of the strategy to meet the NIT.

In 2018, working with **Gdańsk University of Technology**, PKN ORLEN completed the key research tasks of another co-funded project that consists of building and implementing a world-class innovative dual sensor system forming part of a larger integrated real-time (online) corrosion monitoring system. The system simultaneously assesses the rate of uniform (general) corrosion and susceptibility to corrosion cracking and hydrogen embrittlement (hydrogen corrosion).

Progress was also made under the international **BioRECO2VER project**, which explores the possibility of transforming carbon dioxide by microorganisms into compounds used for the production of valuable chemical products. The project received funding under the Horizon 2020 Programme, EU's largest ever project to finance research and innovation.

The **Unipetrol Group** carries out its research and development projects through **Unipetrol Research and Education Centre** and **Polymer Institute Brno**. The projects focus on biofuels and alternative fuels as well as raw materials used for their production. Furthermore, the company implements projects designed to reduce greenhouse gas emissions and improve energy efficiency, use waste heat, optimise technology and upgrade energy generation sources. The projects in the area of refining focused on efficient and environmentally-friendly production of motor fuels, including biofuels. Other research focused on the application of used cooking oils as a feedstock for biofuel production, optimisation of the pyrolysis process, and use of renewable materials and advanced inorganic materials. In the area of petrochemicals, the portfolio of polypropylene and polyethylene products was expanded to improve product basket quality and production efficiency. The research centre staff provide extensive research support, constantly monitoring monomer and polymer quality, obtaining all required certificates, and developing and testing catalysts that meet the requirements imposed under the REACH Regulation. Unipetrol closely collaborates with universities in Prague, Brno and Liberec and has engaged university students in a number of its R&D projects.

The **ORLEN Lietuva Group** purchased the basic design and licence for **a hydrocracking unit**. The technology was purchased to help reduce the production of heavy oil fractions in an effort to comply with more stringent bunker fuel quality regulations issued by the International Maritime Organization (IMO), which come into force at the beginning of 2020. After a series of efficiency and operational analyses have been performed, a decision will be made whether to proceed with the project. 2018 saw continued implementation of projects designed to improve the efficiency of production processes, including by **upgrading the crude distillation unit (CDU)** to reduce variable costs and improve product quality. Also, the company completed projects to reduce sulphur compound (SO2) and nitrogen compound (NOX) emissions from the on-site CHP plant and systems for continuous monitoring of emissions from the FCC, sulphur recovery and hydrogen production units.

ANWIL established a partnership with **the Institute of Soil Science and Plant Cultivation**, which investigates the effects of various fertiliser additives on fertiliser effectiveness. The company also continued to work with the **New Chemical Syntheses Institute** on the possible use of FGD gypsum for the production of nitrogen fertilisers, and forged a partnership with **Polymer Institute Brno** to test the quality of PVC and fertilisers and to research plastic colorants. The company continued an R&D project co-financed under the **INNOCHEM** sectoral programme to develop an innovative production technology for PVC-based ceramic nano-composites for the construction industry, which may improve fire resistance of cable and wire sheaths.

The **ORLEN Południe Group** continued with a growth project entitled **'Glycerine conversion to 1,2-propylene glycol'**. Within the area of advanced biofuels, a procurement procedure was launched for the purchase of a basic design and licence for the production of bioethanol from straw. Work involving market research on methanol and available production technology commenced under the project **'Analysis of the methanol production potential of ORLEN Południe S.A.'**. Work continued under the projects **'Biodegradable anti-caking agents for the fertiliser industry'** and

'Development of biotechnology-based conversion of organic raw materials into lactic acid using microorganisms', which received funding under the INNOCHEM Programme. Efforts were also undertaken with a view to purchasing the basic design and licence for the production of lactic acid from biomass.

ORLEN OIL conducted research work to implement new and modify existing products and to define new directions for the development of lubricant technologies. The projects in the field of motor oils helped to create a product range that meets the new ACEA 2016 quality standards. Technology for 55 new products was developed and implemented in 2018. Modifications were made to 36 products. Seventy-two approvals for 27 products were obtained. Also, collaborative partnerships were maintained with research and scientific institutions, as well as Polish and international standardisation, certification and opinion-making institutions that influence the development directions for lubricants. Basic work to incorporate graphene into heat treatment oils was completed. As a next step, a decision will be made whether the project can be continued with external financial support.

ORLEN Asfalt and other industry players prepared a research report for the General Directorate for National Roads and Motorways (GDDKiA) on the practical application of the ORBITON HiMA polymer-modified bitumens in road construction.

Downstream

PRODUCTION

	units	ORLEN Group	Poland	Czech Republic	Lithuania
Maximum processing capacity	**million t**	**35.2**	**16.3**	**8.7**	**10.2**
Utilization of processing capacity	%	95	97	87	95
White product yields	**%**	**78**	**80**	**80**	**74**
Utilization of Olefin installation capacity	%	74	72	77	-
Utilization of PTA installation capacity	%	70	70	-	-

SALES

	units	ORLEN Group	Poland	Czech Republic	Lithuania
TOTAL	**thousand t**	**32,716**	**17,777**	**6,498**	**8,441**
Refinery, including:	**thousand t**	**27,733**	**14,692**	**4,600**	**8,441**
Fuels	thousand t	19,103	9,001	3,788	6,314
Heavy fractions	thousand t	5,032	2,503	641	1,888
Other refinery products	thousand t	3,598	3,188	171	239
Petrochemicals, including:	**thousand t**	**4,983**	**3,085**	**1,898**	**-**
Olefins	thousand t	849	693	156	-
Polyolefins	thousand t	540	0	540	-
Benzene	thousand t	367	164	203	-
Plastics	thousand t	371	276	95	-
Fertilizers	thousand t	1,067	881	186	-
PTA	thousand t	508	508	-	-
Other petrochemical products	thousand t	1,281	563	718	-

LOGISTICS

	units	ORLEN Group	Poland	Czech Republic	Lithuania
Total length of used pipelines, including:	**km**	**3,720**	**1,888**	**1,741**	**91**
Length of used raw materials pipelines	km	1,662	930	641	91
Length of used product pipelines	km	2,058	958	1,100	-

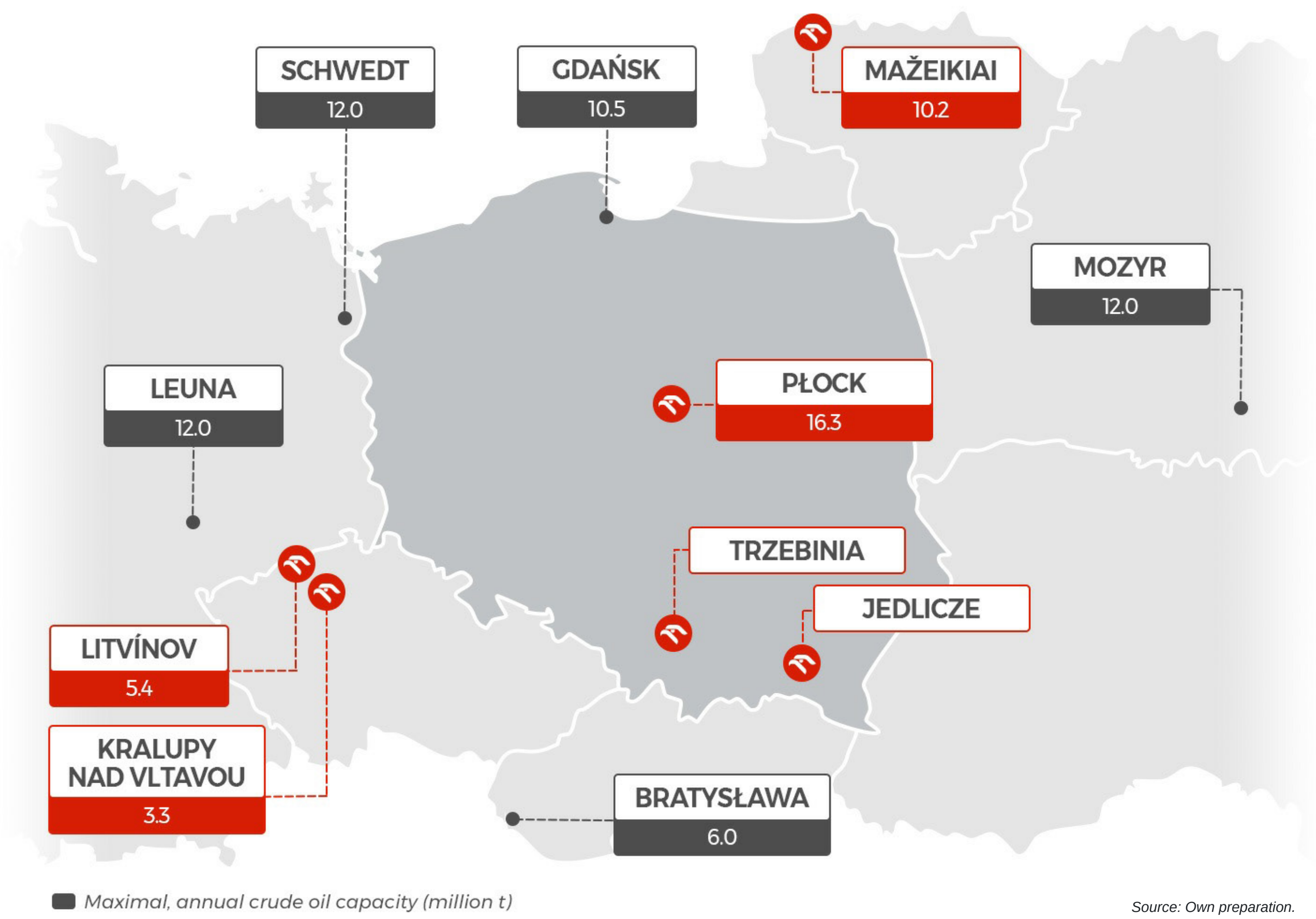
POWER INDUSTRY

	units	Poland	Czech Republic	Lithuania
Electric power installed	MWe	1,599	112	160
Heating power installed	MWt	3,658	766	1,040
Boiler's efficiency	%	93.0	89.3	81.9
Boiler's availability	%	88.6	71.1	93.3

Installed thermal and electrical capacity refers to the CHP plant in Płock and the CCGT plant in Włocławek. Availability and efficiency of boilers at the CHP plant in Płock.
Installed thermal and electrical capacity as well as availability and efficiency of boilers at the Litvinov Power Plant.

Main production assets of the ORLEN Group

Production assets of the ORLEN Group and main competitors in the Central and Easter Europe / production capacity [million t]



Source: Own preparation.

ORLEN GROUP

- The total production capacities of the **ORLEN Group** refineries are 35.2 million tonnes.
- **The refinery in Płock** is one of the most advanced integrated production facilities in Central and Eastern Europe, with a production capacity of 16.3 million tonnes/year. In petrochemicals, the key unit (Olefins) has a maximum production capacity of about 700 thousand tonnes of ethylene and about 380 thousand tonnes of propylene. Monomers manufactured at PKN ORLEN are used as feedstock for the polymer units at Basell Orlen Polyolefins and the PVC unit at ANWIL. PKN ORLEN also operates a modern PX/PTA complex with an annual capacity of around 690 thousand tonnes of terephthalic acid.
- The other Polish refineries, operating as the **ORLEN Południe group in Trzebinia and Jedlicze**, manufacture bio-components, base oils and heating oils, and regenerate spent oils.
- The **ORLEN Lietuva refinery in Mazeikai** has a production capacity of 10.2 million tonnes/year and is the only such facility in the Baltic States (Lithuania, Latvia and Estonia).
- The **Unipetrol Group operates refineries in Kralupy and Litvinov,** with a combined production capacity of 8.7 million tonnes/year. The Unipetrol Group also owns gas petrochemical assets with combined production capacities of approximately 600 thousand tonnes/year, including 320 thousand tonnes of polyethylene and approximately 280 thousand tonnes of polypropylene. Construction of a new Polyethylene III unit, with a capacity of approximately 270 thousand tonnes/year, is under way. Once completed, the unit will allow Unipetrol to increase the use of the Olefins installation and further integrate the petrochemical and refining operations.
- The Włocławek-based **Anwil** is the only manufacturer of polyvinyl chloride (PVC) in Poland and one of the major manufacturers of fertilizers and sodium hydroxide in the country. The annual production capacities are around 1.0 million tonnes/year of nitrogen fertilizers, approximately 0.4 million tonnes/year of PVC and granulates, and approximately 0.2 million tonnes/year of sodium hydroxide. Thanks to the planned construction of the third production installation of nitrogen fertilizers the production capacity of Anwil after 2021 will increase to approximately 1.5 million tonnes/year.
- **Basell ORLEN Polyolefins in Płock** operates facilities with a total production capacity of 900 thousand tonnes (420 thousand tonnes of polyethylene and 480 thousand tonnes of polypropylene). Products are marketed both in Poland and in foreign markets.

COMPETITION IN CENTRAL AND EASTERN EUROPE

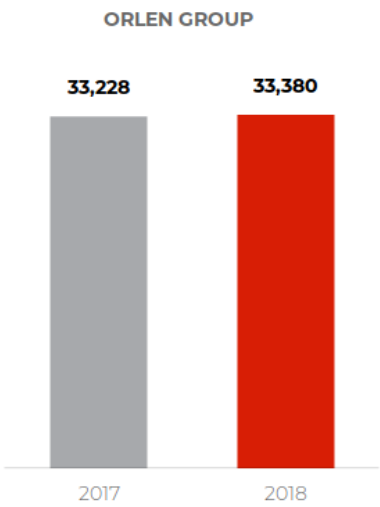
The largest **competitors of the ORLEN Group** are:

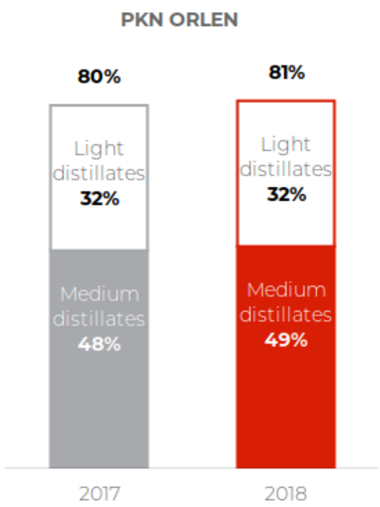
- LOTOS Group of Gdańsk – Poland's second largest refinery
- Mitteldeutschland Refinery in Leuna/Spergau, located in south-eastern Germany, about 150 km from the Polish-German border, the country's most advanced refinery
- PCK Refinery in Schwedt, located north-east of Berlin, about 20 km from the Polish-German border
- Slovnaft refinery, an integrated refining and petrochemical group, with a leading position in the Slovak Republic, located near Bratislava

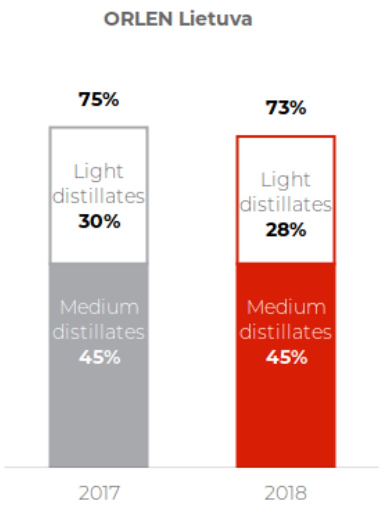
Mozyr refinery, a leading refinery in Belarus, located close to the Ukrainian border.

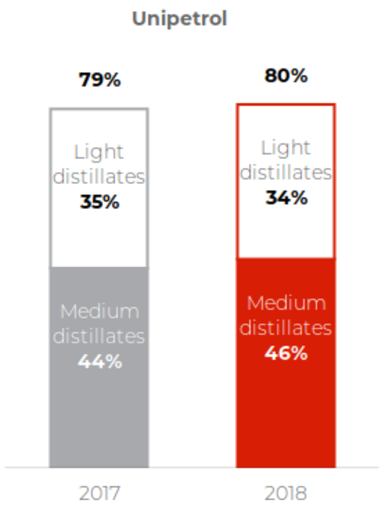
Key operational data

Crude oil throughput and fuel yields









Source: Own preparation.

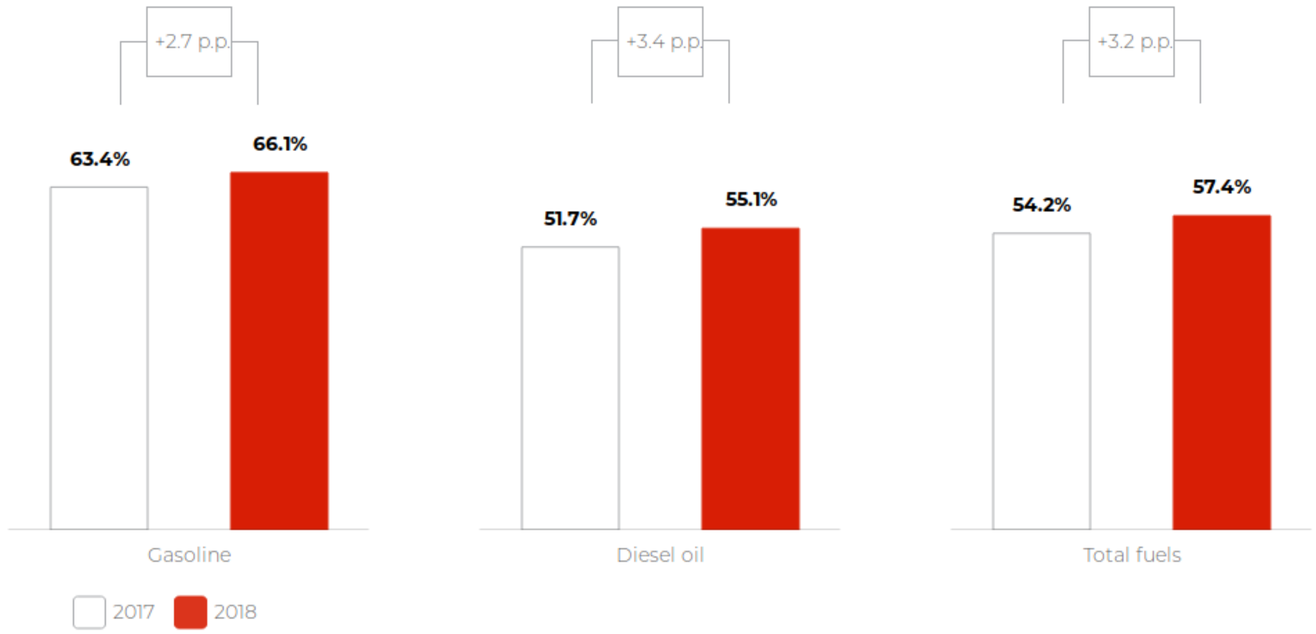
- **Volume of crude processed by** the ORLEN Group in 2018: **33.4 million tonnes, an increase of 0.5% year on year**, including:
  - **Poland, a year-on-year increase of 4.2%** as, unlike in 2017, there were no maintenance shutdowns of the DRW III unit and the Hydrogen Plant, and the downtime at Hydrocracking, Reforming and PX/PTA units was shorter (year on year).
  - **The Czech Republic, a year-on-year decrease of (4.3)%** due to scheduled maintenance shutdowns at the Kralupy refinery and the steam cracker in Litvínov, as well as the unscheduled maintenance shutdown of the POX and DRW units in Litvínov.
  - **Lithuania, a year-on-year decrease of 1.3%**, mainly due to a larger amount of work performed as part of the scheduled maintenance shutdown of the refinery.

ORLEN Group's market shares in the Downstream segment

Wholesale of refining products

In 2018, the ORLEN Group was involved in wholesale distribution of refining products in Poland, the Czech Republic, Germany, Slovakia, Hungary, Austria, Lithuania, Latvia, Estonia and Ukraine, and in Western Europe, where products were delivered to transhipment terminals by sea. The ORLEN Group's home markets are Poland, Lithuania and the Czech Republic. The Group has an extensive portfolio of refining products, including gasoline, diesel oil, A-1 jet fuel, light and heavy heating oil, bitumen, engine oils and a wide range of non-fuel products and semiproducts.

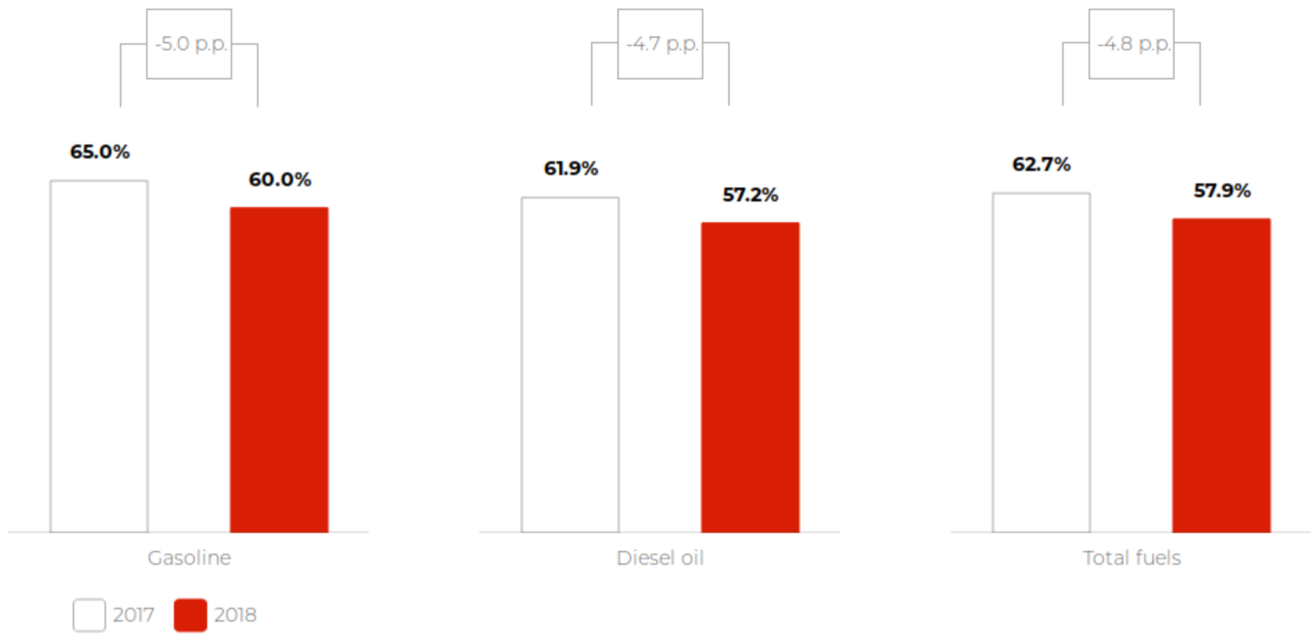
Market share in Poland



Source: Own preparation.

- Strong sales allowed the ORLEN Group to maintain the leading position in the Polish fuel sales market.
- The ORLEN Group increased its sales of diesel oil and gasoline on the Polish market by, respectively, 3.4pp and 2.7pp year on year, driven by sustained favourable market conditions, including the effects of enactment, as of August 2016, of the legislative solutions designed to curb the grey fuel market in Poland.

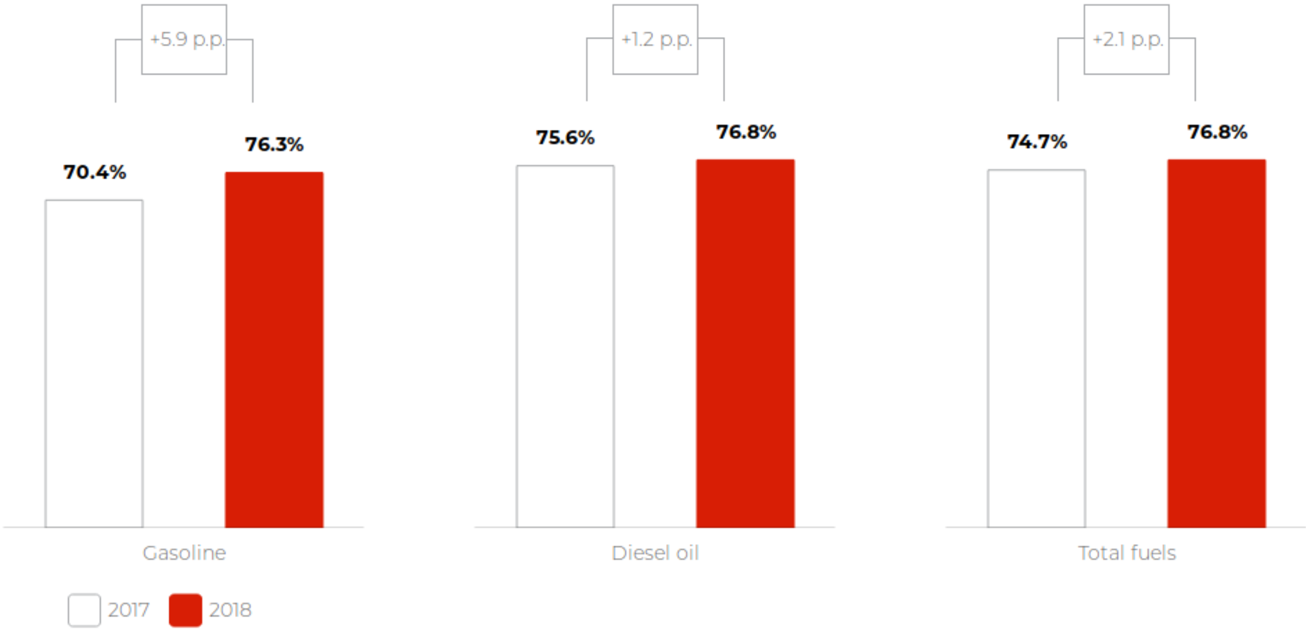
Market share in the Czech Republic



Source: Own preparation.

- The ORLEN Group is the leader in fuel sales in the Czech Republic.
- A (-)4.8pp decrease in the aggregate market share due to supply problems resulting from the scheduled maintenance shutdown at the Kralupy refinery and failures of the key refining units (steam cracker, POX, and hydrodesulfurisation unit) during the year.

Market share in the Baltic states



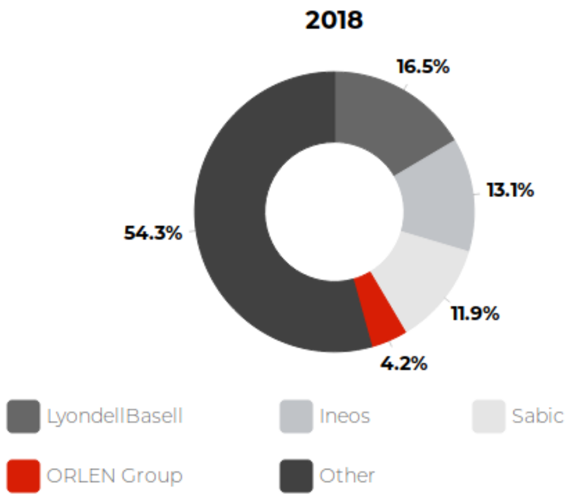
Source: Own preparation.

- Consolidation of the Group's position as the market leader in the Baltic States despite strong price pressures from Finnish, Belarusian and Russian suppliers.
- Increase in the shares of total gasoline sales on the markets of 5.9pp and diesel oil markets of 1.2pp attributable to strong sales from the marine terminal in Klaipėda.

Wholesale of petrochemical products

The ORLEN Group is the largest petrochemical company in Central and Eastern Europe, the only manufacturer of monomers and polymers on the Polish market, and the manufacturer of most of the petrochemical products available on the Czech market.

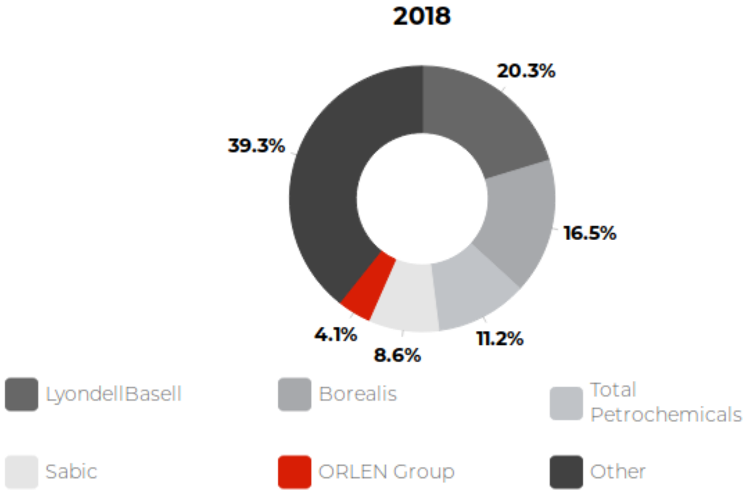
Polyethylene producers in Europe



Source: Own preparation based on POLYGLOBE.

- Europe's production capacities for high-density (HDPE) and low-density (LDPE) polyethylene are currently at around 13 337 thousand tonnes per year.
- Lyondell Basell Industries − the largest polyethylene manufacturer, with an annual production capacity of approximately 2 195 thousand tonnes (including its 50% share in Basell ORLEN Polyolefins Sp. z o.o. (BOP) and production assets in Germany, France and Poland.
- Ineos Olefins & Polymers Europe, with an annual production capacity of approximately 1 745 thousand tonnes and assets in Belgium, France, Germany, Italy and Norway; and Sabic – production capacity of around 1 590 thousand tonnes per year and assets in Germany, the Netherlands and the UK.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 555 thousand tonnes per year.
- The ORLEN Group is building a new Polyethylene 3 unit in the Czech Republic with an annual production capacity of approximately 270 thousand tonnes.

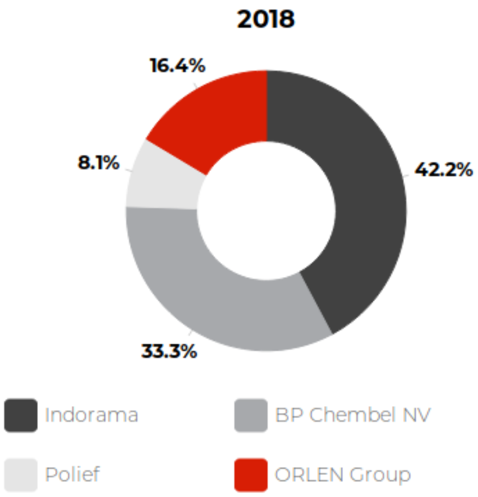
Polypropylene producers in Europe



Source: Own preparation based on POLYGLOBE.

- Europe's annual production capacities for polypropylene are at around 11 669 thousand tonnes.
- Lyondell Basell Industries has an annual production capacity of around 2 369 thousand tonnes (including its 50% share in BOP) and assets in Germany, France, Italy, Spain, UK and Poland.
- Borealis, with an annual production capacity of approximately 1 920 thousand tonnes and assets in Belgium, Germany, Austria and Finland.
- Total Petrochemicals, with a production capacity of around 1 310 thousand tonnes per year and assets located in Belgium and France.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 480 thousand tonnes per year.

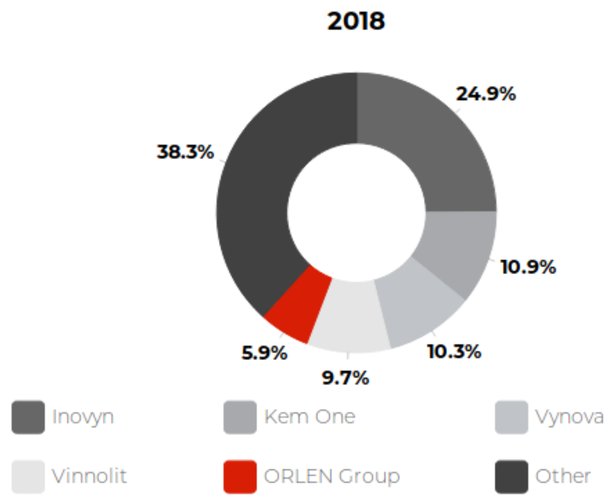
PTA producers in Europe



Source: Own preparation based on PCI.

- The European nominal PTA production capacities total 4 205 thousand tonnes per year.
- Indorama – Europe's largest PTA manufacturer (following the acquisition of Artlant), with a nominal production capacity of 1 775 thousand tonnes per year and assets located in Portugal, Spain and the Netherlands.
- BP Chembel NV – Europe's second largest PTA manufacturer, with an annual production capacity of 1 400 thousand tonnes, located in Belgium.
- PKN ORLEN is the only manufacturer in Europe to have production units fully integrated with paraxylene production, and its production capacity totals 690 thousand tonnes per year.

PVC producers in Europe



Source: Own preparation based on Petrochemical Market Dynamics, Vinyl – 2017 Report from October 2017 (Nexant)

- The European nominal PVC production capacities total 8 060 thousand tonnes per year.
- Europe's leading PVC manufacturer – Inovyn, was formed following the combination of Ineos Chlor and Solvay; its annual production capacity is 2 005 thousand tonnes.
- Other manufacturers, such as Kem One, Vynova, and Vinnolit, have annual PVC production capacities estimated at 882 thousand, 830 thousand and 780 thousand tonnes, respectively.
- The Karpatneftekhim plant, with nominal production capacities of ca. 300 thousand tonnes annually, resumed operations in 2017 after a five -year shutdown.
- The ORLEN Group, with the annual production capacity of its Anwil and Spolana units at 475 thousand tonnes, ranks fifth on the European plastics market.
- Anwil's principal competitors are Inovyn and Vynowa in Europe and BorsodChem in Poland.

ORLEN Group's logistics assets

The logistics infrastructure is one of the key elements of the ORLEN Group's competitive advantage.

The Group operates a network of complementary infrastructure assets: fuel terminals, onshore and offshore handling depots, transmission pipelines, rail transport, and transport by road tankers.

In 2018, pipelines were the primary mode of transport of feedstock and products used by the Group. The total length of product and feedstock pipeline networks, both Group- and third party-owned, used by the ORLEN Group in Poland, the Czech Republic and Lithuania was nearly 3.7 thousand km (including 2.1 thousand km of product pipelines, and 1.6 thousand km of feedstock pipelines).

In **Poland**, PKN ORLEN uses 958 km of pipelines for fuel product transport: 620 km of pipelines owned by Przedsiębiorstwo Eksploatacji Rurociągów Naftowych S.A., as well as its own transport infrastructure with a total length of 338 km, comprising two sections: Płock – Ostrów Wielkopolski – Wrocław (319 km) and Wielowieś – Góra (19 km). Crude oil is transported mainly via the network of pipelines owned by Przedsiębiorstwo Eksploatacji Rurociągów Naftowych S.A. (total lengths of 887 km), and via the Group's own pipeline (43 km), connecting Góra and Żółwiniec (link to the PERN pipeline).

In 2018, the ORLEN Group used a total of 25 facilities to receive, store, dispatch and handle fuels (Group- and third party-owned fuel terminals). As at the end of 2018, the total storage capacity available to the Group within its own infrastructure and contracted from third parties was over 2.7 million m^3.

In 2018, the ORLEN Group used 1 741 km of pipelines in**the Czech Republic** (1 100 km of product pipelines operated by ČEPRO, and 641 km of feedstock pipelines operated by MERO), 12 storage and distribution depots owned by state-owned operator ČEPRO, 3 terminals owned by the Group and 2 external terminals not belonging to CEPRO.

The main component of the logistics infrastructure currently used on the**Lithuanian market** is a 91-km feedstock pipeline linking the Butinge terminal with the Mazeikiai refinery. Both the terminal and the pipeline are owned by ORLEN Lietuva.

On the **German market**, ORLEN Deutschland uses the storage and distribution capacities of seven third party-owned depots. Products are delivered by tank trucks, railway and barges.

Transport structure and logistic infrastructure used by the ORLEN Group in Europe.

THE STRUCTURE OF TRANSPORT IN ORLE GROUP IN 2018

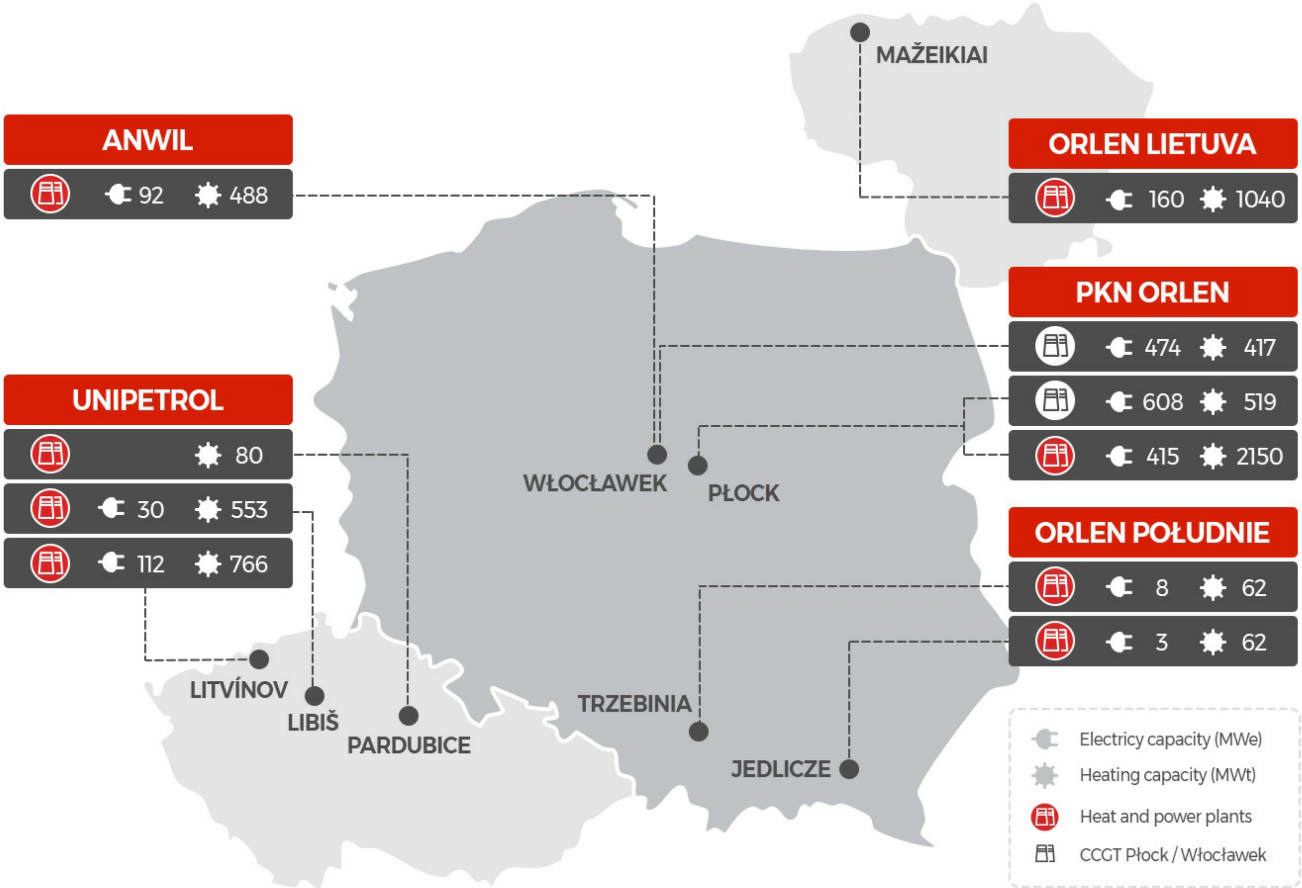
	Poland	Czech Republic	Germany	Lithuania
PIPELINES	52%	54%		
RAILWAY	25%	24%	1%	94%
TANK TRUCKS	23%	22%	94%	6%
BARGES			5%	

Source: Own preparation

Power Generation

The ORLEN Group is a significant producer of electricity and heat, used in large part to satisfy the Group's own production needs. It is also one of the largest consumers of gas in Poland and an active participant in the process of gas market liberalisation. The ORLEN Group currently owns power generation assets in three countries. In Poland, they are located in Płock, Włocławek, Jedlicze and Trzebinia; in the Czech Republic – in Litvinov, Spolana, Kolin and Pardubice; and in Lithuania – in Mazeikiai.

Energy assets and their technical parameters in the ORLEN Group



Source: Own preparation.

CHP Plants

- In terms of installed capacity, **PKN ORLEN's high-efficiency combined heat and power plant in Płock** is the largest industrial power plant in Poland and one of the largest in Europe. The CHP plant is the main supplier of steam heat, heating water and electricity to production units and to external customers. The total installed capacity is 415 MW, after including the new turbogenerator TG7. Boilers of the CHP plant are fired with heavy fuel oil, derived from crude oil distillation, and with natural gas.
- **The ORLEN Południe Group's CHP plant in Trzebinia** fully satisifies the Trzebinia Plant's demand for steam heat and heating water, and partly the demand for electricity. Fine coal is the primary fuel used by the CHP plant. The new source of heat was placed into service in December 2018, i.e. complies with environmental standards and received all required administrative decisions. Currently, the last assembly works concerning part of low and medium-pressure reduction stations are carried out. The test run (720 h), proceeding commissioning i.e. PAC, has been planned.
- The ORLEN Południe Group's **CHP plant in Jedlicze**, fired mainly with fine coal, is the main supplier of process steam to the Jedlicze Plant.
- At present, the **Anwil CHP plant** operates due to the failure of CCGT in Włocławek. Till September 2018 it was treated as an auxiliary source of heat. For technological purpose, Anwil uses mostly process steam from the Włocławek gas-fired CCGT unit (commissioned in mid-2017) owned by PKN ORLEN.
- The Unipetrol Group's **CHP Plant in Litvínov** uses lignite as the primary fuel, till 2026 a new technology based on gas will be introduced.
- **The CHP Plant in Spolana** is fuelled mainly with lignite. Works aiming replacing it by gas boilers are carried out.
- **The Paramo CHP Plant** comprises two production plants, in Kolin and in Pardubice, both fuelled with natural gas.
- **ORLEN Lietuva's CHP plant** is a source of process steam and is fired mainly with heavy fuel oil and refinery gases.

CCGT Plants

- **Włocławek CCGT Plant**, 474 MWe. In 2018, the CCGT plant produced over 2.04 TWh of electricity and supplied almost 1 205 542 GJ of heat to Anwil in the form of process steam. Starting from 8 September, the CCGT Plant is under repair, General Electrics repairs the turbine under the guarantee.
  During the three first quarters, the unit, which cogenerates electricity and heat, was an active market participant closely cooperating with PSE, the national power grid. The relatively high installed capacity and high flexibility enable the unit to also provide system services to PSE, thus contributing to the grid's stability.

- **Płock CCGT Plant**, 608 MWe, an electrical efficiencies gross over 61%. On 29 June 2018 PAC has been assigned. The CCGT as combined heat and power plant not only satisfies the ORLEN Group's internal demand but also is an active market participant closely cooperating with PSE. In

2018, the unit produced 2.932 TWh of electricity and 1 378.4 TJ of steam directed to production plant network, consuming for that purpose main internal process utility: 5.9 TWh of natural gas and 1.2 million tonnes of water from Vistula ricer.

Surplus electricity from the new CCGT assets is sold both on the wholesale energy market and to end customers.

Capacity market

2018 saw the first capacity market auctions for 2021–2023. PKN ORLEN designated two capacity providers: the CCGT unit in Płock (389 MW) and the CCGT unit in Włocławek (351 MW). The CCGT unit in Płock, as a new unit, was awarded a five-year capacity agreement (for 2021–2025), and the CCGT unit in Włocławek, as an existing unit, was awarded three one-year capacity agreements for 2021–2023.

Offshore

With regard to low-emission energy generation, the ORLEN Group strategy provides for the development and construction of offshore wind farms. The Offshore Wind Farm Programme (the MEW Programme) comprises two projects: The MEW project and the project designed to attract a trade investor for the MEW Programme.

Baltic Power (an SPV) is implementing the MEW project and PKN ORLEN is working on finding a trade investor. To facilitate the ventures, a cooperation agreement was signed in 2018 between Baltic Power and PKN ORLEN. The PKN ORLEN Supervisory Board gave its consent for an equity increase at Baltic Power in order to carry on with the timely delivery of the MEW project.

In 2018, multichannel seismic surveys were carried out and a plan of geological operations was developed as part of the MEW project in the area covered by a permit to construct and use artificial islands, structures and facilities in Polish marine areas (the PSZW permit). Last year, work started on a preliminary technical concept and consultancy for the Offshore Wind Farms. In 2018, the monitoring of marine birds and their local migrations was reviewed.

An agreement was signed with a technical adviser required for signing contracts for and conducting environmental and wind surveys.

In December 2018, a contract was signed to conduct environmental and wind surveys on the Baltic Power Offshore Wind Farm area, and an application for defining the conditions for grid connection was filed with PSE.

In 2019, in accordance with the contract, environmental and wind surveys will start and work on the technical concept will continue. In addition, the key tasks are planned to be executed, including the performance of preliminary geotechnical tests in the Baltic Power licence area, preparation of the building design for MEW and execution of geotechnical tests, and commencement of environmental surveys to connect MEW to the National Power System.

The project schedule also provides for signing a contract with an advisor to obtain a permit to lay submarine cables as well as advisory services with respect to the grid connection agreement with PSE.

An RFP has been released to select a transaction and legal adviser as part of the project to find a trade investor for the MEW Programme.

Downstream segment sales volumes

In 2018, total sales of the ORLEN Group's Downstream segment fell by 0.6% year on year, to 32 716 thousand tonnes. The slight year-on-year decline in sales volumes relative to the record levels reported in 2017 was attributable to the negative impact of scheduled maintenance shutdowns at the petrochemical section of the ORLEN Group. Sales of refining products remained relatively stable year on year, as the volume of sales on the Polish market rose significantly – by 3.6% year on year, driven mainly by record sales of middle distillates on the Polish market, which posted record performance for another consecutive year.

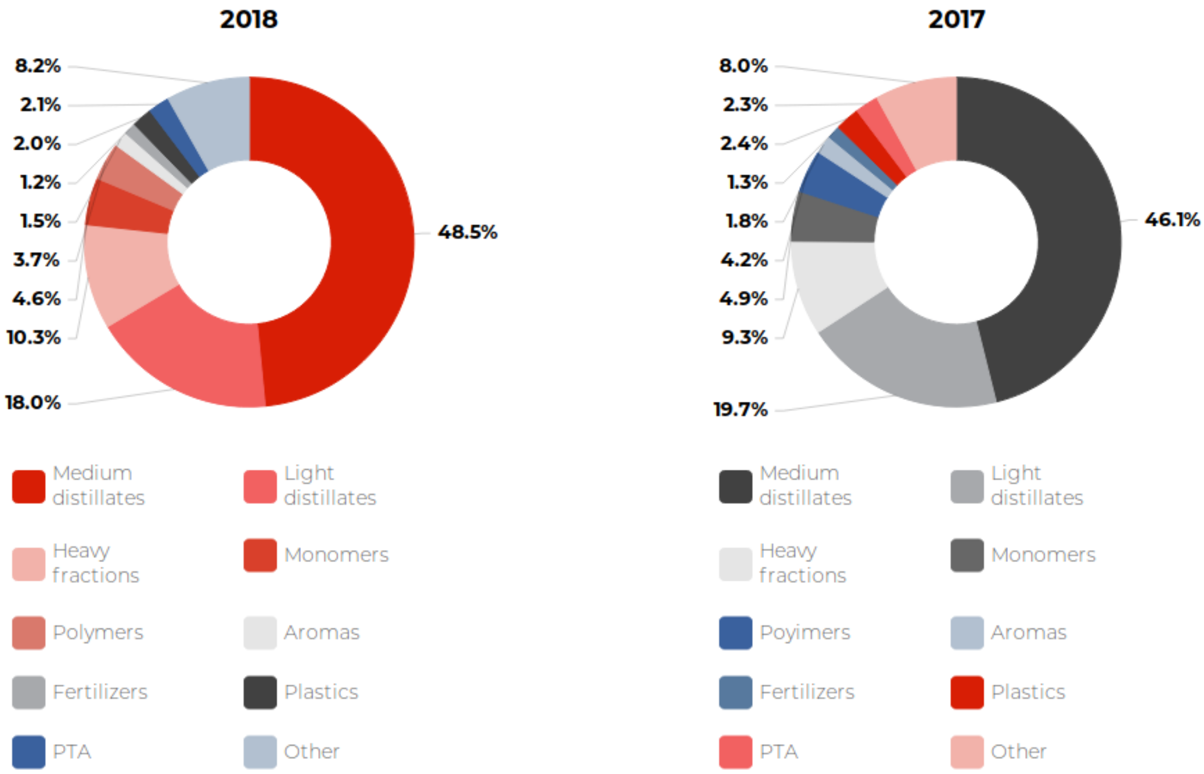
In the Czech Republic and the Baltic States sales declined year on year by 8.6% and 2.5%, respectively, mainly as a result of the abovementioned scheduled maintenance shutdowns at the Kralupy and Mažeikiai refineries and at the petrochemical business of PKN ORLEN and Unipetrol.

The ORLEN Group sales in the Downstream segment [PLN million/thousand tonnes]

Sales	2018		2017		change %	
	Value	Volume	Value	Volume		
1	2	3	4	5	6=(2-4)/4	7=(3-5)/5
Light distillates[1]	12,925	5,450	12,071	5,818	7.1%	(6.3%)
Medium distillates[2]	34,787	13,653	28,325	13,343	22.8%	2.3%
Heavy fractions[3]	7,339	5,032	5,691	4,879	29.0%	3.1%
Monomers[4]	3,260	849	2,994	868	8.9%	(2.2%)
Polymers[5]	2,643	540	2,557	550	3.4%	(1.8%)
Aromas[6]	1,096	367	1,100	360	(0.4%)	1.9%
Fertilizers[7]	825	1,067	805	1,081	2.5%	(1.3%)
Plastics[8]	1,409	371	1,466	391	(3.9%)	(5.1%)
PTA	1,528	508	1,399	523	9.2%	(2.9%)
Other[9]	5,851	4,879	5,017	5,112	16.6%	(4.6%)
Total	**71,663**	**32,716**	**61,425**	**32,925**	**16.7%**	**(0.6%)**

[1]Gasoline, LPG.
[2]Diesel oil, light heating oil, jet fuel.
[3]Heavy heating oil, bitumen, oils.
[4]Ethylene, propylene.
[5]Polyethylene, polypropylene.
[6]Benzene, toluene, paraxylene, ortoxylene.
[7]Canwil, ammonium sulphate, ammonium nitrate, other fertilizers.
[8]PVC, PVC granulate.
[9]Other contains mainly: brine, salt base, vacuum distillates, acetone, ammonia, butadiene, phenol, technical gases, glycols, caprolactam, caustic soda and sulphur. Additionally, in value terms revenues from sale of services of the segment and materials.

Sales revenue structure of the ORLEN Group Downstream segment



In 2018, 2017 and 2016 none of the ORLEN Group's leading customers accounted for 10% or more of the Group's total revenue.

Sales markets and market shares

Sales volume of the ORLEN Group in the Downstream segment on domestic markets[1) (in thousands of tonnes)

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Poland	17,777	17,159	618	3.6%
Baltic states	8,441	8,654	(213)	(2.5%)
Czech Republic	6,498	7,112	(614)	(8.6%)
Total	**32,716**	**32,925**	**(209)**	**(0.6%)**

[1] *By country of headquarter of company carrying out the sales.*

Polish market

2018 was one of the best years for the Polish economy in recent history. FTSE Russell classified Poland as one of the 25 most advanced global economies. According to the Central Statistics Office, the unemployment rate in Poland fell to 5.8%, which is the lowest figure in over 20 past years. According to preliminary data, GDP grew by 5.1% year on year in 2018, up by 0.3pp on 2017. Favourable market conditions drove up diesel oil and gasoline consumption by 5.2% and 4.0%, respectively.

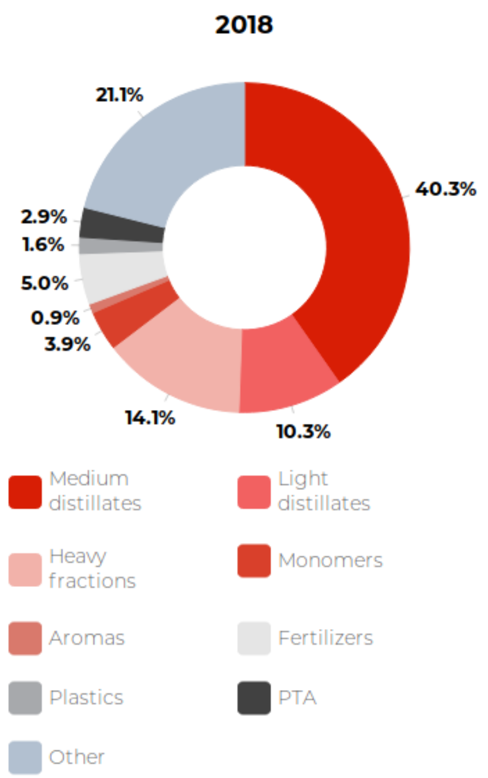
In 2018, the Downstream segment's sales increased by 3.6%, to a record high of 17 777 thousand tonnes. The solid results, corresponding to the market consensus range, were achieved amid macroeconomic challenges, with an average annual increase in crude oil and natural gas prices by 32% and 29%, respectively.

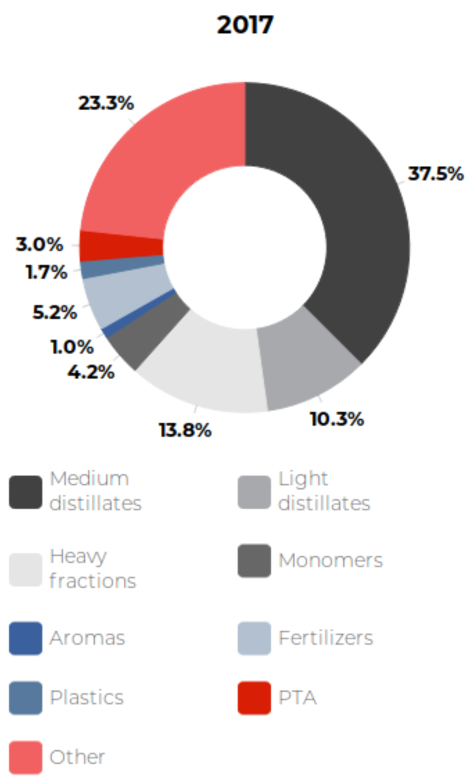
The ORLEN Group remained the main supplier of major foreign fuel companies operating in Poland (BP, Shell, Amic), while expanding its activity on the market of end customers, supplying fuel to a growing number of SMEs through ORLEN Paliwa.

Sales volume of the ORLEN Group in the Downstream segment on the Polish market [in thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	1,837	1,773	64	3.6%
Medium distillates	7,164	6,434	730	11.3%
Heavy fractions	2,503	2,369	134	5.7%
Monomers	693	716	(23)	(3.2%)
Aromas	164	178	(14)	(7.9%)
Fertilizers	881	897	(16)	(1.8%)
Plastics	276	300	(24)	(8.0%)
PTA	508	523	(15)	(2.9%)
Other	3,751	3,969	(218)	(5.5%)
Total	**17,777**	**17,159**	**618**	**3.6%**

Structure of sales volume of the ORLEN Group in the Downstream segment on the Polish market





Sales of the ORLEN Group's refining products grew by 5.3% year on year. The most significant increase was seen in the case of middle distillates (up 11.3% year on year), driven by strong growth in sales of diesel oil and aviation fuels. The continuing favourable market conditions drove up sales of diesel oil and the market shares. The aviation fuel market in Poland grew for another consecutive year in 2018 (up by approximately 18%), while the ORLEN Group's share in domestic aviation fuel sales rose by 2.4pp, to 82.7%, mainly on the back of higher sales of aviation fuels in the into-plane segment and higher supplies to strategic customers, including to the Polish Army. At the beginning of 2018, PKN ORLEN joined the group of IATA Strategic Partners, thus gaining access to a new platform for communication with leading players of the global aviation industry.

Sales of light distillates rose by 3.6% year on year, driven by higher sales of gasoline which balanced lower LPG sales volumes. Like in the case of diesel oil, the ORLEN Group's share in the gasoline market grew by 2.6pp in 2018. Such strong sales performance in Poland was achieved thanks to maintaining a strong position on the import market, among other factors. Currently, the ORLEN Group is one of the largest importers of diesel oil in the region, and imports of gasoline and diesel oil in 2018 reached a record high of 2.3m tonnes, which represents approximately 45% of the total imports of those products to Poland.

Sales of heavy fractions grew by 5.7% year on year (mainly heavy fuel oil and oils), mainly on account of worse product structure due to refinery downtimes.

In the petrochemical segment, the ORLEN Group's sales fell by 3.7% year on year, chiefly due to lower sales of monomers, aromatics and PTA (respectively down by 3.2%, 7.9% and 2.9% year on year) as a result of the scheduled maintenance shutdown of the olefins unit. The decline in PVC sales was an effect of the shutdown of the production units at Anwil, correlated with the shutdown of the olefins unit at PKN ORLEN S.A.

The decline in fertilizer sales followed from limited demand from retail customers due to weather conditions, and from unscheduled downtimes at Anwil.

ORLEN Lietuva's markets

Despite poorer GDP growth, the Baltic States' economies continued to grow at a fast pace. According to EUROSTAT estimates Lithuania's GDP went down (0.7)pp year on year, to 3.4% and Estonia slowed by (1.0)pp year on year, to 3.9%.In tern, the economy of Latvia increased by 0.2pp, to 4.8% year on year.

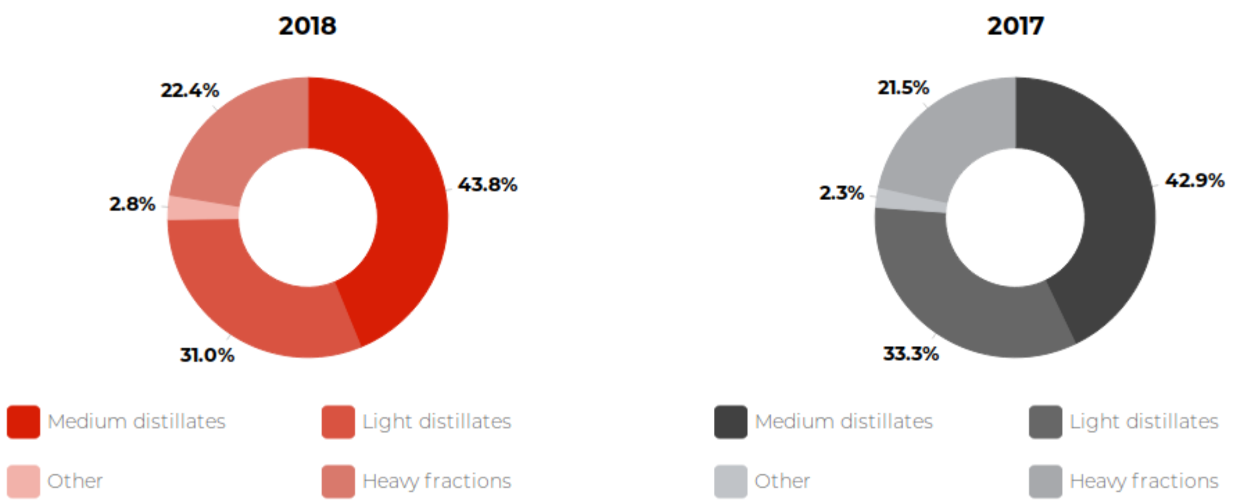
The favourable economic conditions translated into stronger demand for diesel oil in each of the markets. In Lithuania consumption of diesel oil rose by 2.1%, in Latvia by 3.2% and in Estonia by 9.0% year on year. In line with the long-term trend, demand for gasoline shrank by (4.0)% in Latvia and by (35.1)% in Estonia year on year. The severe decline in Estonia was additionally driven by a 10% increase in excise duty on gasolines in 2018. Favourable trends in gasoline consumption were observed in Lithuania, where the consumption rose by 9.9% year on year.

The Baltic States are attractive markets for Scandinavian and Belarusian fuels producers. The Scandinavian countries and Belarus have large surpluses of diesel oil and gasolines, and are constantly looking for opportunities to place the fuels abroad. In 2018, ORLEN Lietuva faced aggressive competition, particularly from importers from Finland and Belarus.

Sales volume of the ORLEN Group in the Downstream segment on the markets serviced by the ORLEN Lietuva Group [thousand tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	2,614	2,880	(266)	(9.2%)
Medium distillates	3,700	3,715	(15)	(0.4%)
Heavy fractions	1,888	1,859	29	1.6%
Other	239	200	39	19.5%
Total	**8,441**	**8,654**	**(213)**	**(2.5%)**

Structure of sales volume of the ORLEN Group in the Downstream segment on the markets serviced by the ORLEN Lietuva Group



The ORLEN Lietuva Group's sales volume fell by 2.5% year on year, to 8 441 thousand tonnes, chiefly on the back of lower sales of light distillates (down 9.2% year on year). Sales of middle distillate decreased slightly (by 0.4%), while sales of Jet A-1 aviation fuel surged by as much as 32.6% year on year.

The drop in product sales was an outcome of lower fuel yields resulting from a wider (year on year) scope of maintenance shutdowns and a lower share of sweet crudes in the crude slate. In view of these factors, less profitable sales by sea were reduced, while inland sales increased by approximately 6% year on year.

In 2018, ORLEN Lietuva actively participated in balancing the ORLEN Group's deficits on the Polish market. Considering the high fuel consumption on the Polish market and as part of the efforts to optimise product flows across the ORLEN Group, almost 896 000 tonnes of products (mainly fuels) were taken from the ORLEN Lietuva Group and placed on the Polish market. In 2017, the volume was 1 043 thousand tonnes.

The ORLEN Group also sells fuels on the Ukrainian market. Despite improvements in its macroeconomic environment, Ukraine continues to be perceived as an unstable and high-risk market, which does not encourage new investment or growth in transport services. As in previous years, the Ukrainian fuel market faced strong pressures from Russian and Belarusian exporters offering competitively-priced products. The ORLEN Group has been building its position as a stable and reliable partner for years. Ukrainian customers receive timely supplies of high quality products. The ORLEN Group represents the only Western oil company operating in Ukraine. In 2018, on the back of strong sales ORLEN Group was able to increase to 8% its total share in the Ukrainian market of fuels (including gasolines, diesel oil, jet fuel and LPG).

Czech market

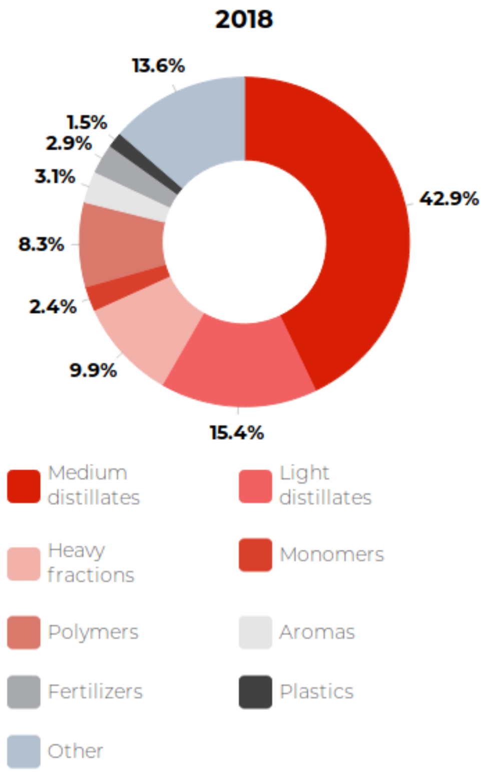
The Czech economy slowed down in 2018. According to the EUROSTAT estimates, the GDP growth rate fell to 3.0%, from 4.4% in 2017. Favourable macroeconomic environment translated into a year-on-year increase in gasoline consumption which, according to preliminary data, rose by 0.2% year on year, while demand for diesel oil grew by 1.1% year on year.

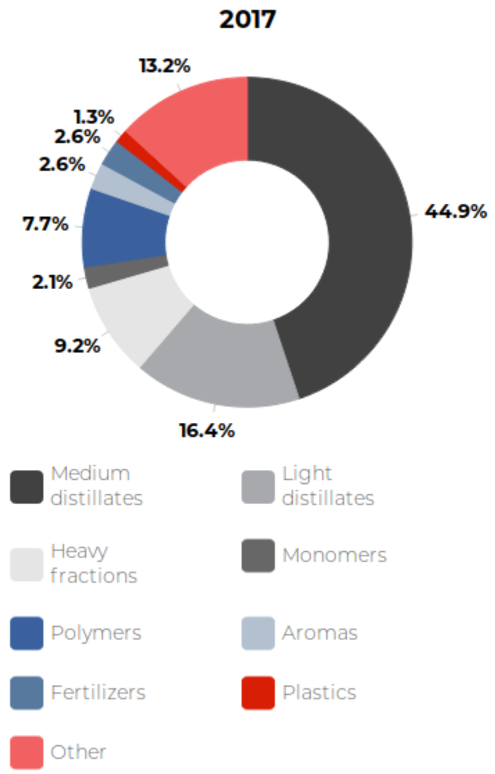
Following the full buyback of the shares from Unipetrol shareholders in 2018, PKN ORLEN became the sole owner of Unipetrol and the only fuel producer in the Czech Republic.

Sales volume of the ORLEN Group in the Downstream segment on the Czech market [in thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	999	1,165	(166)	(14.2%)
Medium distillates	2,789	3,194	(405)	(12.7%)
Heavy fractions	641	651	(10)	(1.5%)
Monomers	156	152	4	2.6%
Polymers	540	550	(10)	(1.8%)
Aromas	203	182	21	11.5%
Fertilizers	186	184	2	1.1%
Plastics	95	91	4	4.4%
Other	889	943	(54)	(5.7%)
Total	**6,498**	**7,112**	**(614)**	**(8.6%)**

Structure of sales volume of the ORLEN Group in the Downstream segment on the Czech market





Unipetrol faced product shortages for the better part of 2018, mainly because production units were shutdown for maintenance. The scheduled maintenance shutdown at the Kralupy refinery as well as other unscheduled downtimes caused significant fuel shortages and Unipetrol had to purchase fuels from importers and domestic suppliers.

In addition, the more demanding conditions of contract execution in 2018, related to the introduction of the UIC index, were the main reason behind the decrease in the sales volumes on the Czech market to 6 498 thousand tonnes (down by 8.6% year on year), including light and middle distillates down by 14.2% and 12.7%, respectively, year on year.

A slight decline in total sales of monomers and polymers was attributable to the scheduled maintenance shutdown of the steam cracker in September 2018.

Despite the challenging operating conditions, in 2018 the Unipetrol Group continued selling its products to a broad customer base, including large fuel companies and hypermarket chains. Unipetrol also exported its products to Slovakia, Hungary, Germany and Austria. The German market played an important role here as in 2018 it suffered serious logistics problems caused by major difficulties in barge traffic on main water routes, as well as supply shortages due to maintenance shutdowns at many refineries and the closing down of the Bayernoil refinery following a fire. Fuel supplies to ORLEN Deutschland helped secure sales at PKN ORLEN's service stations operating under the Star brand and ensured uninterrupted wholesale of fuels. Unipetrol also supplied gasoline and diesel oil to Poland as part of the strategy to optimise product stream flows within the ORLEN Group.

Sources of supply

Crude oil

Crude oil is supplied to PKN ORLEN via the Druzhba pipeline and, where the feedstock is imported by sea, via the Gdańsk-Płock pipeline.

Crude supplies to the ORLEN Lietuva refinery are handled by the Būtingė terminal.

The Unipetrol Group receives the feedstock chiefly through the southern section of the Druzhba pipeline (Litvinov) and via the TAL and IKL pipelines (Kralupy).

In 2018, two long-term contracts for oil supply via pipeline to the Płock refinery (with Rosnieft Oil Company and Tatneft Europe AG) and one long-term contract for oil supply by sea (with Saudi Arabian Oil Company) were in force. These contracts covered almost 78% of crude oil supplies to PKN ORLEN.

Under separate contracts, PKN ORLEN supplies crude oil to three ORLEN Group refineries, in Litvinov and Kralupy in the Czech Republic, and in Mazeikiai in Lithuania.

In 2018, crude oil supplies from all sources were made as planned.

PKN ORLEN is consistently expanding its supplier base and the crude slate processed by the Group. In 2018, the first cargo (approximately 130 000 tonnes) of crude oil was delivered to PKN ORLEN from Nigeria. The Nigerian Bonny Light oil supplemented PKN ORLEN's purchases made on the spot market. Decisions on supplies are always weighed against economic considerations to combine secure deliveries with commercial viability. The diversification of oil supplies is also PKN ORLEN's response to rising demand for fuels, especially diesel oil, currently seen in Poland in the wake of regulatory measures to curb the grey market. A shift in the crude slate towards oil types with properties other than those of REBCO will increase the yield of middle distillates, especially diesel oil. As a result of its diversification efforts, approximately 30% of all crude oil processed at the ORLEN Group is now sourced from alternative directions.

In 2018, the feedstock for all refineries of the ORLEN Group was procured from oil producers and other companies operating on the international oil market. In addition to Nigeria, the feedstock supplied to Płock came primarily from Russia and Saudi Arabia, and was also imported from Kazakhstan, Iran, Norway, and the United Arab Emirates.

The refineries in the Czech Republic received feedstock from Russia, Algeria, Saudi Arabia, Azerbaijan, Libya and Kazakhstan. The Mažeikiai refinery was primarily supplied with Russian oil, with additional deliveries from Saudi Arabia, Norway and Kazakhstan.

In 2018, the share of Rosneft Oil Company in the crude supplies exceeded 10% of the ORLEN Group's total revenue.

Natural gas

Most deliveries of natural gas to the ORLEN Group companies in Poland are made under a five-year contract signed in 2016 by PKN ORLEN and PGNiG, and under additional contracts with major European gas suppliers. Gas is also purchased on the Polish Power Exchange. The ORLEN Group takes steps to ensure stability of supplies and to lower gas procurement costs through such measures as diversification of supply sources, centralisation of gas trading functions and further development of the trading expertise. The current portfolio of gas contracts allows the Group to optimise gas procurement costs by selecting the underlying gas indices and delivery points.

PKN ORLEN has gas transmission contracts with both domestic and foreign operators, ensuring full support in natural gas logistics for the Production Plant in Płock, CCGT Włocławek, and CCGT Płock.

The ORLEN Group is active on the gas trading market in Poland, thus participating in the development and liberalisation of the Polish gas market.

PKN ORLEN has also been developing natural gas sales on both retail and wholesale markets. The gas offering is tailored to customer needs, and reflects gas consumption profiles as well as delivery points. PKN ORLEN also offers gas portfolio management advisory services and dispatching services, while the ORLEN Group is engaged in a number of exploration and production projects to secure its own sources of natural gas.

In 2018, the value of deliveries by none of the suppliers of natural gas to the ORLEN Group accounted for 10% or more of the ORLEN Group's total revenue.

Retail

RETAIL STATIONS

2018						
	units	ORLEN Group	Poland	Germany	Czech Republic	Lithuania
Total sales	thousand t	9,448	5,696	2,838	838	76
Marrket share	%	16.1	34.0	6.4	23.2	4.7
Number of stations, including:	**number**	**2,803**	**1,787**	**582**	**409**	**25**
Premium	number	1,919	1,704	-	192	23
Economical	number	818	54	564	200	-
Other	number	66	29	18	17	2
CODO/COCO[1]	number	2,255	1,342	492	396	25
DOFO/DODO[1]	number	548	445	90	13	-

CATERING OUTLETS

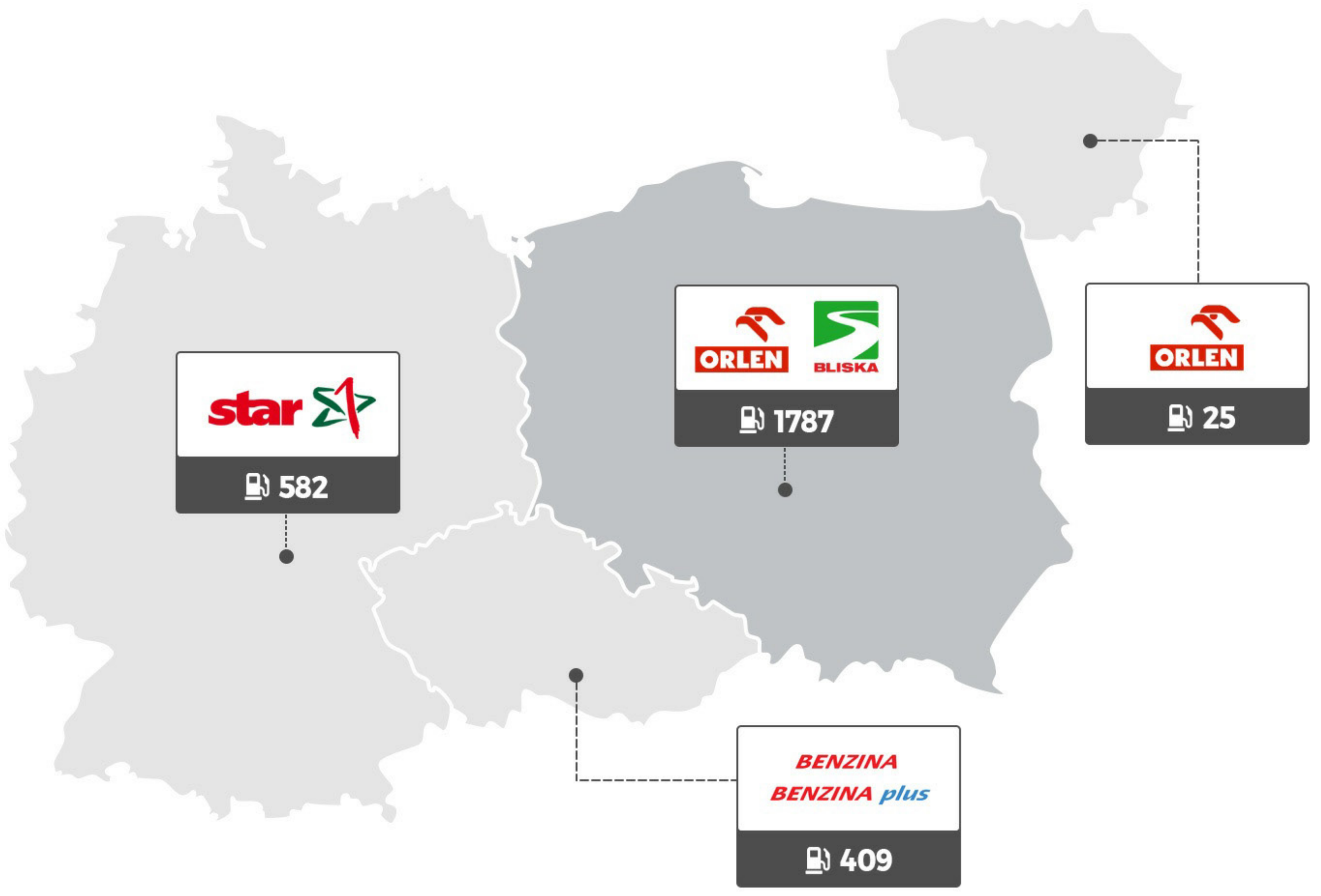
	units	ORLEN Group	Poland	Germany	Czech Republic	Lithuania
Total, including:	**number**	**2,327[1]**	**1,667**	**367[1]**	**270**	**23**
Stop Cafe	number	1,089	923	-	143	23
Stop Cafe Bistro	number	399	372	-	27	-
Stop Cafe 2.0	number	472	372	-	100	-
star connect	number	72	-	72	-	-
star cafe	number	295[1]	-	295[1]		

[1]Number of star (Germany) fuel stations including those with previous star cafe gastronomic format (data not reported in previous years).

Market position and environment

The ORLEN Group is the undisputed leader in retail fuel sales in Central Europe. 2018 was the first year in which the total number of service stations operated by the Group exceeded 2 800.

The number of the ORLEN Group stations on the markets the Group operates on at the end of 2018



Source: Own preparation.

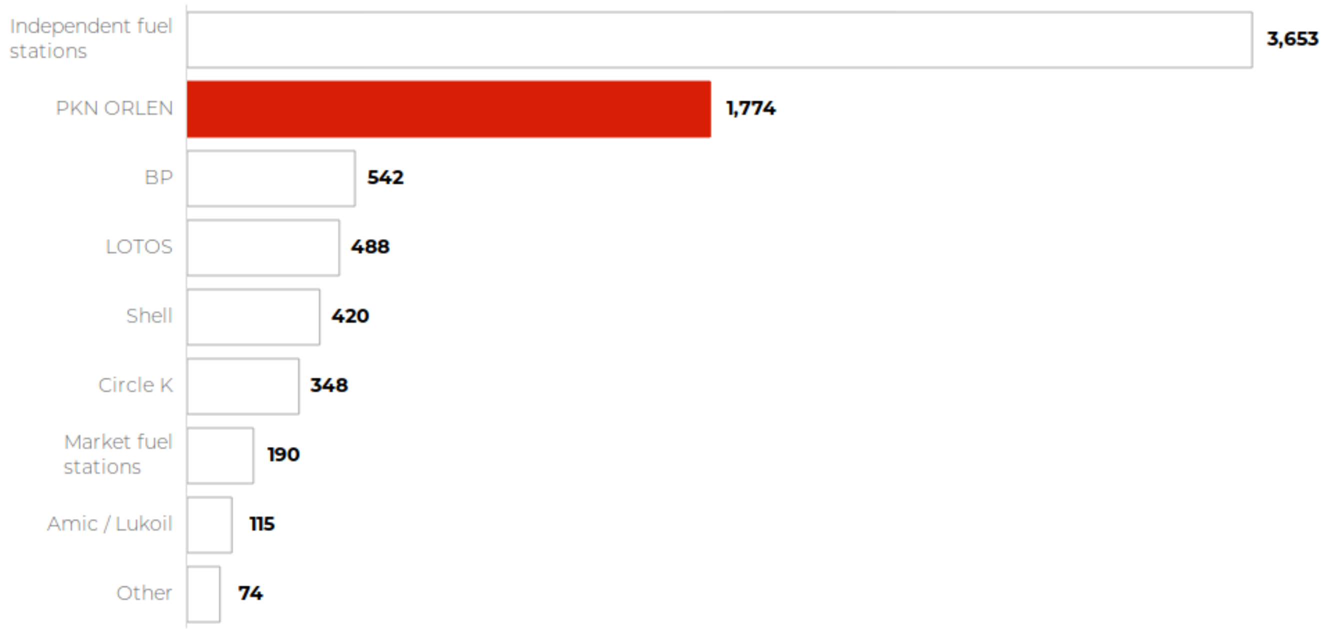
In Poland, our service stations operate under the ORLEN brand in the premium segment and under the Bliska brand in the economy segment (representing only 3% of the total number of stations included in the chain). In the Czech Republic, the brands are Benzina and Benzina Plus (mainly the premium segment), and in Lithuania − ORLEN (premium segment). On the German market, ORLEN Deutschland operates economy stations under the star brand and the network is complemented by more than a dozen of Famila supermarket stations.

Polish market

According to the Polish Organisation of Oil Industry and Trade (POPiHN), there were more than 7 600 service stations in Poland at the end of 2018, nearly 1 000 stations more than at the end of 2017. However, the difference follows from a change of methodology: in 2018, service stations operated by independent operators and entered in the ERO register were for the first time included in the calculation. The number of POPIHN members rose by 2%, or approximately 70 service stations, including Total and Avia (more than 30 stations).

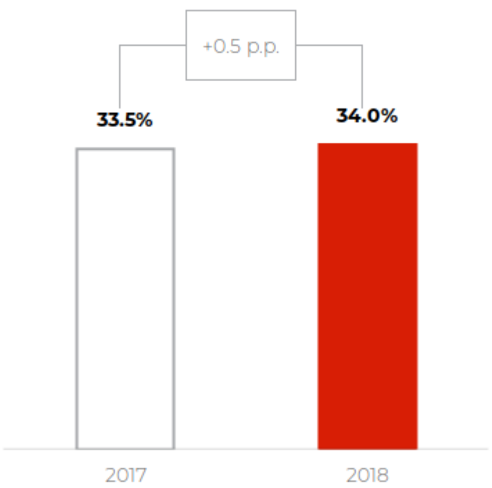
As at the end of 2018, the ORLEN Group had a network of 1 787 service stations on the Polish market (approximately 24% of all stations in the country), while the stations operated by international chains (BP, Shell, Circle-K, Lukoil, Total) represent 20% of the total. Independent operator stations (including smaller chains operating under a single brand) accounted for nearly 50% of all service stations in Poland. Moya, Huzar, and Avia are among those chains of independently-operated stations that continue to grow dynamically. The number of supermarket service stations remained unchanged (190 stations, representing around 2.5% of all service stations in Poland). The number of AS 24 and IDS self-service stations, also managed by foreign operators, was 40 and remained virtually the same as in previous years.

Fuel station network in Poland



Source: Own preparation on the basis of POPiHN data as at 30 September 2018 (since 2018 fuel stations from registred by URE and identified by POPiHN)

Share of the ORLEN Group in the retail fuel market in Poland



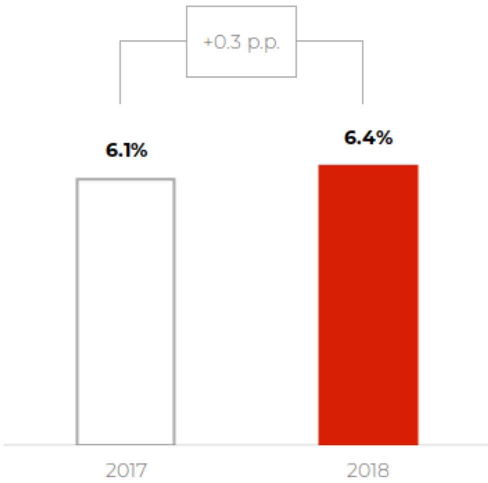
With completion of certain growth projects and successful adaptation of its operations to the changing competitive landscape in Poland, PKN ORLEN was able to increase its share in the Polish market to 34%.

2018 saw continuation of the road network development programme in Poland, which, as in previous years, also had an impact on the operation of the retail fuel market. Following the opening of new expressway and motorway sections, tenders for lease of **Motorway Service Areas (MSA)** were called and new large service stations were opened at these locations. As at the end of 2018, there were 82 MSA service stations at Polish expressways and motorways, including 32 operated by PKN ORLEN. PKN ORLEN is also currently setting up a further eight such facilities.

German market

Since 2003, the ORLEN Group has been present on the German market, which is the largest fuel consumer in Europe. As at the end of 2018, the star retail chain operated by ORLEN Deutschland GmbH comprised 582 service stations. In 2018, despite a decline of 2.3 pp in the German fuel consumption, strong competitive pressures, and certain macroeconomic headwinds, star increased its market share to 6.4%.

Share of the ORLEN Group in the retail fuel market in Germany



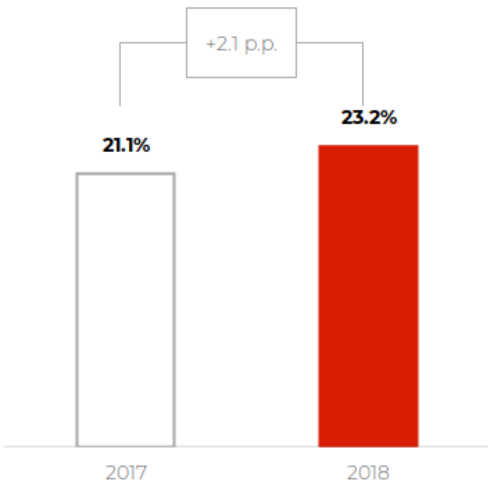
ORLEN Deutschland's main competitors include international networks Aral, Shell, Esso, Total (accounting for a nearly 60% share in the market and 44% of all stations) and economy chains JET and HEM (almost 9% of all stations). In terms of the number of service stations, star is the eighth largest fuel retailer in Germany (and second to Jet in the economy segment).

Czech market

The ORLEN Group maintained its leading position on the Czech market, both in terms of the volume of sales and the size of the service station chain. In 2018, the Benzina chain comprised 409 stations. The successful incorporation of the acquired OMV stations as well as ongoing investment projects and operating efforts contributed to a continued growth in the market share, which reached 23.2%. Over the last ten years, Benzina's market share has gone up by 10 pp.

In late 2018, PKN ORLEN acquired the rights to the Benzina brand in Slovakia to position itself well for expansion into a new home market in 2019.

Share of the ORLEN Group in the retail fuel market in Czech Republic

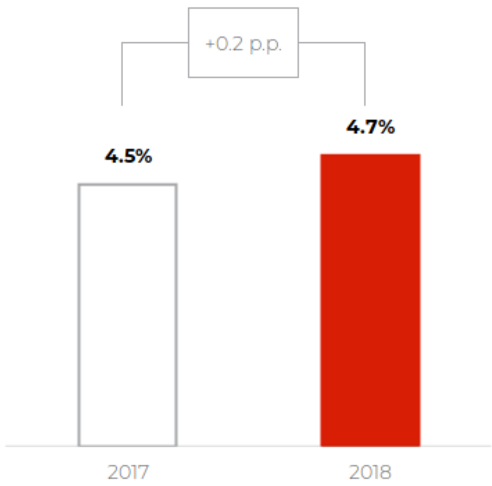


In terms of the number of service stations, Hungary's MOL remained the second largest chain in the Czech Republic (306 stations), with a market share 50% smaller than that claimed by Benzina. In terms of the market share, Tank Ono, a privately-owned discount chain, continued to hold the second place, with 41 service stations and an approximately 16.5% share in the market. Among the leading competitors of the service stations run by Unipetrol are the premium stations of the two multinationals Shell and OMV, with a combined market share of close to 23%. In 2018, EuroOil, the third largest chain in the Czech Republic in terms of the number of retail assets (200 stations), reported a market share of less than 6%, largely due to low average annual flow. The retailer is owned by Cepro, a state-owned operator which, apart from fuel sales, provides fuel transport and storage services, operating a 1 100km long pipeline network and 17 fuel terminals.

Lithuanian market

As at the end of 2018, the ORLEN Group in Lithuania owned 25 fuel stations, managed by AB Ventus-Nafta, a subsidiary. The ORLEN chain increased its market share slightly, to 4.7% and is the 7th largest chain in Lithuania.

Share of the ORLEN Group in the retail fuel market in Lithuania[1]



[1]In 2017, AB Ventus-Nafta changed the methodology of market shares calculation to unify the method of reporting data from other retail networks. The sales of agrodiesel (which is still sold on the part of fuel stations) was incorporated to the total volume.

In 2018, as in the previous year, Viada continued to lead the Lithuanian retail fuel sales market, with a chain of 124 services stations and a 22% share in the market. Together with associated, the third largest network in Lithuania (Baltic Petroleum), has under its control almost 200 service stations and a 33% share in the market. The another competitor of the ORLEN Group is Circkle-K with 87 stations and a 19% share in the market. Lithuania is the only market where automatic stations play a important role (73 stations operated by Neste and 12 stations operated under the 1-2-3 brand, part of the Circle-K chain).

Sales volume of the retail segment

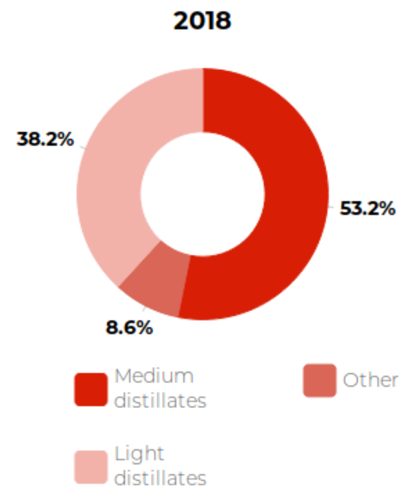
In 2018, the volume of sales in the ORLEN Group's Retail segment increased by 7.1% y/y, to 9 447 thousand tonnes, as a result of improved fuel sales across all markets.

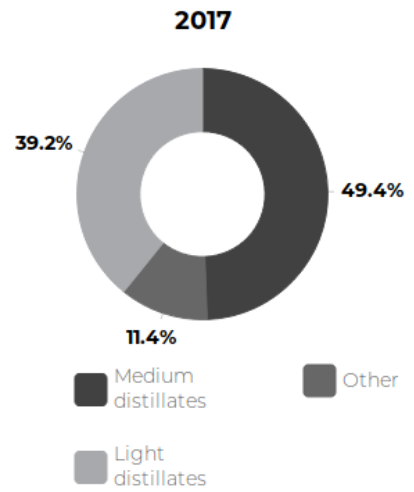
The ORLEN Group sales in the retail segment [PLN million/thousand tonnes]

Sales	2018		2017		change %	
	Value	Volume	Value	Volume		
1	2	3	4	5	6=(2-4)/4	7=(3-5)/5
Light distillates[1]	14,266.0	3,546.3	13,086.0	3,339.0	9.0%	6.2%
Medium distillates[2]	19,879.0	5,900.2	16,471.0	5,480.0	20.7%	7.7%
Other[3]	3,194.0	not applicable	3,793.0	not applicable	(15.8%)	not applicable
Total	**37,339.0**	**9,446.5**	**33,350.0**	**8,819.0**	**12.0%**	**7.1%**

[1]Gasoline, LPG.
[2]Diesel oil; light heating oil sold by ORLEN Deutschland.
[3]Other value – includes revenues from sale of non-fuel goods and services.

Structure of sales revenue of the ORLEN Group in the retail segment





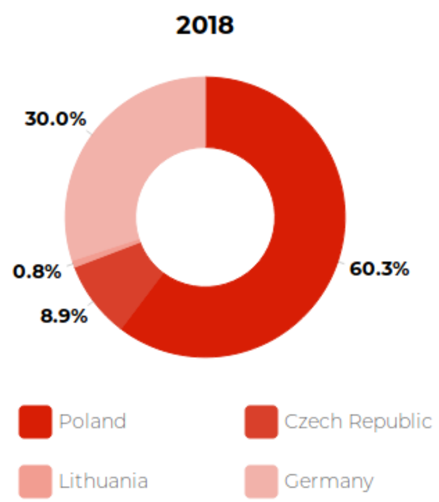
Markets

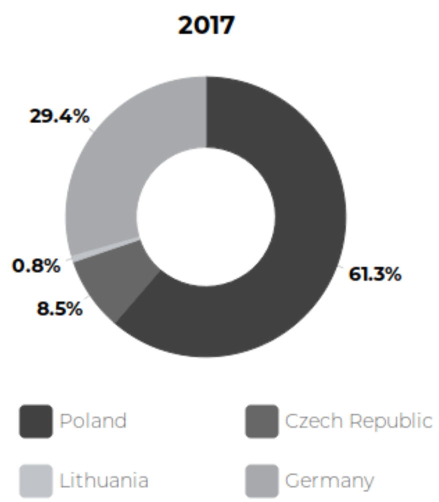
The ORLEN Group's home retail markets include Poland (retail business managed by PKN ORLEN), Germany (retail chain operated by ORLEN Deutschland), the Czech Republic (service stations run by Benzina brand, a member of the Unipetrol Group – a subsidiary of the ORLEN Group), and Lithuania (AB Ventus Nafta, a subsidiary).

Sales volume of the ORLEN Group in the retail segment on domestic markets [thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Poland	5,695.7	5,407.1	288.6	5.3%
Germany	2,837.5	2,593.6	243.9	9.4%
Czech Republic	837.4	749.3	88.1	11.8%
Lithuania	75.9	69.4	6.5	9.3%
Total	**9,446.5**	**8,819.5**	**627.0**	**7.1%**

Structure of sales volume of the ORLEN Group in the retail segment on domestic markets





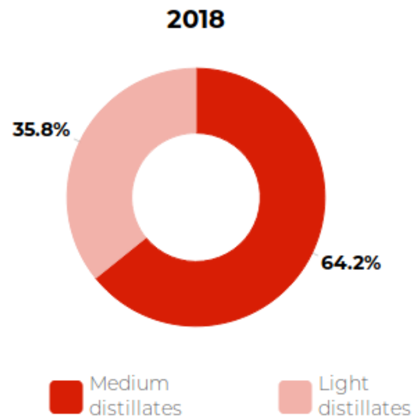
Polish market

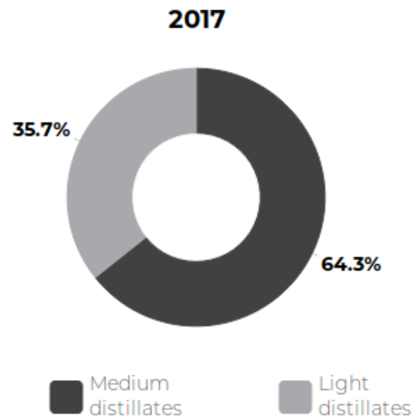
In 2018, the volume of retail fuel sales grew by 5.3% year on year, to 5 695.7 thousand tonnes (for the first time on record, ORLEN sold more than 11 billion litres of fuels). A technical upgrade of our stations, expansion of the retail chain to include new outlets with a high potential for sales volume growth, launch of new standard fuels (Efecta Diesel and Efecta 95), and a higher number of service stations with the new store and food format translated into an improved average annual flow per station. The increase reported by CODO stations was 4.9% year on year (4.7 million litres).

Sales volume of the ORLEN Group in the retail segment on the Polish market [thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	2,038.6	1,931.1	107.5	5.6%
Medium distillates	3,657.1	3,476.0	181.0	5.2%
Total	**5,695.7**	**5,407.1**	**288.6**	**5.3%**

Structure of sales volume of the ORLEN Group in the retail segment on the Polish market





In 2018, the total number of PKN ORLEN stations increased by 11 locations, to 1 787 at year end, including 1 342 CODO stations, an increase of 14 locations year on year. As a result of an investment programme, 20 new CODO service stations were added into our retail chain (including 2 stations in motorway service areas: one on the A4 motorway and one on the S8 expressway). In 2018, 6 stations were closed down. As part of our efforts to expand the ORLEN retail chain in Poland, a number of sites were secured for the construction of new service stations in the coming years.

In 2018, more than 70 stations underwent major technical upgrades. The rebranding of the Bliska chain to ORLEN is being finalised. In 2018, the number of both CODO and DOFO Bliska stations was reduced from 76 to 52. In late 2018, certain upgraded service stations were re-opened in Warsaw and Bodzanów under the CPN and Petrochemia brands, respectively.

As at the end of 2018, PKN ORLEN had 445 DOFO stations, a decrease by 3 locations year on year. In 2018, 24 new sites were added to PKN ORLEN's DOFO chain. Franchise agreements were renewed with for more than 200 service stations. The number of the ORLEN Group's DOFO service stations has remained largely flat over the last few years, with their performance steadily improving. In 2018, the DOFO segment's average annual sales were 5.7% higher than a year before.

As part of its work on new retail formats, PKN ORLEN launched the first ORLEN Drive service station at the Michałowice motorway service area (S8 freeway) and the first Stand Alone restaurant format at the Osiecza motorway service area (A2 motorway)

In 2018, PKN ORLEN's fleet sales volumes rose almost 2% year on year, reaching the highest figure on record (more than 2.3bn litres). Sales to microenterprises continued to grow at a fast rate, i.e. by more than 24% year on year.

2018 also saw strong non-fuel sales, with combined store and food sales going up by 13.1% year on year. The project to develop proprietary 'O!' brand products was continued, and the brand was awarded the 'Teraz Polska' badge of quality. In line with our programme to support Polish suppliers and producers, the share of made-in-Poland merchandise in the ORLEN retail offering exceeded 60%, with more than 300 new products added to our portfolio. A campaign to promote Polish and regional products was run across the ORLEN chain. Stop Cafe 2.0, the new food service concept, was rolled out at a further 179 locations, and at the end of 2018 the number of ORLEN stations featuring the new format exceeded 370 (including 18 DOFO stations). In total, PKN ORLEN had 1,667 stations offering food services across all formats (Stop Cafe, Stop Cafe Bistro and Stop Cafe 2.0).

A major portion of non-fuel sales is attributable to car wash services. In 2018, their sales went up by 12.5% year on year. The ORLEN chain recorded a monthly average of close to 900 car wash cycles per service station, a figure higher than the average calculated by POPiHN. In 2018, our service station upgrade programme included the launch of new car washes at 12 locations.

In 2018, several key projects were carried out to optimise and improve the performance of the non-fuel retail business. A system for developing store plans and planograms for individual non-fuel categories was successfully implemented. PKN ORLEN also took a range of measures to improve its customer service. ORLEN Mobile, an application dedicated to mobile payments, was launched to enable customers to pay at the pump. Selected locations began to offer the Mobile Cashier service, where customers can make payments to customer service assistants available at the pumps without having to check out at the station buuilding. The first pilot self-service kiosks were launched, offering customers self-checkout for fuel as well as selected store items and foods. LCDs were deployed in the sales and checkout areas of certain service stations to communicate the non-fuel offering to customers.

In previous years, PKN ORLEN made a decision to launch an emobility project. The Company plans to make fast progress in this area. Ultimately, 150 charging stations in urban areas and on main transit routes will be deployed. The first charging points were installed at PKN ORLEN service stations in Płock and Siewierz (on the Katowice-Warsaw route), with a further 50 to be made available by the end of 2019, including at least 20 in the first quarter.

In 2018, ORLEN entered into a partnership with Nextbike Polska, whereby 35 PKN ORLEN service stations launched a bike rental service, with a total of 350 bicycles available.

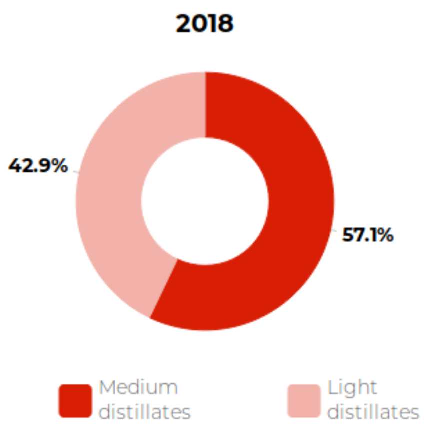
German market

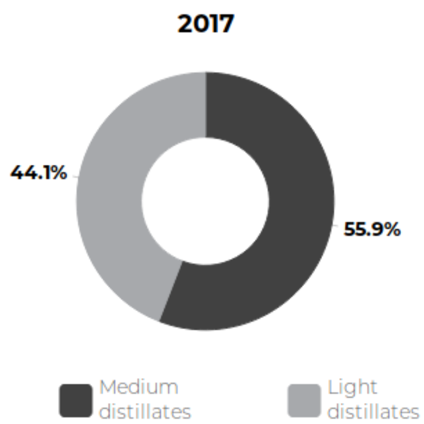
In 2018, the ORLEN Group recorded a 9.4% year-on-year increase in total fuel sales on the German market. This includes both retail sales at services stations and wholesale of refined petroleum products to third parties. The star retail chain reported a 2.3% growth in sales year on year despite declining fuel consumption in Germany. The average annual flow per station rose by 2.2%, to 4.7 million litres. ORLEN Deutschland benefited from the fuel supply constraints observed in the second half of 2018, delivering record wholesale performance.

Sales volume of the ORLEN Group in the retail segment on the German market [thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	1,216.2	1,143.1	73.1	6.4%
Medium distillates	1,621.3	1,450.5	170.8	11.8%
Total	**2,837.5**	**2,593.6**	**243.9**	**9.4%**

Structure of sales volume of the ORLEN Group in the retail segment on the German market





Year on year, the number of service stations managed by the company rose to 582, with one location added to the network (comprising 564 star stations operating in the economy segment, one ORLEN station in Hamburg, and 17 Famila supermarket stations). Almost 85% are CODO stations, with the remaining outlets owned by private individuals (DODO). In 2018, ORLEN Deutschland added four CODO stations to its retail network and acquired five DODO stations. Three service stations were removed from the star chain following contract expiry. The star network operates the largest number of stations offering the automatic car wash service of any retail chain managed by the ORLEN Group (409). Approximately 10% of the equipment is replaced every year. In 2018, automatic car washes were modernised at 41 service stations.

In 2017, the company decided to change its store format across the chain. The rollout process was spread over a few years due to the size of the network and the scope of work. In 2018, 56 upgrades were carried out under the star connect project. The number of the new format stations in operation as at the end of 2018 was 72, and 295 stations operated in the old star cafe format.

The star connect investment programme and the launch of further non-fuel products under the star proprietary brand translated into a 4.8% year-on-year increase in store revenue. ORLEN Deutschland terminated an over a decade-long partnership with its supplier of non-fuel products. New contracts and new business relationships will enable the company to further improve the performance of its non-fuel business.

An important factor driving sales in 2018 and the following years is the new partnership with one of Europe's largest automotive clubs ADAC, bringing together more than a dozen million members in Germany. star is one of the three service station chains in Germany (and the first in the economy segment) working with ADAC. This collaboration has resulted in additional volumes and higher revenue from non-fuel sales generated by new customers (ADAC members).

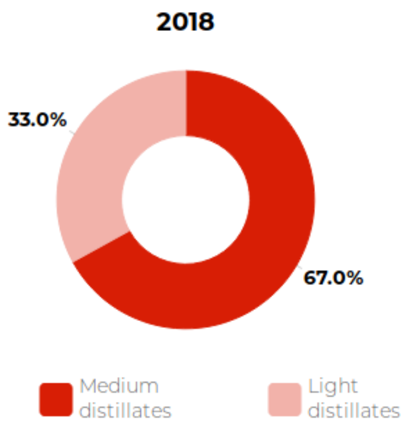
Czech market

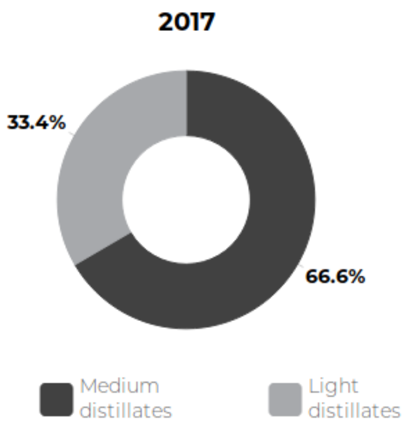
2018 was an exceptional year for the ORLEN Group's Czech Benzina network. The ORLEN Group again increased its fuel sales, by 11.9% year on year, having exceeded the one billion mark for the first time in history. In 2018, the volume of fuel sales reported by the Benzina chain increased by 11.8% year on year. Average annual sales per station rose 9% year on year, to over 2.5 million litres.

Sales volume of the ORLEN Group in the retail segment on the Czech market [thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	4=(2-3)/3
Light distillates	276.4	250.2	26.1	10.4%
Medium distillates	561.0	499.0	62.0	12.4%
Total	**837.4**	**749.3**	**88.1**	**11.8%**

Structure of sales volume of the ORLEN Group in the retail segment on the Czech market





As at December 31st 2018, the ORLEN Group managed a chain of 409 service stations in the Czech Republic (including 396 CODO stations and 13 DOFO stations). The retail stations in the Czech Republic operated under the Benzina brand (191 stations under the new revamped brand, 205 stations under the old and simplified brand, 5 self-service Benzina Expres stations, and one in the old Benzina Plus premium format). There is also one ORLEN service station operating on the Czech market, complementing the network of six non-public stations located at business premises and manufacturing plants. During the year, 8 new service stations were added to the chain and 4 stations (including two DOFOs) were removed.

As part of the Benzina brand revamping programme, the rebranding of 90 Benzina Plus service stations was completed. Price pylons were replaced with new ones across the entire chain – the new pylons are equipped with digital systems able to display various marketing and information messages. As part of the upgrade work, 25 service stations had automatic car washes replaced.

2018 was a successful year for the Benzina fleet business as well. Fleet volumes surged 34% year on year, driven by the steadily growing number of stations, new programmes and business arrangements with fleet customers, and the rollout of the prepaid fleet card programme for retail customers. Fleet sales accounted for over 25% of total volumes sold at Benzina stations.

The Czech subsidiary continued to roll out the new bistro format Stop Cafe 2.0, with 71 new outlets of this type opened in the Czech Republic in 2018 (a total of 100 stations as at December 31st 2018). Besides Stop Cafe 2.0, 143 Stop Cafe and 27 Stop Cafe Bistro outlets operated at Benzina stations. Out of the 409 stations, more than half had one of these formats.

A major development on the retail fuel market in the Czech Republic was the launch of mobile payments at Benzina stations that followed the successful completion of development work on a proprietary app. The app will ultimately be rolled out for use by fleet customers to enable participation in a new loyalty scheme that is being prepared for launch.

Thanks to an extensive investment programme and a host of replacement projects, the Benzina chain delivered improved non-fuel performance, with store sales up 19% year on year.

Lithuanian market

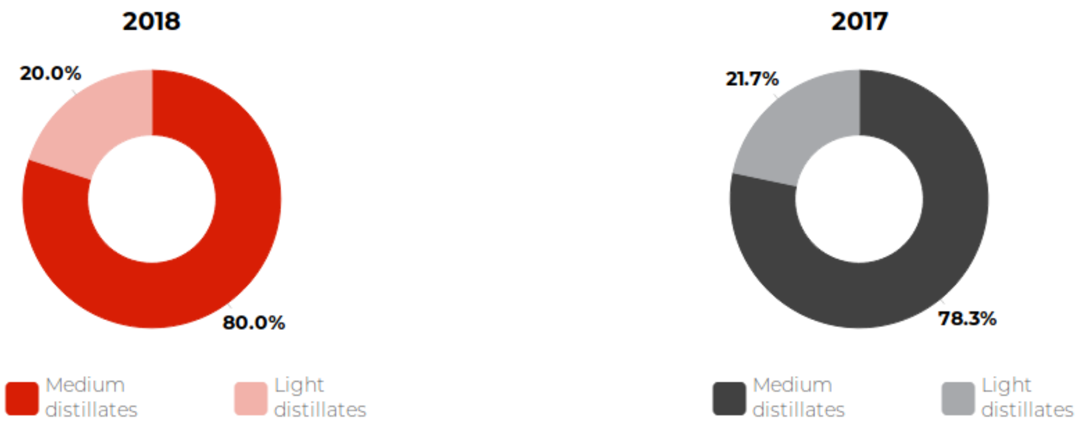
AB Ventus Nafta, a member of the ORLEN Group, posted a 9.3% year-on-year growth in fuel sales in Lithuania in 2018. Sales of light distillates remained broadly flat on 2017, with a strong 10.7% year-on-year increase in diesel oil sales. This increase was largely attributable to stronger demand from transport companies (including those from other Baltic States where fuels are much more expensive due to higher tax rates) and ongoing marketing efforts targeted at retail customers.

As a result, the average annual flow per station rose 9% year on year, to 3.8 million litres. Significantly higher consumption of diesel oil in Lithuania translated into a 17% year-on-year increase in fleet sales volumes, which accounted for as much as 46% of total sales.

Sales volume of the ORLEN Group in the retail segment on the Lithuanian market [thousands of tonnes]

Sales	2018	2017	change	change %
1	2	3	4=(2-3)	5=(2-3)/3
Light distillates	15.2	15.1	0.1	0.4%
Medium distillates	60.8	54.4	6.4	11.8%
Total	**75.9**	**69.4**	**6.5**	**9.3%**

Structure of sales volume of the ORLEN Group in the retail segment on the Lithuanian market



The number of stations remained unchanged year on year. As at the end of 2018, the chain comprised 25 COCO premium service stations operating under the ORLEN brand (approximately 4% of all service stations in Lithuania). 2018 saw the end of preparatory work for an ambitious programme to upgrade the ORLEN service station chain in Lithuania. The programme is planned to be launched in 2019.

In 2018, in an effort to further expand its fleet business, Ventus signed a cooperation agreement with one of the leading Latvian chains (Virsi-A) under which Latvian transport companies will be able to use products and services offered by PKN ORLEN in Lithuania.

Increased volumes at the Lithuanian chain managed by the ORLEN Group also translated into a 14% year-on-year increase in revenue from non-fuel sale.

Supply sources

Refinery assets sold by the ORLEN Group's were in 2018 the main source of fuel supply on the Polish, Czech and Lithuanian markets. The ORLEN Group has no refining assets on German market. Unlike other maternity markets, ORLEN Deutchland subsidiary is forced to cooperate with entities operating on the German wholesale market, among others with Deutsche BP AG, Shell Deutschland Oil GmbH, Total Deutschland GmbH, Esso Deutschland GmbH. A significant part of fuels sold by ORLEN Deutschland comes from Litvinov Refinery (Unipetrol RPA s.r.o.), which is a part of ORLEN Group. Deliveries from the Czech Republic in 2018 increased by 10 pp year on year and met 20% of fuel demand in ORLEN Deutschland.

Upstream

OUTPUT AND PRODUCTION

2018			
	units	Canada	Poland
Oil and natural gas reserves (2P)	million boe	197.6	13.0
Output	million boe/year	6.2	0.4
Average production	thousand boe/day	17.0	1.0
Output structure (liquid/gas)	%	47/53	-/100
Drillings (net)[1]	number	16.4	3.0
Licences	number	-	22

[1]The number corrected with the share of other partners.

In line with the Strategy, the ORLEN Group intends to continue its exploration and production efforts to increase output and secure a wider access to own resources of crude oil and natural gas.

Competence building in the E&P segment required efforts to assemble an international team of experts, capable of building and managing a diversified asset portfolio, and using state-of-the-technology exploration and production methods.

In Poland, the ORLEN Group works independently or with a partner (PGNiG S.A.) in 22 exploration and appraisal licence areas, covering more than 14 000 km^2 and spread over six provinces, with 2P reserves of 13.0 mboe. The ORLEN Group holds 100% interests in 10 licences and 49% interests in other 10 licences. In addition, in partnership with PGNiG S.A., the Group carries out operations under an exploration and production project in two licence areas located in the Polish Lowlands.

In Alberta, Canada, the ORLEN Group is a recognised operator and holds exploration and production assets covering a total area of 312.6 thousand acres (1 300 km2), with total 2P reserves of 197.6 mboe.

Operations in Poland

The operations mainly comprised hydrocarbon exploration and production. Currently, in Poland gas is produced in cooperation with PGNiG S.A. The share of production attributable to the ORLEN Group reached the annual average level of 1.0 thousand boe/d. Basic exploration work in Poland was conducted in four oil provinces.

In the **Kraków Oil Province**, work was performed under three Projects. Under the **Karpaty Project**, drilling of an exploration well commenced in the previous year was completed; the well was abandoned as it failed to yield a commercial flow of hydrocarbons. Aquisition of new 3D seismic data were executied. The processing of the data obtained, integration with the archive data and interpretation of the results will be continued next year. Results of the well data and seismic surveys performed in the previous years were analysed.

As part of the **Miocen Project**, the Bystrowice-OU1 exploration well was drilled leading to the discovery of a multi-horizontal gas field. Conceptual and administrative work is under way on further drilling and development of the field. Next year, new wells will be drilled and field development will be continued. Acquisition of new seismic data to map other field welles in this area is planned.

Under the **Bieszczady Project**, carried out with associate (PGNiG S.A.) drilling of a well has been started and 2D field seismic surveys were performed; their results will be analysed in 2019. In addition, analysis of seismic data collected from two 3D seismic surveys performed last year was completed.

In the **Poznań Oil Province** work was performed on two Projects implemented under a Joint Operating Agreement with PGNiG. As part of the **Sieraków Project**, documentation and preparatory work was continued to enable development of the discovered crude oil field, preparatory work was in progress for drilling an appraisal well, and an unpromising well was abandoned.

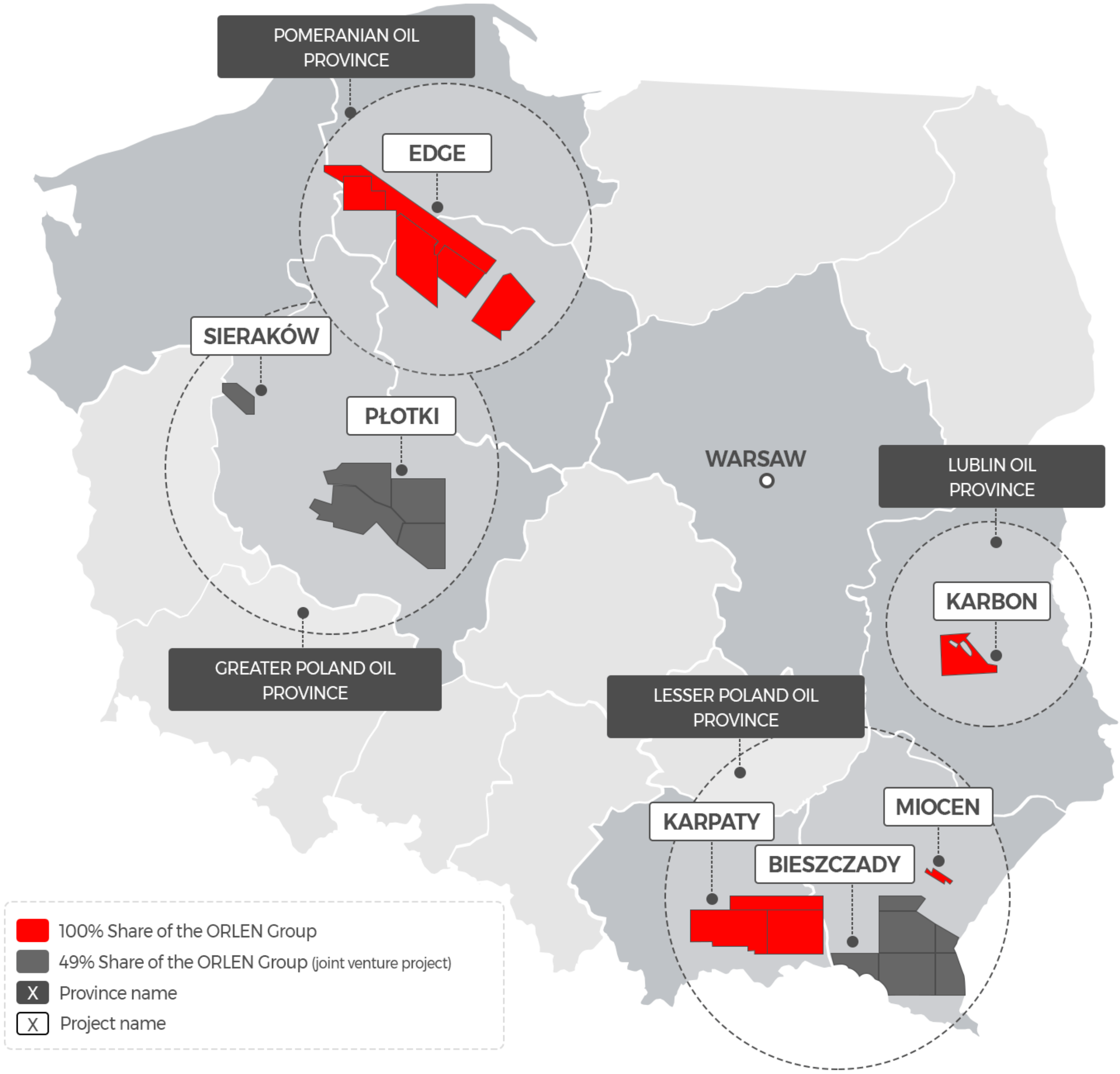
Under the **Płotki Project**, the drilling of four wells, one of which began in 2017, was completed. The drilling of the Chwalęcin-1K well proved an exploration success, gas fieled was discovered. The well yielded strong gas flows and work commenced to prepare a detailed concept for the well’s development; the other wells were abandoned. In 2018, seismic data collected from four 3D seismic surveys performed in 2017 were interpreted, and prospects where wells could be drilled were selected. Analysis of archive data and acquired 2D/3D seismic data also continued as did work to develop the fields.

In the **Gdańsk Oil Province**, work was carried out in five licence areas under the **Edge Project**. In 2018, drilling of an exploration well was completed. The well was abandoned as it failed to yield a commercial flow of hydrocarbons. In addition, production tests were carried out on a well drilled last year and the well yielded strong gas flows.Conceptual work on developing the area was underway. A 3D field seismic survey was run for one task and the obtained data will be processed and interpreted next year. In addition, geological data was analysed in 2018 to select new areas where further seismic surveys could be carried out.

As part of the activities performed under the **Karbon Project** in the **Lublin Oil Province**, the prospectivity assessment was performed, following which a decision was made to relinquish three licences. With regard to the fourth licence area, results of the well data surveys and seismic data is being analysed in order to decide on further steps.

As regards the **Lublin Shale Project**, work was in progress on well decommissioning and land restoration, and the Project is considered completed.

Exploration and production projects of the ORLEN Group in Poland



Source: Own preparation.

Operations in Canada

The ORLEN Group, via its subsidiary ORLEN Upstream Canada, conducts production operations in Canada. In 2018, the capital expenditure programme focused on the Ferrier and Kakwa areas in the province of Alberta.

In the **Ferrier** area, drilling of 12 (8.1 net) wells commenced, 12 wells (8.5 net) were fractured, and 14 wells (9.7 net) were brought on stream.

In the **Kakwa** area, drilling of 7 wells (6.3 net) commenced, 6 wells (5.0 net) were fractured, and 8 wells (6.8 net) were brought on stream. Another stage of work was also completed in Kakwa to expand the gas pre-treatment facilities to increase their capacity in keeping with growing production figures. Also, in order to optimise production from gas deposits, ORLEN continued the project to install gas lifts.

In the **Lochend** area, the drilling of two wells (one net) was commenced, fracturing was performed in one well (0.5 net) and one well was brought on stream (0.5 net).

One exploration well (1.0 net) was also drilled in the Blackstone area. Data acquired from the well is currently being analysed to evaluate the prospectivity of the projects in that area.

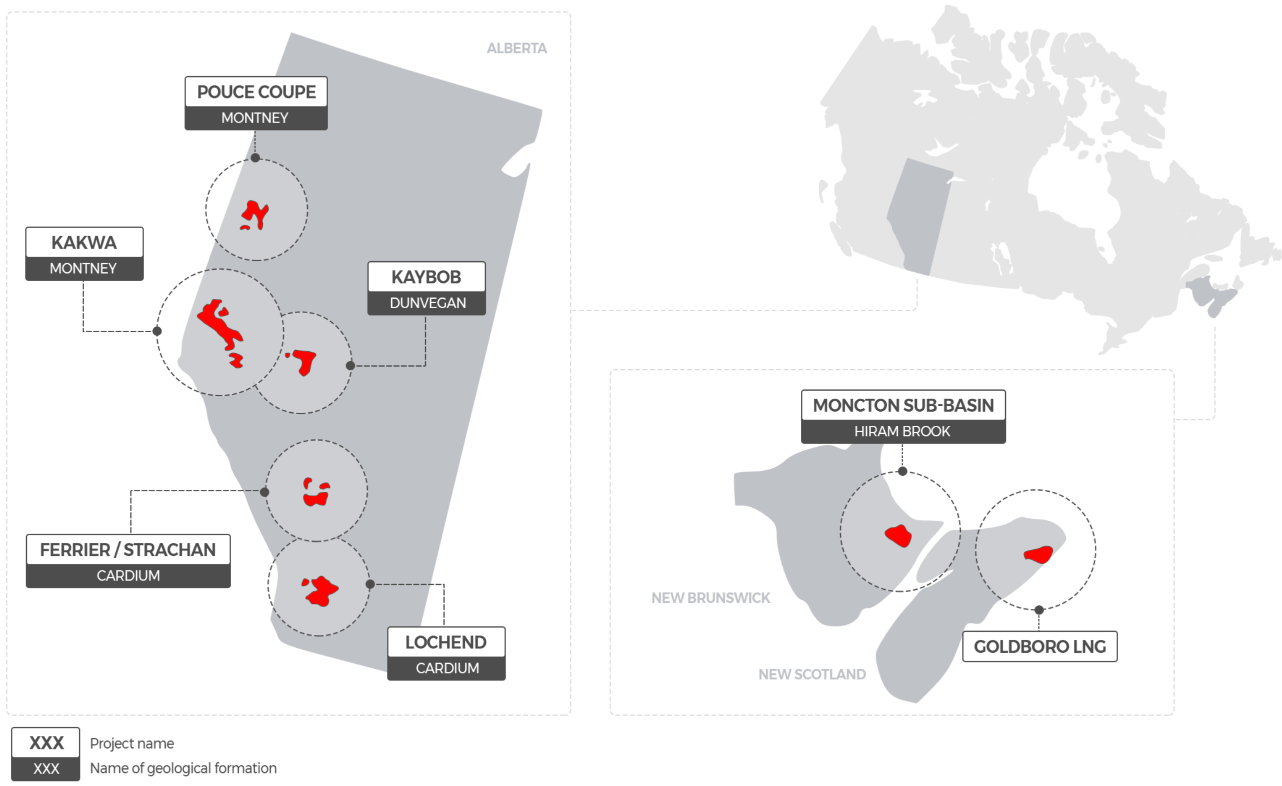
In 2018, the average output was 17.0 thousand boe/d, of which 47% were liquid hydrocarbons (crude oil and condensate).

Good deposit parameters of the assets and their location in a well-surveyed area minimise the project's operational risks. The Canadian market also offers good access to drilling and well services. Equally important are the stable tax regime and business-friendly regulatory environment.

Seeking to achieve operational synergies and focus on the most profitable areas, ORLEN Upstream Canada is keeping a watchful eye on the local market. In 2018, new sections with hydrocarbons exploration and production rights were acquired and interests held in several attractive locations were consolidated through asset exchange. In addition, an agreement to sell Pouce Coupe assets was signed to divest areas with a lower business potential. The transaction was closed at the beginning of January 2019.

ORLEN Upstream Canada also holds exploration and production assets in New Brunswick, and a 4.94% interest in an integrated company developing an LNG export terminal in Nova Scotia. To date, the process of securing administrative and legal approvals for the construction project has been completed. A preliminary investment decision for the project is planned for the first half of 2019, after which the process of identifying business partners and project financing sources will be started.

Assets in Canada



Source: Own preparation.

Sales volume of the Upstream segment

The ORLEN Group sales volume in the Upstream segment [thousand tonnes]

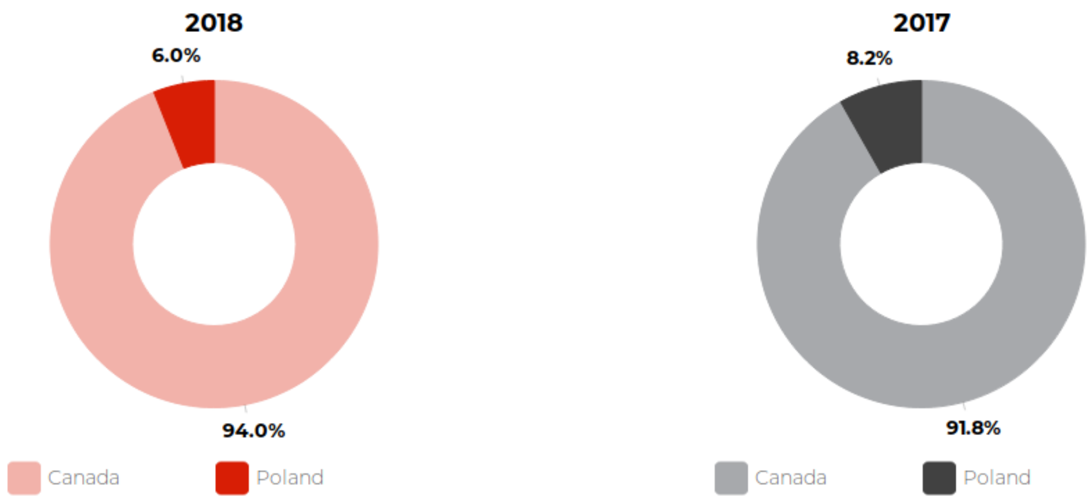
Sales	2018		2017		change %	
	Value	Volume	Value	Volume	Volume	
1	2	3	4	5	6=(2-4)/4	7=(3-5)/5
Crude oil	95	77	62	52	53%	48%
Natural gas	168	456	196	439	(14%)	4%
Other[1]	342	195	257	147	33%	33%
Total	**605**	**728**	**515**	**638**	**17%**	**14%**

[1]Other: in volume terms consists mainly of NGL (Natural Gas Liquids), in value terms includes sale of NGL (Natural Gas Liquids) and revenues from sales of services of the segment.

Production and sale of hydrocarbons in Canada were conducted through ORLEN Upstream Canada Ltd., and in Poland – through FX Energy Poland, a subsidiary.

In 2018, the combined volume of sales on the two markets was 728 thousand tonnes and rose by 14% year on year, mainly on the back of higher hydrocarbon production in Canada.

Sales volume structure in the Upstream segment of the ORLEN Group



Corporate Functions

Corporate functions comprise activities involving management, administration and other auxiliary functions performed by certain ORLEN Group companies for the operating segments.

The companies performing corporate functions engage in a wide range of activities, including:

- Personal and property security services and technical security solutions.
- Comprehensive accounting, HR, payroll and inventory-taking support.
- Laboratory services, including analyses of petroleum products, water, sewage, soil and air.
- Design and building supervision services for the refining, petrochemical and energy industries.
- Financing and insurance services.
- Real estate management and office administration.

Macroeconomic Environment

Oil companies operate in the sector of commodities − homogeneous products such as crude oil, fuels and petrochemical products, manufactured and sold by numerous producers worldwide.

A company supplying commodities is easily replaceable with another supplier offering the same commodity for a lower price, which significantly constrains individual suppliers' ability to control prices. Consequently, both suppliers and buyers of commodities make transactions at prices driven by the supply and demand interaction on the market.

The key external factors with a bearing on oil companies' decisions concerning production and growth and on their financial performance are current and future:

- **Quoted crude oil prices (USD).**
- **Exchange prices of fuels (in USD) and petrochemical products (in USD and EUR).**
- **USD and EUR exchange rates.**

Price path projections take into account factors that reflect changes in both supply and demand:

- The **economic growth rate** in OECD countries, where oil demand has been declining since 2005, and in non-OECD countries, where peak demand is yet to be seen; the changes in demand for crude oil and petroleum products are driven to a large extent by China and India.
- **Growth of global crude output** in OPEC and non-OPEC countries.
- OECD **oil inventories** and OPEC **oil reserves.**
- **Geopolitical risks.**
- **Climate change and environmental degradation risks** related to power generation and transport.

The frequency and status of information about these factors vary. Prices and the USD exchange rate, i.e. hard data, change continuously and are available in real time. The economic growth rate, measured by the GDP, is an estimate published quarterly and subject to frequent corrections. In contrast, information about actual and potential supply disruptions caused by geopolitical developments emerges unexpectedly and leads to instant price changes. The effect of price movements on supply and demand is significantly delayed if lower or higher prices continue for several quarters.

Since mid-2014, when the oil market was affected by an oversupply which had gone unnoticed for a time, attention has been paid to the production structure. Among non-OPEC countries, the United States and Canada are characterised by a very short cycle of unconventional onshore oil production, a large number of oil producers, and the ability to make quick adjustments to production volumes in response to oil price changes. The strong interaction between the level of output from unconventional fields and oil price changes is attributable to the extremely short production cycle. The average time necessary to launch unconventional oil production is only 90 days vs. 3-5 years needed for the development of a shallow water oil deposit or 8 years for deep-water offshore oil production. This factor has also contributed to the fast-growing oil supply in non-OPEC countries.

Among the OPEC countries, Saudi Arabia stands out due to its immediately available significant production reserves and the control it has over the oil production policy of the cartel and the group of five countries: Saudi Arabia, Kuwait, Iraq, Iran, and United Arab Emirates, given its strong potential to produce oil at low cost.

Another important factor is the costs of exploration and production activities. These costs play a major role in long-term oil price projections (supply and demand balance). Over a long term, the price of an oil barrel may not be lower than the cost to produce one barrel of oil from the most expensive reserve, required to meet effective demand. As oil reserves are depleting, it will become necessary to drill down to more challenging resources, and the resulting higher cost of production will lead to rising oil prices.

We have decided not to include financial institutions in the list of factors affecting the macroeconomic environment of oil companies even though the value of futures contracts they execute is many times higher than the value of physical market transactions. In our view, supported by numerous studies, transactions made by financial institutions increase oil price susceptibility to changes, but do not affect price change trends. In both speculative and investment transactions, financial institutions act on the basis of the same fundamental factors as those taken into account by the participants of the physical markets, including oil companies. The upstream and financial sectors share the opinion that oil reserves are sufficient to satisfy future demand at a reasonable price in the long term. **But there are serious differences in expectations about future oil**

demand developments. Although today the oil sector appears to believe that demand is set to plateau, such belief is not shared by the financial sector, which provides money for upstream projects.

The seed of uncertainty was planted in 2015, when the price of oil fell and it was clear that it would not rebound soon. Against this backdrop, scenarios emerged predicting a deep decline in oil demand, induced by the tightening of environmental and climate regulations and supported by technological advances and shifts in consumer behaviour. The financial sector began to show signs of worry since oil prices serve as the basis for valuation of oil companies and many financial assets. These concerns proved strong enough for the Financial Stability Board, an international body that monitors and makes recommendations about the global financial system, to set up in late 2015 the Task Force on Climate-related Financial Disclosures (TCFD). In June 2017, the TCFD issued recommendations on disclosure of exposure to climate-related risks, which are actually becoming reporting standards for companies with revenues in excess of USD 1 billion.

In December 2017, 230 organisations, including 150 financial institutions with assets worth more than USD 80 trillion, many large energy companies, governments of European countries, and the London Stock Exchange, adopted these standards. According to the TCFD, the energy sector is exposed to climate risk due to changes in demand for fossil fuels, production and application technologies, emission reductions, and water availability.

Although TCFD recommendations encourage oil companies to deploy business strategies that would mitigate climate risks (sustainable development strategies), the effects of these strategies will take time to materialise due to purely technology-related reasons. Financial investors are in a very different position, with their exposure to climate risks coming from loans and bonds portfolios. They can reduce their own exposure by refusing to finance firms exposed to climate risks, including upstream companies. The differences in the pace of adjustment between the flexible financial sector and the inflexible oil sector lead to an increased risk of a supply and demand imbalance due to a shortage of funding for upstream projects.

Market Environment

Market trends in the Downstream segment

Overview of key trends in Downstream

LONG-TERM TRENDS OF ECONOMIC DEVELOPMENT AND ENERGY MARKETS

Economic growth

- Global economy is predicted to grow at a rate of between 3.1% and 3.2% in 1920-2020 driven mainly by emerging markets (with an around 3.2% growth predicted for 2021-2022). Optimistic GDP forecasts for PKN ORLEN's markets: 3.5% for Poland, 3.0% for Lithuania, 2.7% for the Czech Republic, and 1.6% for the germany. In the period covered by the 2019-2022 strategy, growth in the Europe will be around 1.9%.
- With long-term forecasts predititng a gradual slowdown GDP (to an average of 2.7% in 2023-2040).

Demand for oil, gas and petroleum refining products

- Slight decrease (increase in nominal terms) in the share of crude oil and natural gas in the global energy mix, with a modest increase in the share of gas in Europe and globally.
- Strongest growth in fuel and gas demand seen in developing countries (Africa, Asia ex OECD, Latin America). Crude oil demand down in Western Europe but up in Central and Eastern Europe.
- Gasoline and diesel oil reamin the key fuels in transport.
- Expected increase in petrochemical consumption.

Oil and gas supply

- Cruide oil supply from non-OECD countries is on the rise, chiefly from the US, due to the large scale of unconventional oil production.
- New discoveries needed to keep global oil output stable.
- Long-term oversupply of natural gas is expected globally due to increased capacity of LNG terminals.

Oil and gas prices

- An upward trend in crude oil prices driven by IMO regulations, reimposition of sanctions on Iran, global growth and permanent coordination of oil production between OPEC and non-OPEC countries.
- Gas prices expected to drop in 2019 and 2020 (LNG oversupply, LNG prices, falling production from Europe's largest field Groeningen in the Nederlands due to seisimic activity), with an uptrend predicted to persist in the long term.
- In Poland, gas prices will rise following the introduction of the emergency stocks requirement as of 2018 (the Mandatory Stocks Act).

Refining margins

- IMO regulations expected to improve margins in the short term (2020).
- In the long term (beyond 2020) the rifining margins of European refiniers will return to the 2019 level under pressure from Russian, US and Middle East supplies.

Regulations

- Efforts to reduce emissions (incuding CO_2, SOx, NOx) generate additional costs to oil and energy companies across Europe.
- Rising cost of CO_2 emission allowances inflate electricity prices.
- Regulatory regime drives improved engine efficiency (the key contributor to reduced fuel consumption).

Megatrends

- In response to megatrends, energy companies make inroads into new growth markets: new mobility (alternative fuels infrastructure), new business models (full mobility, advanced of renewable energy sources).

Crude oil price

In 2018, the average price of Brent Crude was USD 71/bbl, an increase of 32% year on year. A barrel of oil traded at almost USD 67 at the opening session of 2018 and the price continued on an upward trend until the end of September 2018, reaching USD 84/bbl. In the last quarter of 2018, the upward trend reversed, bringing the price down to nearly USD 50/bbl, and at the year's closing session a barrel of oil traded at more than USD 53.

Changes in crude oil prices [USD/bbl]

Source: Own preparation based on Bloomberg

Oil prices are driven both by fundamentals, such as shifts in demand, production and stocks of crude oil and fuels, as well as by expectations concerning changes in those fundamentals. In this context, the main drivers of oil prices in 2018 included:

- High supply of oil on the market – historically high production volumes in the US, and record production volumes in the third quarter in Russia and Saudi Arabia. These countries are the principal players who want to directly control the price of oil: the United States – as the world's largest oil consumer, Saudi Arabia – as the largest oil producer, and Russia, whose economy is highly dependent on profits from oil production and sale.
- OPEC's and Russia's intervention
- Expected and actual decline in China's and other emerging markets' economic growth.
- Lowering of oil supply security buffers, including reduction of oil inventories in OECD countries to the five-year average, and the low level of oil reserves readily available for extraction.
- Negative economic sentiment between the US and China, giving rise to more concerns about economic growth and having a potentially adverse effect on expected demand for oil.
- Growing political instability and risks in oil-exporting countries, especially the re-imposition of sanctions on Iran by the United States, the political and economic crisis in Venezuela, and relatively unstable relations with Saudi Arabia.
- Regulations introduced by a number of countries to reduce CO2 emissions from exhaust gases, which in turn has an impact on long-term prospects for oil demand and upstream projects.
- Higher global demand for diesel oil at the end of 2018, driven by the need to adapt the oil sector to the IMO regulations and boosting the demand for crude oil.

Possible directions of oil price changes

Based on industry analysts PKN ORLEN expect in Q1 2019 the price of Brent crude above USD 60/bbl. The price of Brent crude is expected to continue trending upwards in the coming quarters, to approximately USD 70/bbl, and to stay at this level until the end of the year. According to forecasts by J.P. Morgan and Goldman Sachs, the average price of Brent crude in 2019 is expected to fluctuate between USD 62/bbl (Goldman Sachs) and USD 70/bbl (JP Morgan). The main drivers of crude prices in 2019 include primarily:

- Steady growth of oil production in the United States. The average monthly growth rate, however impressive, is slightly lower than a year before. Production growth rate in the US is expected to outpace the global growth rate.

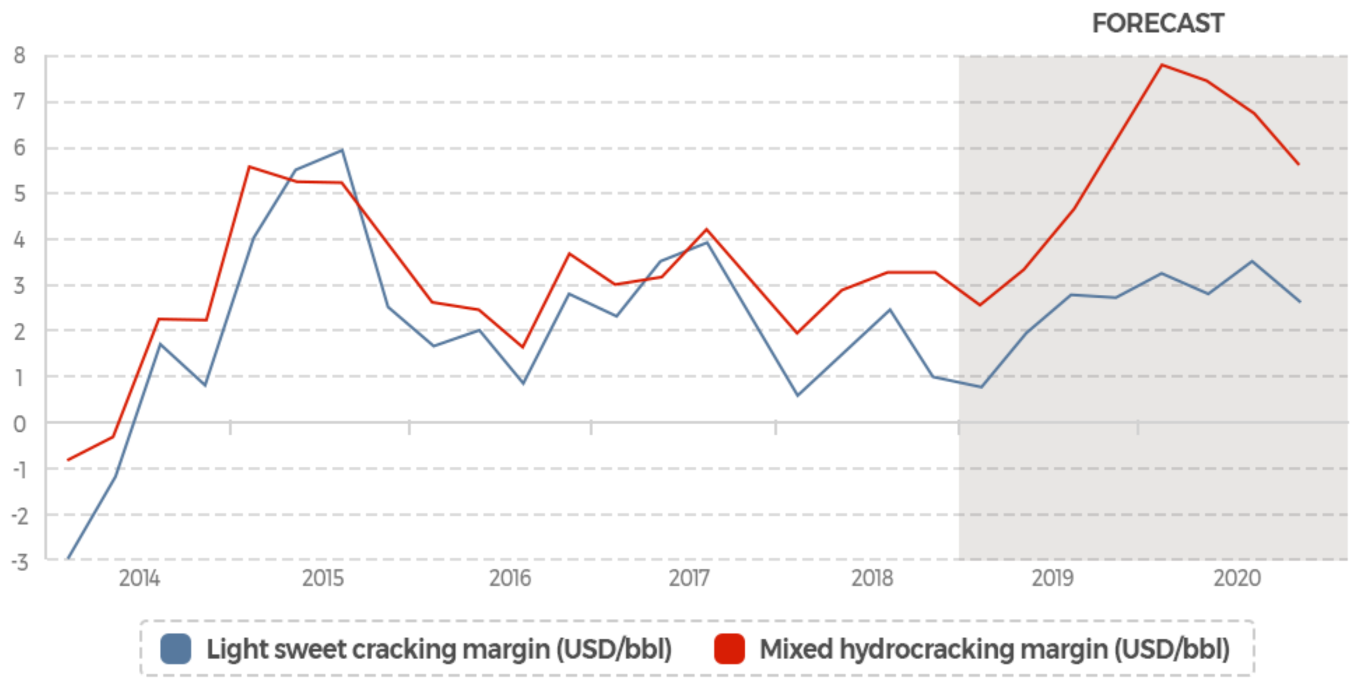
- Further production cuts in Iran due to sanctions – IHS Markit analysts expect the Iranian crude output to be reduced by 400,000 bbl/d by mid-2019.
- Expected production cuts in Saudi Arabia and Russia. In late 2018, Saudi Arabia's output fell from 7.9 million bbl/d to around 7.1 million bbl/d – according to IHS Markit analyses, production volumes in both countries may drop by as much as 1.1 million bbl/d.
- Deceleration of global economic growth – the global GDP growth rate is expected to slow down to 3.0% in 2019, from 3.2% in 2018. For this reason, IHS Markit analysts predict that the global demand for oil will grow by 1.4 million bbl/d, compared with 1.5 million bbl/d in 2018.
- Stronger demand for crude oil due to IMO regulations.

Considering the above factors, the PKN ORLEN Strategy until 2022 envisages an increase in global demand for crude oil (mainly from developing countries). Concurrently, oil supply will suffer due to falling production by OPEC countries (including Iran) and Russia. Higher production in the US will be insufficient to fully satisfy growing demand for oil. The resulting supply gap will be the main reason behind rising oil prices over the long term.

Downstream – production and sales

2018 was a period of rapid changes for the global refining industry. The refining margin in Europe shrank significantly in Q1 2018, to rebound later on and ultimately return to the levels seen at the beginning of the year. This was chiefly attributable to crude oil prices and the low level of water in the Rhine in Germany affecting margins in Western Europe.

Net refining margins in Europe [USD/bbl]



Source: IHS Markit.

In the short- and medium-term perspective, downstream margins in Europe will be driven mainly by movements in oil prices, regulatory factors and competitive pressures.

- The expected increase in **refining margins** globally (especially in the case of deep- conversion refineries) in 2020 is attributable to the lowering (from 3.5% to 0.5%) of the cap on sulfur content in bunker fuel by the International Maritime Organization (IMO) for non-SECA areas, leading to the 'IMO effect': higher demand for middle distillates and, consequenlty, higher margins, accompanied by a decline in demand for and margins on heavy fuel oils. The market is expected to adapt in the coming years and margins should return to historical levels.
- **Potential decline in fuel supply from Russia by 2020**, caused by the IMO regulations, should further push up refining margins. As more stringent bunker fuel standards come into force, prices of high-sulfur fuel oil (HSFO) will fall sharply. This will have a particularly detrimental effect on Russian refineries, as heavy fractions make up a significant part of their output. Major refinery upgrade projects aimed at reducing sulfur content and increasing volumes of gasoline production are delayed and probably will not be completed before January 2020. In order to reduce sulfur content (and HSFO volumes), Russian refineries may have to cut down crude throughput, which may result in lower gasoline volumes being sold on the Russian market and exported.
- **Petrochemical margins** are expected to return by 2022 to the level seen in the period before the oil price decline which occurred in the second half of 2014, as a result of price pressures on feedstocks driven by the anticipated rise in oil prices. The expected margin levels are promising, enabling full utilisation of production assets and creating favourable macroeconomic conditions for investment. The new petrochemical units coming on stream, especially those using a less expansive feedstock (ethane), will be putting price pressure on European petrochemical manufacturers.

Over a longer period, structural challenges and competition will compel European refineries to further optimise their capacity utilisation after 2022. Although no European refineries were closed down in 2017−2018, they have no choice but to optimise their capacity utilisation, and the optimisation process will have to accelerate after 2021. This is chiefly attributable to the following factors:

- Structural weakness of European refineries caused by higher costs of labour, energy and crude oil.
- Growing environmental pressure and higher regulatory costs. According to IHS Markit's base scenario, the energy sector's emissions will continue to rise, at nearly 1% on average per annum. The sharp increase in the prices of emission allowances in 2018 was mainly a response to the steps taken by the regulator (the European Commission) to keep the prices at levels which would encourage businesses to reduce emissions by investing in environmental projects. Therefore, the prices of CO_2 emission allowances in Europe are expected to increase by as much as ten times in 2018−2040.
- Growing impact of electric cars and broadly defined electromobility on demand expectations and investment in future production. Electric vehicles have been gaining traction for years, but it is now that we may be seeing a breakthrough for the industry. Launch of the next generation electric cars, largest car makers' plans to significantly increase electric car production, and the proposed ban on sales of internal combustion engines in the coming decades, as announced by the governments of China, India, France and the United Kingdom, to name just a few, can have a significant impact on the development of the refining industry and its margins.
- Continued pressure experienced by European refineries from competitors in Russia, the Middle East and the United States.

In a longer term, the **petrochemical industry** may support demand for crude refining products, thus building refining margins given the growing application of modern plastics in the global economy. Central and Eastern Europe is among the fastest-growing markets in terms of demand for petrochemical products of the kind produced by the ORLEN Group.

Such products, particularly speciality products tailored to the needs of particular customers, offer a high growth rate. The role of plastics in production processes is expected to grow considering their new applications in advanced insulation systems, automotive industry or 3D printers, to name a few. Manufacturers are able to compete with each other based on the technologies they use, specialist units they operate or speciality products they sell rather than by offering the lowest price for their products.

Forecast growing demand on petrochemical products in Central and Eastern Europe 2017-2030, thousand tonnes %CAGR

Downstream – Power Generation

According to the New Policy Scenario contained in the International Energy Agency's (IEA) World Energy Outlook 2018, electricity demand grows at the rate of 2.1% annually. Developing nations represent almost 90% of the increase in electricity demand, with a moderate growth in developed countries, driven primarily by electrification of transport. In this scenario, which describes the target energy system taking into account the existing regulations and announced changes, demand for electricity is forecast to increase from the current 22 209 TWh to 35 526 TWh in 2040.

Sources of global electric energy production [TWh]

Source	2000	2017	New Policies	
			2025	2040
Coal	6,001	9,858	9,896	10,335
Oil	1,212	940	763	527
Gas	2,747	5,855	6,829	9,071
Nuclear	2,591	2,637	3,089	3,726
Renewables	2,867	6,350	9,644	16,752
Total	**15,418**	**25,640**	**30,221**	**40,411**

Source: International Energy Agency.

According to the IEA, the way that the world meets its growing energy needs will change dramatically. Global electricity output is expected to grow by almost 60% (15 000 TWh) from 2017 to 2040. Fossil fuels are bound to remain the major source of energy, but their share will dwindle from 65% today to below 50% in 2040. The change will be driven primarily by the need to decarbonise industry and cut emissions from the power sector. Renewables will rise most rapidly, with concurrent improvements in energy efficiency. These improvements will play a huge role in taking the strain off the supply side: without them, the projected rise in final energy use would more than double. Renewable sources of energy will meet 40% of the increase in primary demand and their explosive growth in the power sector will mark the end of the boom years for coal. Coal-fired power generation capacity grew significantly between 2000 and 2017, but the growth will slow markedly by 2040. The share of coal as a fuel for power generation is expected to decline from approximately 40% today to just over 25% in 2040. Renewables will capture two-thirds of global investment in power plants in the future as they become, for many countries, the least-cost source of new generation. Rapid deployment of solar photovoltaics, led by China and India, will help solar become the largest source of low-carbon capacity by 2040.

In the European Union, renewables will account for 80% of new capacity and wind power will become the leading source of electricity soon after 2030, due to strong growth both onshore and offshore. China will continue to lead a gradual rise in nuclear power output, overtaking the United States by 2030. According to the IEA forecasts, the share of nuclear energy in the energy mix will slightly increase by 2040.

Poland, where in 2010−2017 the demand for energy grew at the CAGR of 1.8%, is the key market for the power generation business of the ORLEN Group's Downstream segment. Until 2025, the CAGR is expected at around 1.3% (according to IHS Markit), and the growth will be chiefly led by the country's economic development.

The key trends that present challenges and opportunities for the energy sector include decarbonisation, decentralisation and digitalisation:

Decarbonisation

- Falling share of fossil fuels, chiefly coal, in EU energy consumption.
- EU energy policy seeks to curb carbon air emissions using mechanisms that raise the price of emission allowances.
- Rapid growth in renewable energy output.

Decentralisation

- Large commercial power plants squeezed out by smaller energy sources, mainly renewables.
- Growing popularity of energy produced for own needs (prosumers) and energy clusters and cooperatives that locally balance electricity consumption and output.
- Weaker position of energy majors, losing the market to new players.

Digitalisation

- Use of big data and cloud technology to increase the capacity to analyse data relating to, among other things, energy markets or system operation.
- Lower costs of repairs and increased equipment availability supported by predictive diagnostics.
- Advances in the Virtual Power Plant (VPP) technology, increasing the flexibility of generating assets with integrated management of diverse energy sources and energy uptake.

Market trends in the Retail segment

In 2018, the Retail segment reported higher year-on-year unit margins on fuels and higher fuel consumption across all ORLEN Group's markets except Germany, where fuel consumption declined on the back of, among others, logistics problems.

Operating expenses went up in each of the markets, driven largely by rising labour costs. Although salaries and wages offered to service station staff were higher compared with previous years, it was difficult to find new employees. Higher costs of employment and the low jobless rate led to an increase in other operating expenses, such as costs of logistics, repairs and services.

In 2018, most retail chains upgraded their facilities and expanded their food and beverage offering. As all leading chains are modernising their service stations, the premium and economy segments are slowly converging. The only factors that set one segment apart from the other is the price, availability of premium fuels, and loyalty schemes for customers.

As there were no acquisitions or ownership changes involving the main players on the retail fuel market, the leading chains in the PKN ORLEN Group's operating markets maintained their respective market shares.

Retail chains operated by Polish and foreign fuel companies (PKN ORLEN, LOTOS, BP, Shell) did not undergo any major changes. In 2018, the Canadian company Alimentation Couche-Tard completed the rebranding of the Statoil service station chain and now all the stations now operate under the Circle-K brand. In late 2018, Amic Energy Management began to rebrand the Lukoil chain. The launch of the new brand, Amic, should be completed in the first half of 2019.

On the **Czech market**, the number of fuel stations remained stable in 2018. The structure of the market evolved, however, as some smaller non-public stations (e.g. serving a single company only) became generally accessible. After the Unipetrol Group's Benzina chain completed the integration of OMV service stations and incorporated more stations in 2018 into its chain, it consolidated its leading position on the Czech fuel market in terms of both the number of service stations (an increase of 8 stations year on year) and the volume of fuel sales (up by 12% year on year).

There were no major structural changes on the **German market**. Aral and Shell, the market leaders, maintained their leadership. In 2018, the number of service stations within the individual chains changed slightly year on year, but stayed close to 14 500 the figure reported for the last few years.

In the second half of 2018, the German market experienced significant fuel availability constraints, which had a substantial impact on retail prices and unit margins on fuels. Due to supply shortages, some service stations had to temporarily suspend fuel sales.

Fuel companies and customers adapted to the retail price monitoring system introduced several years ago, which completely transformed each chain's retail price management system.

The Lithuanian market saw the continuation of the process to rebrand Lukoil service stations to Viada. The rebranding of Statoil to Circle-K (the third largest chain in terms of the number of stations and leader in terms of the average fuel flow per station) was completed. The process also involved thorough upgrades of the key locations to expand and modernise their retail stores and food services. The increase in fuel consumption was mainly attributable to a lower excise duty in Lithuania relative to the other Baltic States.

Market trends in the Upstream segment

In the New Policies Scenario (baseline scenario) presented in the International Energy Agency's World Energy Outlook 2018, until 2040 the global primary energy demand will grow for all main fuels: crude oil, coal, gas, nuclear energy, and renewables. In line with the baseline scenario, renewable energy sources and gas will account for the major part of the growth in primary energy demand. All renewable energy sources and gas will cover 43% and 35%, respectively, of the increase in primary demand until 2040.

The primary energy demand will grow by more than a quarter, driven by higher incomes and the expected 1.7bn increase in the global population, which will occur mainly in urban areas of developing countries. Until 2000, Europe and North America accounted for more than 40% of global demand for primary energy, while developing Asian countries represented merely 20% of the total. This situation will have reversed by 2040.

Asia is set to deliver over 80% of the growth in global oil consumption until 2040, half of the global gas consumption increase, 60% of the increase in wind and solar energy consumption, and more than 100% of the increase in coal and and nuclear energy consumption (taking into account declines in other countries).

By 2025, the US will account for over 50% of the increase in global oil and gas production (close to 75% in the case of oil and 40% in the case of gas), which means that every fifth barrel of oil and every fourth cubic metre of natural gas available on the global market will be produced in the US.

Global demand for primary energy by fuel type [million toe[1]]

Source	2000	2017	New Policies	
			2025	2040
Coal	2,308	3,750	3,768	3,809
Oil	3,665	4,435	4,754	4,894
Gas	2,071	3,107	3,539	4,436
Nuclear	675	688	805	971
Hydro	225	353	415	531
Bioenergy	377	727	924	1,260
Other renewables	60	254	517	1,223
Solid biomass	646	658	666	591
Total	**10,027**	**13,972**	**15,388**	**17,715**

[1]toe – ton of oil equivalent
Source: IEA.

Crude oil, despite a lower share in the energy mix (down from 32% in 2017 to 28% in 2040) will play a key role in the energy sector. Consumption of oil used to power vehicles will peak during the mid-2020s. However, demand for oil from the petrochemical sector, trucks, airplanes and ships will continue on an upward trend. Petrochemical products will be the main driver of growth in crude oil consumption. The overall increase in demand for crude oil, to 106 million bbl/d under the New Policies Scenario will only be delivered by developing economies.

In 2030, **natural gas** will replace coal as the second largest component of the global energy mix (with a 25% share in 2040). The industry will be the largest contributor to a 45% increase in the global gas consumption by 2040. LNG trading will more than double in response to growing demand from developing countries, primarily China. Russia will remain the world's largest natural gas exporter as new routes to Asian markets become available.The increasingly integrated European energy market will offer more gas supply options for buyers.

In 2018, the global activity of oil and gas producers measured as the number of operating wells increased by 9% year on year, most notably in the United States. The number of drilling operations decreased in Europe and Canada, where producers were struggling with the relatively low prices of liquid hydrocarbons and a large differential relative to prices on the US market. However, the programme implemented by the government of Alberta, designed to reduce crude oil production in that province, boosted prices on the internal market and offset the unfavourable differential relative to the US crude benchmarks.

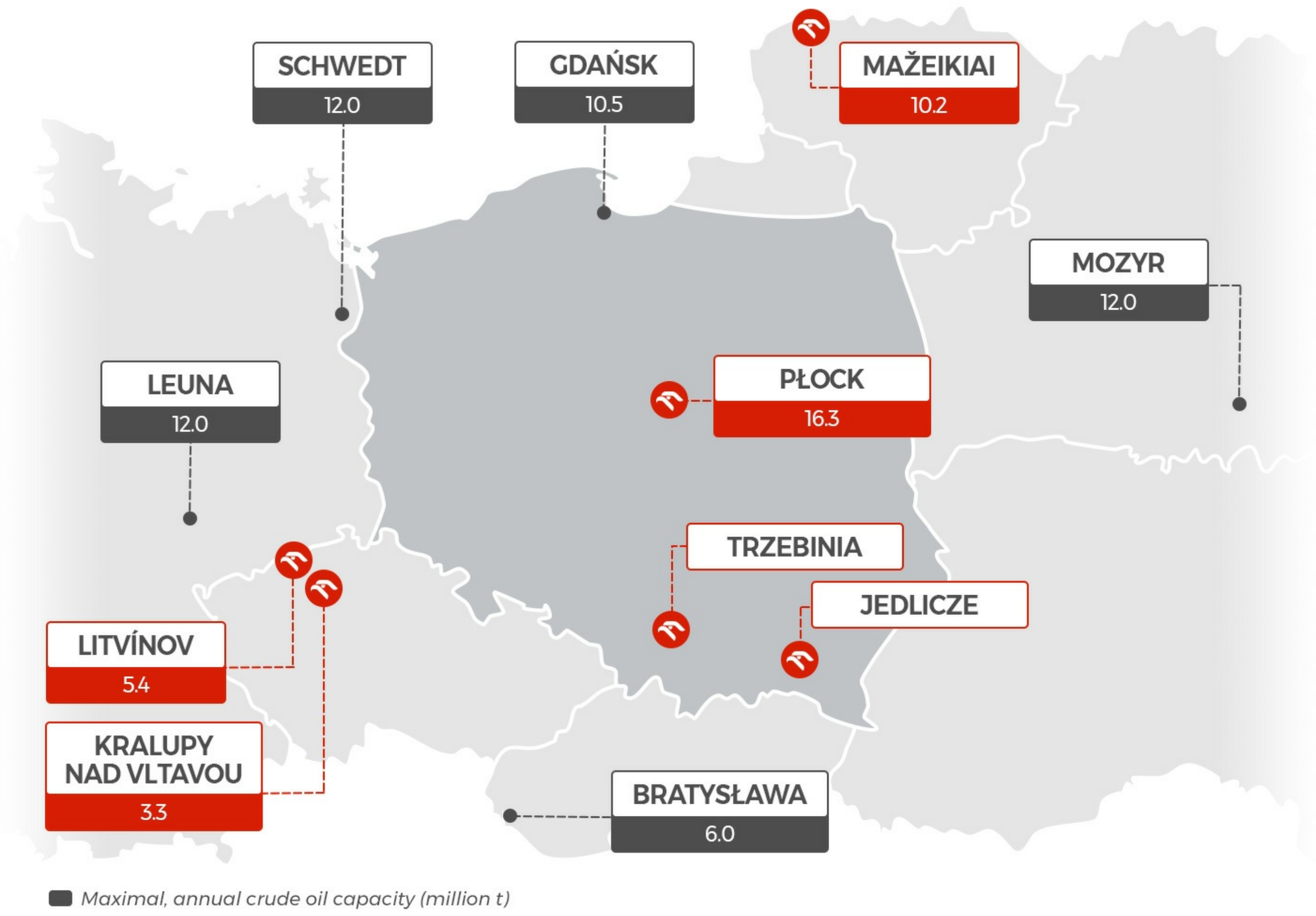
The U.S. Energy Information Administration anticipates that the US will become a net exporter of oil in 2020. US net gas exports continue growing as LNG consolidates its position in international trade.

Competitive Environment

ORLEN Group is the largest refiner in Central and Eastern Europe.

- The total production capacities of the **ORLEN Group** refineries are **35.2 million tonnes**.
- **The refinery in Płock** is one of the most advanced integrated production facilities in Central and Eastern Europe, with a production capacity of 16.3 million tonnes/year.
- In petrochemicals, the key unit (Olefins) has a maximum production capacity of about 700 thousand tonnes of ethylene and about 380 thousand tonnes of propylene. Monomers manufactured at PKN ORLEN are used as feedstock for the polymer units at Basell Orlen Polyolefins and the PVC unit at ANWIL. PKN ORLEN also operates a modern PX/PTA complex with an annual capacity of around 690 thousand tonnes of terephthalic acid.
- The other Polish refineries, operating as the **ORLEN Południe group in Trzebinia and Jedlicze**, manufacture bio-components, base oils and heating oils, and regenerate spent oils.
- The **ORLEN Lietuva refinery in Mazeikai** has a production capacity of 10.2 million tonnes/year and is the only such facility in the Baltic States (Lithuania, Latvia and Estonia).
- The **Unipetrol Group operates refineries in Kralupy and Litvinov,** with a combined production capacity of 8.7 million tonnes/year. The Unipetrol Group also owns gas petrochemical assets with combined production capacities of approximately 600 thousand tonnes/year, including 320 thousand tonnes of polyethylene and approximately 280 thousand tonnes of polypropylene. Construction of a new Polyethylene III unit, with a capacity of approximately 270 thousand tonnes/year, is under way. Once completed, the unit will allow Unipetrol to increase the use of the Olefins installation and further integrate the petrochemical and refining operations.
- The Włocławek-based **Anwil** is the only manufacturer of polyvinyl chloride (PVC) in Poland and one of the major manufacturers of fertilizers and sodium hydroxide in the country. The annual production capacities are around 1.0 million tonnes/year of nitrogen fertilizers, approximately 0.4 million tonnes/year of PVC and granulates, and approximately 0.2 million tonnes/year of sodium hydroxide. Thanks to the planned construction of the third production installation of nitrogen fertilizers the production capacity of Anwil after 2021 will increase to approximately 1.5 million tonnes/year.
- **Basell ORLEN Polyolefins in Płock** operates facilities with a total production capacity of 900 thousand tonnes (420 thousand tonnes of polyethylene and 480 thousand tonnes of polypropylene). Products are marketed both in Poland and in foreign markets.

Production assets of the ORLEN Group and main competitors in the Central and Easter Europe/production capacity [million t]



Source: Own preparation

The largest **competitors of the ORLEN Group** are:

- **LOTOS Group of Gdańsk** – Poland's second largest refinery.
- **Mitteldeutschland Refinery in Leuna/Spergau**, located in south-eastern Germany, about 150 km from the Polish-German border, the country's most advanced refinery.
- **PCK Refinery in Schwedt**, located north-east of Berlin, about 20 km from the Polish-German border.
- **Slovnaft refinery**, an integrated refining and petrochemical group, with a leading position in the Slovak Republic, located near Bratislava.
- **Mozyr refinery**, a leading refinery in Belarus, located close to the Ukrainian border.

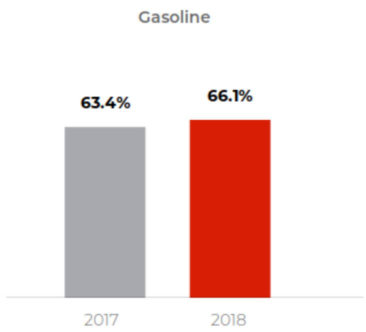
ORLEN Group’s market shares in the Downstream segment

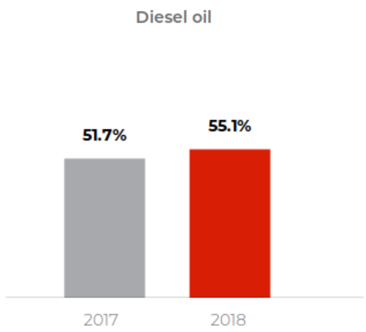
In 2018, the ORLEN Group was involved in wholesale distribution of refining products in Poland, the Czech Republic, Germany, Slovakia, Hungary, Austria, Lithuania, Latvia, Estonia and Ukraine, and in Western Europe, where products were delivered to transhipment terminals by sea. The ORLEN Group’s home markets are Poland, Lithuania and the Czech Republic. The Group has an extensive portfolio of refining products, including gasoline, diesel oil, A-1 jet fuel, light and heavy heating oil, bitumen, engine oils and a wide range of non-fuel products and semiproducts.

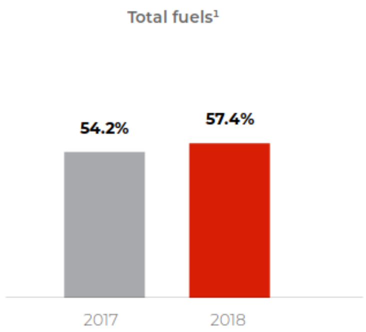
Wholesale of refining products

In 2018, the ORLEN Group was involved in wholesale distribution of refining products in Poland, the Czech Republic, Germany, Slovakia, Hungary, Austria, Lithuania, Latvia, Estonia and Ukraine, and in Western Europe, where products were delivered to transhipment terminals by sea. The ORLEN Group’s home markets are Poland, Lithuania and the Czech Republic. The Group has an extensive portfolio of refining products, including gasoline, diesel oil, A-1 jet fuel, light and heavy heating oil, bitumen, engine oils and a wide range of non-fuel products and semiproducts.

Share of the Polish fuel market



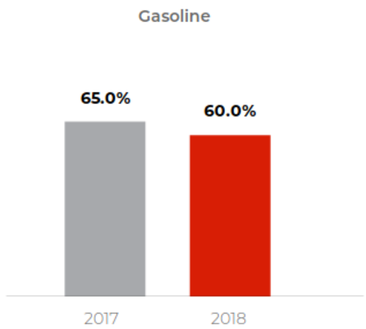


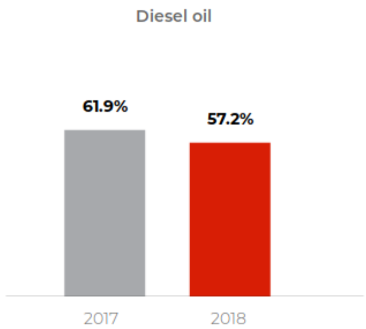


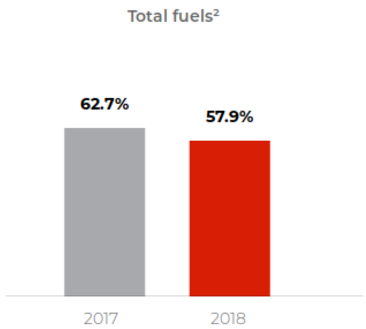
[1]*Gasoline and diesel oil*

- Strong sales allowed the ORLEN Group to maintain the leading position in the Polish fuel sales market.
- Increased Polish market share of the ORLEN Group in sales of diesel oil and gasolines, driven by continued favourable market conditions, including the effects of legislation enacted as of August 2016 to curb the grey fuel market in Poland.

Share of the Czech fuel market



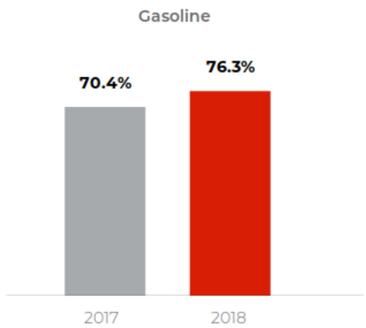


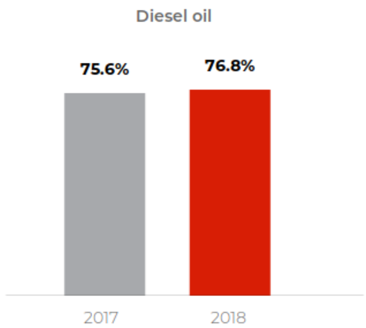


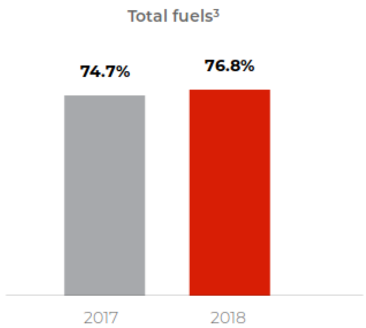
[2]*Gasoline and diesel oil*

- The ORLEN Group is the leader in fuel sales in the Czech Republic.
- A (4.8)pp decrease in the aggregate market share due to supply problems resulting from the scheduled maintenance shutdown at the Kralupy refinery and failures of the key refining units (steam cracker, POX, and hydrodesulfurisation unit) during the year.

Share of the Baltic States' fuel market







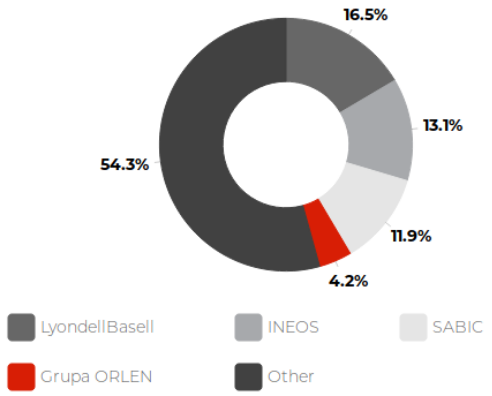
[3]*Gasoline and diesel oil*

- Consolidation of the Group’s position as the market leader in the Baltic States despite strong price pressures from Finnish, Belarusian and Russian suppliers.
- Increased share in the gasoline and diesel oil sales markets, attributable to strong sales from the marine terminal in Klaipėda.

Wholesale of petrochemical products

The ORLEN Group is the largest petrochemical company in Central and Eastern Europe, the only manufacturer of monomers and polymers on the Polish market, and the manufacturer of most of the petrochemical products available on the Czech market.

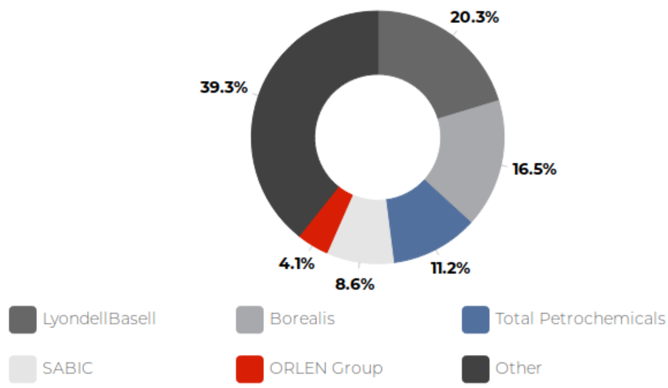
Polyethylene producers in Europe



Source: Own preparation based on POLYGLOBE

- Europe's production capacities for high-density (HDPE) and low-density (LDPE) polyethylene are currently at around 13 337 thousand tonnes per year.
- Lyondell Basell Industries − the largest polyethylene manufacturer, with an annual production capacity of approximately 2 195 thousand tonnes (including its 50% share in Basell ORLEN Polyolefins Sp. z o.o. (BOP) and production assets in Germany, France and Poland.
- Ineos Olefins & Polymers Europe, with an annual production capacity of approximately 1 745 thousand tonnes and assets in Belgium, France, Germany, Italy and Norway; and Sabic – production capacity of around 1 590 thousand tonnes per year and assets in Germany, the Netherlands and the UK.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 555 thousand tonnes per year.
- The ORLEN Group is building a new Polyethylene 3 unit in the Czech Republic with an annual production capacity of approximately 270 thousand tonnes.

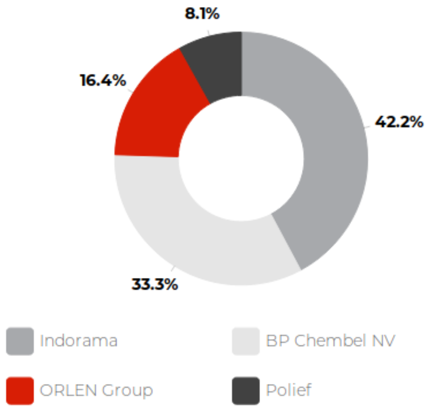
Polypropylene producers in Europe



Source: Own preparation based on PCI.

- Europe's annual production capacities for polypropylene are at around 11 669 thousand tonnes.
- Lyondell Basell Industries has an annual production capacity of around 2 369 thousand tonnes (including its 50% share in BOP) and assets in Germany, France, Italy, Spain, UK and Poland.
- Borealis, with an annual production capacity of approximately 1 920 thousand tonnes and assets in Belgium, Germany, Austria and Finland.
- Total Petrochemicals, with a production capacity of around 1 310 thousand tonnes per year and assets located in Belgium and France.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 480 thousand tonnes per year.

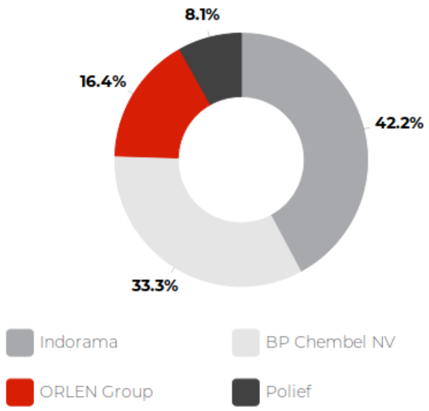
PTA producers in Europe



Source: Own preparation based on PCI.

- The European nominal PTA production capacities total 4 205 thousand tonnes per year.
- Indorama – Europe's largest PTA manufacturer (following the acquisition of Artlant), with a nominal production capacity of 1 775 thousand tonnes per year and assets located in Portugal, Spain and the Netherlands.
- BP Chembel NV – Europe's second largest PTA manufacturer, with an annual production capacity of 1 400 thousand tonnes, located in Belgium.
- PKN ORLEN is the only manufacturer in Europe to have production units fully integrated with paraxylene production, and its production capacity totals 690 thousand tonnes per year.

PVC producers in Europe



Source: Own preparation based on Petrochemical Market Dynamics, Vinyl – 2017 Report from October 2017 (Nexant)

- The European nominal PVC production capacities total 8 060 thousand tonnes per year.
- Europe's leading PVC manufacturer – Inovyn, was formed following the combination of Ineos Chlor and Solvay; its annual production capacity is 2 005 thousand tonnes.
- Other manufacturers, such as Kem One, Vynova, and Vinnolit, have annual PVC production capacities estimated at 882 thousand, 830 thousand and 780 thousand tonnes, respectively.
- The Karpatneftekhim plant, with nominal production capacities of ca. 300 thousand tonnes annually, resumed operations in 2017 after a five -year shutdown.
- The ORLEN Group, with the annual production capacity of its Anwil and Spolana units at 475 thousand tonnes, ranks fifth on the European plastics market.
- Anwil's principal competitors are Inovyn and Vynowa in Europe and BorsodChem in Poland.

Regulatory Environment

The ORLEN Group operates on regulated markets, so compliance of the Group's activities with legal regulations is a key aspect of its business.

Under their regulatory risk management policies, PKN ORLEN and the other ORLEN Group companies engage in a fully transparent and open dialogue based on applicable laws, which involves reviewing drafts of legislative solutions at the national and EU legislation level. In addition, the Group's relations with the regulators, control and supervisory authorities are coordinated on an ongoing basis, and the Group operates a process of obtaining and managing permits and authorisations.

Key public administration authorities in the ORLEN Group's regulatory environment in Poland:

- President of the Council of Ministers.
- Minister of Energy.
- Minister of Finance.
- Minister of the Environment.
- President of the Energy Regulatory Office.
- President of the Material Reserves Agency.
- President of the Office of Competition and Consumer Protection.
- President of the Polish Office of Technical Inspection/Director General of the Transport Technical Authority.
- President of the Polish Office of Rail Transport.
- President of the Polish Financial Supervision Authority.
- Central Office of Measures.
- Chief Inspector of the National Labour Inspectorate, Environmental Protection Inspection Authority, National Fire Service.
- State Mining Authority, Regional Mining Authorities.

Key areas of the ORLEN Group's activities:

- Liquid fuels (production; storage; trade; trade in liquid fuels with foreign partners; transmission).
- Power generation, including electricity and heat generation (production; trade; transmission/distribution).
- Natural gas (trade in gas fuels; trade in natural gas with foreign partners).
- Emergency stocks of crude oil and fuels.
- Biocomponents and liquid biofuels (implementation of the National Indicative Target).
- Energy efficiency.
- Energy-intensive companies.
- Transport of goods covered by the SENT system.

Key opportunities and risks arising from the regulatory environment in Poland in connection with the ORLEN Group's business:

- **Risk associated with the obligation to maintain stocks of crude oil**

The Group is subject to numerous obligations involving maintenance of emergency stocks of crude oil and fuels, imposed by the Act on Stocks of Crude Oil, Petroleum Products and Natural Gas, and on the Rules to Be Followed in the Event of Threat to National Fuel Security or Disruptions on the Petroleum Market of February 16th 2007 (the "Act on Emergency Stocks").

Under new regulations in this area, since January 1st 2015 producers and traders have been under the obligation to pay a stocks charge in exchange for a gradual reduction of the level of physical stocks required to be maintained for the purposes of the Material Reserves Agency.

As a manufacturer and importer of liquid fuels, since December 31st 2017 the Group has been obliged to maintain minimum stocks equal to the equivalent of 53 days of the average daily production or imports in the previous calendar year. Furthermore, to comply with statutory requirements on emergency stocks of crude oil and liquid fuels, it pays a stocks charge to the Emergency Stocks Fund, managed by the President of the Material Reserves Agency.

In addition, failure to maintain the required stock levels or breach of other obligations under the Act on Emergency Stocks entails the risk of high penalties being imposed.

- **Risk related to the obligation to achieve the National Indicative Target (NIT) for biocomponents**

The Act on Biocomponents and Liquid Biofuels imposes the requirement to achieve the National Indicative Target (NIT), i.e. to ensure the required minimum share of biocomponents in the total volume of liquid fuels and biofuels, both sold on the market and used for own needs. Provisions of the Act define the legal transactions which trigger the obligation to achieve the NIT as well as the entities subject to that obligation. Starting from 2015, only those biocomponents which meet the criteria of sustainable development set out in the EU and Polish laws may be used to fulfil the NIT obligation.

In 2017, the Act was amended and a number of regulatory solutions advocated by PKN ORLEN were incorporated into the Act, including in particular:

- Mandatory quarterly blending.
- Introduction of a substitution fee at a level enabling a significant reduction of the volume of B100 biofuel sold as part of the implementation of the NIT.
- Admission of the co-hydrogenation technology as of 2020.
- Adjustment of the amount of penalties for potential failure to meet the NIT.
- Double-counting of next-generation biocomponents.
- Adjustment of the 2020 NIT target with regard to advanced biocomponents – 0.1%.
- Imposing a limit on achieving the NIT through HVO imports (0.3% in 2018 and 0.5% in 2019).

As a result, the actual NIT in 2019 (after reducing the base NIT and after further reduction through the substitution fee) will amount to 5.57% of the energy content of fuels compared with 5.48% in 2018. This will help reduce the costs of meeting the NIT obligation and will foster fair competition on the liquid fuels market (elimination of the surplus of B0 and B100 blends).

If NIT is not met, a penalty may be imposed on the Group, calculated on the basis of the formula defined in the Act on Biocomponents and Liquid Biofuels.

- **Risk related to the impact of regulations on trading in greenhouse gas emission allowances**

The ORLEN Group companies are subject to the EU regulation establishing the greenhouse gas emission allowance trading scheme (the EU ETS Directive) that forms part of the EU climate and energy package. The purpose of the EU ETS Directive is to promote an annual reduction of CO_2 emissions until 2020.

Three Polish production complexes owned by the ORLEN Group, i.e. the refinery, the CHP plant, the olefins unit in Płock (PKN ORLEN) as well as the ammonia unit in Włocławek (ANWIL) are the ORLEN Group's largest carbon dioxide emitters. All those and other installations participating in the EU Emissions Trading Scheme are included in the list of installations prepared by Poland and submitted to the European Commission for the purpose of free allocation of emission allowances in the third trading period (covering the years 2013–2020). The list of installations and free allocations of emission allowances has been approved by the European Commission and sets the number of free allowances. The total number of emission allowances allocated to the ORLEN Group companies free of charge is insufficient for their needs and, in consequence, they need to purchase additional emission allowances, which generates additional costs.

In 2018, the European Parliament and the Council of the European Union adopted Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to change the legislative framework of the EU ETS for phase 4 (2021–2030). The system for trading in CO_2 emission allowances under the new legal framework assumes their progressive reduction in the European Union industry as the new regulation introduces a linear factor of 2.2% (instead of the previous 1.74); also, starting from 2019, carbon market allowances will start to be transferred to the Market Stability Reserve, which means that the number of allowances allocated each year will decrease at a faster pace and, most probably, the demand for emission allowances and their prices will grow. At present, legislative and regulatory efforts are being taken to fully prepare and implement the new phase of the EU ETS system, in which the Group companies covered by the system play an active role. Once implemented, those legal acts will entail redefinition of indicators according to which the free allowances are allocated. The most likely result will be that ORLEN Group companies will receive fewer allowances for free.

- **Combating grey market**

In 2018, PKN ORLEN was actively involved in public consultations of amendments to tax and administrative regulations aimed at combating the grey market in liquid fuels, which for years has been a major problem facing the fuel sector. The Group engaged chiefly in activities designed to improve the system for monitoring the road transport of tax-sensitive goods, i.e. the SENT system, or the transport package including monitoring of railway transport, as well as in work on the 'heating fuels package', providing for the use of the SENT system to tighten regulation of the Polish market of heating fuels, which are sensitive considering the rules of excise taxation on such fuels. In addition, the Group's efforts focused on amendments to the secondary legislation to the energy package adopted in 2016 and intended to simplify reporting requirements for the liquid fuels market and to enable the establishment of a fuel platform, planned by the Ministry of Energy. Additionally, in 2018 PKN ORLEN implemented and applied on a day-to-day basis all new legal requirements dedicated to tightening regulation of the liquid fuels market. PKN ORLEN's efforts took the form of a public dialogue with the authorities regulating the liquid fuels market in Poland, in particular with the President of the Energy Regulatory Office, President of the Material Reserves Agency, and the National Revenue Administration, as well as close cooperation with the Group's customers and trading partners.

- **Participation in the capacity market**

The Act on Capacity Market of December 8th 2017 defines the organisation of the capacity market and the rules governing provision, against consideration, of standby services to supply electricity to the power system and the supply of that electricity to the system in periods of emergency. Bids for expected service rates will be selected through an auction. As a rule, the winning bids will be those which offer the lowest price while giving maximum effect to the principle of technological neutrality expected by the European Commission. The same rules will apply when selecting bids placed by Polish electricity producers, including operators producing electricity through high-efficiency industrial cogeneration, and a limited number of bids from foreign producers, as well as Demand Side Response service bids, that is proposals to reduce electricity consumption and use of capacity on demand.

Three main auctions were held in 2018, during which capacity suppliers offered their standby services for 2021, 2022 and 2023. PKN ORLEN's cogeneration units in Płock and Włocławek will be included in the support system provided for in the Act.

- **Monitoring of the transport of certain goods (the SENT system)**

In 2018, the Act on the System for Monitoring the Road Transport of Goods, i.e. the SENT system, was extended to include the monitoring of the rail transport of tax-sensitive goods. In addition, the Act was amended to enable the tracking of shipments by road (with the use of locators installed in vehicles). The above changes, combined with the previous solutions introduced by the fuels package and energy package, are aimed at consolidating the positive effect of curbing the grey market by increasing the effectiveness of supervision.

In 2019, those regulations are planned to be amended by including the 'heating fuels package', providing for the use of the SENT system to enhance the effectiveness of monitoring fuel deliveries to consumers. The purpose of the proposed regulation is to counteract excise tax fraud committed while marketing those fuels, for instance by replacing paper excise declarations issued by buyers of fuel oils to confirm the receipt of fuel delivery with electronic delivery confirmations combined with monitoring under the SENT system.

PKN ORLEN actively participated in the entire process of drafting the bill. The Company also worked to develop effective solutions provided for in the Act by designing the system for automatic registration of fuel transport from terminals in the SENT system, and testing the system's subsequent modifications.

Management of hydrocarbon exploration, appraisal and production activities

These activities are managed by the Company based on the appropriate integrated management system developed and implemented by ORLEN Upstream. The main legislative act governing business activities of the ORLEN Group's Upstream segment in Poland is the Geological and Mining Law. In 2018, the Law was amended by introducing the second (in addition to a tender) procedure for granting hydrocarbon licences, i.e. an open door procedure, under which a tender may be organised at the request from an entrepreneur. The amendments also clarified the rules related to the entrepreneur's right of first refusal. Now, the entrepreneur may apply for the establishment of mining usufruct for its benefit with priority over other parties. In addition, the structure of joint operations agreements, which have long been commonly used in other countries, has been modified. The provision requiring that the operator's share in costs and profits from joint operations exceeds 50% has been deleted. This provision allows more freedom to conclude such agreements and does not jeopardise their proper performance as the operator will continue to be responsible for discharging its licence and statutory obligations.

Regulatory environment in other home markets of the ORLEN Group

Czech Republic

The key bodies in Unipetrol's regulatory environment in the Czech Republic are:

- Ministry of Industry and Trade.
- Ministry of the Environment.
- Ministry of Finance.
- Office for the Protection of Competition.
- Energy Regulatory Office.
- Customs Administration.
- Environmental Inspection.
- Trade Inspection.

Key legislation having influence on Unipetrol´s business on the Czech market:

- Act on Fuels and Fuel Stations n. 311/2006 Coll.
- Excise Duty Act n. 353/2003 Coll.
- Act on VAT n. 235/2004 Coll.
- Act on Business Conditions and State Administration in Energy Sectors and Amendments to Certain Laws (Energy Act) n. 458/2000 Coll.
- Act on Renewable Sources of Energy n. 165/2012 Coll.
- Act on Stabilisation of Public Budgets (Energy Tax) n. 261/2007 Coll. – coal, CNG tax.
- Air Protection Act n. 201/2012 Coll. – bioduty.
- Government notice on the criteria of sustainability of biofuels n. 351/2012 Coll.
- Act on Spatial Planning and Building Code (Building Act) n. 183/2006 Coll.
- Act on Water and Amendments to Certain Laws n. 254/2001 Coll.
- Waste Act n. 185/2001 Coll.
- Act on Integrated Pollution Prevention and Control n. 76/2002 Coll.
- Accidents Prevention Act n. 224/2015 Coll.
- Environmental Impact Assessment Act n. 100/2001 Coll.
- Labour Code n. 262/2006 Coll.
- Civil Code n. 89/2013 Coll.
- Companies Act n. 90/2013 Coll.

Canada

Canadian companies operating in the oil and natural gas industry are subject to extensive legislative and regulatory oversight concerning matters related to land tenure, exploration, development, production, refining and upgrading, transportation, and marketing, as well as the pricing and taxation of oil and natural gas, all of which should be carefully considered by investors in the Canadian oil and gas industry. All current legislation is a matter of public record and the Corporation is unable to predict what additional legislation or amendments may be enacted. Outlined below are some of the principal statutes, regulations and governmental agreements governing the oil and gas industry, both federally and in the provinces in which the Corporation operates.

Alberta

Alberta Acts and Regulations

- **Climate Leadership Act** - establishes a carbon levy on transportation and heating fuels in Alberta.
- **Coal Conservation Act and Coal Conservation Rules** - govern the appraisal, development, and conservation of Alberta's coal assets.
- **Environmental Protection and Enhancement Act** - governs the protection, enhancement and wise use of the environment by designating proposed activities for which an approval or registration is required. Important rules and regulations include: Environmental Assessment Regulation, Environmental Assessment (Mandatory and Exempted Activities) Regulation.
- **Gas Resources Preservation Act** - governs the removal of gas or propane from Alberta.
- **Mines and Minerals Act** - governs the management and disposition of rights in Crown owned mines and minerals, including the levying and collecting of bonuses, rentals, and royalties. Important regulations include: Deep Oil Exploratory Well Regulation, Drilling Royalty Credit Regulation, Enhanced Oil Recovery Royalty Regulation, Enhanced Recovery of Oil Royalty Reduction Regulation, Exploration Regulation, Mines and Minerals Administration Regulation, Natural Gas Royalty Regulation, 2009, Natural Gas Royalty Regulation, 2017, New Well Royalty Reduction Regulation, Petroleum Marketing Regulation, Petroleum and Natural Gas Tenure Regulation, Petroleum Royalty Regulation, 2009, Petroleum Royalty Regulation, 2017
- **Oil and Gas Conservation Act** - governs the conservation and development of oil and gas resources in Alberta, including legislating safe and efficient practices for locating and developing resources and controlling pollution. Important rules and regulations include: Oil and Gas Conservation Rules, Orphan Fund Delegated Administration Regulation, Curtailment Rules.
- **Oil Sands Conservation Act** - governs the conservation and development of oil sands resources in Alberta to ensure the orderly, efficient, and economical development in the public interest. Important rules and regulations include: Oil Sands Conservation Rules, Curtailment Rules.
- **Oil Sands Emissions Limit Act** - establishes an annual limit for greenhouse gas emissions from oil sands sites.
- **Pipeline Act** - governs the development and operation of pipelines within Alberta. Important rules and regulations include: Pipeline Rules.
- **Preserving Canada's Economic Prosperity Act** - creates a licensing mechanism whereby the Government of Alberta can regulate the removal of crude oil from Alberta.
- **Public Lands Act** - governs the use of public land in conjunction with the Responsible Energy Development Act. Important rules and regulations include: Exploration Regulation, Public Lands Administration Regulation.
- **Responsible Energy Development Act** - establishes the Alberta Energy Regulator (AER), and sets out its mandate, structure, powers, duties and functions.
- **Surface Rights Act and Surface Rights General Regulation** - establishes the rules and procedures for obtaining the surface access rights necessary for to conduct oil and gas operations.
- **Water Act** - supports and promotes the conservation and management of water, including the wise allocation of water, while recognizing, among other things, the need for Alberta's economic growth and prosperity. Important rules and regulations include: Water (Ministerial) Regulation, Water (Offences and Penalties) Regulation

Alberta Regulators

- **Alberta Energy (Ministry)** - manages the development of Alberta's non-renewable resources, grants industry the right to explore and develop, and seeks to assure sustained prosperity through the stewardship of energy and mineral resource systems, responsible development, and the wise use of energy.
- **Alberta Energy Regulator** - responsible for regulating the lifecycle of oil, oil sands, natural gas, and coal projects in Alberta from application and construction to production, abandonment, and reclamation. Also conducts environmental assessments.
- **Surface Rights Board** - quasi-judicial tribunal that grants right of entry and helps landowners/occupants and operators resolve disputes about compensation when operators require access to private land or occupied crown land to develop subsurface resources such as oil, gas, and coal or to build and operate pipelines and power transmission lines..

New Brunswick

New Brunswick Acts and Regulations

- **Clean Environment Act** - governs Environmental Impact Assessments conducted in New Brunswick which assess environmental impacts from proposed projects. Important regulations include: Environmental Impact Assessment Regulation
- **Climate Change Act** - establishes a number of targets for the reduction of greenhouse gas emissions within New Brunswick.
- **Oil and Natural Gas Act** - governs oil and natural gas leases, exploration, and development in New Brunswick. Important regulations include: Survey System Regulation, Geophysical Exploration Regulation, Licence to Search and Lease Regulation, Prohibition Against Hydraulic Fracturing Regulation.
- **Petroleum Act** - not yet in force; will replace the Oil and Natural Gas Act upon proclamation.

New Brunswick Regulators

- **Department of Energy and Mines** - has regulatory oversight over oil and natural gas land tenure, exploration, drilling and production, and well abandonment.
- **Department of Environment and Local Government** - implements a review and approval process to regulate and manage the environmental and social aspects of the construction, operation, and decommissioning of oil and natural gas projects and facilities.
- **Energy and Utilities Board** - independent Crown Agency established to regulate electricity, natural gas, pipeline and motor carrier industries and set maximum gasoline prices for the province.

British Columbia

British Columbia Acts and Regulations

- **Carbon Tax Act** - establishes a carbon levy on transportation and heating fuels in British Columbia.
- **Environmental Assessment Act** - establishes an environmental review process for certain energy projects.
- **Environmental Assessment Act, 2018** - establishes an enhanced environmental review process for certain energy projects. While not yet in force, it is expected to replace the Environmental Assessment Act in late 2019.
- **Environmental Management Act** - uses modern environmental management tools to protect human health and the quality of water, land, and air in British Columbia.
- **Oil and Gas Activities Act** - governs the conduct of oil and gas operations including exploration, development, and consultation. Important regulations include: Consultation and Notification Regulation, Drilling and Production Regulation, Environmental Protection and Management Regulation, Geophysical Exploration Regulation, Oil and Gas Activities Act General Regulation, Pipeline Regulation.
- **Petroleum and Natural Gas Act** - governs the management and disposition of rights in Crown owned mines and minerals, including the levying and collecting of bonuses, rental and royalties. Important regulations include: Net Profit Royalty Regulation, Petroleum and Natural Gas Act Fee, Rental and Work Requirement Regulation, Petroleum and Natural Gas Drilling Licence and Lease Regulation, Petroleum and Natural Gas General Regulation, Petroleum and Natural Gas Grid Regulation.

British Columbia Regulators

- **Ministry of Energy, Mines & Petroleum Resources** - responsible for electricity, alternative energy, mining and petroleum resource sectors, including the land tenure system and oil and gas leases in British Columbia. Also responsible for the BC Oil and Gas Commission and other energy-related Crown corporations.
- **Oil and Gas Commission** - an independent, single-window regulatory agency with responsibilities for overseeing oil and gas operations in British Columbia, including exploration, development, pipeline transportation, and reclamation.
- **Surface Rights Board** - assists in resolving disputes between landowners and companies that require access to private land to explore for, develop, or produce Crown-owned subsurface resources such as oil, gas, coal, minerals and geothermal.

Saskatchewan

Saskatchewan Acts and Regulations

- **The Crown Minerals Act** - governs the leasing of Crown mineral rights and provides authority for the Crown to collect royalties. Important regulations include: The Crown Oil and Gas Royalty Regulations, 2012, the Oil and Gas Tenure Registry Regulations.
- **The Environmental Assessment Act** - establishes a system to ensure that development proceeds with adequate environmental safeguards through the integrated assessment of environmental impacts.
- **The Environmental Management and Protection Act, 2010** - regulates and controls potentially harmful activities and substances.
- **The Environmental Management and Protection (General) Regulations**
- **The Mineral Resources Act, 1985** - governs certain aspects of the exploration for and development of mineral resources in Saskatchewan, including oil and gas.
- **The Oil and Gas Conservation Act** - governs the orderly exploration for, and development of, oil and gas in Saskatchewan and optimizes the recovery of these resources. Important regulations include: the Oil and Gas Conservation Regulations, 2012, the Petroleum Registry and Electronic Documents Regulation.
- **The Pipelines Act, 1998** - governs the development and operation of pipelines within Saskatchewan. Important rules and regulations include: The Pipelines Regulations, 2000.

Saskatchewan Regulators

- **Ministry of Energy and Resources** - governs the exploration, development, management, and conservation of non-renewable resources. This includes granting leases and operations permits.
- **Ministry of Environment** -provides science-based solutions, compliance and mitigation measures aimed at protecting the environment, safeguarding communities, and helping to ensure balanced economic growth. It accomplishes this through environmental assessments, management of industrial sites, and compliance activities.

Federal acts, Regulations and Regulators

Acts and Regulations

- **Canada Oil and Gas Operations Act** - governs the exploration, production, processing, and transportation of oil and gas in marine areas controlled by the federal government. The Act's regulations address drilling and production, geophysical operations, installations, financial requirements, operations, and spills and debris liability.
- **Canada Petroleum Resources Act** - governs the lease of federally owned oil and gas rights on "frontier lands" to oil and gas companies that wish to explore for and produce oil and gas. The Act's regulations cover royalties, registrations, and research funding.
- **Canadian Environmental Assessment Act, 2012** -governs the environmental assessment of proposed projects where the federal government is the proponent or where the project involves federal funding, permits, or licensing.
- **National Energy Board Act**—establishes and governs the National Energy Board. The Act's regulations cover NEB procedures, pipelines, tolls/tariffs, and imports/exports, among other things.
- **Oil Tanker Moratorium Act** - introduced, but not yet passed. Will provide coastal protection in northern British Columbia by prohibiting crude oil tankers carrying certain volumes from stopping, loading, or unloading in that area.
- **Species at Risk Act** - operates in tandem with the Canadian Environmental Assessment Act, 2012 (above) to establish the parameters within which certain energy projects will be subject to environmental review.

Regulators

- **Canadian Environmental Assessment Agency** - responsible for conducting environmental assessments under the Canadian Environmental Assessment Act.

- **National Energy Board** - oversees the international and inter-provincial aspects of the oil, gas, and electric utility industries. It regulates the construction and operation of oil and natural gas pipelines that cross international or provincial borders.
- **Natural Resources Canada** - the federal ministry of natural resources. It develops policies and programs that enhance the contribution of the natural resource sector to the economy. It seeks to enhance the responsible development and use of Canada's natural resources and the competitiveness of Canada's natural resources products.

Lithuania

ORLEN Lietuva's regulatory environment:

- Ministry of Energy.
- Ministry of Transport.
- Ministry of the Environment.
- Ministry of Finance.
- Regulations governing energy producers.
- Regulations on licensing trade in fuels.
- Regulations on biofuels, fuel blending and fuel quality.
- Regulations regarding payment and taxes in fuel trade.
- Regulations on mandatory stocks and fuel reserves.

Key areas of ORLEN Lietuva activities:

- Liquid fuels (production; storage; trade; trade in liquid fuels with foreign partners; transmission).
- Heat generation (production).
- Emergency stocks of crude oil and fuels.
- Combating grey market.
- Biocomponents and liquid biofuels (implementation of the National Indicative Target).
- Energy efficiency.

Germany

Regulatory environment of Germany's ORLEN Deutschland:

- Private/Civil Law – regulations concerning the relationships of individuals, e.g. general civil law commercial law, company law, the right of intellectual property and competition law.
- Public Law – regulations concerning the relationship of individuals to the public authorities, e.g. Constitutional Law, Administrative Law, Tax Law.
- Criminal Law as an independent part of public law is mainly regulated in the Criminal Code.
- Procedural Law is also an independent part of public law and deals with the judicial process to decide contentious legal relationships.

ORLEN Deutschland is subject to the following laws and regulations:

- Sales of fuel: The main regulations from areas No.1 (e.g. commercial law, company law, general civil law, competition law) and No. 2. (e.g. Construction/Building law, Pollution control law, waste law, German Water Act, soil conservation law, conservation law, laws on transport of dangerous goods, laws governing industrial safety, environmental and consumer protection).

- Non-fuel products / gastronomy: The main regulations are from areas No.1 (e.g. commercial law, company law, general civil law, competition law) and No. 2. (e.g. food law, etc.).

There are various main important local authorities and institutions, e.g. municipal administration (including building authorities, water management authorities, waste management authorities, etc.), state authorities (including the data protection and security authority, etc.), and federal authorities (including Federal Cartel Office, etc.).

Suppliers and Customers

Suppliers

The rules of cooperation with suppliers have been changing since 2015, with the administrative function supporting the Procurement Area gaining a proactive and business-minded role.

Supplier Code of Conduct

Over **15,000** procurement processes

A base of over **18,000** suppliers

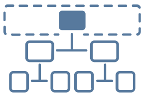
400+ procurement categories

To achieve our strategic objectives we mainly focus on implementing a method of comprehensive management of procurement categories, a supplier management model (its elements include segmentation, classification, and management rules) and global procurement standards.

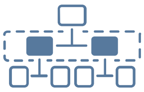
More than **15,000 procurement processes** were carried out at the ORLEN Group in 2018. We worked with **over 18,000 suppliers.** In most cases, our trading relations with suppliers are long-term to ensure that the ORLEN Group's requirements are satisfied in a reliable manner. The suppliers provide raw materials and services necessary for the ORLEN Group to run its operations. Our purchases are related to investments, production and maintenance projects; we buy electricity, production chemicals, biocomponents, supplies for service stations, and general-purpose supplies (administration, IT, professional services, logistics). In 2018, we purchased goods and services in **more than 420 procurement categories.**

The procurement categories in the **Central Category Tree** form an extensive and orderly procurement directory used at PKN ORLEN and the key companies of the ORLEN Group. The Central Category Tree has three levels of detail. The first level comprises 13 main categories. The second and third level are detailed category levels, corresponding to various product and service groups for a wide range of business needs.

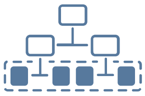
Procurement categories:



13 main **categories**



87 second-level **categories**



521 detailed **categories**

- Administration and general-purpose supplies.
- Investments (production, infrastructure, terminals and pipelines).
- IT and telecommunications.
- Logistics.
- Protection of people and property.
- Crude oil.
- Service stations.
- Energy resources, energy and fuels.
- Raw materials, chemicals, catalysts and fillings.
- Equipment, materials and spare parts.
- Services related to hydrocarbon exploration and production.
- Professional services.
- Maintenance, repair and operation services.

In a significant step towards ensuring sustainable development and responsible supply chain, PKN ORLEN incorporated the responsible business and sustainability criteria in its procurement management standard. The Company promotes social responsibility among its suppliers and cooperates with trading partners that respect human rights and operate in compliance with the law, ensure safe and fair working conditions, the best standards of ethical conduct and care for the environment. CSR criteria have been defined and compiled into a single document: the **Supplier Code of Conduct**. As of April 2016, compliance with the Code is a mandatory criterion in the process of trading partner selection at PKN ORLEN. In 2017, the Supplier Code of Conduct was implemented at other ORLEN Group companies. The suppliers are selected based on standardised and uniform social, environmental, legal, and ethical criteria.

Customers

The ORLEN Group sells its products and services to customers in more than 100 countries across six continents. The ORLEN customer base includes both private customers (such as motorists) and institutional clients representing the chemical, automotive, aviation, power, construction, agricultural, packaging and food production sectors.

We reach **private customers** mainly through service station networks spanning across Poland, the Czech Republic, Germany and Lithuania. Customers can rest assured that all our products meet exacting quality standards. As a result of substantial investments in our production facilities, unleaded petrol and diesel fuels produced by the ORLEN Group refineries fully satisfy all European standards, and even exceed them with respect to some of the parameters.

In terms of company size, our **institutional client** base is highly diversified – from small local companies up to Poland's and the world's largest corporations.

Our petrochemical products serve as the basis for the manufacture of goods and delivery of services everyone uses in their everyday lives. We produce fuels for road vehicles, aircraft, ships and power plants, as well as lubricants, bitumens, and a whole range of other basic organic substances used to make plastics, pharmaceuticals, and virtually all chemicals.

ANWIL is a leading manufacturer of nitrogen fertilizers (ammonium nitrate and calcium ammonium nitrate, marketed under CANWIL brand), ranking second in Poland and tenth in Europe. The company is also Poland's only and Europe's eighth manufacturer of suspension polyvinyl chloride (POLANVIL), a material for the production of building profiles, water and sewage piping, wire and electric cable insulation and coating, as well as small medical equipment. Almost a half of POLANVIL volumes are sold to demanding EU markets. ANWIL also offers PVC plates and cable compounds, PVC-based blends, and rigid technical PVC compounds e.g. for the production of wall panels, building profiles and electro-installation profiles. ANWIL is the largest producer of sodium hydroxide (marketed mainly as caustic soda solution) and prilled caustic soda in Poland. Sodium hydroxide is one of the primary chemicals used in virtually all industries, both as a feedstock in various types of organic and inorganic synthesis processes, and as an auxiliary material, e.g. in the aluminium, cellulose and paper, textile and viscose industries, but also in the processing of crude oil and treatment of water for industrial applications. The company also offers other chloralkali (chlorine, sodium hypochlorite, sodium chloride and hydrochloric acid) and chemicals (ammonia, ammonia water, liquid nitrogen and liquid oxygen). ANWIL sells its impressive range of products to almost 40 countries across the globe, including to Germany, UK, France, Scandinavia, Algeria, and Turkey.

Inowrocławskie Kopalnie Soli Solino S.A. is Poland's largest producer of brine and the only supplier of the product to the chemical industry in the region. Brine is made in two salt mines − in Góra near Inowrocław and Przyjma near Mogilno.IKS Solino's portfolio includes salt products, such as salt pellets, which are applied to regenerate the ion exchange bed in water softening stations, and granulated salt used in dishwashers. The company produces table salt, curing salt for the meat industry, feed salt used in the manufacturing of fodder and compound animal feed, and industrial salt used as an ingredient in washing powders, dishwashing liquids, soap and detergents, as well as road salt for winter road maintenance. The key distribution channels for salt products are companies and sales representatives, wholesalers and end users – producers and individual customers. The IKS Solino client base includes the chemical, food, agricultural and road engineering sectors.

ORLEN Paliwa is the leader on the fuel wholesale market. The company offers a broad range of fuel products, including gasoline (Pb95, Pb98), diesel oil, heating oil (Ekoterm), propane, butane and propane-butane mixtures (LPG). Its gas products are compliant with Polish standard PN C-96008 and European standard EN-589, as evidenced by quality certificates. ORLEN Paliwa also provides wholesale gas and electricity services to small and medium-sized enterprises. The company designs and builds end-to-end industrial liquid gas installations used both for heating purposes and in various technological processes, such as drying of agricultural produce, metalworking, manufacture of glass, as well as construction industry and road engineering.

ORLEN Południe is a pioneer on Poland's biofuels and biocomponents market. In its production processes, it may use vegetable oils such as rapeseed, soya or palm oils as well as oil mixtures, offering both biocomponents that can, for instance, be blended with traditional diesel oils and those used as a standalone fuel. ORLEN Południe also markets fuel oils obtained from components produced through atmospheric distillation of crude oil. The company's portfolio features a broad range of products for households, public buildings, small and medium-sized enterprises, as well as specialist installations and industrial facilities. ORLEN Południe's offering includes products for applications in various branches of the chemical industry, including large- and low-volume chemical products.
Solvents manufactured by ORLEN Południe are used for the preparation of solutions in many industrial processes, or as extraction solvents. They are also an ingredient in the production of paints, varnishes, adhesives, home care products, cosmetics, waterproofing emulsions, and polymers. Glycerin, a byproduct in the biodiesel manufacturing process, can be used in the animal feed industry and for technical applications in the manufacture of antifreeze, anti-caking, or anti-adhesive agents. Distilled glycerin is a raw material for the manufacture of explosives, polyols, and for technical applications. It also finds its applications in the cosmetics and animal feed industries or in home care products. Potassium sulfate, a component of fertilizers, is also used in the manufacture of glass and alum and in the maintenance of stadium turf, playing fields, and golf courses.

ORLEN Południe is a manufacturer of paraffins and special waxes. Its business includes regeneration of waste oils to obtain high-quality deep-refined base oils for the manufacture of lubricating oils.

The ORLEN Group provides a broad range of services, such as transport services, maintenance of service stations and fuel depots, repairs of various types of machinery, environmental protection, health and safety and fire prevention services.

Social Environment

PKN ORLEN and other ORLEN Group companies engage in external projects promoting sustainable development.

PKN ORLEN is involved in the initiative of the Ministry of Entrepreneurship and Technology (until January 2018 Ministry of Development) entitled **Partnership for the Implementation of Sustainable Development Goals in Poland**. As a socially responsible company, it has joined in the process of implementing the UN 2030 Agenda, and strives to ensure that its activities support all 17 Sustainable Development Goals, which include: sustainable cities and communities, affordable and clean energy, responsible production and consumption, quality education, decent work and economic growth. In April 2018, the Company signed a declaration of **Partnership for Accessibility**, affirming its commitment to cooperate in putting into effect the government's 'Accessibility Plus' programme. Signing of the declaration confirms that PKN ORLEN follows the idea of accessibility and equal treatment in all aspects of its operations, and seeks to foster equal opportunities not only within its own organisation, but also in its environment.

Another initiative we have subscribed to is Responsible Care. This global project brings together chemical manufacturing companies to improve their health, safety and environment performance (the so called HSE triad), as well as to share information about their activities. PKN ORLEN has participated in Responsible Care since 1997, when the programme was adopted by the Company's legal predecessor. In the following years, it was joined by other ORLEN Group companies: ANWIL, Inowrocławskie Kopalnie Soli Solino, Basell Orlen Polyolefins, ORLEN Południe and Unipetrol.

Given the global and consumer trends, CSR strategies must not only respond to the current challenges but also anticipate them. One of such proactive initiatives was the signing of the **Declaration on Sustainable Development in the Energy Sector** by energy companies. PKN ORLEN adopted the Declaration in 2010. The signatories acknowledge that "*...the joint efforts should focus on following and promoting the concept of sustainable development.*" Such initiatives by energy companies help create shared value and contribute to solving important social problems. Another milestone event was PKN ORLEN's signing of the **Declaration of Polish Businesses for Sustainable Development** in 2014. By doing so, we joined the group of companies supporting the **Vision of Sustainable Development of Polish Businesses until 2050**. The document draws on the international initiative of the World Business Council for Sustainable Development. The project integrates Polish businesses to work together towards sustainable development and defines the key challenges and priorities in which enterprises are expected to support social and economic changes. Since 2015, PKN ORLEN has been an active member of the **Sustainable Development Committee** at the Polish Chamber of Chemical Industry. ORLEN Eko contributes to the activities of the Ecology Committee and ANWIL is involved in the Polish Chamber of Chemical Industry's 'Safe Chemicals' programme. During the 2015 Polish Chemical Industry Congress, PKN ORLEN signed the **Declaration of Partnership for Sustainable Development of the Chemical Industry**. In the document, the signatories wrote: *"Aware of the role the chemical industry plays in modern economies and the effect it has on development of other industries, we want to ensure that our actions and initiatives actively support delivery of sustainable development."*

PKN ORLEN is a strategic partner of the **Responsible Business Forum** and the **Polish Olympic Committee**. It is also a member of the global **Fairtrade** social movement: for over 10 years now, Fairtrade-certified coffee has been available at over 1,600 Stop Cafe outlets at ORLEN service stations. The movement relies on market approach to help producers in developing countries and to promote sustainability. Advocating a sustainable lifestyle and raising consumer awareness lie at the core of the Fairtrade concept. ANWIL, as a member of Fertilizers Europe, is implementing the **Product Stewardship** programme, which is based on international regulations and quality standards.

In 2018, PKN ORLEN actively supported the foundations of which it is one of the founders or benefactors, including the **Grant Fund for Płock Foundation**, the **Foundation of the Ignacy Łukasiewicz Oil and Gas Industry Museum in Bóbrka**, the **Polish National Foundation**, and the **Grow Up with Us Foundation**. PKN ORLEN also provides assistance to the **Polish Economic Security Consortium** through the 'Polish Economic Security.Legal and Economic Dialogue and Analysis Institute' FoundationThe Consortium brings together businesses and scientific centres, serving as a platform for networking science with business, as well as business support institutions and public administration.

Organisations and associations

PKN ORLEN's representatives participate in a number of various associations and organisations. Membership of these bodies is a vital component of PKN ORLEN's presence on the Polish and European economic and social arena.

Being part of these organisations and associations, PKN ORLEN has access to knowledge and information about draft regulations for the fuel and power sectors in Poland and Europe, can easily learn about technical solutions and findings of research carried out in other countries, and has an opportunity to share its knowledge and gain new experience. Through its active participation in these organisations, in particular those that bring together employers or promote CSR ideas, PKN ORLEN builds stable relations with its environment.

The organisations and associations of strategic importance to the ORLEN Group are those bringing together and representing the whore refining, petrochemical or energy generation sector at the national and European level They represent the respective industries in relations with public administration authorities and international organisations. One of the key organisations in Poland is the Polish Chamber of Chemical Industry (PIPC), of which PKN ORLEN, ANWIL and ORLEN Eko are active members. ORLEN Group representatives sit on the PIPC Committees, including the International Trade Policy Committee, Transport and Distribution Committee, Tax Committee, Sustainable Development Committee, Technology Committee, Alternative Fuel Committee, Polymeric Materials Committee, Innovations Committee, Energy and Climate Committee, Environmental Committee, OHS Committee, and Fire Protection Committee. PKN ORLEN i also a member of important industry organisations in Europe such as the European Petroleum Refiners Association. As one of the seven largest companies among the Association's members it is entitled to one representative on the its Board.

Organisations and associations of which PKN ORLEN was a member in 2018

- European Energy Forum.
- European Petroleum Refiners Association.
- Responsible Business Forum.
- Institute of Professional Representatives before the European Patent Office.
- International Air Transport Association.
- Izba Energetyki Przemysłowej i Odbiorców Energii (Polish Chamber of Industrial Power and Energy Consumers).
- Klub Polskich Laboratoriów Badawczych POLLAB (POLLAB Club of Polish Research Laboratories).
- Polska Organizacja Przemysłu i Handlu Naftowego (POPiHN).
- Stowarzyszenie Emitentów Giełdowych (Polish Association of Listed Companies).
- Stowarzyszenie Inżynierów i Techników Przemysłu Chemicznego (Polish Association of Chemical Engineers).
- Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników Przemysłu Naftowego i Gazowniczego (Polish Association of Oil and Gas Industry Engineers and Technicians).
- Stowarzyszenie Płockich Naftowców (Association of Oil Industry Workers in Płock).
- Stowarzyszenie Polskich Wynalazców i Racjonalizatorów (Association of Polish Inventors and Innovators).
- Stowarzyszenie Współpracy Przemysłu Naftowego i Samochodowego CEC Polska (Oil and Automotive Industry Association CEC Poland).
- The European Petrochemical Association (EPCA)
- Towarzystwo Obrotu Energią (Association for Energy Trading).
- VGB PowerTech.
- Związek Przedsiębiorców i Pracodawców (Union of Entrepreneurs and Employers).

Selected organisations and associations of which other ORLEN Group companies were members in 2018

- Asociace energetických manažerů - Sdružení velkých spotřebitelů energie.
- Association of Lithuanian Chemical Industry Enterprises.
- Association Investor's Forum.
- Association European Candle Makers.
- Česká asociace petrolejářského průmyslu a obchodu (ČAPPO).
- Česká asociace čistících stanic.
- Euro Chlor.
- European Wax Federation.
- Fertilizers Europe.
- Fundacja Polska Sól. (Polish Salt Foundation)

- International Fertilizer Association.
- Izba Gospodarcza Gazownictwa (Chamber of the Natural Gas Industry).
- Izba Gospodarcza Transportu Lądowego (Land Transport Commercial Chamber).
- Izba Przemysłowo-Handlowa w Krakowie (Kraków Chamber of Commerce and Industry).
- Klub Polskiego Biznesu w Republice Czeskiej (Club of Polish Business in the Czech Republic).
- Krajowa Izba Biopaliw (Polish National Chamber of Biofuels).
- Lithuanian Business Confederation.
- LDTA (Latvijas Degviels tirgotāju asociācija, Latvian Fuel Trader Association).
- Ogólnopolska Izba Gospodarcza Drogownictwa (Polish Chamber of the Road Engineering Industry).
- Polski Kongres Drogowy (Polish Road Congress).
- Polsko-Rumuńska Bilateralna Izba Handlowo-Przemysłowa (Polish-Romanian Bilateral Chamber of Commerce).
- Quality Assotiation for Candles.
- Sdružení českých zkušeben a laboratoří.
- Svaz chemického průmyslu České republiky.
- Svaz průmyslu a dopravy České republiky.
- Šiauliai Chamber of Commerce, Industry and Crafts.

Letter from the Chairwoman of the Supervisory Board

Ladies and Gentlemen,

2018 was a landmark year for the ORLEN Group in terms of business projects. After an analysis of our potential, the trends and changes in the fuel and energy sector, a number of measures were initiated which will have a positive impact on the Company's development in the coming years. The most important of these were the basis for defining strategic directions for 2019–2022. They are expected to strengthen the Group's competitive position on the market, reinforce its standing as a leader in Central and Eastern Europe, and allow it to make even better use of growth opportunities in Poland and abroad.

The ORLEN Group achieved strong financial results despite the challenging macroeconomic environment. In 2018, EBITDA before the effect of reversal of impairment losses on non-current assets amounted to PLN 8.3 billion. To note, the Retail segment's EBITDA reached another record high of PLN 2.8bn, while the Downstream segment also reported a very good result, at PLN 6.0bn, despite the macroeconomic headwinds.

All the activities we have initiated and work on are mainly designed to build Company value, further improve energy security in the region, and generate tangible benefits for local communities, customers and, of course, our shareholders. The key project is certainly the planned merger with Grupa LOTOS with its potential positive impact on the efficiency of the two companies, to be achieved through savings on production, logistics and procurement costs. We also intend to tap the potential of the petrochemical industry. After reviewing the forecasts and experts' estimates, which predict that global sales of chemicals will double in the next 10 years, the ORLEN Group prepared and commenced the Petrochemicals Development Programme. Under the current macroeconomic conditions, EBITDA is expected to grow by some PLN 1.5bn annually after the project is completed. Last year, intensive work was also carried out on the implementation of low-emission solutions, including the planned launch of offshore wind generation.

With the Company's stable financials and consistent implementation of the growth strategy, the PKN ORLEN Management Board was able to recommend the highest ever dividend distribution of PLN 3.50 per share.

PKN ORLEN also strongly focused on developing cooperation with the retail shareholders. To this end, the 'ORLEN in Your Portfolio' scheme was launched as the first programme of this type in Poland, featuring both attractive discounts and capital market education. We see a steady growth of investors' interest in the scheme, proving the great potential of such initiatives.

The ORLEN Group is committed to promoting and developing innovation. Recognising the growing importance of renewable energy sources in transport, a new operational programme for biofuels was put in place. The process of co-hydrogenation of vegetable oils on an industrial scale will be operated by our refineries in Płock and Litvinov. Its successful technological testing was supported with funding received under the INNOCHEM programme, which will also include two projects intended to increase the efficiency of production of plastics and nitrogen fertilizers.

The innovative approach was also applied in the HR area, a case in point being the use of Virtual Reality technology for training employees operating the Olefins unit. Furthermore, PKN ORLEN was the first company in Poland to introduce innovative solutions for retail customers at service stations, enabling them to pay for fuel directly at the pump. Also, a service station in the ORLEN Drive format was launched on the Łódź-Wrocław route. It is the most modern facility of this type in Europe, where motorists can take advantage of an attractive range of fuel and non-fuel products without having to get out of the car.

In 2018, the ORLEN Group strengthened its position as a regional leader and successfully completed a number of significant business ventures. In the following years, we plan to continue our important growth projects. I am also convinced that the next few months will bring further interesting initiatives, which will translate into even better Company results and positive effects for the shareholders.

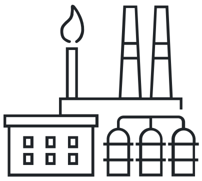
Izabela Felczak-Poturnicka
Chairwoman of the Supervisory Board of PKN ORLEN

ORLEN Group’s Structure

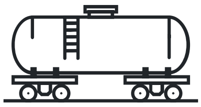
As at 31 December 2018, the ORLEN Group consisted of 67 companies, including 57 subsidiaries. The ORLEN Group comprises Polski Koncern Naftowy ORLEN Spółka Akcyjna (PKN ORLEN) with headquarters in Płock as the Parent Company and the entities operating in Poland, Germany, the Czech Republic, Lithuania, Malta, Sweden, the Netherlands, Slovakia, Hungary, Estonia, Latvia, the US and Canada.

As at 31 December 2018 the State Treasury owned 27.52% of the ORLEN Group Parent Company’s shares – PKN ORLEN and has ability to exert a significant influence on it.

The ORLEN Group companies are engaged in the following types of activity:



Production and trade: crude oi processing, production of refining, petrochemical and chemical products and semi-products, wholesale and retail sale of fuels and other products.



Services: crude oil and fuels storage, transport, maintenance and repair services, laboratory, security, design, administrative, insurance and finance services.

Exploration for and extraction of hydrocarbons, production, transmission and distribution of and trade in electrical and heat energy.

For management purposes, the ORLEN Group’s business is divided into 3 operating segments of Downstream, Retail, Upstream, as well as Corporate Functions.

Allocation of the Parent Company and the ORLEN Group companies to the operating segments and corporate functions as at 31 December 2018

Downstream Segment

Production and sales

PKN ORLEN S.A.

UNIPETROL Group

- UNIPETROL RPA s.r.o.
- UNIPETROL Slovensko s.r.o.
- UNIPETROL Deutschland GmbH
- UNIPETROL RPA Hungary Kft.
- Spolana a.s.
- Butadien Kralupy a.s.
- PARAMO a.s.

ORLEN Lietuva Group

- AB ORLEN Lietuva
- UAB Mazeikiu Naftos prekybos namai
- OU ORLEN Eesti
- SIA ORLEN Latvija

ORLEN Asfalt Group

- ORLEN Asfalt Sp. z o.o.
- ORLEN Asfalt Ceska Republika s.r.o.

ORLEN Południe Group

- ORLEN Południe S.A.

ORLEN Oil Group

- ORLEN Oil Sp. z o.o.
- Platinium Oil Wielkopolskie Centrum Dystrybucji Sp. z o.o.

Service companies

UNIPETROL Group

- UNIPETROL DOPRAVA s.r.o.
- PETROTRANS s.r.o.

ORLEN Lietuva Group

- UAB Emas

ORLEN Południe Group

- Energomedia Sp. z o.o.
- Euronaft Trzebinia Sp. z o.o.
- Konsorcium Olejów Przepracowanych - Organizacja Odzysku S.A.

ORLEN KolTrans Sp. z o.o.

ORLEN Eko Sp. z o.o.

Orlen Aviation Sp. z o.o.

ORLEN Serwis S.A.

Downstream Segment

- ANWIL S.A.
- IKS Solino S.A.
- ORLEN Paliwa Sp. z o.o.
- Ship-Service S.A.
- Kopalnia Soli Lubień Sp. z o.o.
- Baltic Power Sp z o.o.
- Grupa Basell ORLEN Polyolefins
  - Basell ORLEN Polyolefins Sp. z o.o.
  - Basell ORLEN Polyolefins Sprzedaż Sp. z o.o.

Entities accounted for equity method

Retail Segment

Sales and service companies

- PKN ORLEN S.A.
- UNIPETROL Group
  - UNIPETROL RPA s.r.o.
- AB Ventus-Nafta
- ORLEN Deutschland GmbH
- ORLEN Centrum Serwisowe Sp. z o.o.
- ORLEN Budonaft Sp. z o.o.

Upstream Segment

Search and Upstream

- ORLEN Upstream Group
  - ORLEN Upstream Sp. z o.o.
  - ORLEN Upstream Canada Ltd.
  - 1426628 Alberta Ltd.
  - OneEx Operations Partnership
  - Pierdae Production GP Ltd.
  - 671519 NB Ltd.
  - KCK Atlantic Holdings Ltd.
  - Pierdae Production LP
  - FX Energy, Inc.
  - Frontier Exploration, Inc
  - FX Energy Netherlands Partnership C.V.
  - FX Energy Netherlands B.V.
  - FX Energy Polska Sp. z o.o.

Corporate Functions

Service and other activity

PKN ORLEN S.A.

UNIPETROL Group

- Unipetrol a.s.
- UNIPETROL RPA s.r.o.
- Unipetrol výzkumně vzdělávací centrum, a.s.
- HC Verva Litvinov a.s.

ORLEN Lietuva Group

- AB ORLEN Lietuva

ORLEN Administracja Sp. z o.o.

ORLEN Ochrona Group

- ORLEN Ochrona Sp. z o.o.
- UAB Apsauga

ORLEN Laboratorium S.A.

ORLEN Projekt S.A.

ORLEN Holding Malta Group

- ORLEN Holding Malta Ltd.
- ORLEN Insurance Ltd.

ORLEN Capital AB

ORLEN Centrum Usług Korporacyjnych Sp. z o.o.

Grupa Płocki Park Przemysłowo-Technologiczny

- Płocki Park Przemysłowo-Technologiczny S.A.
- Centrum Edukacji Sp. z o.o.

The Parent's policy with respect to the ORLEN Group focuses on reinforcing the position of the core-business companies, developing power generation and the Upstream segment, as well as improving management, consolidating assets, and divesting of non-core assets.

The purpose of the measures undertaken by the Group is to increase its market value, to strengthen its position on home markets, and to expand its product offering and geographical reach. The Group's key development investments are aimed at further expanding the product portfolio, deeper conversion, construction of new electricity generating capacities, and continuation of the hydrocarbon exploration and production projects. To ensure effective management, holding management policies have been implemented and comprise solutions designed to achieve Parent-defined shared goals across the ORLEN Group.

The policies are based on the ORLEN Group Constitution which stipulates three key regulations: the Cooperation Agreement, the Group Rules, and provisions of respective articles of association of the ORLEN Group companies.

The Constitution provides for uniform information exchange standards and effective monitoring of key business decisions. It also defines the legal basis for establishing a coherent strategy for the ORLEN Group. PKN ORLEN's effective corporate supervision relies on formal and legal supervision as well as on supervision of the companies' operating and finance activities.

Changes in the Parent's and the ORLEN Group's principles of organisation and management

The key changes in PKN ORLEN's organisational structure and management policies in 2018 included:

- Winding up the division of the Vice President of the Management Board and the division of the Management Board Member for Investment and Procurement.
- Establishment of new divisions supervised by members of the Management Board for Retail Sales, for Wholesale and International Trade, and for Development.
- Establishment of new organisational units: the Community Relations Office and the Sports Marketing, Sponsorship and Events Office, and winding up of the ORLEN Group Sales Efficiency and Growth Office and the Management Systems and Organisation Office.

On September 3rd 2018, following the appointment of two new members of the Management Board – for Corporate Affairs and for Wholesale and International Trade, the Management Board adopted a new division of powers and responsibilities among the Management Board members, which was in effect until the end of 2018 and is presented below.

Responsibility areas of Members of the PKN ORLEN Management Board as at 31 December 2018

PRESIDENT OF THE MANAGEMENT BOARD, CHIEF EXECUTIVE OFFICER - DANIEL OBAJTEK

- Strategy
- Human Resources
- Marketing
- Corporate Communication
- Trade of Crude Oil and Gas
- Management Board Office
- Control and Safety
- Audit
- Legal
- External Relations

MEMBER OF TH MANAGEMENT BOARD, CORPORATE AFFAIRS - ARMEN ARTWICH

- Administration
- Environmental Protection
- Capital Group
- Financial Controlling, Risk Management and Compliance

MEMBER OF THE MANAGEMENT BOARD, CHIEF FINANCIAL OFFICER - WIESŁAW PROTASEWICZ

- Planning and Reporting
- Business Controlling
- Finance Management
- Taxes
- Investor Relations
- Security of Infrastructure and data Supervision Office, Critical Infrastructure Protection Officer

MEMBER OF THE MANAGEMENT BOARD, DEVELOPMENT - ZBIGNIEW LESZCZYŃSKI

- Procurement
- Implementation of Investments
- Development and Technology
- Health and Safety

MEMBER OF THE MANAGEMENT BOARD, OPERATIONS - JÓZEF WĘGRECKI

- Refinery Production
- Petrochemical Production
- Power Engineering
- Prroduction Efficiency and Optimisation
- Technics
- Water and Wastewater Management

MEMBER OF THE MANAGEMENT BOARD, RETAIL SALES - PATRYCJA KLARECKA

- IT
- Retail sale
- Innovation
- Efficiency and Development of Sale

MEMBER OF THE MANAGEMENT BOARD, WHOLESALE AND INTERNATIONAL TRADE - MICHAŁ RÓG

- Wholesale of Refinery Products
- Sale of Petrochemical Products
- Logistics
- Supply Chain Management

Furthemore, in 2018, changes were made to the rules of corporate governance over the ORLEN Group companies in which PKN ORLEN S.A. holds shares. As a result of the changes, the President of the PKN ORLEN Management Board or the PKN ORLEN Management Board members designated by the President will, upon consultation with the Member of the Management Board for Corporate Affairs, independently exercise business supervision over the companies.

Corporate Governance

In 2018, PKN ORLEN applied all the principles included in the code “Best Practice for GPW Listed Companies 2016” (“Code of Best Practice”) applicable on the Warsaw Stock Exchange.

The code is available on the Warsaw Stock Exchange website and on the PKN ORLEN corporate website in the section dedicated to the Company’s shareholders.

Communication with the capital market

MEETINGS

- One-on-one meetings
- Group meetings
- Roadshows
- Site visits
- Conferences

- In Poland
- Abroad

TELECONFERECES

WEBCASTS

Broadcast events:

- Quarterly earnings briefings
- Strategy announcement
- General Meetings
- Other

WEBSITES

Corporate website www.orlen.pl

Interactive tools:

- charts and tables for comparing financial indicators
- charts and tables showing share prices, and a return on investment calculator

- newsletters
- event calendar alerts

Materials relating to Annual General Meetings:

- a web contact form
- a guide for shareholders: 'How to participate in the General Meeting of PKN ORLEN'
- draft resolutions and a full set of documents

Corporate Governance:

- the Company's annual reports on compliance with best practices
- Code of Best Practice of Listed Companies
- information on best practices observed by PKN ORLEN
- rules and criteria for appointing the auditor
- diversity policy

Other

- Chief Economist's Blog
- Corporate Twitter
- Press Officer's Twitter
- Corporate Facebook
- LinkedIn
- YouTube
- Instagram

The Company communicates with the capital market through the following channels:

- Investor Relations section of its corporate website, which provides financial and operating data and information on the Company's macro environment.
- Expert's blog written by PKN ORLEN's Chief Economist, containing commentary on current market developments, expert publications, and coverage of industry conferences.
- Social media: Corporate Twitter account; Press Officer's Twitter account; Corporate Facebook page; LinkedIn; YouTube and Instagram.
- Closed one-on-one or group meetings, held both in Poland and abroad, also as teleconferences.
- Press conferences open to the general public, streamed live over the Internet and interpreted into English. The conferences follow all major corporate events such as the release of quarterly results or strategy announcement.
- Series of meetings with investors, held both in Poland and abroad (roadshows).
- Meetings of capital market participants with the Company's key managers in the headquarters and places where PKN ORLEN conducts its operations (site visits).

- The Investor and Analyst Days organised from time to time – workshops concerning various areas of the Company's activity, run by representatives of the Management Board, executive directors and selected managers.

PKN ORLEN's achievements in 2018:

- Innovative **ORLEN IN WALLET scheme for individual shareholders was launched**, offering discounts on products sold at the Company's service stations and opportunity to enrol on the Investment Academy programme run under the auspices of CFA Society Poland.
- **Sixth in a row** dividend payout of PLN 3 per share.
- **Retail bond issue programme** with a total value of PLN 1bn was closed.
- Quarterly and half-year reports were issued around **24 days after closing** the relevant financial periods.
- PKN ORLEN was selected for inclusion in the **RESPECT Index** of socially responsible companies.

Company's response to publicly voiced opinions and information injuring its reputation

At PKN ORLEN, there is an internal regulation in place concerning image-building activities, interaction with the media as well as passing of information, relevant to PKN ORLEN's image, to the Corporate Communication Department's Executive Director. It requires a multi-stage verification of information concerning the Company and its representatives before it is made public.

The regulation also sets out the rules of response where any opinions or information shared in the public domain may harm PKN ORLEN's reputation. Such response is coordinated by the Executive Director for Corporate Communication.

Corporate Social Responsibility activities of PKN ORLEN

PKN ORLEN's corporate social responsibility is to create business value in a sustainable manner that ensures consistency between its business and social objectives, with future generations in mind. This broad approach to responsibility requires the implementation of CSR activities across all business areas, CSR activities involve educating stakeholders and inspiring in them a sense of responsibility, protecting health and safety of employees, commitment to employee development, optimisation of environmental impacts, promoting ethical values, anti-corruption measures, respect for human rights, customer focus and responsiveness to customer needs, and building partnership-based relations with business partners.

In 2018, PKN ORLEN pursued its CSR strategy adopted in previous years, but also commenced work to draft the 'ORLEN Group CSR Strategy until 2022'. The latter document was approved by the Company"s Strategy Committee in December 2018. The strategic priorities are to build PKN ORLEN's image as a leader of CSR and sustainable development, seek to achieve consistency between PKN ORLEN's business and CSR objectives, generate CSR synergies across the Group, commit to the United Nations' Sustainable Development Goals, and support the 'Accessibility Plus' programme.

PKN ORLEN's sponsorship focus is on selected themes including professional and amateur sports, culture and art, promotion of the Polish economy, international promotion of Poland, education and knowledge advancement, social projects, and initiatives in the areas of national history, memory and tradition. PKN ORLEN is committed to engagement with its local communities. Special attention is paid to Płock, where PKN ORLEN delivers cross-sectoral partnerships, charity, sponsorship and volunteer service projects. In 2018, as many as 98 such projects were run in Płock. An important category of activities are social sponsorship events, aimed to improve the quality of local residents' lives, chiefly in small communities, and to build strong relations with all stakeholders. A total of 173 such projects were run by the Company.

PKN ORLEN communicates its CSR initiatives via the Responsible Business section of its corporate website and its annual integrated reports available online. The website's content includes the Company's Sponsorship Policy and Charitable Giving Policy.

Control and compliance systems

The Company's system of internal control and risk management in the preparation of financial statements is implemented through:

- Verification whether uniform accounting policies are applied by the ORLEN Group companies as regards the recognition, measurement and disclosures in accordance with the International Financial Reporting Standards (IFRSs) as adopted by the European Union.
- Following and monitoring compliance with the relevant accounting standards.

- Internal controls, including separation of duties, multi-stage data verification, accuracy reviews of data received and independent checks.
- Following uniform templates of separate and consolidated accounts and periodic verification whether they are properly applied by the ORLEN Group companies.
- Verification of the consistency of the ORLEN Group companies' financial reports with data entered into the integrated IT system used to prepare the ORLEN Group's consolidated financial statements.
- Auditor's review of Q1, H1 and Q3 financial statements and audit of full-year financial statements of PKN ORLEN and the ORLEN Group.
- Procedures to authorise, approve and assess financial statements before they are issued.
- Independent and objective evaluation of the risk management and internal control systems.

Economic events at PKN ORLEN are recorded in an integrated financial accounting system. Security and availability of information contained in the financial accounting system are controlled at all levels of the database, applications and presentations, as well as at the operating system level. System integration is ensured by data entry control systems (validation, authorisation, a list of values) and logs of changes. PKN ORLEN keeps its IT system up to date with the changing accounting policies and other legal requirements. PKN ORLEN's solutions are implemented into systems of the ORLEN Group companies.

In order to ensure that uniform accounting policies are applied, the ORLEN Group companies have to follow, for the purpose of preparing consolidated financial statements, the accounting policy adopted by PKN ORLEN and approved by the ORLEN Group companies (the "Accounting Policy"). The Accounting Policy is periodically updated to ensure compliance with any new legislation. Consolidated financial statements are prepared based on the integrated IT system where the process of consolidating data sourced from reporting packages provided by each ORLEN Group company is performed. Designed for financial management and reporting purposes, the system enables the unification of financial information. Performance and budget-related data, forecasts and statistics are gathered in one place, which ensures direct control and data compatibility.

The data is reviewed for cohesion, completeness and consistency, which is achieved thanks to embedded controls checking the compatibility of data entered by the respective companies.

In order to keep mitigating risks associated with the preparation of financial statements, they are reviewed by an auditor quarterly, i.e. more often than required by applicable laws. Q1, H1 and Q3 financial statements are reviewed by the auditor, whereas full-year financial statements are subject to an audit.

As per the relevant procedure in place at PKN ORLEN (meeting all applicable requirements), the auditor of the Company's financial statements is appointed by the Supervisory Board based on a recommendation from the Audit Committee and a report on the tender process held by the Audit Committee. Deloitte Audyt Spółka z ograniczoną odpowiedzialnością, Spółka komandytowa has been appointed as a qualified auditor of PKN ORLEN's financial statements for 2017–2018. During audit work, the auditor makes an independent assessment of the reliability and accuracy of separate and consolidated financial statements and confirms that the internal control and risk management system is effective. The auditor presents the audit and review findings to the Management Board and the Audit Committee of the Supervisory Board.

The Audit Committee, appointed by the Supervisory Board in the exercise of its powers, is a supervisory body with some of its powers and responsibilities defined in the Act on Statutory Auditors, Audit Firms, and Public Oversight of May 11th 2017, including the following:

- Monitoring the preparation of the ORLEN Group's financial statements to ensure compliance with the Group's Accounting Policy and applicable laws.
- Monitoring the independence of the qualified auditor and the auditing firm.
- Monitoring the effectiveness of the internal control, internal audit and risk management systems.

The Company has in place certain procedures to authorise financial statements, under which periodic reports are submitted to the Management Board and then to the Supervisory Board's Audit Committee for its opinion. Once the Audit Committee's opinion is received and the auditor completes its review or audit of the financial statements, they are authorised for issue by the PKN ORLEN Management Board by means of a qualified electronic signature and then released to the public by the Investor Relations Office.

Full-year financial statements are also presented to the Supervisory Board for final assessment and control of the financial reporting process. The Supervisory Board is an independent body ensuring the reliability and accuracy of information disclosed in the financial statements of PKN ORLEN and the ORLEN Group.

The Financial Control, Risk and Compliance Management Office operates within the Management Board Member for Corporate Affairs function, with a primary responsibility for the implementation of internal control, risk and compliance management processes. The Office is divided into:

- Financial Control Department, responsible for detecting any irregularities and business misconduct, verifying compliance of conduct of PKN ORLEN and ORLEN Group employees with applicable laws, internal organisational rules and professional standards, estimating the impact of any potential irregularities or misconduct, defining corrective measures and designating responsible persons, as well as assessing internal organisational documents. The Department's staff carry out inspections in accordance with an annual inspection schedule (scheduled financial inspections) as well as ad hoc and preliminary inspections. Reports on scheduled and ad hoc inspections provide post-inspection orders/recommendations designed to mitigate the identified irregularities and misconduct, whereas preliminary inspections lead to the issuance of proposals of recommended actions based on the inspection findings to the extent necessary to identify any irregularities. Twice a year the Financial Control, Risk and Compliance Management Office prepares a report for the Company's Management Board on the completed financial inspections and progress in the implementation of post-inspection orders/recommendations.
- Enterprise Risk Management Department, which coordinates – in line with the applicable policy and procedure – the enterprise risk management process by providing tools and methodological support to participants of the risk self-assessment process and testing of controls deployed at PKN ORLEN and the Group companies. Its tasks are to support business areas in the implementation of project objectives, with a minimum expense of work and optimisation of the project value by carrying out regular training sessions in identification, description and assessment of project-related risks, as well as workshops and consultations for project managers and other persons involved in project work. Its work also includes strategic risk management, from monitoring, to assessment to reporting of risks related to the delivery of strategic objectives. The Enterprise Risk Management Department prepares regular reports on risk management at PKN ORLEN and other ORLEN Group companies, which are then presented to the relevant Management Boards.
- Compliance Management Department, which supervises compliance by the ORLEN Group companies with applicable laws, internal regulations, voluntary standards of conduct and ethical standards. The key objective of the ORLEN Group's compliance system is to proactively monitor the regulatory environment of all corporate business processes and to ensure a uniform approach to implementing and reporting compliance requirements across the Group. At PKN ORLEN, the compliance system is a dispersed function, where compliance risk is managed by Directors reporting directly to a Management Board Member under the supervision of the Head of the Financial Control, Risk and Compliance Management Office. The compliance management process is regularly reported to the Company's Management and Supervisory Boards.

Risk management systems

For detailed information on the risk management systems and key risks involved in the ORLEN Group's operations, see theRisk management.

Major shareholdings

In 2018 there were no changes in the structure of shareholders holding more than 5% of the PKN ORLEN share capital. The number of shares held by shareholders is presented based on the most recent official data acquired by the Company. The Company's Articles of Association do not impose any restrictions on the transferability of PKN ORLEN shares. However, such restrictions may be stipulated by generally applicable laws including, without limitation, the Act on State Property Management and the Act on Control of Certain Investments.

PKN ORLEN's shareholding structure

Shareholder	Number of shares and votes at a general meeting (as at Jan 1 2018*)	Percentage of share capital and total voting rights at the General Meeting (as at Jan 1 2018*)	Number of shares and voting rights at the General Meeting (as at Dec 31 2018**)	Percentage of share capital and total voting rights at the General Meeting (as at Dec 31 2018**)	Number of shares and voting rights at the General Meeting (as at the report authorisation date**)	Percentage of share capital and total voting rights at the General Meeting (as at the report authorisation date**)
State Treasury	117,710,196	27.52%	117,710,196	27.52%	117,710,196	27.52%
Nationale-Nederlanden OFE	33,000,000	7.72%	30,000,000	7.01%	30,000,000	7.01%
Aviva OFE	29,900,000	6.99%	28,240,000	6.60%	28,240,000	6.60%
Others	247,098,865	57.77%	251,758,865	58.87%	251,758,865	58.87%
Total	**427,709,061**	**100,00%**	**427,709,061**	**100.00%**	**427,709,061**	**100.00%**

**According to information from the PKN ORLEN AGM convened for June 30th 2017.*
***According to information from the PKN ORLEN AGM convened for June 26th 2018 and adjourned to July 17th 2018*

For information on the shareholding structure and key data on PKN ORLEN shares, see the Shares and shareholding structure section.

Special control powers and voting rights

Detailed rules for the exercise of special control powers and voting rights are laid down in PKN ORLEN's Articles of Association. According to the provisions of the Articles of Association, one PKN ORLEN share confers one voting right at the Company's General Meeting. The voting rights of shareholders have been capped in the Articles of Association so that none of them may exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held. The cap on voting rights does not apply to the State Treasury and the depositary bank which has issued, on the basis of an agreement with the Company, depositary receipts in respect of Company shares (if this entity exercises voting rights conferred by Company shares).

Shareholders whose voting rights are aggregated or reduced are jointly referred to as a Shareholder Grouping. Detailed rules of such aggregation and reduction are specified in the Articles of Association. Shareholders forming a Shareholder Grouping may not exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held.

If the aggregated number of shares registered at the General Meeting by shareholders forming a Shareholder Grouping exceeds 10% of total voting rights at the Company, the voting rights resulting from the number of shares held are subject to reduction, the rules of which have been specified in detail in the Articles of Association.

The cap on voting rights described above does not apply to subsidiaries of the State Treasury.

The State Treasury is entitled to appoint and remove one Member of the Supervisory Board. Furthermore, one Member of the PKN ORLEN Management Board is appointed and removed by the Supervisory Board upon the State Treasury's motion.

Additionally, in accordance with the Articles of Association, as long as the State Treasury is entitled to appoint a Member of the Supervisory Board, a resolution granting consent for transactions involving any sale or encumbrance of shares in the following companies: Naftoport Sp. z o.o., Inowrocławskie Kopalnie Soli S.A. as well as the company to be established to operate the pipeline transport of liquid fuels, will require a vote in favour of its adoption by the Supervisory Board Member appointed by the State Treasury.

Special rights vested in the State Treasury as the Company's shareholder may also result from generally applicable provisions of law, i.e:

- The Act on Special Rights Vested in the Minister Competent for Energy and their Exercise in Certain Capital Companies or Groups Conducting Business Activities in the Electricity, Crude Oil and Gas Fuel Sectors, dated March 18th 2010.
- The Act on Control of Certain Investments, dated of July 24th 2015.
- The Act on State Property Management, dated December 16th 2016.

Amendments to Articles of Association

Any amendment to PKN ORLEN's Articles of Association requires a resolution of the General Meeting and has to be entered in the business register. A resolution of the General Meeting to amend the Company's Articles of Association is passed by three-quarters of votes. The General Meeting may authorise the Supervisory Board to formulate the consolidated text of the Articles of Association or make other editorial changes as set out in a resolution passed by the General Meeting.

Once the amendments to the Articles of Association are entered in the business register, PKN ORLEN publishes a relevant current report.

General Meeting

Proceedings and powers of PKN ORLEN's General Meeting are set out in the Articles of Association and the Rules of Procedure for the General Meeting, available on PKN ORLEN's website.

The Company sets the venue and date of a General Meeting so as to enable participation by the largest possible number of shareholders. General Meetings of PKN ORLEN are held at the Company's registered office in Płock, but may also be held in Warsaw. General Meetings may be attended by members of the media.

PKN ORLEN takes relevant measures to ensure that drafts of General Meeting resolutions contain a justification helping shareholders cast an informed vote. All the materials are available to shareholders at the Company's headquarters in Płock and office in Warsaw, as well as on the corporate website at www.orlen.pl starting from the date of a notice convening the General Meeting.

Convening and calling off the General Meeting

The General Meeting is convened by way of a notice published on the Company's website and a current report.

The Annual General Meeting should be held no later than within six months from the end of every financial year. An Extraordinary General Meeting is convened by the Management Board on its own initiative, upon the Supervisory Board's motion or upon the motion of a shareholder or shareholders representing no less than one-twentieth of the Company's share capital, within two weeks of submitting the motion. The Supervisory Board may convene an Extraordinary General Meeting if it sees fit to do so. In addition, the Supervisory Board may convene an Extraordinary General Meeting if the Management Board fails to do so within two weeks of the Supervisory Board's submitting the relevant request. An Extraordinary General Meeting may also be convened by shareholders representing at least one half of the share capital or at least one half of total voting rights at the Company.

The Company arranges for an internet broadcast of the General Meeting and offers simultaneous interpretation into English. The Company does not provide for shareholders' participation in a General Meeting using means of electronic communication through real-time bilateral communication where shareholders could take the floor during the General Meeting from a location other than the venue of the General Meeting.

Shareholders may exercise voting rights during a General Meeting either in person or through a proxy.

In accordance with the Rules of Procedure for the General Meeting, a General Meeting may be called off if there are extraordinary impediments to its holding or its holding would be obviously groundless. The cancellation or rescheduling of a General Meeting should be effected forthwith once the circumstances requiring its cancellation or rescheduling have occurred, but no later than seven days prior to the day when the General Meeting was to be held. If the cancellation or rescheduling of a General Meeting cannot be effected within the deadline specified above, the General Meeting should be held as originally scheduled. If it is impossible or excessively difficult to hold that General Meeting due to existing circumstances, the cancellation or rescheduling of the General Meeting may be effected at any time prior to the day when the General Meeting was to be held. The cancellation or rescheduling of a General Meeting is effected by way of a notice posted on the Company's website together with reasons and in compliance with other legal requirements. Only the body or person who has convened a General Meeting is entitled to cancel it. A General Meeting with the agenda containing specific issues put thereon at the request of eligible entities, or which has been convened at such request, may only be cancelled with the consent of such requesting entities.

Powers and responsibilities of the General Meeting

The General Meeting is authorised in particular to:

- Review and approve the Company's full-year financial statements; annual Directors' report on the Company's operations; consolidated financial statements of the ORLEN Group and Directors' report on the ORLEN Group's operations for the previous financial year.
- Acknowledge the fulfilment of duties by the Supervisory Board and Management Board Members.
- Decide on the allocation of profit and coverage of loss, and on the application of funds set aside from earnings.
- Appoint the Supervisory Board Members, subject to the provisions of Art. 8.2 of the Articles of Association, and establish policies for their remuneration..
- Increase and reduce the share capital unless the Commercial Companies Code or the Company's Articles of Association stipulate otherwise.
- Decide on any claims for redress of damage caused upon the Company's formation or when managing or supervising the Company.
- Grant consent to any sale or lease of the business or its organised part, and creation of limited property rights in the business or its organised part.
- Grant consent to any sale of real property, perpetual usufruct or interest in real property with a net carrying value exceeding one-twentieth of the Company's share capital.
- Amend the Company's Articles of Association.
- Set up and dissolve reserve capitals and other capitals and funds of the Company.
- Resolve to cancel shares and buy shares to be cancelled, and establish the terms of such cancellation.
- Issue convertible bonds or bonds with pre-emptive rights and issue warrants.
- Dissolve, liquidate and restructure the Company or merge it with another company.
- Conclude group contracts within the meaning of Art. 7 of the Commercial Companies Code.

Participation in the General Meeting

In accordance with the Commercial Companies Code, the right to participate in the Company's General Meeting is vested only in persons that are the Company's shareholders sixteen days before the date of the General Meeting (record date).

Shareholders may communicate with the Company via the corporate website, using the contact form available at: www.orlen.pl, or through email (at: walne.zgromadzenie@orlen.pl). Through this channel, shareholders may send an electronic notice of proxy or proxy document enabling the identification of the principal and the proxy together with other related documentation. A section dedicated to the Company's General Meetings contains some useful materials for shareholders, including a guideline entitled "How to participate in the General Meeting", information about upcoming General Meetings along with relevant materials, materials pertaining to General Meetings held in the past, including texts of resolutions passed and video files with internet broadcasts of General Meetings.

The General Meeting may be attended by Members of the Management Board and the Supervisory Board, who can participate and speak, even if they are not shareholders, without any invitation. The Annual General Meeting may be attended by Members of the Management Board and the Supervisory Board whose mandates expired before the date of the General Meeting but who still performed their functions during the financial year for which the Directors' report and the financial statements are to be approved by the Annual General Meeting.

General Meetings may also be attended by other persons invited by the body convening the General Meeting or allowed to enter the meeting room by the Chairman, especially qualified auditors, legal and financial advisers and the Company's employees. Subject to the applicable law and with due consideration of the Company's interests, PKN ORLEN may allow its General Meetings to be attended by members of the media. The Management Board ensures that each General Meeting is attended by an independent expert in commercial law.

Voting at the General Meeting

Unless stated otherwise in the Commercial Companies Code or the Articles of Association, resolutions of the General Meeting are passed by an absolute majority of the votes cast. One PKN ORLEN share confers one voting right at the Company's General Meeting. Limitations on the shareholders' voting rights are described in the section on special control powers and voting rights. For information on limitations on the shareholders' voting rights, see the **Special control powers and voting rights** section.

General Meeting in 2018

In 2018 two General Meetings were held: an Extraordinary General Meeting held on February 2nd 2018 and the Annual General Meeting held on June 26th 2018, which was adjourned and then resumed on July 17th 2018.

During the Extraordinary General Meeting, the Company's shareholders amended Resolution No. 4 of the Extraordinary General Meeting of January 24th 2017 on the remuneration policy for persons directing certain companies, setting up a list of Management Objectives and additional Management Objectives that would condition the payment of variable pay components for 2018.

The Annual General Meeting held on June 26th 2018 passed resolutions concerning:

- Approval of the annual Directors' reports on the operations of the Company and the ORLEN Group as well as the financial statements for 2017.
- Acknowledgement of the fulfilment of duties by all the Supervisory and Management Board Members.
- Allocation of the net profit for the 2017 financial year in the following manner:
  - PLN 1 283 127 183 to be paid as dividend (PLN 3 per share).
  - The balance of PLN 4 818 665 392.09 to be transferred to the Company's statutory reserve funds.
- Appointment of Andrzej Kapała to the Company's Supervisory Board
- Amendment of the Company's Articles of Association to enable the Management Board to vote on resolutions using means of remote communication and arrange Supervisory Board meetings.

After the adjournment, the Annual General Meeting passed a resolution to amend the Extraordinary General Meeting's resolution of January 24th 2017 on the remuneration policy for persons directing certain companies.

Management and Supervisory Bodies

Apart from generally applicable laws, the operating procedures of PKN ORLEN's Supervisory Board, its Committees and Management Board are set out in PKN ORLEN's Articles of Association and the Rules of Procedure for the Supervisory Board or the Management Board, as appropriate. The proceedings of the management and supervisory bodies at PKN ORLEN are also subject to the corporate governance principles set out by the Warsaw Stock Exchange.

In order to achieve the highest standards in the performance of the Management Board's and Supervisory Board's duties defined in the generally applicable laws and internal regulations, as well as to ensure that these duties are discharged effectively, the Management Board and Supervisory Board Members must possess extensive qualifications and experience. The current composition of the Management and Supervisory Boards ensures a good balance and diversity in terms of gender, educational background, age and professional experience.

Any outside employment of the Management Board Members is assessed by the Supervisory Board, which − pursuant to the Company's Articles of Association − grants permission to Management Board Members to serve on the supervisory or management bodies of any other entities and to receive remuneration for such service.

- **The Management Board**

Composition of PKN ORLEN Management Board as at January 1st 2018

Name and surname	Position held on PKN ORLEN Management Board
Wojciech Jasiński	President of the Management Board, Chief Executive Officer
Mirosław Kochalski	Vice President of the Management Board
Zbigniew Leszczyński	Member of the Management Board, Sales
Krystian Pater	Member of the Management Board, Production
Wiesław Protasewicz	Member of the Management Board, Finance
Maria Sosnowska	Member of the Management Board, Investments and Procurement

Changes on the Management Board in 2018

The PKN ORLEN Supervisory Board at its meeting on February 5th 2018 removed the following Members from the Management Board:

- Wojciech Jasiński, President of the Management Board.
- Mirosław Kochalski – Vice President of the Management Board.
- Maria Sosnowska, Member of the Management Board, Investments and Procurement.

At the same meeting the Supervisory Board, acting pursuant to Art. 9.1.3 of the Company's Articles of Association on a motion from the Energy Minister of February 5th 2018, appointed Daniel Obajtek as President of the PKN ORLEN Management Board. The Supervisory Board also decided to delegate Józef Węgrecki to temporarily (for up to three months) perform the duties of a Management Board Member responsible for Investments and Procurement, with effect from February 5th 2018.

At its meeting on March 22nd 2018, the PKN ORLEN Supervisory Board removed Krystian Pater from the Management Board, with effect from March 22nd 2018.

At the same meeting, the Supervisory Board decided to delegate Jadwiga Lesisz, with effect from March 23rd 2018, to temporarily perform the duties of the Management Board Member responsible for Investments and Procurement, until the vacancy is filled but not for longer than three months.

In addition, the Supervisory Board appointed the following persons to the Management Board:

- Ryszard Lorek – as Member of the Management Board, Chief Sales Officer, with effect from April 10th 2018.
- Józef Węgrecki – as Member of the Management Board, Chief Operating Officer, with effect from March 23rd 2018

On March 29th 2018, the Company received a letter of resignation from Mr Ryszard Lorek, whereby he resigned from the position of the PKN ORLEN Management Board Member responsible for Sales.

At its meeting on June 19th 2018, the Supervisory Board of PKN ORLEN appointed Patrycja Klarecka as Member of the Management Board, Chief Sales Officer, with effect from June 24th 2018.

At its meeting on August 10th 2018, the Supervisory Board of PKN ORLEN appointed the following persons to the Management Board:

- Michał Róg – as Member of the Management Board for Wholesale and International Trade,
- Armen Konrad Artwich – as Member of the Management Board for Corporate Affairs.

Composition of PKN ORLEN Management Board as at December 31st 2018

Name and surname	Position held on PKN ORLEN Management Board	Remit
Daniel Obajtek	CEO, President of the Management Board	strategy, human resources, marketing, corporate communication, management office, control and security, audit, legal and external relationships
Armen Konrad Artwich	Member of the Management Board, Corporate Affairs	administration, environmental protection, the Capital Group, financial control, risk management and compliance management
Patrycja Klarecka	Member of the Management Board, Retail Sales	IT, retail sales, innovation, efficiency and sales growth
Zbigniew Leszczyński	Member of the Management Board, Development	procurement, realisation of property investments, development and technology, health and safety
Wiesław Protasewicz	Member of the Management Board, Finance	planning and reporting, business controlling, financial management, taxes, investor relations, supervision over infrastructure and information security
Michał Róg	Member of the Management Board, Wholesale and International Trade	wholesale of refining products, trade in petrochemical products, logistics, trade in crude oil and natural gas, supply chain management
Józef Węgrecki	Member of the Management Board, Operations	refining production, petrochemical production, power generation, production efficiency and optimisation, technology, water and wastewater management

Composition of PKN ORLEN Management Board as at 21st March 2019

Name and surname	Position held on PKN ORLEN Management Board	Remit
Daniel Obajtek	CEO, President of the Management Board	strategy and investor relations, human resources, sports marketing, sponsorship and events, corporate communication, management office, control and security, audit, legal, external relations, trade in crude oil and natural gas
Armen Konrad Artwich	Member of the Management Board, Corporate Affairs	administration, environmental protection, the Capital Group, financial control, risk management and compliance management
Patrycja Klarecka	Member of the Management Board, Retail Sales	IT, retail sale, innovation, marketing
Zbigniew Leszczyński	Member of the Management Board, Development	procurement, realisation of property, investments, development and technology, health and safety
Wiesław Protasewicz	Member of the Management Board, Finance	financial management, planning and reporting, business controlling, taxes, supervision over infrastructure and information security
Michał Róg	Member of the Management Board, Wholesale and International Trade	wholesale of refining products, trade in petrochemical products, logistics, supply chain management
Józef Węgrecki	Member of the Management Board, Operations	refining production, petrochemical production, power generation, production efficiency and optimisation, technology, water and wastewater management

The current division of remits between Members of the PKN ORLEN Management Board is also available on the Company's website.

Appointment and removal of the Management Board

The Management Board of PKN ORLEN consists of five to nine members, including the President, Vice Presidents and other Members of the Management Board. Members of the Management Board are appointed and removed by the Supervisory Board. One Member of the Management Board is appointed and removed by the Supervisory Board upon the motion of the State Treasury.

The term of office of the Management Board Members is a joint term, ending on the date of the Annual General Meeting approving the financial statements for the full second financial year of such term of office.

The Supervisory Board may suspend the President, Vice Presidents, individual Members of the Management Board and the Management Board as a whole from their duties for valid reasons. Should the Management Board President be removed or suspended from duties or should his/her mandate expire before the end of the term of office, all his/her powers, except for the casting vote referred to in Art. 9.5.2 of the Articles of Association, are to be exercised by the person appointed by a resolution of the Supervisory Board as acting President of the Management Board until a new Management Board President is appointed or the current one is restored to his/her position.

The current term of office of the Management Board began on June 30th 2017 and ends on the date of the General Meeting of PKN ORLEN approving the Company's financial statements for the financial year 2019.

Organisation of the Management Board activity

Detailed rules for the convening of Management Board meetings are set out in the Rules of Procedure for the Management Board.

Meetings of the Management Board are held at least once every two weeks. For Management Board resolutions to be valid, a scheduled meeting has to be notified to all Members of the Management Board and at least half of the Management Board Members have to be present at the meeting. Management Board resolutions are passed by a simple majority of votes (in the event of a voting tie, the President of the Management Board has the casting vote) provided that for resolutions to grant a commercial power of proxy, unanimity of all Members of the Management Board is required. A Management Board Member who voted against a resolution that was carried may communicate his/her dissenting opinion, which, however, needs to be justified.

Resolutions are voted on by open ballot. A secret ballot may be ordered at a request of each Member of the Management Board. Resolutions are signed by all Members of the Management Board who were present at the Management Board meeting on which a given resolution was passed. A resolution is also signed by the Member of the Management Board who filed a dissenting opinion, with a note: “dissenting opinion” or “*votum separatum*”.

Because the Company’s Articles of Association were amended at the Annual General Meeting on June 26th 2018, the Rules of Procedure for the Management Board were changed to the effect that resolutions of the Management Board may be voted on using means of remote communication. Resolutions voted on under such procedure are only valid if all Management Board Members have been notified of the contents of the draft resolutions, with the proviso that such notification may also be made using means of remote communication.

According to the Rules of Procedure for the Management Board, the Management Board Members must notify the Supervisory Board of any actual or potential conflict of interest which has arisen or may arise in connection with the positions held by them. Should the Company’s interest be in conflict with the personal interests of a Management Board Member, the Management Board Member in question should abstain from deciding on such matter and request that a relevant note be made in the minutes of the meeting. In the case of doubt as to whether a conflict of interest exists, the matter is resolved by the Management Board by way of a resolution. According to the Rules of Procedure for the Management Board, a conflict of interest is understood as a circumstance in which a decision made by a Member of the Management Board may be influenced by a personal interest of the Management Board Member or his/her close person, i.e. their spouse, children, persons related to them through blood or marriage in the first or second degree, or any persons to whom the Member is personally related.

Powers and responsibilities of the Management Board

All Members of the Management Board are obliged and authorised to manage PKN ORLEN’s affairs.

All matters going beyond the ordinary course of business are subject to resolutions of the Management Board. Matters falling within the scope of ordinary business are those related to trading in fuels within the meaning of the Company’s Articles of Association (i.e. crude oil, petroleum products, biocomponents, biofuels and other fuels including natural gas, industrial gas and fuel gas) or energy, and any other matters not expressly specified in the Rules of Procedure for the Management Board. In addition, the Management Board’s consent is not required to perform an action which is an integral part of any other action for which the Management Board already gave its consent, unless the Management Board’s resolution states otherwise.

A resolution of the Management Board is required, among other things, to:

- Adopt and amend the Rules of Procedure for the Management Board.
- Adopt and amend the Organisational Rules and Regulations of PKN ORLEN.
- Adopt motions to be submitted to the Supervisory Board and/or to the General Meeting.
- Convene the General Meetings and adopt their proposed agendas.
- Adopt annual and long-term financial plans as well as the Company’s development strategy.
- Approve investment projects and corresponding liabilities if the resulting expenditures or charges exceed PLN 10 000 000.
- Incur liabilities, dispose of property rights and encumber in any way the Company’s assets with a value exceeding PLN 20 000 000 (subject to certain exceptions).
- Sell and purchase real property, perpetual usufruct or an interest in real property, and create limited property rights.
- Dispose of, purchase and encumber shares or other equity instruments of other entities, including shares admitted to public trading.
- Issue the Company’s securities.
- Authorise the Company’s and the ORLEN Group’s financial statements.

- Adopt and change the employee remuneration scheme, and make decisions regarding the introduction and design of incentive schemes.
- Conclude, amend and terminate a collective bargaining agreement applicable at the Company, and other agreements with trade unions.
- Establish the principles of granting and revoking powers of attorney.
- Formulate the so-called donation policy of the Company.
- Grant a commercial power of proxy.
- Establish the internal division of remits between the Members of the Management Board.
- Set up establishments/offices abroad.
- Resolve other matters which at least one Member of the Management Board requests to be resolved by way of a resolution.
- Take decisions on payment of interim dividends.

The Management Board has to regularly provide the Supervisory Board with exhaustive information on all aspects of PKN ORLEN's business operations and the risks related to such operations as well as the methods of managing such risks.

- **The Supervisory Board**

Composition of PKN ORLEN Supervisory Board as at January 1st 2018

Name and surname	Position held on PKN ORLEN Supervisory Board
Angelina Sarota	Chairman of the Supervisory Board
Radosław L. Kwaśnicki	Vice – Chairman of the Supervisory Board
Mateusz Henryk Bochacik	Secretary of the Supervisory Board
Izabela Felczak-Poturnicka	Member of the Supervisory Board
Adrian Dworzyński	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Agnieszka Krzętowska	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Wojciech Kryński	Member of the Supervisory Board (Independent Member of the Supervisory Board)

On January 5th 2018, the Energy Minister, acting on behalf of the State Treasury and pursuant to Art. 8.2.1 of the Company's Articles of Association, appointed Małgorzata Niezgoda to the Supervisory Board. On February 1st 2018, Małgorzata Niezgoda tendered her resignation as Member of the PKN ORLEN Supervisory Board.

The PKN ORLEN Extraordinary General Meeting on February 2nd 2018 removed from the Supervisory Board Agnieszka Krzętowska, Angelina Sarota and Adrian Dworzyński and appointed Izabela Felczak-Poturnicka as Chairman of the Supervisory Board, Agnieszka Biernat-Wiatrak, Jadwiga Lesisz and Małgorzata Niezgoda as Members of the Supervisory Board. On February 5th 2018, the Energy Minister, acting on behalf of the State Treasury and pursuant to Art. 8.2.1 of the Company's Articles of Association, appointed Józef Węgrecki to the Supervisory Board of PKN ORLEN. On February 5th 2018, the Supervisory Board of PKN ORLEN delegated Józef Węgrecki to temporarily perform the duties of a Management Board Member responsible for Procurement and Investments. On March 1st 2018, Agnieszka Biernat-Wiatrak ceased to be an independent Member of the Supervisory Board. On March 14th 2018, Radosław Kwaśnicki, Vice Chairman of the Supervisory Board, submitted a representation to the effect that he met the independence criteria. On March 22nd 2018, Józef Węgrecki resigned as Member of the Supervisory Board. On March 22nd 2018, the Supervisory Board delegated Jadwiga Lesisz, Member of the Supervisory Board, to serve, with effect from March 23rd 2018, as a Management Board Member responsible for Investments and Procurement, for a period not longer than 3 months.

On June 26th 2018, the Annual General Meeting of PKN ORLEN appointed Andrzej Kapała to the Company's Supervisory Board. On the same day, i.e. June 26th 2018, the Head of the State Treasury Department at the Chancellery of the Prime Minister, acting on behalf of the State Treasury and pursuant to Art. 8.2.1 of the Company's Articles of Association, appointed Anna Wójcik to the PKN ORLEN Supervisory Board.

In 2018, the PKN ORLEN Supervisory Board held 21 minuted meetings and passed 175 resolutions. The attendance of PKN ORLEN Supervisory Board Members at Supervisory Board meetings was 99%. In the case of absence of a Supervisory Board Member from a meeting, the Supervisory Board passed a resolution to authorise the absence.

Composition of PKN ORLEN Supervisory Board as at December 31st 2018

Name and surname	Position held on PKN ORLEN Supervisory Board
Izabela Felczak-Poturnicka	Chairman of the Supervisory Board
Radosław L. Kwaśnicki	Vice – Chairman of the Supervisory Board (Independent Member of the Supervisory Board from March 14th 2018)
Mateusz Henryk Bochacik	Secretary of the Supervisory Board (Independent Member of the Supervisory Board from February 26th 2018)
Wojciech Kryński	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Małgorzata Niezgoda	Member of the Supervisory Board
Jadwiga Lesisz	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Agnieszka Biernat-Wiatrak	Member of the Supervisory Board
Andrzej Kapała	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Anna Wójcik	Member of the Supervisory Board

On February 15th 2019, Mateusz Henryk Bochacik resigned as Member of the Supervisory Board of PKN ORLEN.

Composition of PKN ORLEN Supervisory Board as at 21st March 2019

Name and surname	Position held on PKN ORLEN Supervisory Board
Izabela Felczak-Poturnicka	Chairman of the Supervisory Board
Radosław L. Kwaśnicki	Vice – Chairman of the Supervisory Board (Independent Member of the Supervisory Board from March 14th 2018)
Wojciech Kryński	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Małgorzata Niezgoda	Member of the Supervisory Board
Jadwiga Lesisz	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Agnieszka Biernat-Wiatrak	Member of the Supervisory Board
Andrzej Kapała	Member of the Supervisory Board (Independent Member of the Supervisory Board)
Anna Wójcik	Secretary of the Supervisory BoardMembers of the PKN ORLEN Supervisory Board do not perform any executive duties at the Company.

Operating procedures of the Supervisory Board

PKN ORLEN's Supervisory Board is composed of six to nine Members. The State Treasury as a shareholder is authorised to appoint and remove one Member of the Supervisory Board, while other Members of the Supervisory Board are appointed and removed by the General Meeting. Members of PKN ORLEN's Supervisory Board are appointed for a joint term of office, ending on the date of the Annual General Meeting approving the financial statements for the full second financial year of such term of office. Individual Members of the Supervisory Board and the entire Supervisory Board may be removed at any time before the end of their term of office. The General Meeting of PKN ORLEN appoints the Chairman of the Supervisory Board, whereas the Vice Chairman and the Secretary are appointed by the Supervisory Board from among the other Members of the Board.

At least two Supervisory Board Members must meet the independence criteria specified in PKN ORLEN'sArticles of Association. In accordance with the Code of Best Practice, independent Supervisory Board Members are not employees of the Company, its subsidiary or associate, do not have a similar contractual relationship with any of these entities, and have no ties to a shareholder that would preclude their independence.

Before being appointed to the Supervisory Board, independent Members of the Supervisory Board should submit to the Company a written statement to the effect that they meet the criteria set out in the Articles of Association and in the Code of Best Practice. Moreover, candidates to the Supervisory Board should submit statements based on which it would be possible to determine whether they meet the requirements for members of the Audit Committee of the Supervisory Board, as set out in the Act on Statutory Auditors, Audit Firms, and Public Oversight of May 11th 2017, including the requirements concerning independence of the Audit Committee Members. Statements on meeting the independence criteria are submitted to the other Supervisory Board Members and to the Management Board.

If the independence criteria are not met, a Member of the Supervisory Board is obliged to immediately notify the Company of the same. The Company then informs the shareholders of the current number of independent Members of the Supervisory Board.

If the number of independent Members of the Supervisory Board is less than two, the Company's Management Board is obliged to immediately convene a General Meeting and put an item concerning changes in the composition of the Supervisory Board on the agenda of the General Meeting. The Supervisory Board will continue to operate as then composed until changes in the composition of the Supervisory Board are made, i.e. the number of independent Members is adjusted to the requirements set forth in the Articles of Association, and the provisions of Art. 8.9 of the Articles of Association (containing a list of resolutions which must be passed with the consent of at least half of independent Supervisory Board Members) will not apply.

In accordance with the Rules of Procedure for the Supervisory Board, a Supervisory Board Member should not resign mid-term if this could prevent the Supervisory Board from performing its duties, and in particular from timely passing a resolution on any matter material to the Company. If a Supervisory Board Member has resigned or is unable to perform his/her duties, the Company should immediately take appropriate steps to fill the vacancy or change the composition of the Supervisory Board.

Organisation of the Supervisory Board, in accordance with the principles are outlined in PKN ORLEN's Articles of Association and the Rules of Procedure for the Supervisory Board. Meetings of the Supervisory Board are held when necessary, but at least once every two months.

The Supervisory Board may pass resolutions if at least half of its Members participate in the meeting. Subject to the provisions of the Commercial Companies Code, a resolution of the Supervisory Board may be passed in writing or with the use of direct means of remote communication. Resolutions of the Supervisory Board are passed by an absolute majority of the votes cast in the presence of at least half of the Members of the Supervisory Board. This does not apply to resolutions to remove or suspend from duties any Members of the Management Board or the entire Management Board during the term of their office, in which case at least two-thirds of all the Supervisory Board Members must vote in favour of a given resolution.

Passing resolutions on the following matters:

- any benefits to Members of the Management Board provided by the Company or any related entities.
- giving permission to sign any significant agreement by the Company or a subsidiary with an entity related to the Company, a Member of the Supervisory Board or Management Board, as well as their related entities.
- appointing a qualified auditor to audit the financial statements of the Company.

requires the consent of at least half of the independent Members of the Supervisory Board. The foregoing provisions do not exclude the application of Art.15.1 and Art. 15.2 of the Commercial Companies Code.

Powers and responsibilities of the Supervisory Board

The Supervisory Board of PKN ORLEN exercises ongoing supervision over the Company's operations, in all fields of its activity, specifically, the Supervisory Board is authorised to act as set out in the Commercial Companies Code and the Company's Articles of Association, in conformity with the Rules of Procedure for the Supervisory Board and – where generally applicable laws so stipulate – resolutions of the General Meeting and the Supervisory Board as well as internal organisational documents in place at the Company.

To ensure the highest standards of corporate governance and in order to enable shareholders to form a true and fair view of the Company, the Supervisory Board of PKN ORLEN has the additional obligation to submit to the General Meeting:

- Assessment of PKN ORLEN's standing, including the internal control, risk management, compliance and internal audit function.
- An annual report on its work.
- Assessment of how the Company's corporate governance disclosure obligations are fulfilled.
- Assessment of the soundness of the Company's sponsorship, charity and similar activities.
- Review and assessment of the operations of the Group companies in the assessment of the Group's consolidated financial statements.
- Assessment of the use of non-current assets by the Company.

The Supervisory Board gives its opinions on reports concerning entertainment expenses, legal expenses, marketing costs, public relations and communication expenses, and management consultancy fees, prepared by the Management Board.

Except as provided for in generally applicable laws and the Articles of Association, the following require the consent of the Supervisory Board:

- Entry into agreements for legal services, marketing services, public relations and communication services, and management consultancy services, if the total expected fees for providing such services exceed the amount of PLN 500 000 on a net basis per year or the maximum amount of fees is not specified, or any amendments to such agreements.

- A donation agreement or any other agreement having a similar effect, with a value exceeding PLN 20 000 or 0.1% of total assets within the meaning of the Accounting Act, as per the most recent approved financial statements.
- An agreement on release from debt or any other agreement having a similar effect, with a value exceeding PLN 50 000 or 0.1% of total assets within the meaning of the Accounting Act, as per the most recent approved financial statements.

The Supervisory Board approves detailed rules for disposal of non-current assets, within the meaning of the Accounting Act, with a value exceeding 0.1% of total assets as per the most recent approved financial statements.

The General Meeting of the Company appointed the Supervisory Board for a new term of office on June 3rd 2016. The current term of office of the Supervisory Board began on June 3rd 2016 and ends on the date of the General Meeting of PKN ORLEN approving the Company's financial statements for the financial year 2018.

The Supervisory Board of the current term is composed of Members with educational background in law, economics and finance and diverse professional experience, who completed specialist courses and training programmes and hold international certificates.

The qualifications of the Chairman and Members of the Supervisory Board are available on the corporate website.

In 2018, the number of Supervisory Board Members was as required under the Company's Articles of Association. As at January 1st 2018, the Supervisory Board included three independent Members, and as at December 31st 2018 it included five independent Members.

Pursuant to Sections 8.1 and 8.2 of the Rules of Procedure for the Supervisory Board, in order to discharge its duties, the Supervisory Board may inspect all the Company's documents, request the Management Board and employees to provide reports and clarifications, and review the Company's assets. To enable the Supervisory Board to perform its duties, the Management Board gives it access to information on matters concerning the Company. In order to guarantee the proper discharge of its duties, the Supervisory Board may request that the Management Board prepare, at the expense of the Company, expert and other opinions for the Supervisory Board, or employ an adviser.

Pursuant to Sections 27.1 and 27.2 of the Rules of Procedure for the PKN ORLEN Supervisory Board, a Supervisory Board Member should inform the other Members of the Supervisory Board of any conflicts of interest which have arisen or may arise, as well as abstain from taking the floor when the matter which has given rise to the conflict is being discussed, abstain from voting on the relevant resolution and request that the fact be recorded in the minutes. No breach of the provisions of the preceding sentence may render the Supervisory Board's resolution invalid. In the case of doubt as to whether a conflict of interest exists, the matter is resolved by the Supervisory Board by way of a resolution.

Committees of the Supervisory Board

The Supervisory Board of PKN ORLEN may appoint standing or ad hoc committees, which act as its collective advisory and opinion making bodies.

The following standing committees operate within the Supervisory Board of PKN ORLEN:

- **Audit Committee.**
- **Strategy and Development Committee.**
- **Nomination and Remuneration Committee.**
- **Corporate Governance Committee.**
- **Corporate Social Responsibility Committee (CSR Committee)**.

Composition of PKN ORLEN Supervisory Board Committees in 2018

Composition of PKN ORLEN Supervisory Board Committees as at January 1st 2018

Name and surname	Position held on PKN ORLEN Supervisory Board Committee

Audit Committee	
Wojciech Kryński	Committee Chairman, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member
Adrian Dworzyński	Committee Member, Independent Member of the Supervisory Board
Agnieszka Krzętowska	Committee Member, Independent Member of the Supervisory Board
Izabela Felczak-Poturnicka	Committee Member
Strategy and Development Committee	
Radosław L. Kwaśnicki	Committee Chairman
Angelina Sarota	Committee Member
Adrian Dworzyński	Committee Member, Independent Member of the Supervisory Board
Agnieszka Krzętowska	Committee Member, Independent Member of the Supervisory Board
Izabela Felczak-Poturnicka	Committee Member
Nomination and Remuneration Committee	
Angelina Sarota	Committee Chairman
Mateusz Bochacik	Committee Member
Adrian Dworzyński	Committee Member, Independent Member of the Supervisory Board
Agnieszka Krzętowska	Committee Member, Independent Member of the Supervisory Board
Corporate Governance Committee	
Adrian Dworzyński	Committee Chairman, Independent Member of the Supervisory Board
Angelina Sarota	Committee Member
Mateusz Bochacik	Committee Member
Radosław L. Kwaśnicki	Committee Member
Corporate Social Responsibility Committee	

Agnieszka Krzętowska	Committee Chairman, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member
Izabela Felczak-Poturnicka	Committee Member

Composition of PKN ORLEN Supervisory Board Committees as at December 31st 2018

Name and surname	**Position held on PKN ORLEN Supervisory Board Committee**
Audit Committee	
Wojciech Kryński	Committee Chairman, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Jadwiga Lesisz	Committee Member, Independent Member of the Supervisory Board from February 26th 2018
Andrzej Kapała	Committee Member, Independent Member of the Supervisory Board from July 19th 2018
Strategy and Development Committee	
Radosław L. Kwaśnicki	Committee Chairman, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Małgorzata Niezgoda	Committee Member from January 30th 2018
Agnieszka Biernat-Wiatrak	Committee Member, Independent Member of the Supervisory Board from February 2nd to March 1st 2018
Andrzej Kapała	Committee Member, Independent Member of the Supervisory Board from July 19th 2018
Nomination and Remuneration Committee	
Małgorzata Niezgoda	Committee Chairman from February 26th 2018
Mateusz Bochacik	Committee Member, Independent Member of the Supervisory Board from February 26th 2018
Wojciech Kryński	Committee Member from September 11th 2018,

	Independent Member of the Supervisory Board
Jadwiga Lesisz	Committee Member from September 11th 2018, Independent Member of the Supervisory Board
Anna Wójcik	Committee Member from July 19th 2018
Corporate Governance Committee	
Agnieszka Biernat-Wiatrak	Committee Chairman from February 26th 2018, Independent Member of the Supervisory Board from February 2nd to March 1st 2018
Mateusz Bochacik	Committee Member, Independent Member of the Supervisory Board from February 26th 2018
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Corporate Social Responsibility Committee	
Jadwiga Lesisz	Committee Chairman from February 26th 2018, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Anna Wójcik	Committee Member from July 19th 2018

Composition of the Committees of the Supervisory Board of PKN ORLEN as at 21st March, 2019

Name and surname	Position held on PKN ORLEN Supervisory Board Committee
Audit Committee	
Wojciech Kryński	Committee Chairman, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Jadwiga Lesisz	Committee Member, Independent Member of the Supervisory Board from February 26th 2018
Andrzej Kapała	Committee Member, Independent Member of the Supervisory Board from July 19th 2018
Strategy and Development Committee	

Radosław L. Kwaśnicki	Committee Chairman, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Małgorzata Niezgoda	Committee Member from January 30th 2018
Agnieszka Biernat-Wiatrak	Committee Member from February 26th 2018, Independent Member of the Supervisory Board from February 2nd to March 1st 2018
Andrzej Kapała	Committee Member, Independent Member of the Supervisory Board from July 19th 2018
Nomination and Remuneration Committee	
Małgorzata Niezgoda	Committee Chairman from February 26th 2018
Wojciech Kryński	Committee Member from February 5th 2018, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member from March 20th 2019, Independent Member of the Supervisory Board
Jadwiga Lesisz	Committee Member from September 11th 2018, Independent Member of the Supervisory Board
Anna Wójcik	Committee Member from July 19th 2018
Corporate Governance Committee	
Agnieszka Biernat-Wiatrak	Committee Chairman from February 26th 2018, Independent Member of the Supervisory Board from February 2nd to March 1st 2018
Andrzej Kapała	Committee Member from March 20th 2019, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member from March 20th 2019
Corporate Social Responsibility Committee	
Jadwiga Lesisz	Committee Chairman from February 26th 2018, Independent Member of the Supervisory Board
Radosław L. Kwaśnicki	Committee Member, Independent Member of the Supervisory Board from March 14th 2018
Izabela Felczak-Poturnicka	Committee Member
Anna Wójcik	Committee Member from July 19th 2018

Audit Committee

Tasks of the Audit Committee are to advise the Supervisory Board of PKN ORLEN on matters related to the proper implementation of budget and financial reporting rules and internal control within the Company and the ORLEN Group, as well as cooperation with the Company's qualified auditors. The Audit Committee meetings are held at least once per quarter, prior to each publication of the Company's financial statements.

Pursuant to the Rules of Procedure for the PKN ORLEN Supervisory Board, the majority of the Audit Committee Members, including its Chairman, should satisfy the independence criteria defined in the Company's Articles of Association, the Code of Best Practice and the Act on Statutory Auditors, Audit Firms, and Public Oversight. At least one Member of the Audit Committee should have the expertise and competence in accounting or financial auditing. At least one Member of the Audit Committee or individual Members of the Committee should have the expertise and competence specific to the industry in which the Company operates. The qualifications of individual Members of the Audit Committee are described in the first section of the Directors' report on the operations of the ORLEN Group in 2018 and on the corporate website at: www.orlen.pl.

PKN ORLEN's Audit Committee performs all duties required under the Act on Statutory Auditors, Audit Firms, and Public Oversight of May 11th 2017. Members of the Audit Committee also meet all conditions provided for in the Act.

In 2018, the Audit Committee held 17 minuted meetings.

In 2018, the Audit Committee formulated a recommendation with respect to the appointment of an auditing firm in accordance with the Supervisory Board-approved updated auditor selection and appointment policy and procedure, non-audit services policy, and auditor independence monitoring and oversight procedure. Key provisions of the document are as follows:

- The auditor is selected in advance in accordance with the auditor rotation rules, by way of requests for proposals issued by the Supervisory Board based on the Audit Committee's recommendation.
- The auditor is selected based on clear and non-discriminatory criteria, in a manner ensuring that the audit services provided to the Company are of the highest quality and that all criteria and standards of the auditor's and the auditing firm's independence and impartiality are met.
- The first audit engagement letter is signed with an auditing firm for at least two years, subject to the rules on rotation of the auditing firm and lead auditor stipulated under applicable laws.
- The principle of objectivity is met by analysing any non-audit services provided by the auditor that extend beyond the scope of the audit engagement letter in order to avoid any conflicts of interest.

The Audit Committee carried out the auditor selection procedure and prepared a relevant recommendation for the Supervisory Board. The Audit Committee's work related to auditor selection was led by Wojciech Kryński. The selection process was documented in meeting minutes and a report.

Also, permitted non-audit services were provided to PKN ORLEN and selected Group companies in 2018 that had been contracted in compliance with the applicable procedure, i.e. each non-audit service had been preceded by an independence assessment and approved by the Audit Committee, including:

- Assurance services related to audit - review of interim separate and consolidated financial statements for Q1, Q3 and H1 2018.
- Assurance service: confirming the calculation of the energy intensity indicator for PKN ORLEN.
- Agreed-upon procedures for the Supervisory Board: analysis of selected indicators affecting the calculation of actual performance vs. volume targets for Management Board Members in PKN ORLEN.
- Assurance service: verification of the correctness of information related to the 12th issue of the RESPECT Index.
- Assurance service: independent verification of the PKN ORLEN Capital Group's Integrated Report.
- Assurance service: verification of capital expenditures ("derogation") in PKN ORLEN.
- Assurance services related to audit - review of interim separate and consolidated financial statements of Unipetrol a.s. for Q1, Q3 and H1 2018.
- Assurance service: confirming the calculation of the energy intensity indicator for Anwil S.A., IKS Solino S.A.

- Assurance service: verifying the calculation of the share of consumed electricity costs in the value of production sold in 2017 by Anwil S.A.
- Assurance service: verification of separate accounting records kept by ORLEN Aviation Sp. z o.o. with regard to ground handling operations pursuant to Article 178.1.1 of the Aviation Act of 3 July 2001.
- Assurance service: verification of the report on the solvency and financial standing of ORLEN Insurance Limited.

Corporate Governance Committee

The Corporate Governance Committee is responsible for assessing the implementation of corporate governance standards, providing the Supervisory Board with recommendations on the adoption of corporate governance standards, giving opinions on corporate governance documents, assessing reports on compliance with corporate governance standards drafted for the Warsaw Stock Exchange, giving opinions on proposed amendments to the Company's corporate documents and drafting such amendments for the Supervisory Board's own documents, monitoring Company management procedures in terms of their compliance with legal and regulatory requirements, including disclosure requirements of the capital market as well as compliance with the Core Values and Standards of Conduct of PKN ORLEN and corporate governance principles.

In 2018, the Corporate Governance Committee held 5 minuted meetings.

Strategy and Development Committee

Tasks of the Strategy and Development Committee are to provide opinions and submit recommendations to the Supervisory Board on proposed investments and divestments which may have a material impact on the Company's assets.

In 2018, the Strategy and Development Committee held 7 minuted meetings.

Nomination and Remuneration Committee

Tasks of the Nomination and Remuneration Committee are to help attain the Company's strategic goals by providing the Supervisory Board with opinions and proposals on how to shape the management structure, with regard to organisational solutions, remuneration schemes and selection of staff with the skills required to ensure the Company's success.

The majority of the Nomination and Remuneration Committee Members should be independent. Where the Nomination and Remuneration Committee is not composed of the majority of independent Members of the Supervisory Board, the Committee is chaired by the Chairman of the Supervisory Board.

In 2018, the Nomination and Remuneration Committee held 15 minuted meetings.

Corporate Social Responsibility Committee

Tasks of the CSR Committee are to support the Company's strategic objectives by taking due account of social, ethical and environmental aspects in the Company's operations and its interaction with stakeholders (including employees, customers, shareholders, and local communities).

In 2018, the Corporate Social Responsibility Committee held 11 minuted meetings.

Remuneration and diversity policy

Remuneration for Members of the Management Board at PKN ORLEN is determined by the Supervisory Board taking into account the relevant resolution of the General Meeting, in connection with the Act on the Rules of Remunerating Persons Who Direct Certain Companies, and recommendations of its Nomination and Remuneration Committee. The main components of the Management Board Members remuneration include:

- Fixed monthly base pay.
- Annual bonus (variable pay) depending on their performance against certain quantitative and qualitative targets and achievement of identifiable separate objectives.
- Severance pay for contract termination by the Company.
- Non-compete compensation.

All components of the remuneration are governed by a contract between a Member of the Management Board and the Company.

Benefits for directors reporting to the Management Board at PKN ORLEN may include, in particular: a company car, variable universal life insurance, additional medical cover for the director and their closest family, including the right to preventive healthcare, sports programmes and rehabilitation, partial coverage of rented accommodation costs, coverage of relocation costs if the relocation takes place during the director's employment, benefits defined in the Rules of Participation in the Company Social Benefits Fund, and the right to participate in the Employee Pension Plan on the terms applicable at the Company.

The remuneration policy in place at PKN ORLEN supports the achievement of the Company's goals, including in particular a long-term increase of its shareholder value and stability of operations.

General terms and conditions of the variable of the remuneration

Members of PKN ORLEN's Management Board are entitled to an variable pay on the terms set out in their respective contracts, which include the Rules of the Incentive Scheme for the Management Board as an appendix. The level of variable pay depends on the performance against individual targets (both qualitative and quantitative), set by the Supervisory Board for individual Members of the Management Board. Based on the general set of Management Objectives established by the PKN ORLEN General Meeting, the Supervisory Board sets from four to ten individual bonus targets per year, which are recorded in a Member's MBO Sheet. The Supervisory Board may also set a separate objective or objectives for a particular year, which must be met as a precondition to variable remunerationpayment for that year.

Assessment of a Management Board Member's performance against individual bonus targets (both quantitative and qualitative) and achievement of separate objectives is made on an annual basis by the Supervisory Board, on the President of the Management Board's recommendation which contains an assessment of individually performed bonus targets for all Members of the Management Board, the Management Board's recommendation regarding achievement of the separate objective/objectives, reports on the performance against individual bonus targets by Members of the Management Board, PKN ORLEN's financial statements and other documents which the Supervisory Board considers appropriate to examine.

The Supervisory Board passes a resolution to grant a variable pay for a given financial year to a Management Board Member, specifying the bonus amount, or a resolution not to grant a variable pay. Such resolution is the basis for payment of the variable pay provided that the Company's consolidated financial statements for the financial year have been approved by the General Meeting.

The Supervisory Board set the following six quantitative targets for all Members of the Management Board for 2018:

- Reported EBIT of the Group.
- LIFO-based EBITDA of the Group.
- Maintenance CAPEX of the Group + general and personnel costs of the Group.
- Growth CAPEX of the Group.
- Stock performance ratio (TSR of PKN ORLEN relative to the market).
- Accident rate: TRR of the Group and its external contractors.

and attributed relevant bonus thresholds to these targets. The Supervisory Board additionally set two qualitative targets for each Member of the Management Board associated with the Group's key challenges for the year.

Additionally, in accordance with the resolutions of the PKN ORLEN General Meeting, the Supervisory Board set the following separate objectives, which must be met as a precondition to receipt of an variable payfor 2018:

- Compliance with the principles of remuneration for members of management and supervisory bodies in line with the Act across all Group companies.
- Discharge of the obligations referred to in Art. 17-20, Art. 22 and Art. 23 of the Act on State Property Management of December 16th 2016 within the Company's subsidiaries within the meaning of Art. 4.3 of the Act on Competition and Consumer Protection of February 16th 2007.

Rules for awarding bonuses to key management personnel (including Members of the Management Board)

The regulations on bonuses applicable to the PKN ORLEN Management Board, directors reporting directly to the Management

Board, and other key positions within the Group have certain common features. Persons covered by these schemes are remunerated for their performance against individual targets set at the beginning of a bonus period by the Supervisory Board for the Management Board Members and by the Management Board for key executive personnel. The bonus systems are consistent with the Company's Values, promote cooperation between particular employees, and motivate them to achieve the best possible results for the ORLEN Group. The targets are both qualitative and quantitative, and their performance is assessed after the end of the year for which they were assigned.

Remuneration of Members of the Management Board and the Supervisory Board for serving on the Management or Supervisory Boards of subsidiaries, jointly controlled entities and associates

Members of the PKN ORLEN Management Board in 2018 who were acting as Management or Supervisory Board Member of subsidiaries, jointly controlled entities and associates of the ORLEN Group did not receive any remuneration for such service, with the exception of Unipetrol a.s., where such payments were donated to the ORLEN's Foundation Dar Serca. As at December 31st 2018, none of the Members of the PKN ORLEN Management Board sat on the Supervisory Board of Unipetrol a.s.

Provisions of contracts with Members of the Management Board regarding non-competition and termination

In the second half of 2018, pursuant to a resolution of the Annual General Meeting of PKN ORLEN passed on July 17th 2018, the contracts of the PKN ORLEN Management Board Members were amended with regard to the non-compete clause.

In accordance with the contracts, Members of PKN ORLEN's Management Board are required to refrain from any activities that are in competition with the Company's business for a period of six months after the contract termination. During that period, they are entitled to receive a compensation equal to six times their monthly base pay, payable in six equal monthly instalments. Provisions of the contracts regarding non-competition after termination as a Management Board Member come into force only after a Management Board Member has held their position for at least three months.

In addition, the contracts provide for a severance payment in the case of termination by the Company for reasons other than a breach of primary, essential obligations under the contract, provided that the position of Management Board Member is held for a period of at least 12 months. Such severance benefit amounts to three times the monthly base pay.

In accordance with the contracts, Members of the Management Boards of ORLEN Group companies are typically required to refrain from any activities that are in competition with the respective company's business for a period of six months after the contract termination. During that period, they are entitled to receive a compensation equal to three times or six times their monthly base pay, payable in six equal monthly instalments. Provisions of the contracts regarding non-competition after termination as a Management Board Member come into force only after a Management Board Member has held their position for at least six months. Severance payments for Members of the Management Boards of ORLEN Group companies are typically governed by the same rules as those applicable to Members of the PKN ORLEN Management Board.

Directors reporting directly to the PKN ORLEN Management Board are, as a general rule, bound by non-compete clauses for a period of six months after the contract termination. During this period they receive a salary equal to 50% of six-month base pay, payable in six equal monthly instalments. The severance pay for termination of contract by the Company is typically equal to six-fold monthly base pay.

For information on the ORLEN Group's Remuneration Policy and remuneration for management and supervisory bodies, see also the Remuneration policy section.

Diversity policy

At PKN ORLEN, matters related to diversity management are governed by the following documents applicable at the Company:

- PKN ORLEN Work Rules.
- Core Values and Standards of Conduct of PKN ORLEN.
- Collective Bargaining Agreement of PKN ORLEN.
- ORLEN Group's Human Resources Management Policy.
- CSR Strategy for PKN ORLEN (where it pertains to development and diversity management).
- PKN ORLEN's Disability Employment Policy.
- PKN ORLEN's Policy for Supporting Employees in Difficult Personal Circumstances.
- Separate internal document governing the 'Family-Friendly Employer' programme.

Objectives of the diversity management include:

- Equal treatment in employment and non-discrimination.
- Respect for diversity.
- Management of cultural differences.
- Openness to recruitment of those socially excluded or marginalised in the labour market.
- Supporting employee initiatives related to labour equality practices.
- Remuneration and bonus policy.
- Standards of employment and remuneration of seconded workers, i.e. expats and inpats.
- Adapting the workplace to the needs of employees (e.g. people with disabilities, breastfeeding mothers).
- Supporting employee groups in difficult circumstances.
- Work-life balance programmes.

In addition, the diversity policy of PKN ORLEN is also implemented through:

- Provision of training in diversity management.
- Awareness raising campaign about disability in the workplace, including information and consultation meetings for employees of PKN ORLEN and other Group companies, and an expert consultation service.
- Employee volunteering.
- Considering diversity aspects in HR processes and tools (e.g. recruitment, training and development, remuneration) and in shaping the organisational culture.
- Workshops for expats in cultural differences management.
- Regularly surveying employees on job commitment and satisfaction.
- Appointment of a team tasked with coordinating efforts to counteract workplace harassment and bullying (Anti-Harassment Committee appointed by the employer to consider grievances related to workplace harassment and bullying).
- Appointment of the Ethics Officer for reporting breaches of the ‘Core Values and Standards of Conduct of PKN ORLEN’ (also regarding discrimination, harassment and bullying).
- Appointment of the Human Capital Committee to give opinions, approve/submit for approval by the PKN ORLEN Management Board and monitor the observance of the ‘Core Values and Standards of Conduct of PKN ORLEN’, and in particular to examine material breaches, take corrective actions, issue guidelines and consider important ethics-related issues.

The Management Board and the Supervisory Board of PKN ORLEN include Members with educational background in law, economics and chemistry, and with diverse professional experience.

As at December 31st 2018, the Management Board consisted of one woman and six men, while the Supervisory Board consisted of five women and four men. The age structure of Management Board Members was as follows: 30–39 years: one person, 40–50 years: four persons, 60–70 years: two persons. The age structure of Supervisory Board Members was as follows: 30–39 years: three persons, 40–50: six persons.

For information on the ORLEN Group's Diversity Policy, see also the **Diversity and equal opportunities** section.

Integrated Management System and Key Policies

The ORLEN Group supplies highest-quality products to its customers, while striving to make its operations as neutral to the natural environment as possible, to achieve superior energy efficiency, and to maintain high OHS and information security standards.

Integrated Management System

To deliver on that promise, the Group has the Integrated Management System (IMS) in place. The IMS comprises:

- Quality Management System based on the PN-EN ISO 9001 and AQAP 2110 standards.
- Environmental Management System based on the PN-EN ISO 14001 standard.
- Occupational Health and Safety Management System based on the PN-N-18001 standard.
- Information Security Management System based on the PN-ISO/IEC 27001 standard.
- International Sustainability & Carbon Certification System (ISCC EU).
- Factory Production Control System (ZKP).
- HACCP System compliant with Codex Alimentarius standard.
- Quality Management System based on the PN EN ISO/IEC 17025 standard (in place at all the organisational units which conduct research or tests using methods that require approval by the Office of Technical Inspection (UDT)).
- Risk Based Inspection Management System (RBI).
- Energy Management System (EMS) based on ISO 50001. The purpose of the EMS is to enable the organisation to implement an approach to continuous improvement in energy performance, **including improved energy efficiency leading to lower costs and a reduction in greenhouse gas emissions. Certification of this system in 2019 will eliminate the need to perform periodic energy audits at the company and will facilitate the standardisation of energy management processes.**

The scope and rules governing the operation of the Integrated Management System are specified in:

- The Management Systems Book, which defines and describes the individual system processes.
- System procedures approved by the President of the Management Board – Chief Executive Officer/ Members of the Management Board.
- Maps, charts and metrics for the identified processes.
- Operating procedures/manuals approved by Directors/Managers for their respective processes/areas.

PKN ORLEN applies a **process-based approach** involving identification and **mapping, based on an** analysis of the context **of the entire organisation's operations, of the processes** which are necessary to ensure compliance of its products and services offered to customers with relevant requirements, while maintaining pro-environmental production methods and pro-environmental approach, and minimising the environmental impacts, continuously improving the safety of working conditions, and meeting requirements in all areas relevant to the security of information processed by the Company. **The process sequence has been defined, as well as the relationships between the processes, which constitute a multi-layered mechanism that facilitates recognising and satisfying customer expectations. Individual processes are monitored and the achievement of their objectives is evaluated by checking process metrics and comparing them against adopted benchmarks. This approach allows us to manage and improve processes relying on real, measurable data. In line with the risk-based approach**, process owners are responsible for identifying threats (risks) and opportunities that can potentially affect the operation and efficiency of the processes – meeting customers' requirements and taking appropriate and 'adequate' measures. A process-based **system of internal audits** is used, **which operates in accordance with a dedicated procedure and checks** compliance of individual areas with the adopted standards. The **improvement measures** we take cover internal and external factors and identify opportunities as they open to the organisation. Any improvements to the Integrated Management System are decided on by the Company's senior management, in line with the IMS supervision procedure. The procedures in place specify how particular activities are to be carried out in each area.

The precautionary principle, environmental damage prevention and effective workplace safety and information security management are ensured through standardisation and implementation of systemic mechanisms, which also include preventive measures. The precautionary principle is supported by systemic mechanisms that pre-emptively address potential irregularities and are based on process analysis and elements of risk and opportunity assessment. In accordance with the precautionary principle, business activities involve taking measures to prevent environmental degradation.

In 2018, the following key projects were completed with respect to the Integrated Management System:

- Improvements were made to PKN ORLEN's certified Integrated Management System.
- Cooperation with certification bodies with respect to Management Systems supervision was continued.
- Tools supporting the oversight of documented information were refined.
- Implementation of ICAO guidelines was continued to ensure appropriate quality of the JET A-1 fuel in the logistics chain.
- Consistent efforts were made to obtain the RBI Management System certificate.
- The Food Safety Management System was maintained and improved.
- Further work was undertaken to implement the Energy Management System based on the ISO 50001 standard.

Audits − external and internal verification of the Integrated Management System

In 2018, PKN ORLEN was subject to a periodic external audit. As a result, the Company obtained certificates of compliance with international standards for its activities.

The Company's activities are assessed by certified external bodies, which audit the areas covered by the management systems in place on an annual basis. In 2018, these included:

- IMS recertification audit by Bureau Veritas Polska: Płock, Sokółka, Gutkowo, Wrocław, Nowa Sól, on May 7th–May 11th 2018. The audit confirmed correctness of the system operation and a recommendation was given to issue new certificates confirming its compliance with the requirements of the PN-EN ISO 9001:2015, PN-EN ISO 14001:2015, PN-N-18001:2004 and PN-EN ISO/IEC 27001:20014 standards. The audit did not reveal any instances of non-compliance.
- ISCC recertification audit by Bureau Veritas Polska: Płock, Ostrów Wielkopolski, on May 24th–25th 2018. The audit did not reveal any non-compliance and the system was recertified as compliant with Renewable Energy Directive / ISCC EU Certification System.
- AQAP 2110 recertification audit by CCJ WAT: Płock, on May 28th–May 30th 2018. The audit did not reveal any non-compliance and new certificates of the Quality Management System compliance with the AQAP 2110 and ISO 9001:2015 standards were obtained.
- Factory Production Control System audit by Polskie Centrum Badań i Certyfikacji: Płock, May 24th 2018. The audit did not reveal any non-compliance and validity of the certificates held was maintained.

The external audits revealed no instances of non-compliance and confirmed correctness of the existing systems operation. Also, recommendations were received for new certifications.

In 2018, there were **537 internal audits, 14 audits of compliance of the CO_2 emissions monitoring system, 19 audits at product vendors and service providers, and 7 ISCC audits**.

Certificates issued to PKN ORLEN


BUREAU VERITAS Certification

Certyfikat

POLSKI KONCERN NAFTOWY ORLEN S.A.

ul. Chemików 7, 09-411 PŁOCK

NORMY

PN-EN ISO 9001:2015-10

ZAKRES CERTYFIKACJI

PRODUKCJA, MAGAZYNOWANIE I SPRZEDAŻ WYROBÓW RAFINERYJNYCH ORAZ PETROCHEMICZNYCH. FUNKCJE WARTOŚCI DODANEJ. SPRZEDAŻ DETALICZNA I ŚWIADCZENIE USŁUG PRZEZ WŁASNE STACJE PALIW.

20 czerwca 2016

19 czerwca 2019

31 sierpnia 2016


BUREAU VERITAS Certification

Certyfikat

POLSKI KONCERN NAFTOWY ORLEN S.A.

ul. Chemików 7, 09-411 PŁOCK

NORMY

PN-EN ISO 14001:2015-09

ZAKRES CERTYFIKACJI

PRODUKCJA, MAGAZYNOWANIE I SPRZEDAŻ WYROBÓW RAFINERYJNYCH ORAZ PETROCHEMICZNYCH. FUNKCJE WARTOŚCI DODANEJ.

20 czerwca 2016


BUREAU VERITAS Certification

Certyfikat

POLSKI KONCERN NAFTOWY ORLEN S.A.

NORMY

PN-N 18001:2004

ZAKRES CERTYFIKACJI

PRODUKCJA, MAGAZYNOWANIE I SPRZEDAŻ WYROBÓW RAFINERYJNYCH ORAZ PETROCHEMICZNYCH. FUNKCJE WARTOŚCI DODANEJ.

20 czerwca 2016


BUREAU VERITAS Certification

Certyfikat

POLSKI KONCERN NAFTOWY ORLEN S.A.

NORMY

PN-EN ISO/IEC 27001:2017-06

ZAKRES CERTYFIKACJI

PRODUKCJA, MAGAZYNOWANIE I SPRZEDAŻ WYROBÓW RAFINERYJNYCH ORAZ PETROCHEMICZNYCH. FUNKCJE WARTOŚCI DODANEJ.

20 czerwca 2016


BUREAU VERITAS Certification

Certyfikat

POLSKI KONCERN NAFTOWY ORLEN S.A.

NORMY

PN-EN ISO 9001:2015-10

PN-EN ISO 14001:2015-09

PN-N 18001:2004

ZAKRES CERTYFIKACJI

20 czerwca 2016


POLSKIE CENTRUM BADAŃ I CERTYFIKACJI S.A.

CERTYFIKAT ZGODNOŚCI ZAKŁADOWEJ KONTROLI PRODUKCJI

1434-CPR-0184

Asfalty modyfikowane polimerami

Polski Koncern Naftowy ORLEN S.A.

ul. Chemików 7, 09-411 Płock

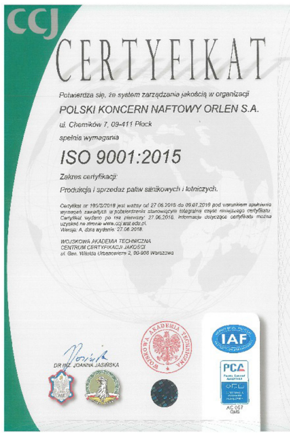
Polski Koncern Naftowy ORLEN S.A.

Zakład Rafineryjny w Płocku

ul. Chemików 7, 09-411 Płock

EN 14023:2010

(PN-EN 14023:2011)


CCJ

CERTYFIKAT

POLSKI KONCERN NAFTOWY ORLEN S.A.

ul. Chemików 7, 09-411 Płock

ISO 9001:2015

Produkcja i sprzedaż paliw lotniczych i silnikowych.

IAF


CCJ

CERTYFIKAT

POLSKI KONCERN NAFTOWY ORLEN S.A.

ul. Chemików 7, 09-411 Płock

AQAP 2110:2016

Produkcja i sprzedaż paliw silnikowych i lotniczych.


Certificate

according to the Renewable Energy Directive (RED)

Certificate Number: EU-ISCC-Cert-PL214-28010518

Bureau Veritas Polska Sp. z o.o.

ul. Migdałowa 4

02-796 Warszawa

certifies that

Polski Koncern Naftowy ORLEN S.A.

ul. Chemików 7

09-411 Płock, Poland

ISCC EU

(International Sustainability and Carbon Certification)

Warszawa, 22.06.2018


POLSKIE CENTRUM BADAŃ I CERTYFIKACJI S.A.

CERTYFIKAT ZGODNOŚCI ZAKŁADOWEJ KONTROLI PRODUKCJI

1434-CPR-0183

Asfalty drogowe

Polski Koncern Naftowy ORLEN S.A.

ul. Chemików 7, 09-411 Płock

Polski Koncern Naftowy ORLEN S.A.

Zakład Rafineryjny w Płocku

ul. Chemików 7, 09-411 Płock

EN 12591:2009

(PN-EN 12591:2010)

The certified Management Systems in place support:

- The organisation's ability to meet customer needs and expectations (having a certificate is often a key formal condition for establishing a business relationship; access to domestic and international markets).
- Building the competitive advantage.
- Stronger reputation of the company and its products and services both among existing and prospective customers.
- Better organisation of internal documentation (a process-based approach helps to manage the organisation and eliminate inefficiencies).
- Confidentiality (access to information is limited to authorised personnel).
- Integrity (ensuring accuracy and completeness of information and methods used).
- Availability (authorised users given access to information and resources when needed).
- Improved quality (lower number of customer complaints).
- Earnings growth (led by lower internal costs achieved through improved quality that meets customer expectations).
- Enhancing environmental measures and contributing to environmental protection.
- Cost reductions achieved through lower energy consumption and lower waste volumes.
- Reduced risk of crisis (avoiding industrial accidents).
- Ensuring compliance with applicable requirements (avoiding penalties).
- Promoting pro-environmental thinking.
- Identification of threats to employees' safety and prompt implementation of preventive measures.
- Engaging all employees in creating a safe workplace (cost reductions due to lower accident rates).
- Employees' trust in the organisation and a sense of responsibility for its activities.

Management Systems at ORLEN Group companies

In 2018, work continued to integrate Management Systems across the ORLEN Group with a view to harmonising the management model with PKN ORLEN's growth strategy, in which Value Creation, People, and Financial Strength remain the pillars of growth until 2021. In 2018, the Group companies implemented IMS initiatives designed to optimise this area, based on the Management System Guidelines for the ORLEN Group and the certification timetable for their respective Management Systems. The IMS policies are in place at the following key companies of the ORLEN Group: PKN ORLEN S.A., ORLEN Lietuva, UNIPETROL Group, ANWIL, Basell ORLEN Polyolefins, ORLEN Laboratorium, ORLEN EKO, ORLEN Asfalt, ORLEN Serwis, ORLEN Upstream, IKS Solino, ORLEN KolTrans, ORLEN OIL, ORLEN Administracja, ORLEN Paliwa, ORLEN Południe, ORLEN Centrum Serwisowe, ORLEN Aviation, ORLEN Centrum Usług Korporacyjnych, and ORLEN Ochrona.

Key policies on non-financial matters

Social issues

The policies and internal regulations concerning social issues include:

- **Core Values and Standards of Conduct** – a code of ethics offering guidance on relations with customers, shareholders, local communities, trading partners, competitors and other external Stakeholders. The document applies across the ORLEN Group.
- **CSR Strategy** assuming value growth aligned with the interests of external Stakeholders and relying on sustainable and responsible use of resources. The strategy is implemented in three areas: Organisation (building lasting relations with employees), Close environment (developing social conscience and responsibility in trading partners and customers through sharing best practices and knowledge, and implementing most exacting standards), Distant Environment (implementing the strategy, promoting innovation and setting top industry standards in business ethics and environmental protection).

- **Charitable Giving Policy -** setting the directions of our charitable activities, in accordance with four priorities: **ORLEN for the environment** (supporting initiatives related to the rational shaping of the environment and sustainable management of natural resources, anti-pollution initiatives, initiatives designed to conserve and restore elements of the natural environment, and initiatives implementing the concept of circular economy), **ORLEN for the society** (supporting Family Group Homes and young people leaving Children's Homes, the socially excluded, including people with disabilities, initiatives to assist returnees and their families, and initiatives of local communities and local partners), **ORLEN for safety and health** (supporting professional and voluntary rescue services, road safety stakeholders, medical institutions and facilities, and initiatives to promote healthy and active lifestyles), **ORLEN for sports, education and culture** (supporting initiatives for the development of sports, educational and science initiatives, young talents, initiatives for the conservation and restoration of historical monuments, and initiatives promoting Polish culture and history). The support is offered directly by the ORLEN Group and indirectly, through the ORLEN DAR SERCA Foundation, the ANWIL for Włocławek Foundation, and the Unipetrol Foundation.
- **Supplier Code of Conduct -** implemented across the ORLEN Group and including standards to follow when selecting suppliers, e.g. considering whether the supplier ensures safety in the workplace, cares for the health of employees, offers fair and non-discriminatory working conditions, and respects human rights.
- **Restructuring agreement with trade unions -** defining the rules of cooperation between social partners in restructuring processes and the employees' rights in such processes.
- **Marketing Code -** dealing with such issues as advertising, promotion, sales, sponsorship and image building. It is an important element of the marketing communication in developing relationships with Stakeholders.

Employee relations and human rights

The existing policies and internal regulations regarding employee relations include:

- **Core Values and Standards of Conduct** – providing for such issues as occupational health and safety, fair and friendly working conditions, communication and cooperation, as well as equal employment, promotion, development and in-service training opportunities.
- **Collective Bargaining Agreements and Work Rules** - of ORLEN Group companies have been prepared in accordance with the applicable regulations and the relevant standard adopted at PKN ORLEN. The Collective Bargaining Agreements are entered in the registers kept by the competent Regional Inspectors of the National Labour Inspectorate. In 2018, the following ORLEN companies had Collective Bargaining Agreements in place: Basell Orlen Polyolefins, ORLEN Aviation, ANWIL, IKS Solino, ORLEN Centrum Usług Korporacyjnych, and ORLEN Południe. Collective Bargaining Agreements have been also executed at companies of the Unipetrol Group and ORLEN Lietuva.
- **ORLEN Group Human Resources Management Policy** – updated in 2017 and approved for implementation at PKN ORLEN and other ORLEN Group companies as of January 1st 2018. The Policy sets out the priorities and key tasks in human capital development. It defines activities in such areas as reinforcement of the Group's corporate culture, segment-based management, employee development, compensation and employee benefits, or performance management, to name just some.
- **Bonus System Rules** – the PKN ORLEN Management Board, Management Boards of other ORLEN Group companies, as well as directors reporting directly to the Management Board and PKN ORLEN employees are covered by bonus systems. The key positions at the ORLEN Group are rewarded based on the annual bonus system: the bonus is granted for achieving individual qualitative and quantitative targets, which are reviewed after the end of the year for which they were set. Other PKN ORLEN employees are rewarded based on one of the following three bonus systems: a quarterly/annual, quarterly, or monthly system. For detailed information on the remuneration and bonus policies for members of the PKN ORLEN Management Board, see the Directors' Report on the ORLEN Group's operations in 2018.
- **Corporate Social Benefit Activity Rules** – define the scope of social benefits and the rules for granting such benefits to the current and former employees of PKN ORLEN and its subsidiaries covered by agreements on the joint social benefits programme, as well as the employees' family members. Additionally, PKN ORLEN offers a uniform employee benefits package to employees of all ORLEN Group companies participating in the joint social benefits programme.
- **Employee Pension Plan** – guarantees additional financial resources to PKN ORLEN employees, to be used during future retirement. The basic contribution under the scheme is financed by the employer.
- **Policy for Supporting Employees in Difficult Personal Circumstances** – this policy defines the rules for supporting employees affected by difficult personal circumstances, in line with the 'Core Values and Standards of Conduct' applicable at

the Group. While providing support, the employer takes into account the type of occurrence, type and scale of damage or loss, and personal and financial situation of the affected employee. Depending on the above criteria, the employee may be provided with financial, medical, psychological or legal assistance.

- **Internal order on the ‘Family Friendly Employer’ Programme and initiatives celebrating long service, retirement and birthdays of former employees** – sets out the rules governing activities addressed to employees celebrating their long service or those retiring, as well as pensioners celebrating their 70th, 75th, 80th, 85th and following birthdays. Under the ‘Family Friendly Employer’ Programme, employees receive additional childcare leave (for children 3 years of age or younger/children with disabilities up to 24 years of age), a new baby gift, a place in the nursery school, etc.
- **Policy Defining the Work Conditions and Rules for the Disabled** – the objective of this policy is to provide the disabled with equal opportunities in the workplace, taking into account the type and degree of disability, enabling disabled persons to obtain and maintain adequate employment, return to work, receive promotion, as well as support the disabled in independent living and their integration with other employees.
- **Restructuring agreement with trade unions -** defining the rules of cooperation between social partners in restructuring processes of PKN ORLEN S.A. and the employees’ rights in such processes.

The human rights policies and internal regulations include:

- **Core Values and Standards of Conduct** – primarily a guide to internal relations as well as relations with the Company’s external Stakeholders, including trading partners, local communities, the natural environment and competitors. The document contains overall guidance on ethics-related matters, including fair treatment of all employees and customers regardless of their age, sex, position, religion, nationality, convictions or beliefs, as well as provisions on the obligation to comply with the rules of fair competition, transparency of business activities, mutual respect, and professionalism.
- **Collective Labour Agreement** – defines the conditions which should be met by the substance of an employment relationship, and the rules of remunerating and granting other benefits to employees.
- **Workplace Bullying Policy** – implemented at PKN ORLEN in 2017 and disseminated among the ORLEN Group companies for implementation, it sets out the rules to be followed when an instance of workplace mobbing has been reported and defines the rights and obligations of employees in such situations. It aims to counteract workplace harassment and strengthen good employee-employer and employee-employer relations.
- **ORLEN Group Anti-Corruption Policy** – designed to raise employee awareness, encourage positive attitudes and behaviour, and streamline procedures and business process oversight. The document underscores the importance of training and awareness-raising among employees and the responsibility of companies’ managements to create conditions that help to prevent and counteract corruption at the ORLEN Group. The person responsible for coordinating the implementation of the Policy objectives in effectively preventing and detecting irregularities and misconduct is the **PKN ORLEN Anti-Corruption Compliance Officer**.
- **Anonymous Misconduct Reporting System** – the system provides a framework for identifying potential irregularities and instances of misconduct, which can be reported via indicated information channels.
- **Supplier Code of Conduct** – is an integral part of the business relationships with suppliers, including the supplier qualification and evaluation process, concerning business standards in health and safety at work, human rights, business ethics, employee matters and environmental protection. The document helps us to support our suppliers in building awareness and best practices in this area.
- **CSR Strategy** – as part of the initiatives in the ‘Organisation’ area, activities were undertaken to build lasting relations with employees based on diversity, and to ensure good work-life balance.

Environmental issues

- **Procedure for environmental monitoring and keeping records of the "Responsible Care Programme indicators"** – ensures proper monitoring of air, groundwater on and in the vicinity of the premises of the Płock Production Plant and on the premises of fuel terminals, as well as of sewage generated at fuel terminals. Records of the Responsible Care Programme indicators are kept as part of the Responsible Care Framework Management System implemented at the Group.
- **Integrated Permits** for the IPPC installations at PKN ORLEN: refining, petrochemical, CHP units and wastewater treatment plant on the premises of the Płock production plant, and the PTA and CCGT plants in Włocławek.
- **CO_2 procedure** – lays down the principles of the carbon dioxide emission monitoring and reporting system.
- **Waste management procedure** – defines activities related to recording, storage, collection and disposal of waste generated in refining, power generation, storage, auxiliary and security processes.

- **Procedure for identifying environmental aspects and determining material aspects** – defines the process of identification, determination of materiality and periodic reviews of environmental aspects as well as allocation of responsibility for these activities.
- **Integrated Management System Policy** – a document describing the working standards for quality assurance, reduction of environmental impacts, health and safety at work, information security and food safety.
- **PKN ORLEN Energy Policy** – a document describing the approach to improving the Company's energy performance, containing declarations on energy optimisation and ensuring energy security.
- **Instruction on Trading in Electricity and Property Rights** – sets out the framework principles for trading in electricity and property rights on domestic and foreign power exchanges and trading platforms, through direct transactions with counterparties and within the scope of activities carried out as part of centralised processes for the ORLEN Group companies in the energy category. The instruction additionally aims to structure the management of transaction limits and credit risk management measures in trading in electricity and property rights.
- **Fulfilment of REMIT obligations by PKN ORLEN** – this document sets out, in particular, the rules of conduct applicable to insiders and the procedure of disclosing inside information to the public.
- **Rules of conduct relating to regulations on introducing restrictions in the supply and consumption of electricity in the territory of the Republic of Poland** – the objective is to safeguard the operations of PKN ORLEN if restrictions are imposed by the state authorities.
- **Instruction on Forecasting and Balancing requirements for Energy Utilities – MEBiP for Organisational Units Located in Płock, the PTA Plant in Włocławek and External Customers** – the goal is to keep a proper balance of consumption of energy utilities in specific areas of PKN ORLEN and by external customers connected to the power grid.
- **Rules for managing and trading in electricity and the related property rights** – this document sets out the rules for managing and trading in electricity and property rights at PKN ORLEN as part of GAHE (Active Energy Trading Platform). The regulation applies to the ORLEN Group companies operating within GAHE as well.

Our environmental objectives are set out in the Integrated Environmental Policy adopted by PKN ORLEN. Our activities are carried out based on our Quality Management System (ISO 9001: 2015, AQAP 2110), Environmental Management System (ISO 14001:2015), Occupational Health And Safety Management System (PN-N-18001), Information Security Management System (ISO/IEC 27001), Certification System for Biomass and Biofuels ISCC, Factory Production Control System (ZKP) – for bitumen production, and Food Safety Management System (HACCP) according to Codex Alimentarius. The Company has valid certificates of conformity to ISO 9001: 2015, AQAP 2110, ISO 14001:2015, PN-N-18001, ISO/IEC 27001, ISCC and ZKP. In addition, an Energy Management System based on ISO 50001 standard is being implemented, with its certification expected in 2019. These systems meet the highest international management standards and support the Company's day-to-day efforts to ensure professional customer service and maintain top quality, safety, health protection and environmental standards.

The key ORLEN Group companies have Integrated Management Systems in place, which include an Environmental Management System implemented and maintained in accordance with the ISO 14001 standard as their integral part. The Group companies also follow Environmental Management System Policies, providing for an obligation to protect the environment, which includes pollution prevention, and other specific obligations relevant to the operations of individual companies. These policies also include a requirement to comply with the law and other external and internal requirements.

Environmental Management Systems	ORLEN Group companies
ISO 14001 certification	PKN ORLEN; Grupa ORLEN Lietuva; Grupa Unipetrol; ANWIL; Basell Orlen Polyolefins; Grupa ORLEN Południe; ORLEN Oil; ORLEN Paliwa; ORLEN Asfalt; ORLEN Serwis; ORLEN Upstream; ORLEN Laboratorium; ORLEN Eko; IKS Solino; ORLEN KolTrans; ORLEN Administracja; ORLEN Centrum Serwisowe
Elements of the environmental management system implemented as part of the JIG industry standards requirements	ORLEN Aviation Sp. z o.o.
Implemented environmental protection principles, including on waste management control	ORLEN Centrum Usług Korporacyjnych; ORLEN Ochrona

Occupational health and safety

Occupational safety at the ORLEN Group is governed by national regulations applicable to a given area, European Union regulations, harmonised national standards and principles resulting from best practices for safe operations. At the Group companies level, this area is regulated by uniform internal standards, regulations/directives and operating instructions.

- **Occupational Health and Safety Management System based on PN-N-18001 –** its certification covers production, storage and sale of refining and petrochemical products, excluding service stations.
- **ORLEN Group's OHS Strategy until 2021** – a new OHS management concept, based on building and developing uniform safety standards for the ORLEN Group while enhancing operational excellence and excellence in preventive measures related to personal and process safety. The strategy covers the following strategic areas: management and leadership, personal safety and process safety.
- **Comprehensive Prevention System** – the principal element of the OHS Management System, which consists of internal organisational documents related to occupational health and safety, fire and chemical safety, radiation, technical and process safety. These include: Process Safety Management System at PKN ORLEN, Radiation Safety Instruction at the Płock production plant and Włocławek PTA plant, Fire Safety Rules of PKN ORLEN, and Comprehensive Chemical Rescue Plan.
- **PKN ORLEN Safety Points** are a set of basic principles required to be observed together with all applicable regulations and standards. **Safety Points for PKN ORLEN Company-owned Service Stations** are the key rules that must be adhered to on the premises of the service stations owned by PKN ORLEN. The Safety Points represent requirements describing the attitudes and behaviours expected by the ORLEN Group companies of their employees and contractors in and outside their day-to-day work. Those requirements, together with all applicable laws, instructions and standards, must be complied with by all employees and contractors (regardless of their position), as well as by guests. Individuals who fail to follow the prescribed rules are at risk of being subject to disciplinary action if such non-compliance is revealed.
- **Group Safety Standards implemented at PKN ORLEN** – uniform requirements for work safety, process safety and fire prevention, including best practices identified at the Group companies, as well as standards applied in the areas under consideration by leading companies in the sector.

The following policies were also developed and updated in 2018:

- OHS requirements related to the risk of explosive atmosphere in the production plant in Płock, PTA and CCGT plants in Włocławek, fuel terminals and Company-owned service stations (as part of the Comprehensive Prevention System).
- PKN ORLEN Process Safety Management System.
- Tasks and manner of operation of the Process Safety Committee at PKN ORLEN.

Anti-corruption and anti-bribery

The anti-corruption and anti-bribery policies and internal regulations include:

- **Core Values and Standards of Conduct** – describing standards of conduct in situations related to accepting or offering benefits representing financial gain.
- **Enterprise Risk Management Policy and Procedure** – laying down the principles of Enterprise Risk Management for PKN ORLEN and the roles and responsibilities of each individual involved in the process.
- **Rules for the implementation of audits, consultancy and business analysis assignments at PKN ORLEN** – defining the rules for conducting audits, consulting projects and business analyses at PKN ORLEN, other ORLEN Group companies and other entities, to the extent permitted by law.
- **Rules for financial control procedures carried out by the Office of Financial Control, Risk and Compliance Management** – defining the organisation of scheduled, ad hoc and investigative financial control processes; basic principles for conducting financial control procedures; rights and obligations of the controller and the controlled organisational units; principles for conducting financial control procedures at the ORLEN Group companies; execution of financial control procedures; follow-up orders and recommendations; principles and procedure for monitoring of follow-up orders and recommendations; reporting.
- **Rules of control and verification procedures carried out at PKN ORLEN –** a document prepared on the basis of the applicable Organisational Rules of PKN ORLEN in order to lay down the principles of control and verification procedures conducted by the Control and Security Office.
- **ORLEN Group anti-money laundering and terrorist financing rules and instructions** – laying down detailed procedures to be followed in counteracting money laundering and terrorist financing at the ORLEN Group. The rules are addressed to all companies' employees in customer-facing positions, have direct access to financial documents or participate in the execution of transactions.
- **ORLEN Group Regulatory Risk Management Policy** – governs regulatory risk management processes resulting from existing or proposed legal acts, excluding tax risks.
- **Anonymous Misconduct Reporting System** – the system provides a framework for identifying potential irregularities and instances of misconduct, which can be reported via indicated information channels.
- **Policy on Corporate Governance and Allocation of the Companies in which PKN ORLEN Holds Equity Interests to PKN ORLEN Management Board Members in Charge of Business Oversight of the Companies** – a document containing instructions on the selection of candidates for members of the ORLEN Group companies' governing bodies and the rules for setting and reviewing Individual Bonus-Related Targets for members of the ORLEN Group companies' management boards. It provides for full corporate supervision over the 'ORLEN – DAR SERCA' Foundation.
- **Rules for Managing the Risk of Losing Information Security Attributes** – information and guidelines on the process of managing the risk of losing security attributes.
- **Supplier Code of Conduct** – defines ethical standards that must be met by the ORLEN Group suppliers, includes guidance on activities related to counteracting corruption, and promotes high ethical standards in business activities.
- **Integrated Management System Policy** – a document describing the working standards for quality assurance, reduction of environmental impacts, health and safety at work, information security and food safety.
- In November 2018, the President of the PKN ORLEN Management Board signed an order introducing the **ORLEN Group Anti-Corruption Policy**. It represents a declaration that our business objectives are to be pursued in a transparent, fair and ethical manner. The policy is designed to raise employee awareness, encourage positive attitudes and behaviours, and streamline procedures and business process oversight. It represents a declaration that our business objectives are to be pursued in a transparent, fair and ethical manner. The document underscores the importance of training and awareness-raising among employees and the responsibility of company managements for creating conditions that help to prevent and counteract corruption at the ORLEN Group. The ORLEN Group Anti-Corruption Policy is a standard which declares zero tolerance for corrupt practices consisting in abuse of positions or functions in order to achieve undue financial or personal gains. It is also a commitment to comply with anti-corruption regulations in all countries where the Group companies do business. The policy confirms that in their day-to-day work, the companies' employees and representatives live the values and standards of conduct respected by the ORLEN Group. The ORLEN Group Anti-Corruption Policy is the principal internal regulation which, aside from directional declarations, allows the Group to implement solutions that have a real impact on anti-corruption protection during business activities.

Work was also under way in 2018 on the internal order on **PKN ORLEN Rules for Accepting and Offering Gifts** and an update of the **Anonymous Misconduct Reporting System**.

Remuneration Policy

The remuneration policy in place at PKN ORLEN supports the achievement of the Company's goals, including in particular the long-term increase of value for shareholders and stability of functioning of the company.

General terms of remuneration, conditions for granting annual bonuses, and non-competition agreements

Remuneration Policy

Remuneration for Members of the Management Board at PKN ORLEN is determined by the Supervisory Board taking into account the relevant resolution of the General Meeting, in connection with the Act on the Rules of Remunerating Persons Who Direct Certain Companies, and recommendations of its Nomination and Remuneration Committee. The main components of the Management Board Members remuneration include:

- Fixed monthly base pay.
- Annual bonus (variable pay) depending on their performance against certain quantitative and qualitative targets and achievement of identifiable separate objectives.
- Severance pay for contract termination by the Company.
- Non-compete compensation.

All components of the remuneration are governed by a contract between a Member of the Management Board and the Company.

Benefits for directors reporting to the Management Board at PKN ORLEN may include, in particular: a company car, variable universal life insurance, additional medical cover for the director and their closest family, including the right to preventive healthcare, sports programmes and rehabilitation, partial coverage of rented accommodation costs, coverage of relocation costs if the relocation takes place during the director's employment, benefits defined in the Rules of Participation in the Company Social Benefits Fund, and the right to participate in the Employee Pension Plan on the terms applicable at the Company.

The remuneration policy in place at PKN ORLEN supports the achievement of the Company's goals, including in particular a long-term increase of its shareholder value and stability of operations.

Bonus systems for key executive personnel of the ORLEN Group

The bonus regulations applicable to the Management Board of PKN ORLEN, directors directly reporting to the Management Board of PKN ORLEN and other key positions of the ORLEN Group have certain common features. The persons subject to the above mentioned systems are remunerated for the accomplishment of specific goals set at the beginning of the bonus period, by the Supervisory Board for the Management Board Members and by the Management Board for the key executive personnel. The Bonus Systems are consistent with the Concern's Values, so as to promote the cooperation between individual employees in view to achieve the best possible results for the ORLEN Group. The targets set are qualitative as well as quantitative and are settled after the end of the year for which they were set.

Remuneration regarding non-competition clause and dissolution of the contract as a result of dismissal from the position held

In the second half of 2018 based on the resolution of the Ordinary General Meeting of PKN ORLEN of 17 July 2018 changes were introduced to the contracts of the Management Board Members of PKN ORLEN regarding non-competition.Pursuant to the contracts, the Management Board Members of PKN ORLEN and the Management Board Members of the ORLEN Group companies are obliged to refrain from competitive activities for a period of 6 months, after the date of termination of the contract. During this period, they receive a remuneration (compensation) of 50% or 100% of the six-month basic salary, payable in 6 equal monthly instalments. Non-competition clauses in contracts after termination of the function of the Management Board Member shall enter into force only after 3 or 6 months as the Management Board Member.

In addition, contracts provide for the payment of severance pay in the event of termination or cancelation of the contract by the Company, for reasons other than a breach of basic, essential obligations under the contract, provided fulfilling the function of the Management Board Member for a period of at least 12 months. In this case, the severance pay is three times monthly basic salary.

Directors directly reporting to the PKN ORLEN Management Board are normally required to refrain from competitive activities for a period of 6 months. During this time, they receive a remuneration of 50% of the six-month basic salary, payable in 6 equal monthly instalments. The severance pay for terminating the contract by the Employer is normally six times monthly basic salary.

Remuneration of management and supervisory bodies

Remuneration paid to the Company's Management Board Members fulfilling their function in 2018 and 2017 [PLN thousand]

Item	2018	2017
Daniel Obajtek[1]	867	-
Wojciech Jasiński[2]	83	1,226
Mirosław Kochalski[3]	83	1,127
Sławomir Jędrzejczyk[4]	-	796
Armen Artwich[5]	284	-
Piotr Chełmiński[6]	-	676
Patrycja Klarecka[7]	448	-
Zbigniew Leszczyński	859	943
Krystian Pater[8]	194	1,012
Wiesław Protasewicz[9]	854	396
Michał Róg[5]	304	-
Maria Sosnowska[10]	83	396
Józef Węgrecki[11]	686	-
Total	**4,745**	**6,572**

[1]*Remuneration for the period of holding the position of President of the Management Board since 6 February 2018*
[2]*Remuneration for the period of holding the position of President of the Management Board to 5 February 2018*
[3]*Remuneration for the period of holding the position of Vice-President of the Management Board to 5 February 2018*
[4]*Remuneration for the period of holding the position of Vice-President of the Management Board to 30 June 2017*
[5]*Remuneration for the period of holding the position of Member of the Management Board since 1 September 2018*
[6]*Remuneration for the period of holding the position of Member of the Management Board to 30 June 2017*
[7]*Remuneration for the period of holding the position of Member of the Management Board since 24 June 2018*
[8]*Remuneration for the period of holding the position of Member of the Management Board to 22 March 2018*
[9]*Remuneration for the period of holding the position of Member of the Management Board since 1 July 2017*
[10]*Remuneration for the period of holding the position of Member of the Management Board since 1 July 2017 to 5 February 2018*
[11]*Remuneration for the period of holding the position of Member of the Management Board since 23 March 2018*

Bonuses potentially due to Management Board Members in function in the given year to be paid in the following year [PLN thousand]

Item	2018	2017
Daniel Obajtek[1]	766	-
Wojciech Jasiński[2]	-	1,177
Mirosław Kochalski[2]	-	1,117
Sławomir Jędrzejczyk[3]	-	750
Armen Artwich[4]	284	
Piotr Chełmiński[3]	-	630
Patrycja Klarecka[5]	443	-
Zbigniew Leszczyński	853	936
Krystian Pater[6]	-	966
Wiesław Protasewicz[7]	853	396
Michał Róg[4]	284	-
Maria Sosnowska[8]	-	396
Józef Węgrecki[9]	661	-
Total	**4,144**	**6,368**

[1]*Bonus potentially due for holding position for the period since 6 February 2018*
[2]*Bonus potentially due for holding position for the period to 5 February 2018*
[3]*Bonus potentially due for holding position for the period since 30 June 2017*
[4]*Bonus potentially due for holding position for the period since 1 September 2018*
[5]*Bonus potentially due for holding position for the period since 24 June 2018*
[6]*Bonus potentially due for holding position for the period to 22 March 2018*
[7]*Bonus potentially due for holding position for the period since 1 July 2017*
[8]*Bonus potentially due for holding position for the period since 1 July 2017 roku to 5 February 2018*
[9]*Bonus potentially due for holding position for the period since 23 March 2018*

In 2018, based on the court settlement, an annual bonus for year 2011 with interest, in the amount of PLN 615 thousand, was paid to the former Management Board's Member, Mr Marek Serafin.

Remuneration and other benefits paid and due to former Management Board Members [PLN thousand]

Item	2018	2017
Wojciech Jasiński[1]	320	-
Mirosław Kochalski[1]	427	-
Sławomir Jędrzejczyk[2]	-	750
Piotr Chełmiński[2]	-	630
Krystian Pater[1]	427	-
Total	**1,174**	**1,380**

[1]In 2018 severance and non-competition compensation paid.
[2]In 2017 non-competition compensation paid.

Remuneration of the Company's Management and Supervisory Board Members for holding functions in the Management or Supervisory Boards of subsidiaries, companies under joint control or associated companies (PLN thousand)

Members of PKN ORLEN Management Board who in 2018 and 2017 were acting as the Management or the Supervisory Boards of the subsidiaries, jointly controlled entities belonging and associate of the ORLEN Group did not receive any remuneration, except for Unipetrol a.s., wherein the payments were transferred to the ORLEN's DAR SERCA Foundation. As at the 31 December 2018 no Member of the PKN ORLEN Management Board held position in Supervisory Board of Unipetrol a.s.

Remuneration of the Members of the Supervisory Board of PKN ORLEN [PLN thousand]

Item	2018	2017
Izabela Felczak-Poturnicka[1]	124	53
Angelina Sarota[2]	11	124
Agnieszka Biernat-Wiatrak[3]	105	-
Mateusz Bochacik	117	112
Adrian Dworzyński[2]	10	110
Artur Gabor[4]	-	74
Andrzej Kapała[5]	59	-
Wojciech Kryński[1]	114	53
Agnieszka Krzętowska[2]	10	114
Radosław Kwaśnicki	114	111
Jadwiga Lesisz[6]	277	-
Małgorzata Niezgoda[7]	113	-
Wiesław Protasewicz[8]	-	57
Józef Węgrecki[9]	101	-
Anna Wójcik[5]	59	-
Total	**1,214**	**808**

[1]*For the period of holding position since 30 June 2017*
[2]*For the period of holding position to 2 February 2018*
[3]*For the period of holding position since 2 February 2018*
[4]*For the period of holding position to 31 August 2017*
[5]*For the period of holding position since 26 June 2018*
[6]*For the period of holding position since 2 February 2018, since 23 March 2018 to 23 June 2018 delegated to temporarily perform duties of the Member of Management Board*
[7]*For the period of holding position since 5 January 2018*
[8]*For the period of holding position to 28 June 2017*
[9]*For the period of holding position since 5 February 2018 to 22 March 2018, during the period delegated to temporarily perform duties of the Member of Management Board*

Remuneration of key executive personnel of the ORLEN Group

Remuneration of key executive personnel of the ORLEN Group [PLN thousand]

Item	2018	2017
Remuneration and other benefits of members of key executive personnel:		
other key executive personnel of the Company	39,479	29,707
key executive personnel of the subsidiaries of the ORLEN Group	139,128	128,974
Total	**178,607**	**158,681**

Update of PKN ORLEN’s Strategy for 2019-2022

In December 2018, the ORLEN Group revised its strategy. The strategy update was required in view of the considerable macroeconomic volatility and the need to announce our quantitative targets for the next two years.

The rapidly changing market environment requires that we respond by adjusting our business ambitions on an ongoing basis. Therefore, the ORLEN Group has adopted a multidimensional perspective of the future when thinking of its strategy. In order to identify challenges until 2030, the Group has analysed in detail the key trends in new energy sources, climate and environment, ground-breaking technologies, new business models, and consumer behaviour. The analysis of macro trends and the latest regulations enabled the Group to set development directions and define targets for 2019 and 2020.

PKN ORLEN’s new strategy remains focused on Value Creation, People and Financial Strength as the key pillars of growth until 2022. A new addition is the Culture of Innovation, which is to support the Group in responding to future challenges.

VALUE CREATION

Key development directions for the ORLEN Group in 2019–2022, as set out in the updated strategy, include expanding and enhancing petrochemical production, entering the low-carbon energy sector in Downstream, consistently growing retail sales, and sustainably developing hydrocarbon E&P operations.

Downstream

The ORLEN Group has one of the best-integrated production assets in Europe, operating six refineries and four petrochemical plants, owns power generating assets in three countries in Central Europe, processes over 30m tonnes of various crude oil types every year, and offers a portfolio of more than 50 refinery and petrochemical products.

Key activities to be undertaken in the Downstream segment over the period covered by the 2019−2022 strategy will be aimed at ensuring security of feedstock supplies, strengthening of the Group’s market position and further improvement of the operational excellence.

In the area of feedstock supply security, the ORLEN Group will seek to further diversify its oil supply sources, secure natural gas supplies and build competitive advantage based on low-carbon energy. The Group’s refineries in Poland, the Czech Republic and Lithuania will continue their efforts to improve effectiveness, capture synergies through greater integration and increase flexibility in response to market and regulatory challenges.

The main objective of the ORLEN Group for the coming years will be to further strengthen its position as the regional Downstream leader, which the Group intends to maintain by engaging in various investment projects, among other measures.

The ORLEN Group launched the Petrochemicals Development Programme in 2018, envisaging new CAPEX projects in Płock and Włocławek, as a response to the growing demand for advanced plastics and specialty petrochemical products in the region. It will involve the construction of new and expansion of the existing aromatic derivatives, olefins, and phenol production capacities, and will also considerably expand the Company’s R&D capabilities through investment in the Research and Development Centre. The Petrochemicals Development Programme will reinforce the Company’s position in Europe and bring tangible benefits to Poland’s economy, including by improving the balance of trade with the petrochemical products to be manufactured after it is completed, and helping Poland to transition from a net importer to a net exporter of petrochemicals.

In its refining business, in addition to efficiency improvement efforts, the Group has begun to develop the specialty pillar of biorefining products, with a focus on gaining know-how and on optimisation measures laying the foundation for developing towards a biorefinery.

In the power generation segment, the Group is making preparations for an offshore wind farm project. The Group believes in the future of this project, especially in the context of the growing demand for ‘green energy’.

Value drivers and business objectives in Downstream

DOWNSTREAM

Levers of value

Raw material security

- Continuation of oil supply diversification.
- Securing natural gas supplies.
- Building a competitive advantage based on low-emission energy.

Operational excellence

- Further improvement in the efficiency of refinery assets.
- The use of synergies from the integration of production plants.
- Readiness for market and regulatory challenges.

Strengthening the market position

- Investments in extending the petrochemical production value chain.
- Implementation of the operational program for biofuels: construction of production installations, operational adjustments and R & D works.
- Maintaining the leading position on the home markets thanks to expanding the product offer.

Objectives

Sales and Logistics[1]

- Wholesale fuel sales (diesel, gasoline, Jet): increase by 2.1 million tonnes.
- Petrochemical sales: increase by over 1.1 million tons.
- Security of transmission and reloading capabilities.

Production[1]
Prepared investments:

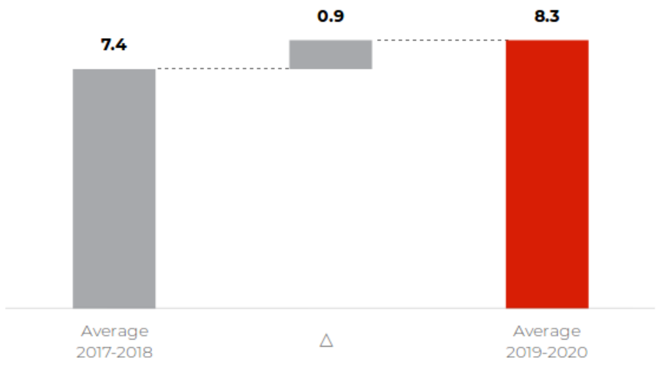
- **Petrochemicals**: construction of a complex of Derivative Aromatics, extension of the Olefin Complex, development of Fenol's production capacity, extension of R & D facilities, expansion of the fertilizer installation in Anwil.
- **Refinery**: development of installations for the production of biofuels, including independent HVO unit, Visbreaking, Hydrocracking of Vacuum Residue in Lithuania (analysis of the pre-investment phase based on the purchased base project and license).
- **Energy**: analysis of investments in offshore wind energy.

Changes in key indicators:

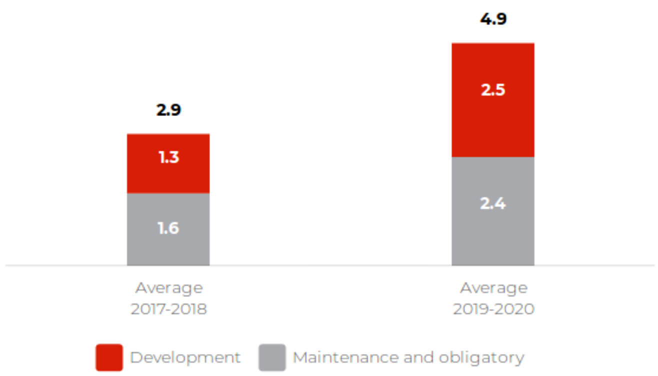
- Further maximization of crude oil processing: an increase of over 0.3 million tons.
- White product yield: 1.8 p.p.
- Energy consumption of refineries: increase by 0.5 pp
- Electricity production: increase by 1.2 TWh.

Financial targets for 2019 and 2020 in Downstream

LIFO EBITDA before write-offs [PLN bn]



Investment expenditures [PLN bn][2]



[1]The quantitative indicators for the ORLEN Group relate to the 2022 target in relation to the 2018 performance forecast based on the actual execution for 3 quarters and the forecast for the 4th quarter of 2018.
[2]Average 2017-2018 includes data for 2017 and the forecast for implementation in 2018 based on the actual execution for 3 quarters and the forecast for the 4th quarter in accordance with the ORLEN Group Strategy presented on December 20, 2018.

Retail

The Retail segment comprises more than 2,800 service stations, making up the largest retail chain in Central Europe. They handle around 1.6 million transactions daily. In Poland alone, they sell 7.1 billion litres of fuel every year, with substantial volumes bought by customers actively participating in the VITAY loyalty scheme and fleet customers.

The growth drivers in the Retail segment will be the modern service station chain, ensuring unique buying experience, and further operational excellence improvement.

The ORLEN Group is set to expand company-owned and franchise-owned service stations. It plans to add some 150 new outlets to its network by 2022. The Group also aims to drive store and food sales and constantly upgrade its facilities, and is preparing to launch alternative fuel sales.

In the past year, the Company introduced a wide range of local products at its stations and launched a new food outlet format with the first ORLEN Drive station in Michałowice near Wrocław (drive through and self-service kiosks). The planned launch of new products and services and development of customer service channels should be supported by leveraging competitive advantages and business experience (large and dense network of service stations and a sizeable customer base). In the coming years, the Group intends to develop upgraded Stop Cafe 2.0 food and beverage outlets. Over 430 outlets were in operation at the end of 2018, receiving positive customer feedback. Tailored and flexible food and service offering (based on big data) and development of the VITAY loyalty scheme towards e-commerce will help further increase customer satisfaction.

The ORLEN Group also seeks to retain its leading position in the home markets and enhance operational excellence by ensuring optimal management of its product range, food offering and services, as well as to improve cost efficiency, customer service processes and station management.

In view of the further growth of electric propulsion systems, we are adapting our stations to enable sale of alternative fuels. In Poland, a charging stations project is being implemented, which is expected to enable electric vehicle drivers to cross the whole country by major communication routes. About 50 charging stations are scheduled to be put into operation by the end of 2019. A total of 150 locations have been selected along transit routes and in cities.

By undertaking a number of initiatives, the Retail segment will transform to provide customers with unique purchasing experience. The Group will continue to focus on identifying and addressing the growing customer needs. The ORLEN Group wants to launch new services and new communication and customer service channels (in 2018 alone, the ORLEN Pay app enabling customers to pay for fuel at the pump was launched in addition to ORLEN Drive). We are also committed to personalising our offering and to big data analytics. The use of big data will allow the Group to flexibly respond to customer expectations, and shifting the VITAY programme towards e-commerce will be its response to the rapid growth of digital commerce.

The ORLEN Group is poised to retain the lead in the Polish and Czech markets, while seeking to consolidate its market position in Germany and Lithuania.

Value drivers and business objectives in Retail

RETAIL

Levers of value

Modern fuel sales network

- Sales development in the store and catering.
- Further improvement of the technical standard of the station.
- Customizing the station for the sale of alternative fuels.
- Organic development of the station network.

Unique shopping experience

- Introduction of new services and customer service channels.
- Flexible and personalized offer based on data analytics (big data).
- Improvement of customer satisfaction and development of the loyalty program towards e-commerce

Operational excellence

- Maintaining the leading position in the home markets.
- Optimal management of the assortment and the gastronomic offer and services.
- Improving cost efficiency.
- Improving customer service processes and station management.

Goals 2019-2022

Modern fuel sales network[1]

- An increase in the non-fuel margin by over 30%.
- Organic development of the service station network: increase by ~ 150 new stations by 2022.
- Share in the fuel market: increase by over 2.4 pp

Unique shopping experience

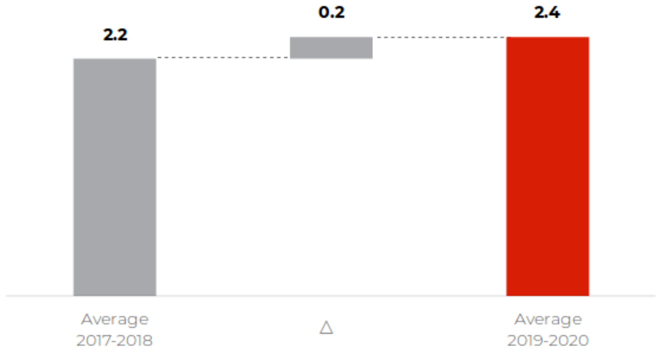
- Improving and developing store formats and Stop Cafe.
- Implementation of new products and services:
  - Development of gastronomic and service offer.
  - Flexible offer based on big data.
  - Development of new forms of communication with clients.
  - Development of quality of services.

Operational excellence[1]

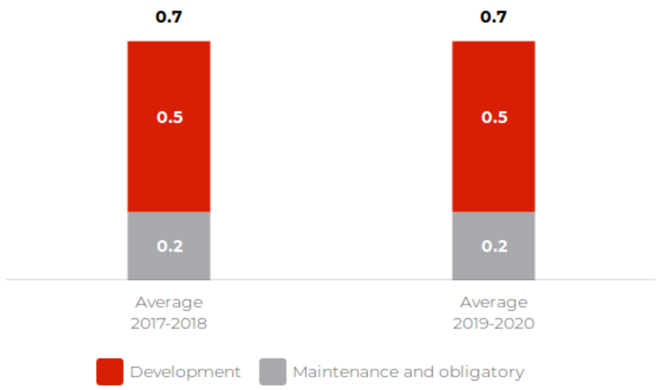
- Increase of the unit margin by 3%.
- Improving the cost effectiveness of the station.
- Optimization of the distribution system.

Financial targets for 2019 and 2020 in Retail

Increase in LIFO EBITDA [PLN bn][2]



Investment expenditures [PLN bn][2]



[1]Wskaźniki ilościowe dla Grupy ORLEN dotyczą celu na 2022 rok w stosunku do prognozy wykonania 2018 roku opartej o wykonanie rzeczywiste za 3 kwartały i prognozę na 4 kwartał 2018 roku.
[2]Średnie 2017-2018 zawierają dane za 2017 rok oraz prognozę wykonania 2018 roku opartą o wykonanie rzeczywiste za 3 kwartały i prognozę na 4 kwartał zgodnie z zaprezentowaną w dniu 20 grudnia 2018 Strategią Grupy ORLEN.

Upstream

Upstream growth has enabled the ORLEN Group to continue to build a solid portfolio of exploration and production assets. In previous years, PKN ORLEN took a number of steps to increase its production potential in Poland (acquisition of two licences from Deutsche Erdoel AG, entering into a joint operating agreement with PGNiG, securing new licences from the Ministry of Environment, and acquisition of FX Energy) and Canada (acquisition of the first Canadian subsidiary TriOil Resources, followed by two other transactions: purchase of Birchill Exploration and Kicking Horse Energy). The ORLEN Group has a strong asset base for value creation: daily output of approximately 18,000 boe in 2018, 2P reserves of approximately 210 mboe, and assets to increase production and steadily improve cost efficiency.

Under the 2019−2022 Strategy, the ORLEN Group will build its value in the Upstream segment based on the cautious continuation approach focused on quality assets and on the most profitable and promising projects, increasing production in Poland and Canada and further improvement of operational excellence. The ORLEN Group will closely watch and flexibly respond to developments in the oil and gas market. Consistent improvement of key performance indicators (e.g. well number optimisation, better well economics, continuous rationalisation of the scope of work) and synergies within the segment in Poland and Canada (e.g. transfer of know-how from Canada, one of the most technologically advanced oil and gas markets) are key elements for the operational excellence improvement in the Upstream business. In the context of the current CAPEX strategy, the Upstream segment will be rationalised in line with macroeconomic conditions. Upstream is expected to self-finance its operations as soon as possible, enabling it to generate positive cash flows.

Value drivers and business objectives in Upstream

UPSTREAM

Levers of value

Further increase in production

- Concentration on good quality assets and the most profitable and prospective projects in Poland and Canada.

Careful continuation

- Flexible response to changes in the oil and gas market.
- Adjusting investment outlays to the macro situation.
- Generating positive cash flows.

Operational excellence

- Continuous improvement of key operational indicators.
- Achieving synergies within the segment in Poland and Canada.

Goals 2019-2022

Extraction in Poland and Canada[1]

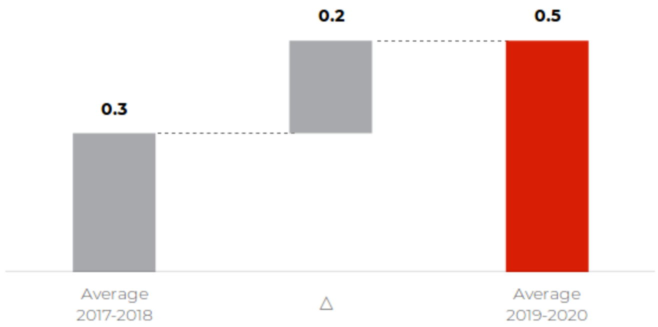
- Increase of the ORLEN Group's production level to ~ 25 thousand. boe / d (ie about ~ 7,000 boe / d)
- Share of liquid hydrocarbons (%):
  - Poland: 6%.
  - Canada: 49%.
- Optimization of the number of wells up to 13,8 net:
  - Poland: 2.5 borehole.
  - Canada: 11.3 well.

Operational excellence[1]

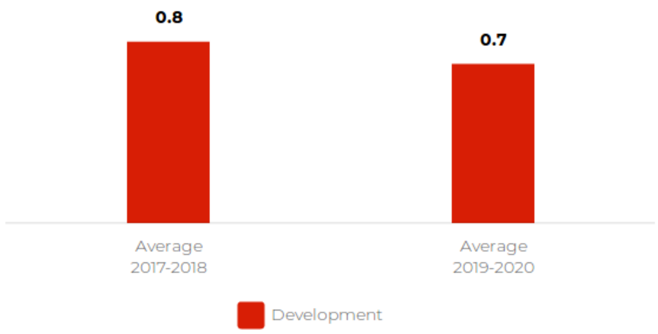
- Achieving an operating netback in excess of 75 PLN / boe.
- Rationalization of CAPEX and reaching the level enabling generation of positive cash flows and CAPEX self-financing in the shortest possible time.

Financial targets for 2019 and 2020 in Upstream

Increase in LIFO EBITDA [PLN bn][2]



Investment expenditures [PLN bn][2]



[1]*The quantitative indicators for the ORLEN Group relate to the 2022 target in relation to the 2018 performance forecast based on the actual execution for 3 quarters and the forecast for the 4th quarter of 2018.*
[2]*Average 2017-2018 includes data for 2017 and the forecast for implementation in 2018 based on the actual execution for 3 quarters and the forecast for the 4th quarter in accordance with the ORLEN Group Strategy presented on December 20, 2018.*

PEOPLE

Having reviewed the globally unfolding social trends, including the labour market evolution and expectations vis-à-vis the business sector, the Group has decided to further strengthen its human capital as a foundation underpinning its future sustainable growth. Key measures to be taken in this area are a continuation of previous years' efforts, including ensuring adherence to the highest OHS standards, applying a zero accidents policy, and improving employees' qualifications, e.g. through consistently offering new professional advancement options and improving access to training opportunities. All the strategic objectives will be pursued with respect for the natural environment as the Group's paramount concern.

FINANCIAL STRENGTH

An essential part of the strategy will be to maintain the Group's solid financial foundations: through diversified sources of funding and comfortable debt levels.

The Group expects to maintain a safe level of leverage below 30% and the net debt/EBITDA covenant of 1.5 or less.

The Group's financial strength has been confirmed by high credit ratings from rating agencies. The Group will seek to maintain its investment grade status, which facilitates access to diverse sources of funding at lower cost.

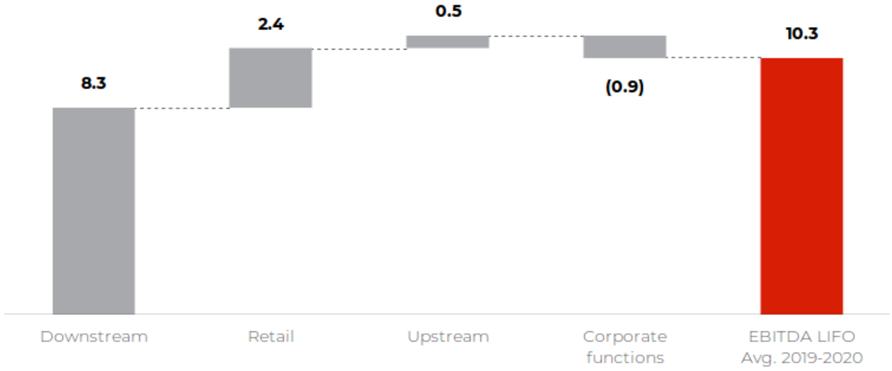
Other strategically important aspects are diversification of financing sources and optimisation of debt maturity structure.

The Group continues with its policy of regular dividend payments, with the dividend amount depending on the Group's performance, liquidity position and progress of investment programmes.

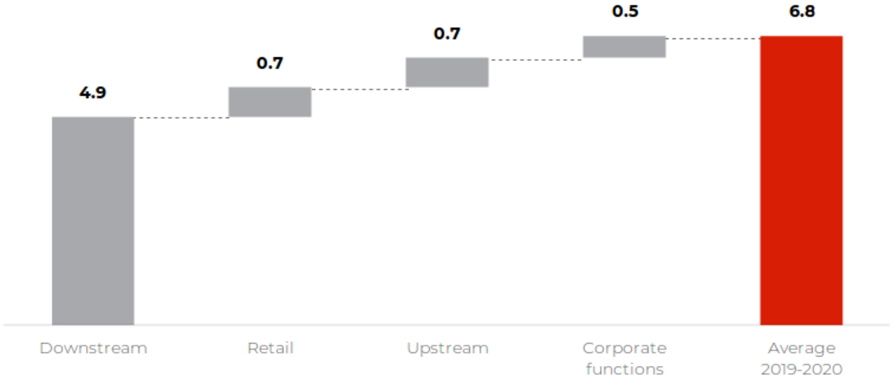
ORLEN Group's key financial goals for 2019 and 2020:

- The average annual LIFO EBITDA at the level of PLN 10.3 billion.
- Realization of annual average investment expenditure at the level of PLN 6.8 billion.
- Maintaining financial leverage below 30%.
- Systematic payment of a dividend per share, taking into account the financial situation.

Increase in LIFO EBITDA [PLN bn][2]



Capital expenditures [PLN bn][2]



CULTURE OF INNOVATION

The ORLEN Group's innovation management model brings together all aspects of the Group's strategy and the innovations themselves are understood to mean much more than development and implementation of new products only. The Group will continue to build an organisation based on a culture of innovation and knowledge to unlock the potential of its own employees and to implement ideas developed jointly with its external partners.

Because of the role of intellectual capital in modern economy, the Group puts strong focus on advancement of staff skills and competence. The Group consistently builds its team of experts, especially in the area of R&D, and develops a system to support its innovation leaders.

In line with its strategic development directions, the ORLEN Group has resolved to create a strategic research agenda to comprehensively address certain areas related to new technologies, new business models and innovation implementations in which PKN ORLEN should invest to build its long-term competitive advantage. The Group also plans to deploy strategic innovation acquisition tools (an innovation accelerator and a CVC fund) and to step up its efforts to establish close relationships with startups. PKN ORLEN already participates in Pilot Maker Elektro ScaleUp, an acceleration programme of the Polish Agency for Enterprise Development (PARP) whose purpose is to commercialise electromobility innovations.

The innovation strategy relies on external and internal innovations supported with an advanced management model. To stimulate external innovation, the ORLEN Group carries out projects facilitating cooperation as part of an external ecosystem of innovations, successful application of state-of-the-art commercial solutions and use of special tools for project implementation. Internal innovations are efforts to streamline technological and organisational processes, develop the portfolio of R&D projects, and tap synergies within the ORLEN Group. As part of its consistently pursued R&D strategy, the Group is also working to expand its research infrastructure through the construction of a Research and Development Centre as a platform for collaboration with the scientific and business communities.

The ORLEN Group supports the culture of innovation to fully benefit from internal and external innovations. Innovation is promoted as the desired attitude across the organisation, and the dedicated decision-making process for innovative projects ensures ability to flexibly respond to market needs. What is more, in 2018 projects were under way to develop a knowledge-based organisation and unleash the internal potential in order to foster culture of innovation. Examples include the continued in-house programme to support innovation among employees, intended to encourage our staff to put forward their ideas and to enable identification of highly-innovative solutions (ORLEN Insight – a knowledge-sharing platform, Opportunities Market – a project platform, and a competition for the most innovative project of the year).

Strategy Implementation in 2018

Over the past two years, PKN ORLEN has consistently delivered on its strategic objectives, exceeding the target for annual average LIFO-based[1] EBITDA, which in 2017–2018 reached PLN 9.4bn, or PLN 0.6bn more than the target for the period. PKN ORLEN was once again awarded the titles of the 'World's Most Ethical Company 2018' and 'Top Employer Polska 2018'.

The stable financial position allowed the ORLEN Group to carry out growth projects and progressively increase dividend payouts, which totalled PLN 1.3bn in 2017. At the same time, the financial ratios were kept at safe levels.

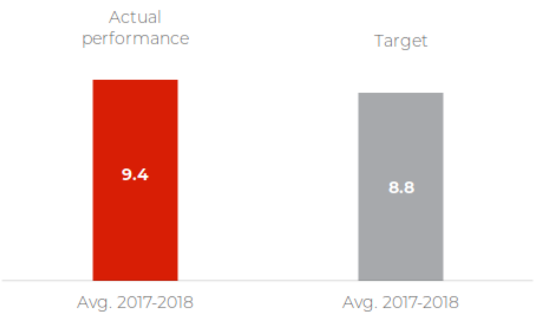
PKN ORLEN is very well positioned for further growth. It owns state-of-the-art integrated infrastructure capable of processing more than 30 million tonnes of various crude oils per annum, and 2P oil and gas reserves estimated at over 200 mboe at the end of 2018.

Pillars of Strategy

Value Creation

1 **OBJECTIVE -** Earnings growth

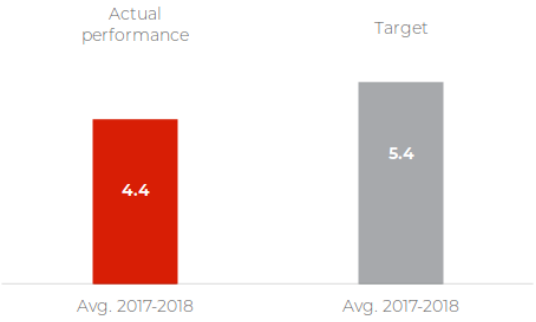
LIFO-based EBITDA before impairment losses [1] [PLNbn]



[1]Before impairment of non-current assets: PLN (0.2)bn in 2017 and PLN 0.7bn in 2018.

2 **OBJECTIVE -** Growth programme

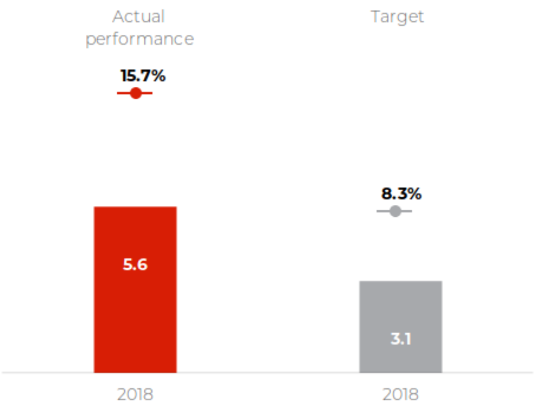
Capital expenditure [PLNbn]



Financial Strength

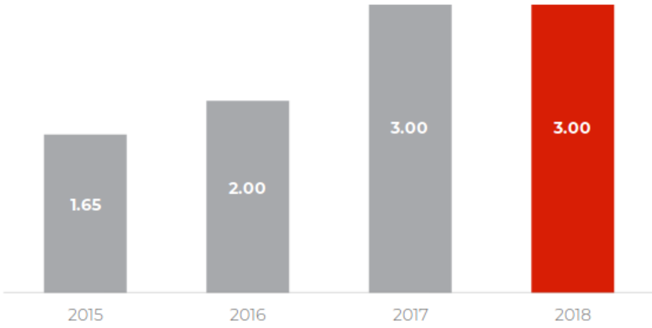
1 **OBJECTIVE -** Further strengthening of financial foundations

Net debt [PLNbn], financial leverage [%]



2 **OBJECTIVE -** Dividend growth

Dividend per share [PLN]



People

1 **OBJECTIVE -** Modern management culture

Operating Segments

Value levers in 2018:

Feedstock security

- Diversification of crude oil supplies.
- Securing natural gas supplies.

Operational excellence

- Integrated management of production assets in Poland, the Czech Republic and Lithuania.
- Increasing flexibility to meet market and regulatory challenges by further improving key performance indicators; increasing conversion rates and high-margin product yields.

Strong market position

- Growth of share in home markets, including through attractive product portfolio.
- Expanding infrastructure to reach customers more quickly and to strengthen competitive advantage.

Actual performance in 2018:

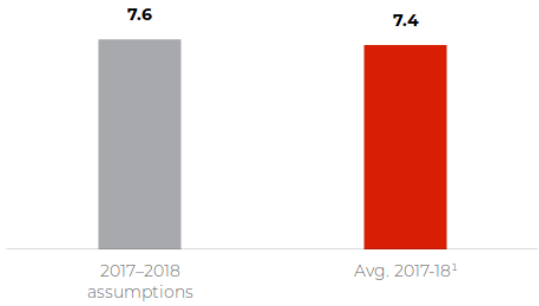
Sales and logistics

- 3.2pp growth of share in the fuel market.
- Continued effect of reduced grey market in Poland (a 10% year-on-year increase in the volumes of diesel oil and gasoline sold in Poland).
- Logistics: unit cost growth by 1.4%XX.

Refining

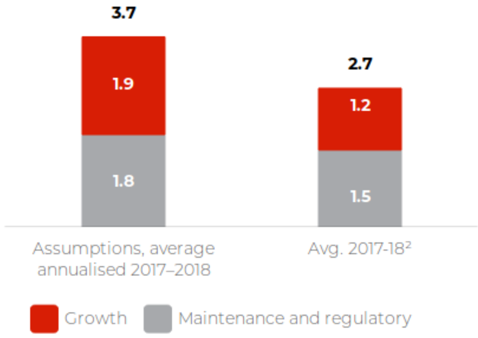
- Projects underway:
  - Commencement of the process to acquire Grupa LOTOS.
  - PKN ORLEN: metathesis unit in Płock; completion of the CCGT project in Płock; launch of the Petrochemicals Development Programme.
  - ORLEN Lietuva: PPF splitter: project in progress.
  - Unipetrol: Polyethylene 3: project in progress.
- Improvement of key indicators:
  - Record-high volume of crude processed, at 33.4 million tonnes, up 0.2 million tonnes on 2017).
  - Stable white product yield.

LIFO-based EBITDA growth [PLNbn]



[1]Before net impairment losses on property, plant and equipment.

Capital expenditure [PLNbn], average annualised



[2]The figures do not add up due to rounding.

Value levers in 2018:

Modern service stations network

- Further development of the service station chain (CODO and DOFO stations).
- Marketing of fuels with better parameters based on improved fuel additives.
- Preparations to start selling alternative fuels.

Operational excellence

- Consistent improvement in terms of break-even point.
- Use of new technologies.

Actual performance in 2018:

Modern service stations network

- 64 new service stations added to the retail chain.
- 1.0pp growth of share in the fuel market.
- Launch of Poland's first two electric vehicle charging stations.

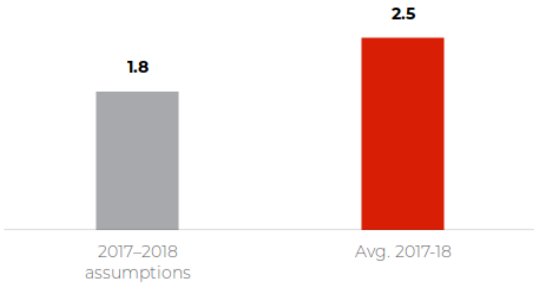
Unique customer experience

- Stop Cafes: up by 161 year on year; dynamic growth of the new food and beverage format: 174 service stations with the new O!Shop stores in Poland.
- 17% non-fuel margin growth.
- New products and services:
  - Launch of the first service station in the new ORLEN Drive format, featuring a drive-through service and self-service kiosks.
  - Introduction of ORLEN Pay, a payment module in the ORLEN Mobile application to pay for fuel directly at the pump.
  - Development of the food and beverage offering for vegans and vegetarians at ORLEN service stations.
- Tailored offering based on Big Data.
- Improving customer satisfaction and further development of the loyalty programme.

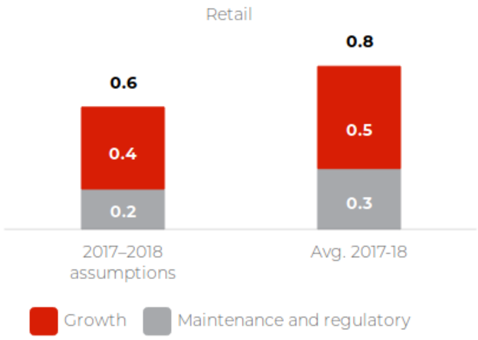
Operational excellence

- Continuous improvement of the service stations cost efficiency.
- Unit margin kept stable.

LIFO-based EBITDA growth [PLNbn]



Capital expenditure [PLNbn], average annualised



Value levers in 2018:

Increased hydrocarbon production in Poland and Canada

- Increasing production and 2P reserves.
- Focus on quality assets and most profitable projects.

Cautious continuation

- Flexible responding to changes in the oil and gas market.
- Adjusting capital expenditure plans to the macro situation.

Operational excellence

- Continuous improvement of key performance indicators.
- Leveraging segment synergies in Poland and Canada.

Actual performance in 2018:

Increased hydrocarbon production in Poland and Canada

- 15% year-on-year growth of average production, to 18,000 boe/d, i.e. by 2,400 boe/d.
  - Poland: 1,000 boe/d.
  - Canada: 17,000 boe/d.

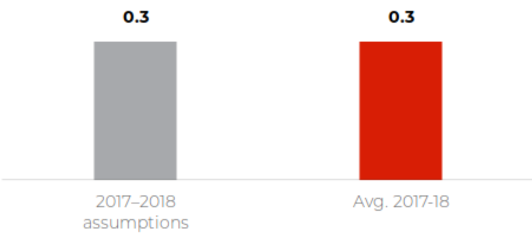
- Increase of 58.0 mboe in 2P hydrocarbon reserves, to 210.6 mboe (38% yoy).
  - Poland: 13.0 mboe.
  - Canada: 197.6 mboe.

- Number of wells (net) optimised by 3.4, including:
  - Poland: 3.0 wells (net).
  - Canada: 16.4 wells (net).

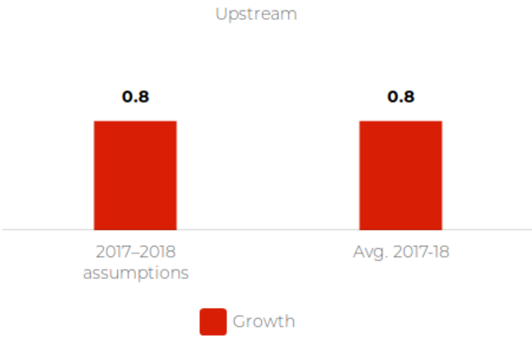
Operational excellence

- Optimisation projects, including netback improvement.

LIFO-based EBITDA growth [PLNbn]



Capital expenditure [PLNbn], average annualised



Key success factors for the strategy

	UoM	Actual 2016	Actual 2017	Actual 2018
Financial KPIs				
LIFO-based EBITDA (before impairment losses)	PLN bn	9.4	10.4	8.3
Downstream	PLN bn	8.1	8.7	6.0
Detal	PLN bn	1.8	2.0	2.8
Upstream	PLN bn	0.3	0.3	0.3
Financial leverage	%	11.5	2.2	15.7
Net debt/LIFO-based EBITDA (before impairment losses)	X	0.35	0.07	0.67
KPIs – Downstream				
Share of Polish fuel market[1]	%	54.5	54.2	57.4
Refining capacity utilisation	%	86	94	95
Olefins production capacity utilisation	%	47	78	74
Crude throughput at the ORLEN Group	million tonnes	30.1	33.2	33.4
Fuel yield at PKN ORLEN	%	79	80	81
KPIs – Retail				
Share of fuel sales in home markets[1]	%	14.88	15.2	16.2
Sales per service station	million litres	3.8	4.1	4.3
Number of service stations effectively in operation[1]	X	2,673	2,742	2,748
KPIs – Upstream				
Hydrocarbon production	mln boe/year	5.0	5.7	6.6
Hydrocarbon reserves	mln boe	113.8	152.6	210.6
Number of new wells (net)	X	18.1	17.5	19.4

[1]*State at the end of the period*

Definitions:

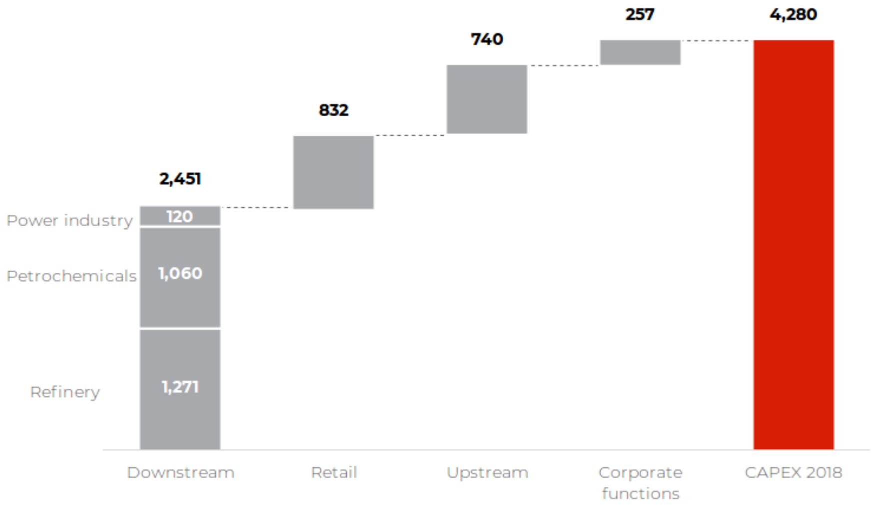
- **ORLEN Group's EBITDA** − EBIT before depreciation and amortisation.
- **Net financial leverage** − net debt/equity x 100%.
- **Net debt** – long-term borrowings and other debt instruments + short term borrowings and other debt instruments - cash and cash equivalent.
- **Share of Polish fuel market**− the ratio of the volume of fuels (petrol, diesel oils and light fuel oils) sold by PKN ORLEN to the total volume sold on the market.
- **Olefins production capacity utilisation** – the ratio of theoretical production capacities to actual output.
- **Olefin unit** − steam cracking unit, where in a high temperature, in the presence of steam, alkanes (saturated hydrocarbons with single bonds only between carbon atoms) are transformed into alkenes (hydrocarbons with one carbon-carbon double bond), Alkenes are classified as olefins, which has given the unit its name. The process consists in transforming ethane propane, butane and lower gasoine fractions (or even heavy fuel oil and hydrocracking residuum) mainly into ethene (commonly known as ethylene) and propene (propylene). The by-products are post-pyrolysis fractions: c4, post-pyrolysis gasoline and post-pyrolysis oil. Ethylene and propylene may later be used in various processes to manufacture a wide array of products, from polyolefins (polyethylene and polypropylene), to various plastics, to PVC (polyvinyl chloride) or glycol (antifreeze liquids).
- **Refining capacity utilisation**− the ratio of processing capacities of a refinery to actual throughput.
- **Crude throughput at the ORLEN Group**− total volume of crude oil processed by the ORLEN Group's refineries.
- **Fuel yield**– aggregate medium and light distillate yields.
- **Share of fuel sales in home markets** − volume of fuels sold by the ORLEN Group at service stations in Poland, Germany and Lithuania.

- **Sales per service station** − average sales of fuels and non-fuel products and services (shops and food services) per service station.
- **Hydrocarbon production** − total volume of hydrocarbons (including natural gas, crude oil, condensate and the other liquid hydrocarbons – ethane, propane and butane) produced from fields and treated to the extent enabling them to be transported and sold.
- **Hydrocarbon reserves** − those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. In addition, reserves must meet four criteria under defined development projects: they must be discovered, recoverable, their production must be commercially viable, and, at the effective date of the evaluation, must remain in the subsurface. Reserves are further classified depending on the level of estimation certainty and may be divided into subclasses based on the degree of completion of a given project and/or its degree of development and production progress.

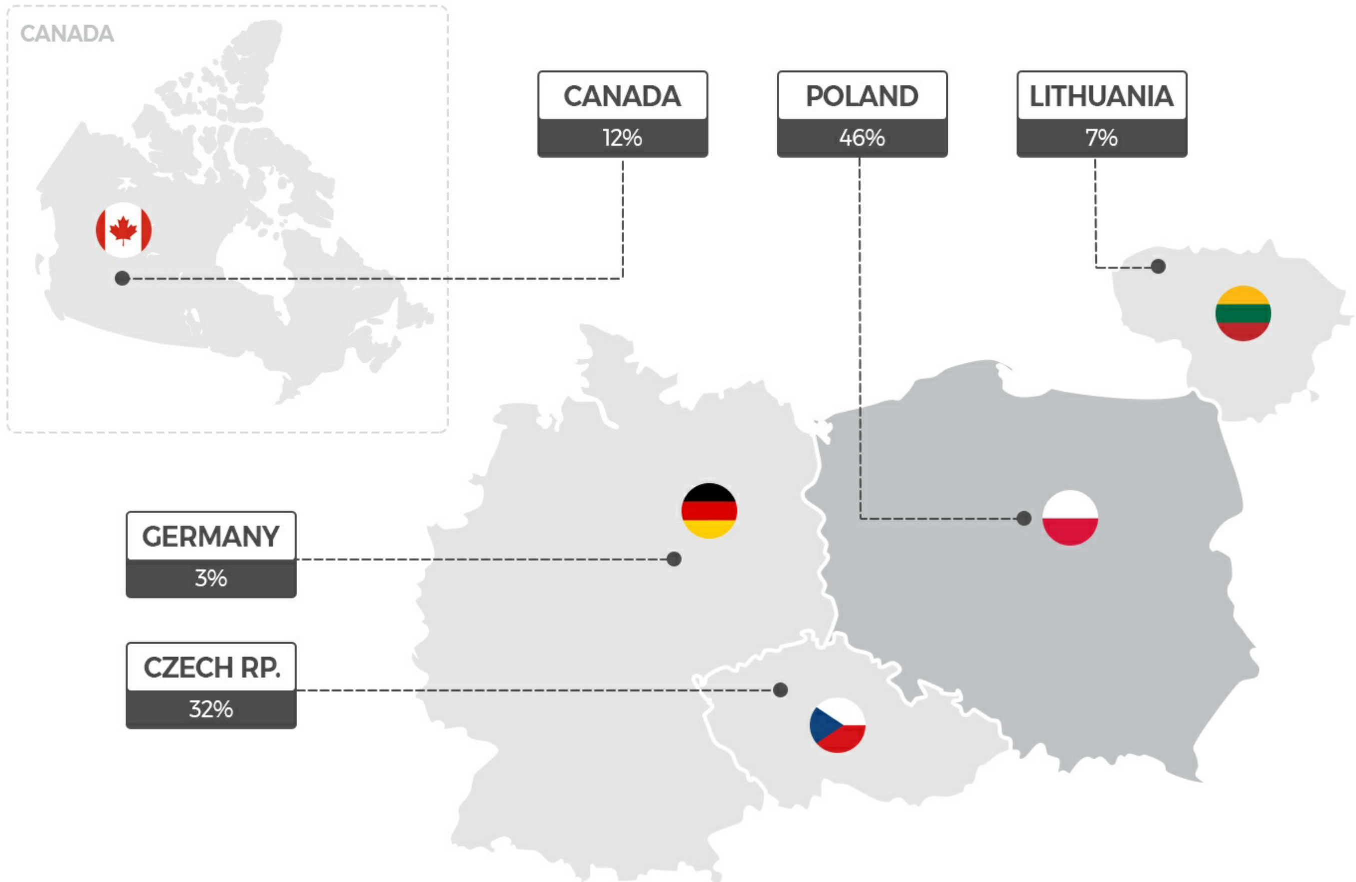
Implementation of Investment Projects

The ORLEN Group manages the structure of its capital expenditure in response to market situation, and focuses on the most effective investment projects. The ORLEN Group financial condition is stable, with cash flows and available financing sources sufficient to implement the investment plans.

Capital expenditures (CAPEX) [PLN million]



Capital expenditures by operating markets [%]



The most significant investments realised in 2018 comprised of:

DOWNSTREAM

- Construction of CCGT in Włocławek and Płock with infrastructure.
- Construction of polyethylene unit (PE3) in Litvinov.
- Construction of PPF Splitter unit in Lithuania.
- Construction of a metathesis unit in Płock.

RETAIL

- 64 new services stations opened (44 in Poland, 9 in Germany, and 11 in the Czech Republic).
- 109 service stations upgraded and rebranded (13 in Poland, 1 in Germany and 95 in the Czech Republic).
- 306 new Stop Cafe/Star Connect (including O!SHOP outlets).

UPSTREAM

- Canada – PLN 534 million / Poland – PLN 206 million.

Monitoring of Strategy Implementation

Monitoring of the strategy is ensured through a uniform system of regular tracking of the progress in its implementation.

After the strategy was approved, we carried out the process of its operationalisation, which consisted in defining precisely the projects, initiatives and specific quantity targets as detailed targets for individual organisational units in each segment and business area. The approved detailed targets for each KPI are of key importance to attaining the objectives outlined in the strategy and ensure effective monitoring of our strategic initiatives.

Operationalisation of the strategy is of particular importance because it ensures:

- Clear communication of the Management Board's expectations – facilitating implementation of the strategy at all levels of the organisation, in all segments and areas of the Group.
- Involvement of all management staff in implementing the objectives, in line with the strategy and the adopted corporate values.

The strategy monitoring methods and persons responsible for this task are listed in the table below.

	Monitoring measures	Forum
Review of the strategy	• Review of implementation of strategic objectives (KPIs and projects). • Review of strategic assumptions. • Review of the Company's activities and the macro environment.	Management Board/ Supervisory Board
Sub-strategies/strategic projects	• Review of the progress of strategic projects and achievement of KPIs across segments.	Corporate Strategy Committee
Day-to-day business	• Review of the KPIs of key importance to the strategy's success.	Key managers

Short-term Market Outlook

The ORLEN Group operates in a changing macro environment. Trends in the economy and employment, as well as other macro factors significantly influence the consumption of fuels and petrochemical products, ultimately impacting sales volumes and prices. Therefore, the Group monitors key economic and market indicators on an ongoing basis.

Market prospects in 2019

Expected macroeconomic environment

- **GDP forecast for 2019** - Poland 3.6%, the Czech Republic 3.3%, Germany 1.5%, Lithuania 2.8%.
- **Brent crude price** – crude oil price are expected to remain at a comparable level with the average price in 2018.
  Predicted pressure on crude oil price due to forecasted slowdown of global economy and growth of crude oil production in USA will be limited by the effect of agreement between OPEC+ countries on decreasing crude oil production by 1.2 million bbl/d.
- **Downstream margin** – expected to remain at comparable level with the average downstream margin in 2018.
- Refining margin with differential Brent/Ural is expected to growth as an effect of growing demand for medium distillates and falling demand for Ural crude oil resulting from upcoming implementation of IMO regulation in 2020. Positive impact of refining margin with differential Brent/Ural growth will be offset in relation with decline of petrochemical margins as a result of start-up of new petrochemical capacity which based mainly on less expensive feedstock. Supporting factor for downstream margin is predicted further increase of fuel and petrochemical products consumption on home markets.

Projected market trends

- **Fuel consumption** – expected stabilisation of demand for gasoline and slightly higher demand for diesel oil in Czech Republic, Germany and Lithuania. In Poland further growth of demand for gasoline and diesel oil is expected.

Legislative changes

- **Restricted Sunday trade** – in 2019 trade in Poland will be permitted only on the last Sunday of the month. The Sunday trade ban does not apply to petrol stations.
- **Emission charges** – entering into force since 2019.
- **NIT** – in 2019 basic level of NIT is 8.0% PKN ORLEN will be able to reduce the blending ratio to 5.57%.

Investment activities of the ORLEN Group

Main development investments in 2019

DOWNSTREAM

- Expansion of fertilizer production capacity in Anwil.
- Construction of a polyethylene unit in Czech Republic.
- Construction of installations within the framework of Petrochemistry Development Programme.
- Preparatory project for construction of Visbraking unit in Płock.
- Construction of charges for electric cars in Poland.
- Preparatory project for construction of Offshore Wind Farms on the Baltic Sea.

RETAIL

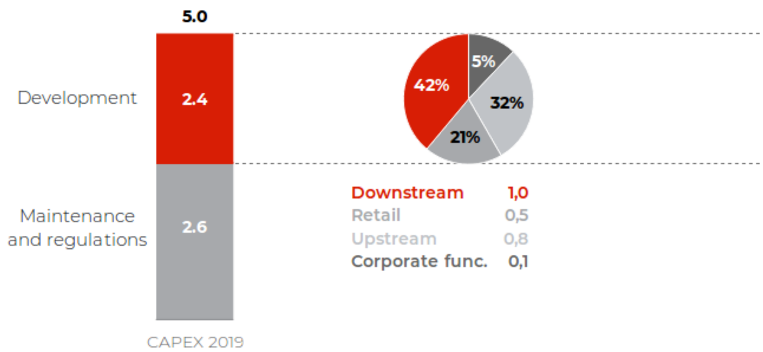
- Expansion of the service station chain (35 new CODO stations).
- Development of the Stop Cafe 2.0 food service format (more than 180 new catering outlets).
- Launch of new services and products.

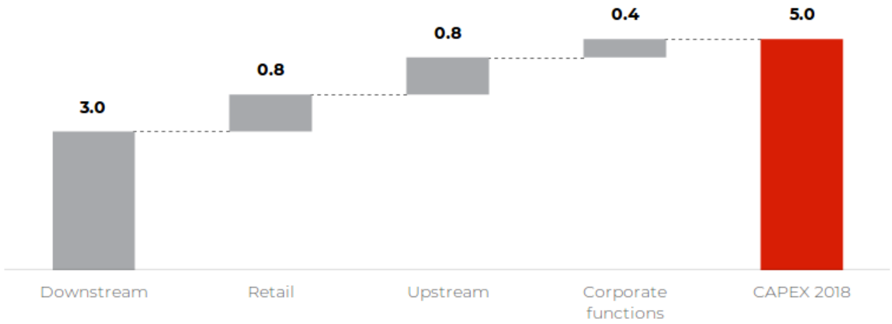
UPSTREAM

- Capital expenditure: Canada – c.a. PLN 600 million/ Poland – c.a. PLN 200 million.

CAPEX 2019

The level of capital expenditures by segments in 2019 [PLN billion]





Scheduled maintenance shutdowns

- **Maintenance shutdowns of production units at the ORLEN Group in 2019:**
- - **PKN ORLEN:** lower scope of scheduled maintenance shutdowns – HOG unit and Oil Block annual shutdown; scheduled for April 2019 start-up of CCGT Włocławek unit after turbine repair; there are no scheduled significant shutdowns in petrochemical area.
  - **ORLEN Lietuva Group:** lower scope of scheduled maintenance shutdowns – spring short maintenance shutdown and shutdown of Visbraking and Vaccume Flasher unit.
  - **Unipetrol Group**: lower scope of scheduled maintenance shutdowns in refining area – scheduled shutdowns of Hydrocracker and Visbreaking unit in Litvinov refinery. There are no scheduled significant shutdowns in petrochemical area.
  - **Anwil:** scheduled shutdown of Fertilizers Complex in the summer 2019 and PVC Complex in the fall 2019.
  - **BOP:** scheduled shutdown of PE2 unit.

CSR Strategy Implementation

Our social responsibility initiatives are defined in the CSR strategy, which is consistent with the business strategy. The ORLEN Group has in place the 'Core Values and Standards of Conduct of PKN ORLEN S.A.', a code of ethics offering guidance to our employees on how to act ethically and responsibly, both inside and outside the Company.

The activities undertaken in 2018 in pursuance of the CSR strategy focused on three principal areas: **Organisation, Close environment** and **Distant environment.**

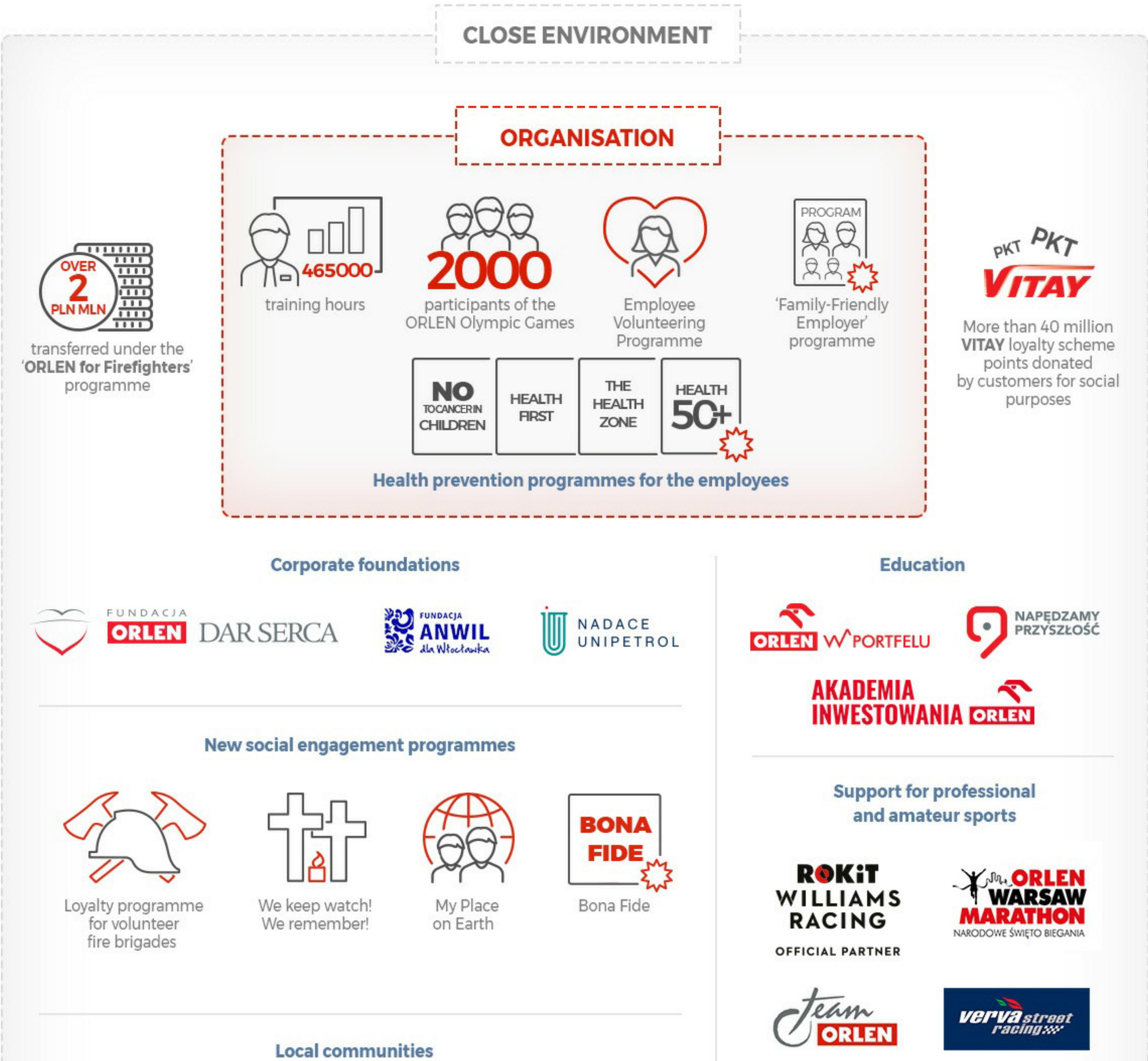
In the first one, **Organisation**, the key goal is to build lasting relations with employees based on diversity, sense of security, development opportunities, and combining social and professional roles.

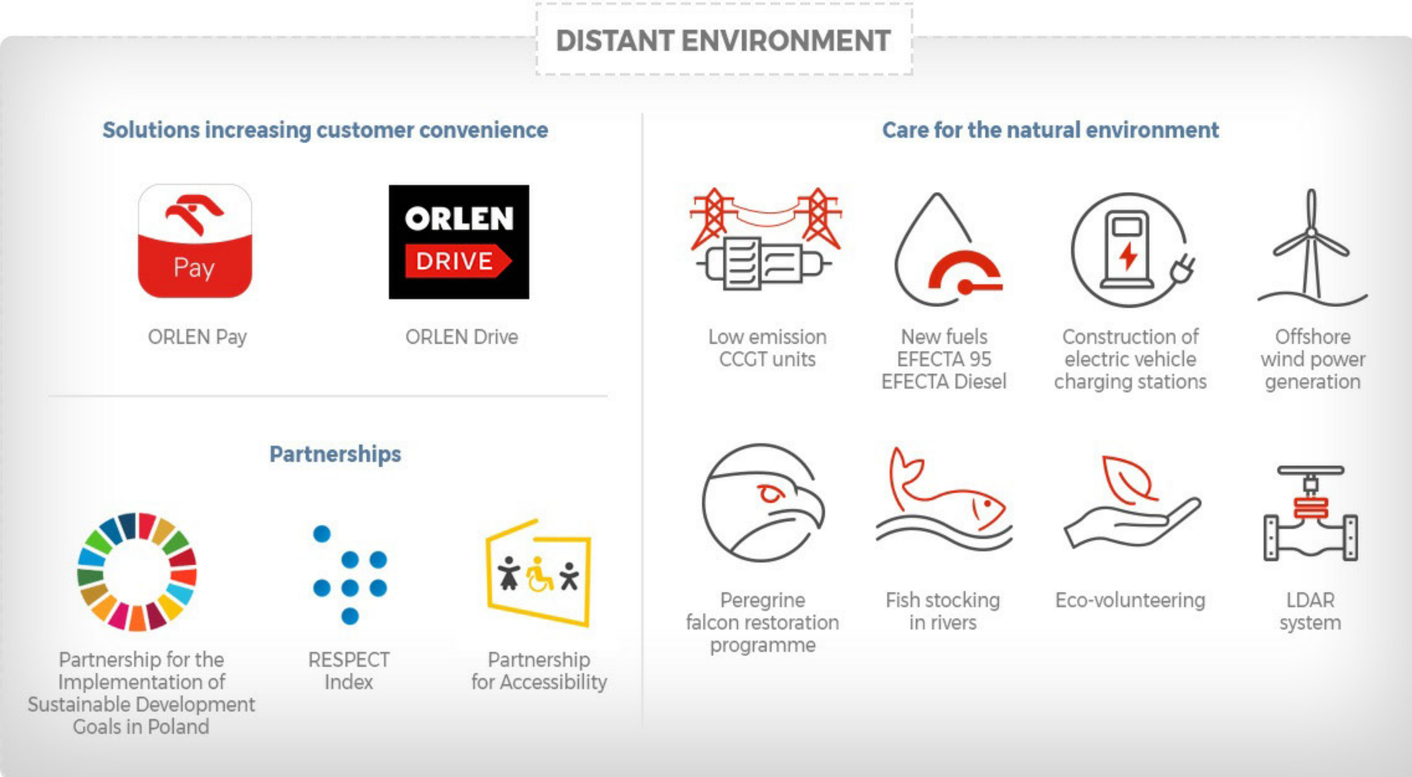
In the second area, **Close environment**, priority is given to developing social conscience and responsibility in trading partners and customers through sharing best practices and knowledge, and implementing most exacting CSR standards. Our activities in this area are centred around building the image of a responsible company, pursuing social outreach projects, promoting CSR concepts among Stakeholders and encouraging their responsibility.

In the third area, **Distant environment**, the ORLEN Group aspires to implement its strategy, promote innovation and set top industry standards in business ethics and environmental protection. In 2018, we continued to foster the principles of social responsibility and business ethics, we sought to develop environmental protection solutions that can be used by service station customers, and we engaged in projects creating equal opportunities for people facing social exclusion, the disabled in particular.

We also worked on developing a new ORLEN Group CSR Strategy until 2022, providing a coherent plan of action with regard to social responsibility initiatives, based on examination of the actual needs of all Stakeholder groups. The new CSR strategy was adopted in December 2018. Its summary became part of the ORLEN Group's updated business strategy. Its main objectives are to ensure consistency of business and social goals and to enhance the image of PKN ORLEN as a CSR and sustainability leader. The strategy defines new areas of CSR activities: Society, Environment, Employees, Customers and Trading Partners. An important tool for the implementation of the CSR strategy is the PKN ORLEN Charitable Giving Policy, which sets out the priorities of the Company's charitable involvement and the rules for providing support.

The social impact of the ORLEN Group in 2018





Organisation

In the first pillar, Organisation, the key goal is to build lasting relations with employees based on diversity, sense of security, development opportunities, and combining social and professional roles. In 2018, we continued efforts focusing on: **increasing safety at work, supporting employees in taking care of their health, creating opportunities for their professional development, and encouraging them to engage in community outreach projects**.

The ORLEN Group believes in **social dialogue** based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules. The rules of social dialogue are founded on internal regulations and generally applicable laws, which facilitates development of constructive and lasting solutions in partnership with employee representatives. The ORLEN Group provides its employees with **social support in the form of various benefits and allowances**, including holiday allowances to partly pay for holidays or sanatorium treatment, child care, leisure activities for children and youth, school starting kits for children, recreation and sports activities, rehabilitation therapies, cultural and educational activities, rehabilitation camps for a disabled child and an accompanying parent, support for low-income families, non-returnable financial support, returnable housing loans, and purchase of Christmas gifts for children.

As a company implementing modern-day solutions aimed at keeping the balance between work and family life, PKN ORLEN carries out the **Family-Friendly Employer**' programme, offering such benefits as additional two days off to care for a child under three years old, two days off to care for a disabled child under 24 years old, a nursery school for children of ORLEN Group employees, one additional hour for breastfeeding, medical care during pregnancy, baby feeding rooms, gifts for newborn babies, and providing employees on parental/childcare leaves with up-to-date information on developments across the Group. Many of the components of this programme have also been implemented by other ORLEN Group companies as part of best practice sharing.

PKN ORLEN also provides **extensive medical care** going beyond the scope of occupational medicine. Medical services and other healthcare programmes are offered in cooperation with Centrum Medyczne Medica Sp. z o.o. of Płock and the Military Institute of Medicine of Warsaw as part of the impact of work environment on health. Workplace preventive examinations and health promotion campaigns were organised in 2018.

The key projects implemented in the Organisation include: the 'Health 50+' disease prevention programme; the Health Zone; medical examinations of employees' children aged from nine months to six years under the programme called 'Say NO to Cancer in Children'; preventive examinations held in Płock, Włocławek and Ostrów Wielkopolski under the nationwide 'Health First' programme; open meetings for employees, devoted to disability issues; Occupational Safety and Healthcare Day at the ORLEN Group.

In 2018, work was under way to develop a new formula of the**employee volunteering programme**, adapted to employees' needs, and to facilitate involvement of both the ORLEN Group employees and external Stakeholders, including employees' families. From now on, the programme will be implemented by the ORLEN – DAR SERCA Foundation. The top priority of this project is to inspire and encourage social involvement, to support bottom-up initiatives of employees, both financially and organisationally, as well as to propose top-down initiatives which can be joined by interested volunteers.

UN Sustainable Development Goals supported by the Company's activities in the Organisation

Close Environment

The second pillar of PKN ORLEN's CSR Strategy for 2015–2017 is the Close Environment. In the Close Environment, **priority is given to developing social conscience and responsibility in trading partners and customers through sharing best practices and knowledge, and implementing most exacting CSR standards.** Our activities in this area are centred around building the image of a responsible company, pursuing social outreach projects, promoting CSR concepts among Stakeholders and encouraging their responsibility. In 2018, we worked to expand the reach of our CSR projects and to improve their recognisability. We created new, large programmes with a nationwide reach, enabling us to bring support to local communities, for instance the **'My Place on Earth' grant programme, the 'Bona Fide**' scholarship programme, the 'We keep watch! We remember!' programme, and a loyalty scheme dedicated to the voluntary fire-fighting units. We continued our Programme for Firefighters **(formerly: fire-fighting unti support programm)** and the '**For Eagles**' and '**My Above-Average Interests**' scholarship programmes. In addition, the ORLEN DAR SERCA Foundation also runs a programme for children from Family Group Homes and funds **special scholarships**, e.g. the 'Life to the Full' scholarship. In 2018, we created an innovative tool for communicating with local communities – the **Free Information System for Residents of the Płock Region**. Also in 2018, we organised for the first time the **Fair for PKN ORLEN Suppliers**, and launched the **'ORLEN IN YOUR WALLET'** loyalty scheme for retail shareholders. In 2018, PKN ORLEN also actively supported the foundations of which it is one of the founders or benefactors, including the Grant Fund for Płock Foundation, the Ignacy Łukasiewicz Museum of Oil and Gas Industry in Bóbrka Foundation, the Polish National Foundation, the Polish Economic Security Foundation, and the Growing Up Together Foundation.

PKN ORLEN is an undisputed Patron of Polish Sports, supporting professional and amateur sports. In 2018, the Company sponsored the Polish Volleyball Federation, Polish Athletics Federation, Wisła Płock Club (football and handball), Polish Olympic Committee, and others. The ORLEN Sports Group was expanded to 20 players. Experienced and titled athletes, such as Anita Włodarczyk, Paweł Fajdek or Piotr Małachowski, were joined in the ORLEN Sports Group by young and talented ones: Piotr Lisek, Justyna Święty-Ersetic and Iga Baumgart-Witan. The Company also actively supports motorsports and paragliding. The range of motorsports supported by PKN ORLEN was broadened. In November 2018, the Company signed a sponsorship contract with the Formula 1 Williams Racing Team, which will be joined in the 2019 season by Polish driver Robert Kubica. PKN ORLEN also offers assistance to young, talented motorsports riders as part of its 'Orlen Team Academy'. In 2018, the Company lent support to the 'School Sports Club' project initiated by the Ministry of Sport to build a passion for physical activity among primary school children, promote healthy lifestyles and prevent obesity among children, as well as to look for successors of today's champions. The programme reached almost 350 thousand students across Poland. PKN ORLEN was the organiser of the largest running event in Poland: 'ORLEN Warsaw Marathon'. Since 2010, PKN ORLEN has organised 'VERVA Street Racing', the largest motoring festival in Poland. During all previous editions, over two thousand sports and performance vehicles took part in the event, attracting over 500 thousand spectators.

PKN ORLEN, as a national giant, supports initiatives designed to protect Polish national heritage which, by virtue of their rank, promote Polish culture. For instance, the Company cooperates with the Fryderyk Chopin Institute – the following events were held as part of the cooperation: the 1st International Chopin Competition on Period Instruments, the 'Chopin's Warsaw Piano' Extraordinary Concert organised to mark completion of reconstruction of the Buchholtz piano, financed with funds from PKN ORLEN and the ORLEN DAR SERCA Foundation, and the 14th edition of the Chopin and His Europe Festivals. In 2018, PKN ORLEN was also involved in the organisation of concerts held abroad (in London), as part of the celebration of the 100th anniversary of restoration of Poland's independence and the 22nd edition of the Ludwig van Beethoven Easter Festival.

The Company provided patronage to a number of events commemorating the 100th anniversary of Poland's regaining independence. As part of the celebrations, PKN ORLEN carried out a number of its own initiatives and sponsored events organised by external institutions, including the 'Cruise of Independence', the 'Polish Family Album' exhibition at the Warsaw Chopin Airport showing Polish paintings from the National Museum in Warsaw, the 'HerosON – Switch on History' project, and the 'Digital Independence' conference.

The Company actively collaborated with local communities, particularly in Płock and other places where it operates. For the last three years, the Company has implemented its 'ORLEN for Płock' programme. In 2018, 98 projects were carried out as part of this project, including for instance Płock Gardens of Light, financing of teaching aids for the Physics and Chemistry laboratories of six secondary schools in Płock, organisation of Chemist's Days and Orlen Olympics, provision of active support to the Płock voluntary water rescue service WOPR (with whom the Company arranged a safe public bathing spot in Grabina near Płock), free swimming lessons for the city residents, and support of the Wisła Płock handball and football teams.

UN Sustainable Development Goals supported by the Company's activities in the Close Environment

Distant Environment

The third pillar of PKN ORLEN's CSR Strategy for 2015–2017 is the Distant Environment. Distant Environment is the area where PKN ORLEN aspires to **implement its strategy, promote innovation and set top industry standards in business ethics and environmental protection.** In 2018, we continued to foster the principles of social responsibility and business ethics, we sought to develop environmental protection solutions that can be used by service station customers, and we engaged in initiatives creating equal opportunities for people facing social exclusion, the disabled in particular. Some of the key projects we pursued in 2018 included construction of an electric vehicle charging station network (a pilot scheme), marketing of new EFECTA 95 and EFECTA Diesel fuels, and launch of an offshore wind projects. In the area of environmental protection, we implemented the LDAR system in the refinery part of our Płock production plant, carried out a wildlife survey on the plant's premises, participated in the 'Clean River Week' and in a number of stocking of water reservoir initiatives, to name just a few. By participating in important conferences devoted to industry-specific or economic issues (e.g. Congress 590, COP24, Economic Forum in Krynica, European Economic Congress, Development Vision Forum) representatives of the ORLEN Group shared best practices applied in our organisation.

What deserves a special mention is our far-reaching approach to social problems. PKN ORLEN has continued its involvement in the initiative of the Ministry of Entrepreneurship and Technology (until January 2018 Ministry of Development) called **Partnership for the Implementation of Sustainable Development Goals in Poland**. In April 2018, PKN ORLEN signed a **declaration of Partnership for Accessibility**, affirming its commitment to cooperate in the implementation of the government's 'Accessibility Plus' programme. By signing the agreement PKN ORLEN confirmed that it is committed to following the idea of accessibility and equal treatment in all aspects of its operations, and will strive to ensure equal opportunities not only within its own organisation, but also in its environment. Since 2011, PKN ORLEN has been pursuing the **Policy Defining the Work Conditions and Rules for the Disabled** with the aim of ensuring that such persons are offered equal opportunities in access to employment, continuous professional advancement and promotion, as well as raising awareness of the necessity to respect the rights of people with disabilities. Under the 'Family-Friendly Employer' programme, employees who are parents of children with disabilities have two extra days off work per year until the child reaches the age of 24 years. The Company also operates a Company Social Benefits Fund, from which its current and former employees can obtain support to finance their disabled child's stay in a rehabilitation camp with an accompanying adult. In addition, the Company participates in various CRS initiatives dedicated to people with disabilities. PKN ORLEN employees actively engage in employee volunteering initiatives. Twice a year, we organise pre-Christmas fairs at the Company headquarters with the participation of institutions providing care to the disabled from Płock and the neighbouring areas.

Facilities for people with disabilities are put in place at PKN ORLEN stations. 1 350 service stations have toilets adapted to the needs of the disabled. At more than 1 000 stations there are special parking spaces for the disabled. We are gradually implementing modern solutions which are important from the point of view of accessibility of the services. Customers can pay at the fuel dispenser using the ORLEN Pay mobile application. PKN ORLEN was the first in Poland to open a service station offering the ORLEN Drive service for customers who opt for refuelling their vehicle and ordering food or drink without leaving the car. Working in partnership with the INTEGRATION Foundation, we prepared a training programme for our service station sales staff who have contact with the disabled. In recent years, more than 30 thousand service station employees received the training.

UN Sustainable Development Goals supported by the Company's activities in the Distant Environment

Activities under the Charitable Giving Policy

In 2018, PKN ORLEN updated its Charitable Giving Policy, which included defining broader priorities for the Company's charity activities. In addition to projects aimed at supporting development of local communities and reducing inequalities, PKN ORLEN also supports initiatives related to environmental protection, safety, health, sports, education and culture. The Charitable Giving Policy is a vital part of the Company's corporate social responsibility – it is one of the tools that help us meet our obligations as a responsible entrepreneur, employer, community member and good neighbour. The ORLEN Group initiates and carries out charity activities, and partners with other organisations in charitable initiatives. An important role in that area is played by the **ORLEN DAR SERCA Foundation**, which was established in 2001 to fulfil the social responsibility mission of its founder, PKN ORLEN.

The Foundation provides comprehensive assistance to Family Children's Houses by funding scholarships, trips during summer and winter holidays, financing additional educational activities and rehabilitation care for the children, covering the cost of dwelling repairs or redecorations, or financing fuel cards. At the moment the Foundation provides assistance to children from more than 300 such homes. The Foundation runs numerous scholarship programmes, including for children of ORLEN Group employees and for students from Płock and the surrounding area. The aim of such programmes is to help young people in their education and improve their motivation, but also to encourage their social involvement, e.g. through participation in volunteer work. In 2018, in cooperation with the J.K. Steczkowski BGK Foundation, the Energa Foundation, the LOTOS Foundation, and the Lotto Foundation, our ORLEN DAR SERCA Foundation launched a new scholarship programme – '**Bona Fide**'. It is designed to enable the most talented Polish undergraduates to study at either of the best 50 universities included in the Shanghai Ranking (ARWU). The first edition of the programme was dedicated to persons studying subjects related to administration. The Foundation also engages in initiatives focused on improving safety and healthcare standards. For years it has been running the **Programme for Firefighters** (formerly: Fire-Fighting Unti Support Programme), under which in 2018 a record-breaking amount of over PLN 2 million was provided to 360 units. The money was used to purchase fire-fighting equipment, water and flood rescue equipment, road and technical rescue equipment, as well as medical, chemical, environmental and technical rope rescue equipment. Over the 18 years of the programme operation, the firefighters received assistance valued at PLN 12 milllion. Local community projects are another important area of the Foundation's activity. In 2018, it completed the first edition of the '**My Place on Earth**' grant programme. Under the programme, the Foundation selected (by way of a competition) and financed social initiatives put forward by non-profit organisations in such areas as sports, safety, education, history, culture and environmental protection. More than PLN 2 million was transferred to local communities (293 entities) from different parts of Poland as part of this project. The aim of My Place on Earth was to support the development of local communities, including by reaching small towns and encouraging activity of rural communities. In 2018, the Foundation also carried out the first edition of its '**We keep watch! We remember!**' programme, whose aim is to restore the due respect and remembrance to the heroes who died during World War II.

The CSR initiatives of PKN ORLEN and the ORLEN DAR SERCA Foundation also engage **members of the VITAY loyalty scheme and users of the YANOSIK application**. Many of them choose to donate their points to social causes, including support to Family Group Homes or environmental projects.

The ORLEN Group has also established other corporate foundations – the **ANWIL for Włocławek** and the Unipetrol Foundation. The ANWIL for Włocławek Foundation runs competitions for the grants it offers to co-finance projects aimed at raising the level of education of the Włocławek residents, counteracting social and economic exclusion, improving the condition of the natural environment, preserving the historical heritage, as well as protecting and promoting health. Objectives of the Unipetrol Foundation include providing support to students of natural sciences- and technology-oriented faculties through internships and work placements and through grant programmes dedicated to secondary school students.

Responsible Year

January

- Pilot project commenced to install electric car chargers at ORLEN service stations

  SDG 7 – Affordable and clean energy

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- Discounts on fuel at ORLEN stations for holders of the Large Family Card

  SDG 10 – Reduced inequalities

  SDG 11 – Sustainable cities and communities

- New vehicles for the Płock police

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- Winter holidays organised for children from family group homes

  SDG 1 – No poverty

  SDG 10 – Reduced inequalities

- Second edition of the 'Safe External Contractor' competition

  SDG 3 – Good health and well-being

February

- PKN ORLEN for the fifth consecutive time, and as the only Polish business, in the ranking of companies awarded the title of the 'World's Most Ethical Company'

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- ORLEN as Poland's 'Most Valuable Brand' according to the Rzeczpospolita daily's ranking

  SDG 8 – Decent work and economic growth

  SDG 9 – Industry, innovation, infrastructure

  SDG 11 – Sustainable cities and communities

  SDG 12 – Sustainable consumption and production

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN named 'Top Employer' for the seventh consecutive time

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- 'Regions' Pantry' – promotion of local products from Polish producers

SDG 8 – Decent work and economic growth

SDG 11 – Sustainable cities and communities

- City bike rental at ORLEN stations

  SDG 3 – Good health and well-being

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- 23rd Winter Olympic Games 2018 and 12th Winter Paralympic Games

  SDG 3 – Good health and well-being

  SDG 10 – Reduced inequalities

- Launch of an experimental station developing the technology for producing next generation bio-components from oil-producing algae

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- Joint project of ORLEN and the DKMS Foundation

  SDG 3 – Good health and well-being

  SDG 17 – Partnerships for the goals

- A Star service station in Germany with AdBlue terminals

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- ORLEN's support to the police in the fight against crime

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- Purchase of road rescue equipment for fire fighters

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

March

- Initiation of a wind farm project

  SDG 7 – Affordable and clean energy

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- Car sharing service at ORLEN service stations

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- Wildlife survey on the premises of the PKN ORLEN refinery and petrochemical plant in Płock

  SDG 13 – Climate action

  SDG 14 – Life below water

  SDG 15 – Life on land

- Reconstruction of the historic Buchholtz piano

  SDG 4 – Quality education

- ‘Headed for ORLEN’ work placement programme

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- ANWIL’s support to the Cursed Soldiers Memorial Race in Włocławek

  SDG 4 – Quality education

April

- New generation fuels: EFECTA 95 and EFECTA Diesel

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

- ORLEN Warsaw Marathon – the national running day

  SDG 3 – Good health and well-being

- PKN ORLEN joins the ‘Accessibility Plus’ programme

  SDG 3 – Good health and well-being

  SDG 9 – Industry, innovation, infrastructure

  SDG 10 – Reduced inequalities

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

  SDG 17 – Partnerships for the goals

- Closing of the application period under the fire-fighting unit support programme

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN’s participation in the ‘Two Hours for the Family’ campaign

  SDG 5 – Gender equality

  SDG 8 – Decent work and economic growth

- Distinction awarded during the 7th CSR Fair to PKN ORLEN as one of the companies that consistently implement and promote sustainability in business

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

  SDG 9 – Industry, innovation, infrastructure

  SDG 11 – Sustainable cities and communities

  SDG 12 – Sustainable consumption and production

- Green Frog Award 2018 for the ORLEN Group 2016 Integrated Report

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- Clean Water Week – cleaning of areas around Lake Rybnica

  SDG 13 – Climate action

  SDG 14 – Life below water

- Final of the 4th National Chemical Competition of Three Faculties at the Łódź University of Technology

  SDG 4 – Quality education

- Stocking of the Elbe River in the Czech Republic

  SDG 14 – Life below water

May

- Outdoor gyms at ORLEN service stations

  SDG 3 – Good health and well-being

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- PKN ORLEN as the main sponsor of the Independence Cruise

  SDG 4 – Quality education

- European robin under strict protection at PKN ORLEN

  SDG 15 – Life on land

- Ornithological cruise on the Vistula River

  SDG 4 – Quality education

  SDG 15 – Life on land

- 24th Płock ORLEN Polish Open 2018

  SDG 3 – Good health and well-being

  SDG 10 – Reduced inequalities

- Final of the 4th grant contest of the ANWIL for Włocławek Foundation (projects integrating representatives of the 50+ age group in joint activities with children and young adults)

  SDG 3 – Good health and well-being

SDG 10 – Reduced inequalities

SDG 11 – Sustainable cities and communities

- 3th edition of ANWIL's 'Rich Harvest and Vouchers" competition

  SDG 12 – Sustainable consumption and production

- Stocking of the Bilina River in the Czech Republic

  SDG 14 – Life below water

- 'Fuelling Innovations' – new communication platform for Unipetrol

  SDG 4 – Quality education

- The Star brand in Germany as a partner of the EuroEyes Cyclassics cycling race in Hamburg

  SDG 3 – Good health and well-being

June

- The Chemists' Days and ORLEN Olympics 2018

  SDG 3 – Good health and well-being

- Publication of the ORLEN Group 2017 Integrated Report

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- The 'Holidaying with ORLEN' project

  SDG 1 – No poverty

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

  SDG 5 – Gender equality

- 'Good Energy Factory' volunteering project at the Residential Care Home in Goślice

  SDG 1 – No poverty

  SDG 10 – Reduced inequalities

  SDG 11 – Sustainable cities and communities

- PKN ORLEN at the Development Vision Forum

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN at the 5th Polish Chemical Industry Congress 2018

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN on top of the ranking of most sought-after employers

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- Award for PKN ORLEN in the ‘Patron of Culture’ category of the Annual Awards of the Minister of Culture

  SDG 4 – Quality education

- The ‘Year of Benefits with ORLEN’ project for ORLEN Group employees distinguished in the Employer Branding Excellence Awards 2018 competition

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- 4th edition of the national competition ‘Mr. Karp Restocks the Vistula’

  SDG 4 – Quality education

  SDG 14 – Life below water

- ANWIL as a strategic sponsor of the Wloclawek Basketball Club

  SDG 3 – Good health and well-being

- Mobile mini-laboratory – CANWILBUS sets off on its trip around Poland

  SDG 4 – Quality education

  SDG 12 – Sustainable consumption and production

- Final of the ‘Tree for a Bottle’ campaign

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

  SDG 15 – Life on land

- ‘Adventurous Holiday’ grant competition

  SDG 4 – Quality education

  SDG 11 – Sustainable cities and communities

- Series of educational events under the slogan “Active and Environmentally-Minded Residents of Włocławek = Opportunity for the Town’s Sustainable Development’

  SDG 4 – Quality education

  SDG 11 – Sustainable cities and communities

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- Peregrine falcon at the Litvinov production plant in the Czech Republic

  SDG 15 – Life on land

- Project initiated to construct electric vehicle chargers at Benzina service stations in the Czech Republic

  SDG 7 – Affordable and clean energy

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- Construction of the first test electric car charger by ORLEN Serwis

  SDG 7 – Affordable and clean energy

SDG 9 – Industry, innovation, infrastructure

SDG 13 – Climate action

- The Star brand in Germany supports waste reduction

  SDG 4 – Quality education

  SDG 11 – Sustainable cities and communities

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

July

- Launch of the ‘Drink Polish Juices” project

  SDG 8 – Decent work and economic growth

  SDG 11 – Sustainable cities and communities

- PKN ORLEN as a strategic partner of the ‘HeroesON - Switch on History!’ project

  SDG 4 – Quality education

- New athletes in the ORLEN Sports Group

  SDG 3 – Good health and well-being

- Preliminary design work on the construction of a 2G bioethanol unit at the ORLEN Południe plant in Jedlicze

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- Announcement of a competition for the ‘Best Research Project for PKN ORLEN’

  SDG 4 – Quality education

  SDG 9 – Industry, innovation, infrastructure

- We care about waterside safety: ORLEN – GIFT OF THE HEART Foundation’s donation for the local community

  SDG 3 – Good health and well-being

- 3rd edition of the ‘Start with ANWIL” project

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- Unipetrol’s campaign to promote chemistry in primary and secondary schools in the Czech Republic

  SDG 4 – Quality education

August

- ‘Bona Fide’ scholarship programme

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- ‘My Place on Earth’ – PKN ORLEN’s new social outreach project

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

  SDG 9 – Industry, innovation, infrastructure

  SDG 11 – Sustainable cities and communities

- Start of the nationwide ‘We keep watch! We remember!’ programme

  SDG 4 – Quality education

- Support for the Social Committee for the Protection of Graves of Home Army Battalion Soldiers in the Powązki cemetery

  SDG 4 – Quality education

- Project for the settlement of bees at the Spolana plant in the Czech Republic

  SDG 15 – Life on land

- ORLEN’s funding for the purchase of a lifeboat for the Płock Voluntary Water Rescue Service

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

September

- Final of the Fire-Fighting Unit Support Programme

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- ‘Slow Down Near Schools’ – joint campaign by PKN ORLEN and the YANOSIK application

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

- Verva Street Racing 2018

  SDG 4 – Quality education

- ‘School Sports Club’ programme

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

- Product line dedicated to vegans and vegetarians at ORLEN service stations

  SDG 3 – Good health and well-being

  SDG 12 – Sustainable consumption and production

- Signing of the Declaration of Cooperation with the Mazovia Education Office

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- 3rd edition of the ‘Energy for the Future’ internship programme

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- PKN ORLEN at the Economic Forum in Krynica

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- Charity match – ORLEN vs journalists

  SDG 3 – Good health and well-being

  SDG 10 – Reduced inequalities

- Occupational Health and Safety Week at the ORLEN Group

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

  SDG 11 – Sustainable cities and communities

- ‘Health First’ programme

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

  SDG 11 – Sustainable cities and communities

October

- PKN ORLEN in the ‘World’s Best Employers’ ranking by Forbes

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- Pro-environmental investment projects at ORLEN Południe

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- Opening of service stations in the ORLEN Drive format

  SDG 9 – Industry, innovation, infrastructure

  SDG 10 – Reduced inequalities

- Launch of implementation of the Anti-Corruption Policy at the ORLEN Group

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- Start of the ‘We Drive Poland Together’ image campaign

  SDG 8 – Decent work and economic growth

  SDG 9 – Industry, innovation, infrastructure

SDG 11 – Sustainable cities and communities

SDG 12 – Sustainable consumption and production

- 3rd edition of the ‘Energy for the Future’ internship programme

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- The ‘I Make Ripe Decisions and Eat Polish Apples!’ campaign at ORLEN service stations

  SDG 8 – Decent work and economic growth

  SDG 11 – Sustainable cities and communities

- PKN ORLEN as a strategic sponsor of the Polish representation at the 3rd Youth Olympic Games BUENOS AIRES 2018

  SDG 3 – Good health and well-being

- ORLEN Group 2017 Integrated Report awarded in ‘The Best Annual Report 2017’ competition

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- Open Door Day at the Płock production plant

  SDG 4 – Quality education

- 5. ANWIL – Włocławek Half Marathon

  SDG 3 – Good health and well-being

- ‘Reactions’ conference on the future of the automotive industry

  SDG 4 – Quality education

- Unipetrol’s support to the volunteer fire service in Litvinov

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- ORLEN Lietuva as a partner of the National Women Basketball Centre in Kaunas

  SDG 3 – Good health and well-being

  SDG 5 – Gender equality

- Cooperation agreement signed by ORLEN Lietuva and the University of Białystok Faculty of Economics and Information Technology in Vilnius

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- ORLEN Asfalt as a partner in the ‘Flying Road University’ project

  SDG 4 – Quality education

- ORLEN Eko volunteering project at the ‘Better Tomorrow’ family group home

  SDG 1 – No poverty

  SDG 10 – Reduced inequalities

SDG 11 – Sustainable cities and communities

- Christmas Card competition 2018

  SDG 4 – Quality education

  SDG 10 – Reduced inequalities

November

- Grant of three mobile laboratories to the National Reserve Administration

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- Launch of the ‘ORLEN in your Portfolio’ project

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

- PKN ORLEN as the official partner of the Formula 1 Williams Martini Racing team and Robert Kubica

  SDG 4 – Quality education

- Final of the ‘My Place on Earth’ grant programme organised by the ORLEN – GIFT FROM THE HEART Foundation

  SDG 3 – Good health and well-being

  SDG 4 – Quality education

  SDG 9 – Industry, innovation, infrastructure

  SDG 11 – Sustainable cities and communities

- Awards in the ‘For Eagles’ and ‘My Above-Average Interests’ scholarship programmes

  SDG 4 – Quality education

- Implementation of the LDAR system at the refinery in Płock

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- PKN ORLEN joins the ‘Pilot Maker Electro’ acceleration project

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- ‘Drop of Energy for Independent Poland’

  SDG 3 – Good health and well-being

- Launch of an educational programme for secondary schools in Płock

  SDG 4 – Quality education

- Publication of PKN ORLEN’s report ‘Pillars of business sustainability. Vision, Raw Materials and Talent’

SDG 4 – Quality education

- PKN ORLEN at the Congress 590 event

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- Commemorating retro brands: CPN and Petrochemia Płock

  SDG 4 – Quality education

- Project Management & Innovation Day 2018 at the ORLEN Group

  SDG 4 – Quality education

  SDG 8 – Decent work and economic growth

  SDG 9 – Industry, innovation, infrastructure

- Free Information System for the inhabitants of the Płock region

  SDG 4 – Quality education

- ANWIL as the main sponsor of the 17th Special Olympics Basketball Tournament in Kujawy and Pomerania

  SDG 3 – Good health and well-being

  SDG 10 – Reduced inequalities

- Stocking of the Bílina River

  SDG 14 – Life below water

- ‘I’m safe because I know...’ education workshops at primary schools in the Płock county

  SDG 4 – Quality education

December

- PKN ORLEN included in the RESPECT Index of the Warsaw Stock Exchange

  SDG 4 – Quality education

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN distinguished as a leader and pioneer of sales of Fairtrade products in Poland

  SDG 4 – Quality education

  SDG 12 – Sustainable consumption and production

  SDG 16 – Peace, justice and strong institutions

- Biofulel development programme at PKN ORLEN

  SDG 9 – Industry, innovation, infrastructure

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

- Appointment of the Anti-Corruption Coordinator at PKN ORLEN

  SDG 8 – Decent work and economic growth

  SDG 16 – Peace, justice and strong institutions

- First electric car charger installed at the ORLEN service station in Siewierz

  SDG 7 – Affordable and clean energy

  SDG 9 – Industry, innovation, infrastructure

  SDG 13 – Climate action

- Discount on fuel at ORLEN service stations under a loyalty programme for fire-fighters from volunteer fire-fighting units belonging to the National Firefighting and Rescue System

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

- PKN ORLEN as a partner of the COP24 climate summit in Katowice

  SDG 11 – Sustainable cities and communities

  SDG 12 – Sustainable consumption and production

  SDG 13 – Climate action

  SDG 16 – Peace, justice and strong institutions

- ‘Gardens of Light’ event in Płock

  SDG 4 – Quality education

- Announcement of projects in the Grant Fund for Płock programme

  SDG 11 – Sustainable cities and communities

  SDG 17 – Partnerships for the goals

- ‘Become a Santa Claus’ – employee volunteering project

  SDG 1 – No poverty

  SDG 10 – Reduced inequalities

  SDG 11 – Sustainable cities and communities

- ‘I’ Learn with ANWIL’ grant competition

  SDG 4 – Quality education

- New life saving equipment for the hospital in Ostrów Wielkopolski

  SDG 3 – Good health and well-being

  SDG 11 – Sustainable cities and communities

  SDG 16 – Peace, justice and strong institutions

Our Commitments

We report on our performance against the commitments for 2018, and make commitments for the forthcoming year.

Performance against the commitments for 2018

1 **Work actively towards the goals laid down in the UN’s 2030 Agenda for Sustainable Development**

PKN ORLEN has continued its involvement in the initiative of the Ministry of Entrepreneurship and Technology (until January 2018 Ministry of Development) entitled Partnership for the Implementation of Sustainable Development Goals in Poland. We have engaged in various activities, including support for local communities, development of education and sports, promotion of health and active lifestyles, ensuring safety, optimising the environmental impacts, and inspiring innovation. The initiatives we undertake or support are consistent with the 17 Sustainable Development Goals.

In 2018, most of the projects had a social focus. Among them, initiatives supporting Goal 10 – ‘Reduce Inequality within and among countries’, were of particular importance. In April, PKN ORLEN signed a declaration of Partnership for 'Accessibility', affirming its commitment to cooperate in the implementation of the government’s Accessibility Plus programme. By signing the agreement, we confirmed that we follow the idea of accessibility and equal treatment in all aspects of our operations, and strive to ensure equal opportunities not only within the organisation, but also in our environment. Since 2011, PKN ORLEN has been pursuing the Policy Defining the Work Conditions and Rules for the Disabled, with the aim of ensuring that such persons are offered equal opportunities in access to employment, continuous professional advancement and promotion, as well as raising awareness of the need to respect the rights of people with disabilities. Furthermore, under our Family-Friendly Employer scheme, employees and their families are provided with a number of benefits.

Read more about the projects supporting the Sustainable Development Goals in the ‘Responsible Year’ section.

2 **Actively support local communities through charity and sponsorship efforts**

In 2018, PKN ORLEN revised its Charitable Giving Policy, which included defining broader priorities for its charity efforts. In addition to projects aimed at protecting life and health and promoting education, a number of initiatives were identified in the area of development of local communities, environmental protection, promotion of safety as well as sports and culture. The Charitable Giving Policy is an important part of the Company’s corporate social responsibility, offering a tool supporting it in its role as a responsible business and employer, member of the local community, and good neighbour. The ORLEN Group not only initiates and carries out charity activities, but also participates in such initiatives as a partner. The ORLEN – GIFT FROM THE HEART Foundation plays an important role in the achievement of those objectives.

Read more about the initiatives undertaken for the benefit of society in sections ‘CSR Strategy Implementation’ and ‘Responsibility towards Society’.

3 **Carry out projects to celebrate the centenary of Poland’s Independence**

In 2018, PKN ORLEN provided patronage to a number of events commemorating the centenary of Poland’s regaining of Independence. As part of the celebrations, the Company completed a number of its own initiatives and sponsored events organised by external institutions. These projects included:

- The Independence Voyage – an event promoting Poland abroad under the auspices of the Prime Minister. In May, winners of the Independence Voyage Contest, organised by the Ministry of Maritime Economy and Inland Navigation, set sail onboard the 'Dar Młodzieży' sailing vessel on a round-the-world voyage. The voyage ended with a meeting with Pope Francis in Panama during the 34th World Youth Day. PKN ORLEN took on the title of the ‘Benefactor of the Independence Voyage’.
- ‘Polish Family Album’, an exhibition of Polish painting from the permanent collection of the National Museum in Warsaw for passengers of Poland's largest airport, organised by the Office of the ‘Niepodległa’ programme in cooperation with the Chopin Airport and supported by PKN ORLEN. The event promoted the Polish art in an unusual venue – an airport, with the use of new technologies. The exhibition featured reproductions of the art work collected by the National Museum in Warsaw.

The Company also engaged in a series of minor projects commemorating 100 years of Poland’s Independence, such as: ‘HerosON – Switch on History’, the ‘Digital Independence’ conference and ‘One Hundred Heroes of Polish Sports and One

Hundred Heroes for the Centenary of Regaining Independence', a series of concert events commemorating the Independence, organised by the Witold Lutosławski National Forum of Music, 'The Rebellious, the Invincible, the Cursed' Film Festival, the 'Guardian of Remembrance' Awards.

4 Implement the Safety Plus OHS project

2018 is the second year of the implementation of uniform safety standards under the 'Safety Plus' project. The purpose of this initiative, carried out at 6 key ORLEN Group production companies, is to put in place uniform personal and process safety standards and build a safety culture. The added value here is the implementation of a secure energy source isolation system based on the LOTO standard, as well as the performance of risk analyses based on the HAZOP method for all process installations operated by the ORLEN Group companies. In line with the adopted framework schedule, in 2017 key uniform standards for the execution of high-risk work were implemented, while in 2018 the implementation of another 4 standards was completed, namely:

- S1 – Permits for the execution of high-risk work (including fire-risk work permits).
- P2 – In-depth analyses of industrial accidents.
- M1 – Leadership and role of management staff in developing a safety system.
- M3 – Vehicle management.

To better leverage the ORLEN Group companies' potential and to expand the Group's resources to include new capabilities, at the end of 2018 steps were taken to secure special purpose agreements on cooperation with ORLEN Group companies to include them in the process of implementation of the following standards:

- ORLEN Serwis - S2 - Isolation of energy sources.
- ORLEN Eko and ORLEN Projekt – P1- Preventing leakage of oil, gas and other chemical substances.

The project is intended to help those companies to grow and build their competitive advantage on the domestic market. The resources necessary to perform it will be developed within the ORLEN Group and will form one of its strengths.

Read more about issues concerning the safety of employees and contractors in the 'Safety of Employees and Contractors' section.

5 Update and implement a Process Safety Management System compliant with the OSHA 1910 standard

To continue effective improvement of process safety, aimed to ensure the highest safety standards in the workplace and compliance with the national requirements related to the systematic management of process safety, as well as to further enhance the efficiency and effectiveness of major accident prevention activities and mitigate the potential impact of such accidents, PKN ORLEN put in place an updated regulation on Process Safety Management System, which includes new elements/areas designed to ensure safety of people, property, the natural environment and corporate image, in line with the OSHA 1910 and recommendations of external reinsurers. For other ORLEN Group production companies, a system guide was developed to walk them through efficient verification of the existing and/or necessary new elements of the Process Safety Management System as one of the most important systems in managing assets with high or elevated risk of a major industrial accident.

Read more about issues concerning the safety of employees and contractors in the 'Safety of Employees and Contractors' section.

6 Develop an employer branding strategy aimed at reinforcing the ORLEN Group's image as a good employer in the eyes of its current and potential employees

In 2018, the ORLEN Group Employer Branding Strategy for 2019–2022 was developed. This had been preceded by an analysis of the results of a third-party employer brand research, taking into account an analysis of competitors and results of surveys carried out among students, professionals and representatives of HR services. Furthermore, the practices followed by the ORLEN Group with respect to the employer branding activities were reviewed, while the management staff of PKN ORLEN and CEOs of other ORLEN Group companies were interviewed to verify target groups, collect information on their expectations for the purpose of the strategy, and identify possible areas of cooperation. The results of the internal and external research were used to develop the Employer Value Proposition concept, i.e. the brand promise, consisting of a set of unique and distinctive employer brand values which attract candidates and help retain employees.

The Employer Branding Strategy is designed to strengthen the image of the ORLEN Group as an employer among the existing and prospective employees. The Strategy is consistent with the HR strategy as it takes into account the expectations and needs, as well as the diversity and specific nature of the business areas of PKN ORLEN and other ORLEN Group companies.

Read more about employee issues in the 'Responsible Employer' section.

7 **Implement BAT 6 and BAT 18 for the refinery at the Płock production plant**

2018 saw continued work on tasks related to the implementation of BAT 6 and BAT 18 for the refinery. By October 28th 2018, the LDAR system was implemented for all the 33 refinery units scheduled. Complete algorithms were developed to calculate the fugitive VOC emissions, together with the instructions, for the Płock plant. As a result, compliance with the requirements laid down in the BAT Conclusions was achieved by implementing the LDAR system for refining units at the production plant in Płock, and adjusting the ratio of fugitive VOC emissions at the plant.

8 **Protect the biodiversity of the most valuable nature conservation areas surrounding the Płock production plant, identified during the wildlife survey**

In 2018, a conservation plan for areas of natural value in the vicinity the ORLEN production plant in Płock was developed in cooperation with a company specialising in nature conservation. The plan proposes measures to preserve and develop selected elements of the identified habitats, as well as possible educational initiatives in this respect.

Commitments for 2019

In 2019, as in previous years, PKN ORLEN will pursue **projects with a social focus**.

- **Support the development of local communities.**
- **Prevent social exclusion and promote equal opportunities, for instance through initiatives for accessibility such as facilitating access to facilities, including service stations, to customers with different needs and mobility.**
- **Foster the national heritage, including by engaging in and supporting activities for the conservation of culture and national heritage as well as promotion of film, theatre, music, and literature.**

In 2019, activities for the benefit of local communities, employees, customers and trading partners will primarily feature initiatives undertaken in three areas: **safety, health, and environmental protection.**

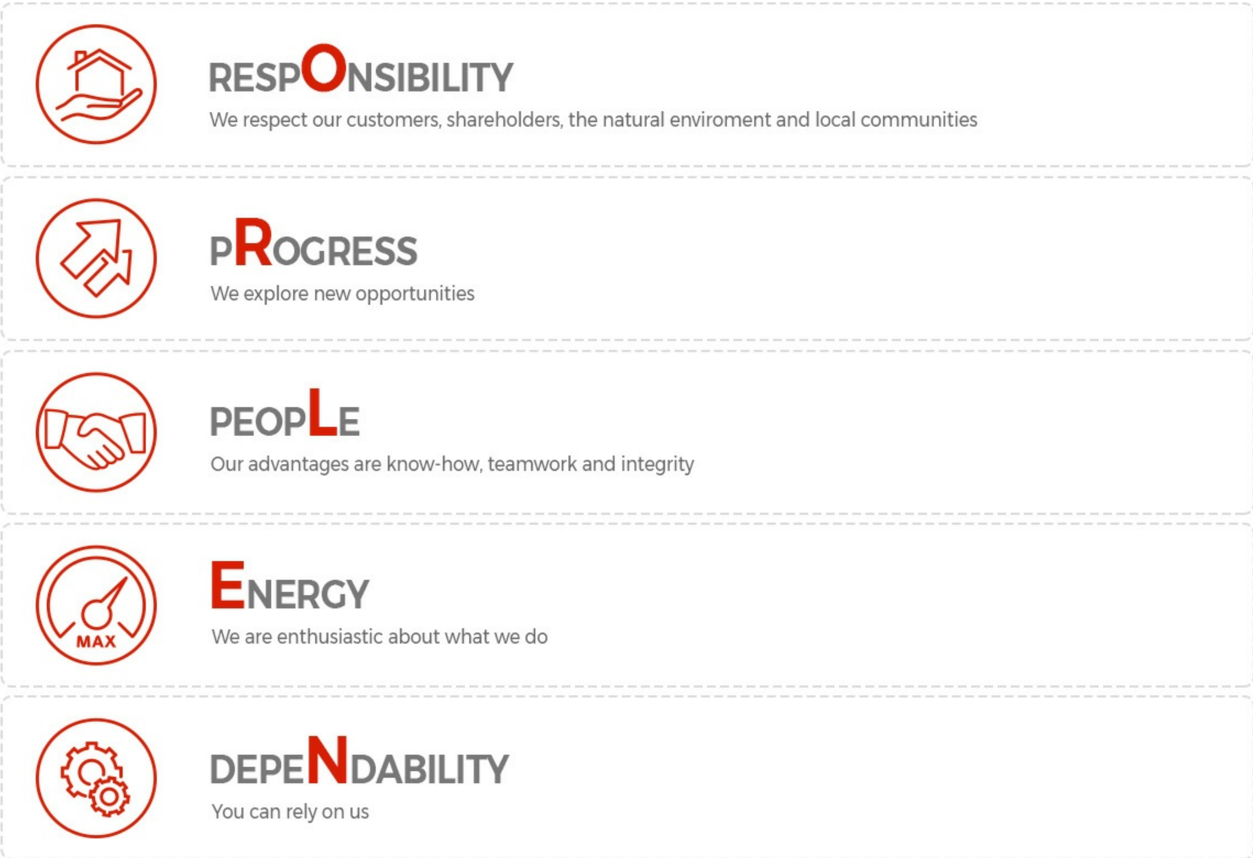
- **Undertake and support initiatives for safety, including road safety.**
- **Undertake and support initiatives to promote healthy and active lifestyles.**
- **Support professional and voluntary rescue service staff and their families.**
- **Optimise environmental impacts.**
- **Develop environmental conscience through such initiatives as undertaking and supporting educational projects for the protection of the natural environment, including biodiversity.**

One of the key priorities for 2019 will also be inspiring the Company's Stakeholders, including **employees, customers and trading partners**, to undertake social responsibility.

- **Implement, support and promote employee volunteering initiatives.**
- **Inspire to undertake responsibility, promote business ethics, educate on CSR and sustainable development.**
- **Promote responsible attitudes, including by supporting local suppliers and domestic businesses, educating retail investors on the capital market, and engaging customers in social initiatives.**

Core Values and Standards of Conduct

The 'Core Values and Standards of Conduct' offer guidance on relations inside and outside the Company. The document contains regulations applicable to our relations with trading partners, local communities and competitors.



In 2012, PKN ORLEN adopted the **'Core Values and Standards of Conduct',** addressing relationships within the company and interactions with the external environment, including trading partners, local communities, the natural environment and competition. The document, prepared with a view to ensuring fair and friendly work environment, defines principles of mutual relations at PKN ORLEN and other ORLEN Group companies, which are based on integrity, respect in everyday relationships, and dialogue, cooperation and involvement of each staff member in building a culture consistent with the Company's core values. The document also deals with fair treatment of all employees and customers regardless of such issues as their age, sex, job, denomination, nationality, convictions or beliefs. It contains provisions on anti-corruption procedures, as well as provisions on the obligation to comply with the rules of fair competition, transparency of business activities, mutual respect, and professionalism. The 'Core Values and Standards of Conduct', which have also been implemented at other Group companies, complement the Company's business strategy by placing emphasis on building good relations within the organisation. Additionally, in 2012 a new system was put in place for reporting instances of misconduct.

Ethics Officer monitors compliance with the 'Core Values and Standards of Conduct of PKN ORLEN S.A.', guarantees that employees, employers and all Stakeholders can freely report violations, helps in difficult labour issues and raises the employees' awareness of the importance of their own role in transforming corporate culture. The Ethics Officer is elected by PKN ORLEN employees and performs its duties without remuneration. The Ethics Officer takes steps to clarify and eliminate behaviours which conflict with the 'Core Values and Standards of Conduct of PKN ORLEN S.A.', in particular:

- Receives, selects and evaluates complaints for legitimacy and materiality; in the case of minor complaints, the Ethics Officer undertakes remedial action on his or her own, while more complex and serious cases are referred to the Secretary of the Human Capital Committee.
- Informs the parties concerned about the measures taken, with due regard to confidentiality requirements.
- Prepares, based on the complaints and comments received, an annual report and proposes solutions to improve the

corporate culture.

- Undertakes educational initiatives to promote the ‘Core Values and Standards of Conduct of PKN ORLEN S.A.’.

The majority of issues reported to the Ethics Officer in 2018 were problems relating to cooperation between the employees, incorrect communication, and incorrect interpersonal relations. There were no notifications of misappropriation of company property, conflicts of interest, abuse of alcohol, or instances of discrimination based on gender, race, age, or disability. Approximately one-third of the reported concerns involved requests for advice or consultation rather than notifications of a specific breach of the ‘Core Values and Standards of Conduct’. Most of the issues were resolved or explained.

Some of the ORLEN Group companies have appointed ethics committees or ethics officers.

Fostering desirable attitudes and behaviours in line with the ‘Core Values and Standards of Conduct’

'The ‘Core Values and Standards of Conduct’ set outs the values that PKN ORLEN has committed to respect: Responsibility, Development, People, Energy, Reliability. They are manifested in the everyday behaviours and attitudes described in the document and practised both inside and outside the organisation. All ORLEN Group companies (in Poland and abroad) share the same ORLEN values and every company has adopted the ‘Core Values and Standards of Conduct’ as a binding code of ethics.

Each newly hired employee gets acquainted as part of the Adaptation Programme with the ‘Core Values and Standards of Conduct’ as well as the measures that can be taken if any irregularities, unethical behaviours of illegal activities are identified.

In order to reinforce the ‘Core Values and Standards of Conduct’ and promote desirable attitudes and behaviours among the Group’s personnel, a number of projects for employees are carried out, including the ‘Value Based Management’ performance review, or the ‘**Distinguished PKN ORLEN Employee**’ title awarded every year for socially-oriented attitudes and observance of the core values. The largest Group-wide corporate culture building project is **ORLEN Olympics**, the annual sports games for the Group’s employees, which combine healthy fair play competition and the Company’s core values. In the past five years, thousands of PKN ORLEN employees and their families participated in the event. Every year, two thousand employees compete in various sport disciplines, and often more than twenty thousand people participate in picnics (since 2016, as part of the Chemists’ Day the picnic has also been open to the inhabitants of Płock).

The employee volunteering programme is another project enhancing the ORLEN Group’s corporate culture. It offers a number of involvement opportunities for all employees, regardless of their job and position.

PKN ORLEN has a broad range of projects targeted at the employees and aimed at building their engagement and strengthening their bonds with the company, such as: **‘ORLEN Passion’** (assistance offered to employees who have interesting hobbies and interests), a range of internal communication channels (corporate television, intranet and newsletter), the **Open Door Day** for families of employees and residents of Płock, combined with environmental protection and health and safety education, as well as traditional meetings of the Management Board with employees.

Internal and external mechanisms to obtain advice on how to report a violation or suspected violation

The Company’s employees and external Stakeholders may report any breach or suspected breach of the ‘Core Values and Standards of Conduct’ in connection with workplace incidents or employee behaviours.

PKN ORLEN’s website includes information and a letter from the President of the Management Board, with the ‘Core Values and Standards of Conduct of PKN ORLEN S.A.’ attached, where one can find the path for notifying instances of unethical or illegal behaviour. The ‘Core Values and Standards of Conduct’ document is also available on the corporate intranet, together with detailed explanations and a description of the notification path.

A variant path is defined for reporting and analysing information on actual or suspected breaches, depending on the severity and complexity of the problem and on the confidence of the parties involved. A suspected breach of the ‘Core Values and Standards of Conduct’ or any ethical dilemmas may be reported to:

- Line manager.
- Senior managers.
- The Ethics Officer.
- The Human Capital Committee.

The Company also operates an **Anonymous Misconduct Reporting System**.

PKN ORLEN has in place effective functional control, risk management and compliance supervision systems, as well as an internal audit and control function. The simultaneous operation of all these elements allows the Group to exercise ongoing and effective anti-corruption supervision. The Group has an organised management control system comprising a set of comprehensive procedures.

Additionally, the **'ORLEN Group Anti-Corruption Policy'** and an internal order on '**Anti-Money Laundering and Terrorist Financing'** were adopted in 2018. The **Workplace Bullying Policy** is also in place, setting out the rules to be followed when a case of harassment is reported, as well as the rights and obligations of employees in such situations, as discussed in sections below.

PKN ORLEN's value-based corporate culture is constantly evolving in response to the needs of the ever-changing environment. Our ethics policy is effective and embodies our commitment to meeting challenges and expectations. The direction of changes and implemented measures has been appreciated by both Polish and international experts. The American Ethisphere Institute awarded 'The World's Most Ethical Company' title to PKN ORLEN as the only representative of the CEE region in this prestigious ranking.

Responsible Employer

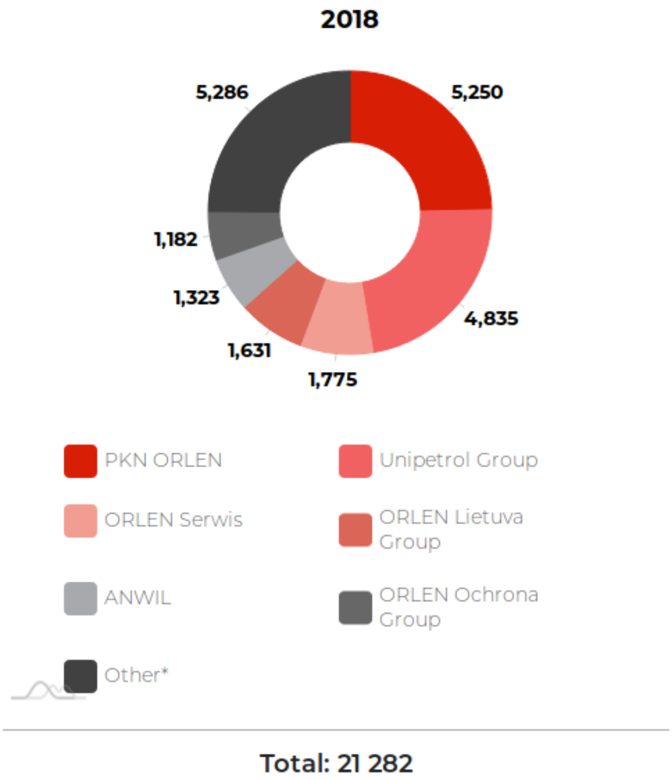
The ORLEN Group offers its employees fair working conditions, an attractive employee benefits package, and development opportunities. The 'Top Employer Polska' title we received once again is testament to the world-class quality of our HR practices and standards. Our top talents and modern organisational culture will help us continue on a growth path.

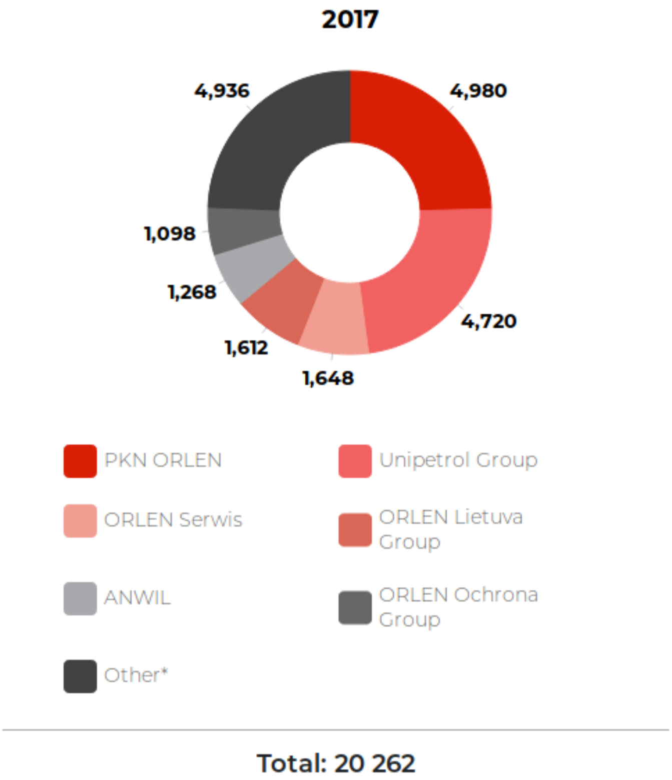
Employment

In 2018, the ORLEN Group's hiring policy was focused on recruiting top quality specialists for both day-to-day tasks and strategic projects. Expansion of the ORLEN Group's power generation, petrochemicals, maintenance services, IT and trade activities led to a 1,020 year-on-year increase in total workforce, to 21,282 employees. In 2018, the average annualised workforce at the ORLEN Group was 20,876, an increase by 872 employees year on year.

Basic data concerning of the ORLEN Group employment

Employment at the end of 2018 and 2017 in the ORLEN Group entities

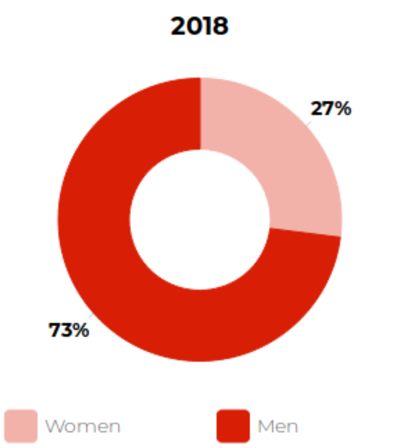


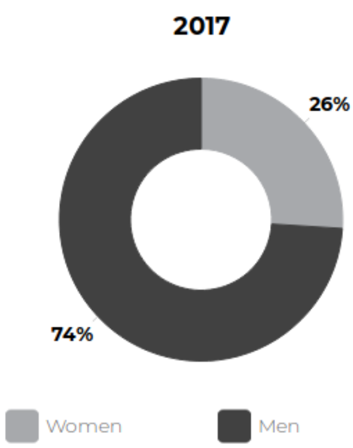


**2018: ORLEN Południe – 672, ORLEN Laboratorium – 640, ORLEN Koltrans – 482.*

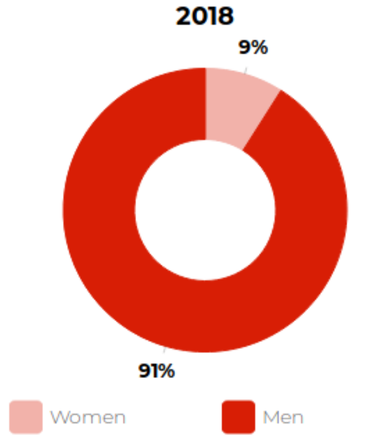
**2017: ORLEN Południe – 716, ORLEN Laboratorium – 614, ORLEN Centrum Usług Korporacyjnych – 455.*

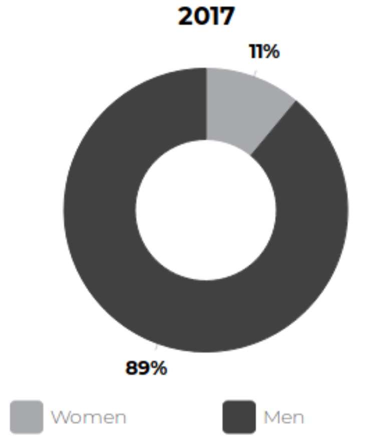
Gender



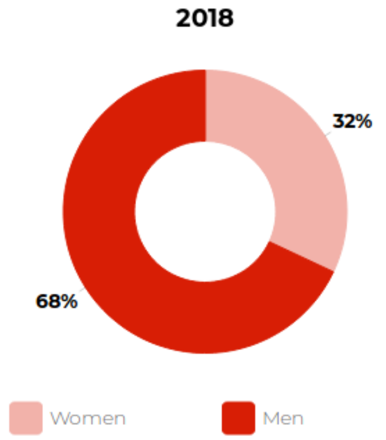


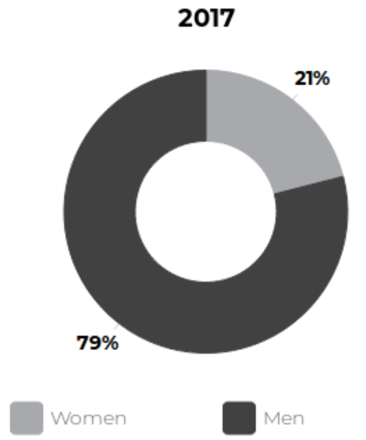
Management boards of the ORLEN Group entities



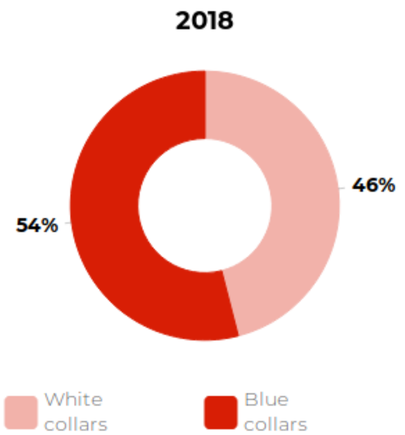


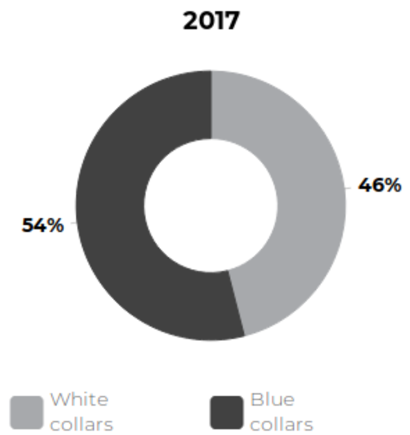
Supervisory boards of the ORLEN Group entities



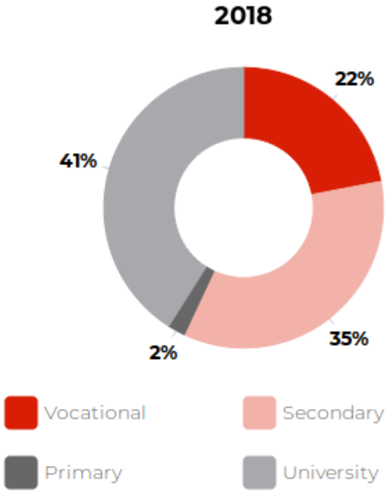


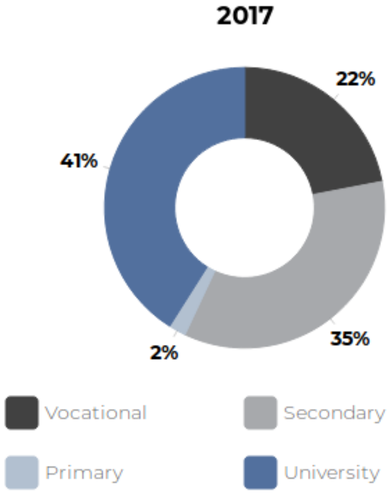
Type of work





Education





Employees by type of contract and gender

Employees by type of contract and gender, including:			
Indefinite-term contract	**UoM**	**ORLEN Group**	**PKN ORLEN**
Women	[number]	4,786	920
Men	[number]	13,578	3,582
Definite-term contract			
Women	[number]	681	169
Men	[number]	1,671	432
Probationary period contract			
Women	[number]	127	33
Men	[number]	317	76
Probationary period contract			
Women	[number]	89	19
Men	[number]	33	19

Employees by type of contract and region

Employees by type of contract and region, including:			
Indefinite-term contract	**UoM**	**ORLEN Group**	**PKN ORLEN**
Czech Republic	[number]	4,485	0
Canada	[number]	49	0
Germany	[number]	160	0
Lithuania	[number]	1,977	0
Poland	[number]	11,693	4,502

Definite-term contract			
Czech Republic	[number]	584	0
Canada	[number]	3	0
Germany	[number]	5	0
Lithuania	[number]	18	0
Poland	[number]	1,742	601
Probationary period contract			
Czech Republic	[number]	140	0
Canada	[number]	0	0
Germany	[number]	11	0
Lithuania	[number]	16	0
Poland	[number]	277	109
Temporary substitution			
Czech Republic	[number]	2	0
Canada	[number]	0	0
Germany	[number]	2	0
Lithuania	[number]	7	0
Poland	[number]	111	38

Employees by employment type and gender

Employees by employment type and gender, including:			
Full-time	**UoM**	**ORLEN Group**	**PKN ORLEN**
Women	[number]	5,598	1,129
Men	[number]	15,515	4,100
Part-time			
Women	[number]	85	12
Men	[number]	84	9

The proportion of temporary work contracts at the ORLEN Group is negligible and they are used on an as needed basis.

The rules of remuneration

The rules of remuneration in place at PKN ORLEN are laid down in the Collective Labour Agreement. The main components of remuneration are base pay (determined based on the Pay Grade Table and the Base Pay Table) and bonus.

Employees are covered by monthly, quarterly, quarterly/annual or annual bonus systems, depending on positions held. Employees are also entitled to receive an extra annual bonus for achievement of solidarity targets, and a number of allowances, including shift-work allowance, chemical emergency service allowance, or expat allowance. For particularly outstanding achievements, an employee may be awarded a prize, financed from the Employer Prize Fund. In 2018, amendments to the PKN ORLEN Collective Bargaining Agreement were agreed upon with the trade unions, including in the Pay Grade Table and the Base Pay Table. The amendments will take effect on April 1st 2019.

In 2018 and in early 2019, new Collective Bargaining Agreements were signed at ORLEN Południe, ORLEN Lietuva and Anwil, and will take effect in 2019.

In 2018, the average gross monthly remuneration (including base pay, bonuses, awards, lump-sum allowances and overtime) at the ORLEN Group was PLN 7,739.

At the end of 2018, another payroll agreement for 2019 was signed with the trade unions, defining the terms of obligatory and discretionary increases in salaries and additional one-off bonuses.

New employee hires

	UoM	ORLEN Group	PKN ORLEN
New hires by age, gender and region, including:		**2,977**	**603**
Age			
< 30	[number]	1,080	203
30 - 50	[number]	1,562	369
> 50	[number]	335	31
Gender			
Women	[number]	939	192
Men	[number]	2,038	411
Regions			
Czech Republic	[number]	704	0
Canada	[number]	8	0
Germany	[number]	23	0
Lithuania	[number]	315	0
Poland	[number]	1,927	603
New hires as a proportion of total headcount [%]	**[%]**	**14.0**	**11.5**
Staff turnover [%]	**[%]**	**9.9**	**6.2**
Age			
< 30	[%]	15.7	5.4
30 - 50	[%]	8.5	5.0
> 50	[%]	10.0	9.6
Gender			

Women	[%]	11.3	6.1
Men	[%]	9.4	6.3
Regions			
Czech Republic	[%]	12.0	-
Canada	[%]	5.8	-
Germany	[%]	11.2	-
Lithuania	[%]	13.7	-
Poland	[%]	8.5	6.2

Engagement and satisfaction surveys are carried out at the ORLEN Group every two years. In 2019, the fourth edition of the survey will be conducted. Its purpose is to collect employee feedback on important aspects of everyday work, such as working conditions, development opportunities, management styles, and strategy communication. The information and opinions thus obtained provide a basis for improvements fostering an engaging work environment.

Employee engagement and satisfaction survey	UoM	2017
Number of ORLEN Group companies surveyed	**[x]**	**16**
Number of respondents – PKN ORLEN	**[x]**	**4,005**
Employee engagement rate	[%]	65
Job satisfaction rate	[%]	73
Average rates in Poland in 2016[1]		
Employee engagement rate	[%]	51
Job satisfaction rate	[%]	66

[1]Based on Aon Hewitt

Collective bargaining agreements
All PKN ORLEN employees are covered by collective bargaining agreements.

Collective bargaining agreements are also in place at other companies of the ORLEN Group. At the Polish Group companies, they cover 39% of the employees. Accordingly, the percentage of the Group employees at foreign companies is 94%.

	UoM	ORLEN Group		PKN ORLEN	
		2018	2017	2018	2017
Employees under corporate collective labour agreements, including:					
Polish companies	[%]	39	36	100	100
Foreign companies	[%]	94	66	-	-

HR programmes

Development of the HR functions

For many years, the ORLEN Group's HR and payroll solutions have been adapted to effectively support business processes. Based on the HR policy for the ORLEN Group, HR and payroll processes at the Transaction Center are optimised on an ongoing basis. IT systems are developed to streamline staff administration activities and improve the efficiency of HR processes across the Group. In 2018, a new system was implemented for the administration of bonus award processes at the ORLEN Group companies. Furthermore, an application was deployed at PKN ORLEN to support the adaptation process, which is to be implemented by the ORLEN Group companies as well. Additionally, a **cafeteria plan** was established, giving the employees improved access to attractive employee benefits. Work is under way to create a single work time planning and reporting tool for all companies, which will help standardise the process across the Group. The continuous development of HR functions combined with process digitalisation improve the HR processes, guaranteeing their high quality and transparency.

Human resources management policy

People are invariably one of the key pillars of the ORLEN Group's strategy. In 2018, our activities in this area included consistent efforts to build a team of experienced specialists and to develop a support system for the managerial staff. In 2018, Group companies carried out initiatives based on the updated Human Resources Management Policy adopted in 2017. The new policy highlights the importance of employees, acknowledging that they are one of the Group's most precious assets, and their unique knowledge, skills and experience are a source of competitive advantage to the ORLEN Group. The priorities and key tasks of the Policy have been defined based on best market practices, reflecting market challenges and trends in human capital development. The document defines activities in such areas as reinforcement of the Group's corporate culture, segment-based management, employee development, compensation and employee benefits, or performance management, to name just a few. The priority activities in 2018 within selected ORLEN Group companies included: the adaptation of new employees, cooperation with trade unions in the implementation of Company Collective Bargaining Agreements and partnership in working towards the Group's business objectives (business awareness), development of non-financial employee incentives (the 'Family-Friendly Employer' programme and medical care). In 2018 activities aimed at implementing from the beginning of 2019 a uniform standard of medical care in the Capital Group were completed.

Education and talent acquisition policy

PKN ORLEN works actively to meet its talent acquisition and retention needs, considering specific target groups that are important to each segment. The activities in this area are addressed to current employees, prospective employees, and students and graduates of vocational schools and universities. Being aware of the need for synergies between business and academia, the ORLEN Group collaborates with the academic community.

PKN ORLEN cares for the professional development of young people − students, university graduates and school leavers, by providing them with an opportunity to acquire their first professional experience on internship and work placement programmes, which are attended by dozens of university graduates and school leavers each year. In 2018, more than 90 persons participated in placements under the '**Headed for ORLEN '**and the **'*#Energy* for the Future'** projects run in cooperation with the Ministry of Energy, a programme carried out jointly with the Faculty of Power and Aeronautical Engineering - Mechanics Division of the Warsaw University of Technology, and a work placement programme for future lawyers with the Cardinal Stefan Wyszyński University in Warsaw. 114 individuals completed student internships, most of them in the production segment, but some also in other business areas.

Taking into account the need to build a HR pipeline in professions which are important to the industry, and especially given the specific nature of the ORLEN Group companies, in September 2018 PKN ORLEN signed a **Declaration of Cooperation with the Mazovia Education Office (Mazowieckie Kuratorium Oświaty)**. In line with this Declaration, the ORLEN Group companies can have secondary school classes under their auspices, which run curricula matching the companies' business profiles. As a result, students will obtain expert support during practical lessons. Moreover, they will have the opportunity to take part in study visits and internship programmes at the production plant in Płock. The ORLEN Group companies also worked with secondary technical schools and technical universities to align their curricula to the workforce and skills needs of the industry, and to help potential future employees develop necessary skillsets while still at school.

Since 2018, PKN ORLEN, ORLEN Laboratorium and ANWIL have been actively participating in**Industry Seminars**, a series of meetings at the Faculty of Chemistry of the Warsaw University of Technology. The participants are the Faculty students and leading chemical industry companies. The purpose of the meetings is to equip students with practical knowledge based on actual business cases and to inspire them to choose specific development paths with a view to getting a job with a given company.

Furthermore, PKN ORLEN participated in job fairs (Job Fair in Płock, Absolvent Talent Days in Warsaw, Academic Job Fair in Łódź, Job Fair at the Silesian University of Technology and the AGH University of Science and Technology in Kraków, Engineering Job Fair at the Warsaw University of Technology), and supported students and graduates in acquiring professional experience. Additionally, it carried out education and information activities, including the **Knowledge Day** or the **Dignity Day** organised by the PKN ORLEN Ethics Officer.

Development and training

The focus of our development efforts in 2018 was on fostering the innovation attitude, engaging leadership, and collaboration and feedback skills. An important aspect of development planning was identification and support of unique specialist competences and reinforcement of knowledge sharing by implementing a consistent feedback provision standard. In this way, the development function supported implementation of the business strategy.

The management's leadership skills were developed under a comprehensive programme addressed to all management levels and employing a common standard. Its themes centred on engaging leadership, value-based management, efficiency improvement and building multifaceted collaboration and innovation on the team.

Managers additionally participated in training programmes on workplace bullying prevention, labour law, and management and business ethics. Those projects demonstrate the Company's particular concern for management based on ethics and respect for corporate values.

PKN ORLEN offered a wide range of diverse professional advancement opportunities to its employees, taking into account their individual needs.

Further to that, employees took part in bespoke specialist training programmes (both open and closed), postgraduate courses, MBA programmes, coaching and mentoring activities. They were also offered opportunities to broaden and share their knowledge of the market and the industry through participation in trade conferences and events.

In-house projects included competence development programmes in project management, trade and business negotiations, effective communication and cooperation on a team, innovation focused on pragmatic techniques, and an in-house production coach.

As in previous years, we continued initiatives fostering the culture of work safety: from educational projects to mandatory training and post-graduate courses in the field of industrial process safety, dedicated specifically to PKN ORLEN. The 'ORLEN Safe Driving Academy' was continued, helping the participants master safe driving techniques and learn how to react in difficult situations on the road.

Employees also improved their foreign languages skills as part of the PKN ORLEN Language Academy and summer English courses. Training and development activities were carried out not only on a classroom basis, but also as e-learning courses.

The average number of training hours per OLREN Group employee in 2018 was 21.9 days.

Average training hours per employee at the ORLEN Group

Average training hours per employee, including:	UoM	2018
Women	[number]	18.3
Men	[number]	20.7
Managers	[number]	24.5
Non-managers	[number]	19.6

The description of the indicator was developed on the basis of average values indicated by the ORLEN Group companies.

Social dialogue and employee benefits

The ORLEN Group believes in social dialogue based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules. The principles of social dialogue are founded on generally applicable laws and internal regulations, including The collective bargaining agreement and separate detailed agreements, which facilitates development of constructive and lasting solutions in partnership with employee representatives.

The ORLEN Group offers employee benefits, which include co-financing of employee holidays or sanatorium treatment, childcare, holidays for children and teenagers, and school starter kits. Christmas gifts for employees' children have already become a tradition across the Group. The employer provides financial support for families with low incomes. Our employees may also apply for the co-financing of sports and recreational activities, cultural and educational activities, or physical therapy treatments, as well as non-repayable allowances and repayable housing loans. PKN ORLEN offers a uniform employee benefits package to employees of all ORLEN Group companies participating in the joint social benefits programme. Group companies covered by the programme as at December 31st 2018 included: Basell ORLEN Polyolefins, CENTRUM Edukacji, ORLEN Administracja, ORLEN Asfalt, ORLEN Centrum Serwisowe, ORLEN Eko, ORLEN KolTrans, ORLEN Centrum Usług Korporacyjnych, ORLEN Laboratorium, ORLEN Ochrona, ORLEN Paliwa, ORLEN Projekt, ORLEN Upstream, ORLEN Serwis, Płocki Park Przemysłowo-Technologiczny (the Płock Industry and Technology Park), and Fundacja ORLEN - Dar Serca (ORLEN GIFT FROM THE HEART Foundation).

The additional benefits policy applies equally to all employees, regardless of the type of their employment contract (for a fixed or indefinite period), their working time (full-time or part-time) or location. All personnel employed under employment contracts, whether full-time or part-time, are entitled to benefits from the PKN ORLEN Social Benefits Funds. PKN ORLEN's employees also participate in the Employee Pension Plan (known as the third pillar of the pension system). In addition, PKN ORLEN covers part of the cost of insurance premiums for its employees working under employment contracts who have been with the Company for at least three months, regardless of the type of contract.

Benefits guaranteed to former employees of PKN ORLEN and the Group companies (old age pensioners, disability pensioners, persons who opted for voluntary redundancy) covered by joint social benefits programme:

- Co-financing of employee holidays or sanatorium treatment.
- Co-financing of holidays for children and teenagers.
- Co-financing of school starter kits.
- Christmas gifts for children.
- Non-repayable allowances.
- Housing loans.

In addition:

- Cash allowance for low-income employees.
- Birthday cash benefits for employees aged 70+ (paid every five years) and 95+ (paid every year).
- Meetings with former employees in Senior Citizens Clubs across Poland.

All ORLEN Group employees receive the same benefits regardless of their location or type of employment contract. Certain benefits, e.g. insurance, may differ depending on the employer. At PKN ORLEN, group insurance is provided to all employees who have declared their intention to participate. Employees have several options to choose from.

Group insurance is also available at other Group companies, but decisions in this respect are made by each company on a discretionary basis.

In addition to the programmes described above, PKN ORLEN also supports the continuity of employment of persons whose contracts are terminated as a result of restructuring processes by offering them training packages. As part of a package, PKN ORLEN provides financing for training which a given person has indicated as useful in their further career.

Medical care

PKN ORLEN also provides extensive medical care going beyond the scope of occupational medicine. Medical services and a variety of healthcare programmes are offered in cooperation with Centrum Medyczne Medica Sp. z o.o. in Płock and the Military Institute of Medicine of Warsaw. In 2018, preventive medical check-ups at the workplace were carried out under the ‘Prevention Close at Hand’ project. Similar programmes of medical and preventive care are also operated by other companies of the ORLEN Group.

Family-Friendly Employer

As a company implementing modern-day solutions aimed at keeping the balance between work and family life, PKN ORLEN carries out the ‘Family-Friendly Employer’ programme, offering such benefits as additional two days off to care for a child under three years old, two days off to care for a disabled child under 24 years old, a nursery school for children of ORLEN Group employees, one additional hour for breastfeeding, medical care during pregnancy, baby feeding rooms, gifts for newborn babies, and providing employees on parental/childcare leaves with up-to-date information on developments across the Group. Many of the components of this programme have also been implemented by other ORLEN Group companies as part of good practice sharing.

Health and safety issues covered in formal agreements with trade unions

In accordance with the Labour Code, OHS issues are provided for in agreements with trade unions concluded by ORLEN Group companies based in Poland. These include: OHS issues are provided for in the ORLEN companies’ applicable internal regulations, namely:

- The Company’ collective bargaining agreement, drafted and registered by the Regional Inspector of the National Labour Inspectorate in Warsaw, in accordance with the provisions of Part XI of the Polish Labour Code and the Minister of Labour and Social Policy’s Regulation on the procedure to be followed in the case of registration of collective bargaining agreements, keeping the register of collective bargaining agreements and registration files, as well as forms of registration clauses and registration cards, and/or
- Work Rules established in accordance with the provisions of Section IV of the Polish Labour Law.

These documents provide for the organisation of working conditions that meet OHS standards. We take core to maintain a transparent social dialogue within the ORLEN Group.
The notification periods for individual processes are as defined in generally applicable laws, but in some cases they are even more favorable.

At foreign Group companies: the Unipetrol Group in the Czech Republic and ORLEN Lietuva in Lithuania, OHS issues are included in collective bargaining agreements. No formal arrangements or collective bargaining agreements are in place at ORLEN Deutschland, where no trade unions are active, or ORLEN Upstream Canada where all the employees are covered by OHS regulations applicable in the Province of Alberta.

Diversity and Equal Opportunities

It is our priority to build a value-driven organisational culture which takes into account diversity aspects.

At PKN ORLEN, matters related to diversity management are governed by the following documents applicable at the Company:

- PKN ORLEN Work Rules.
- Core Values and Standards of Conduct of PKN ORLEN.
- Collective Bargaining Agreement of PKN ORLEN.
- ORLEN Group's Human Resources Management Policy.
- CSR Strategy for PKN ORLEN (where it pertains to development and diversity management).
- PKN ORLEN's Disability Employment Policy.
- PKN ORLEN's Policy for Supporting Employees in Difficult Personal Circumstances.
- Separate internal document governing the 'Family-Friendly Employer' programme.

Objectives of the diversity management include:

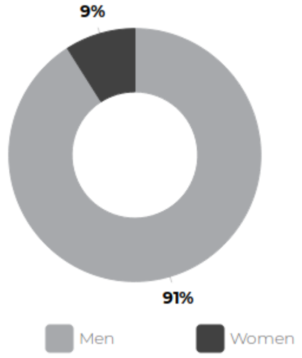
- Equal treatment in employment and non-discrimination.
- Respect for diversity.
- Management of cultural differences.
- Openness to recruitment of those socially excluded or marginalised in the labour market.
- Supporting employee initiatives related to labour equality practices.
- Remuneration and bonus policy.
- Standards of employment and remuneration of seconded workers, i.e. expats and inpats.
- Adapting the workplace to the needs of employees (e.g. people with disabilities, breastfeeding mothers).
- Supporting employee groups in difficult circumstances.
- Work-life balance programmes.

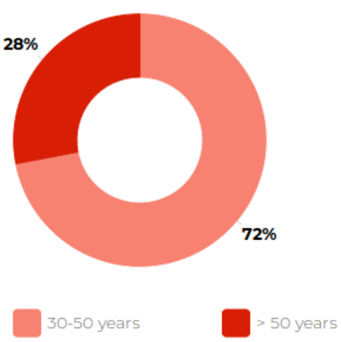
In addition, the diversity policy of PKN ORLEN is also implemented through:

- Provision of training in diversity management.
- Awareness raising campaign about disability in the workplace, including information and consultation meetings for employees of PKN ORLEN and other Group companies, and an expert consultation service.
- Employee volunteering.
- Considering diversity aspects in HR processes and tools (e.g. recruitment, training and development, remuneration) and in shaping the organisational cultur.
- Workshops for expats in cultural differences management.
- Regularly surveying employees on job commitment and satisfaction.
- Appointment of a team tasked with coordinating efforts to counteract workplace harassment and bullying (Anti-Harassment Committee appointed by the employer to consider grievances related to workplace harassment and bullying).
- Appointment of the Ethics Officer for reporting breaches of the 'Core Values and Standards of Conduct of PKN ORLEN' (also regarding discrimination, harassment and bullying).
- Appointment of the Human Capital Committee to give opinions, approve/submit for approval by the PKN ORLEN Management Board and monitor the observance of the 'Core Values and Standards of Conduct of PKN ORLEN', and in particular to examine material breaches, take corrective actions, issue guidelines and consider important ethics-related issues.

The Management Board and the Supervisory Board of PKN ORLEN include Members with educational background in law, economics and chemistry, and with diverse professional experience.

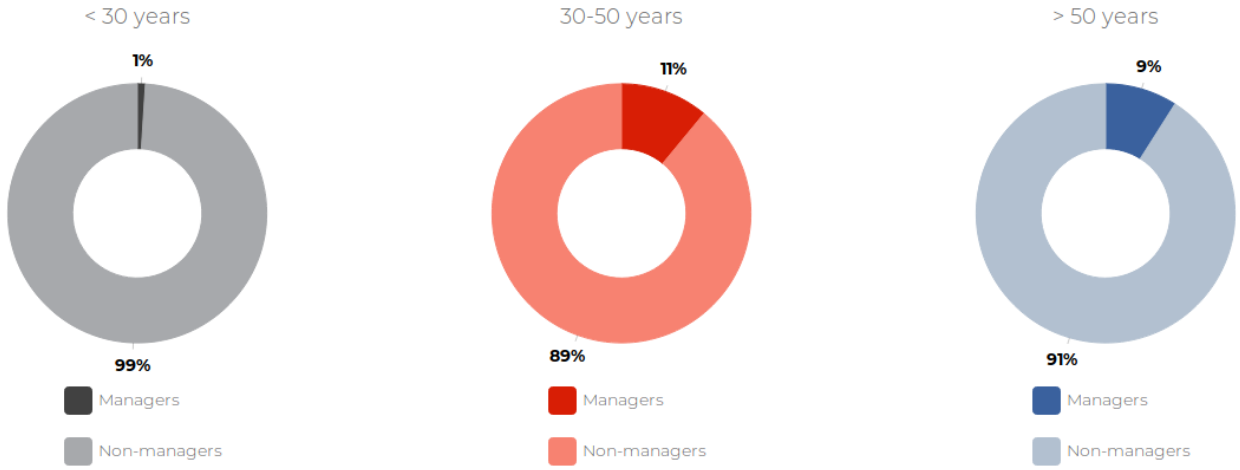
Members of ORLEN Group companies' Management Boards by gender and age as at December 31st



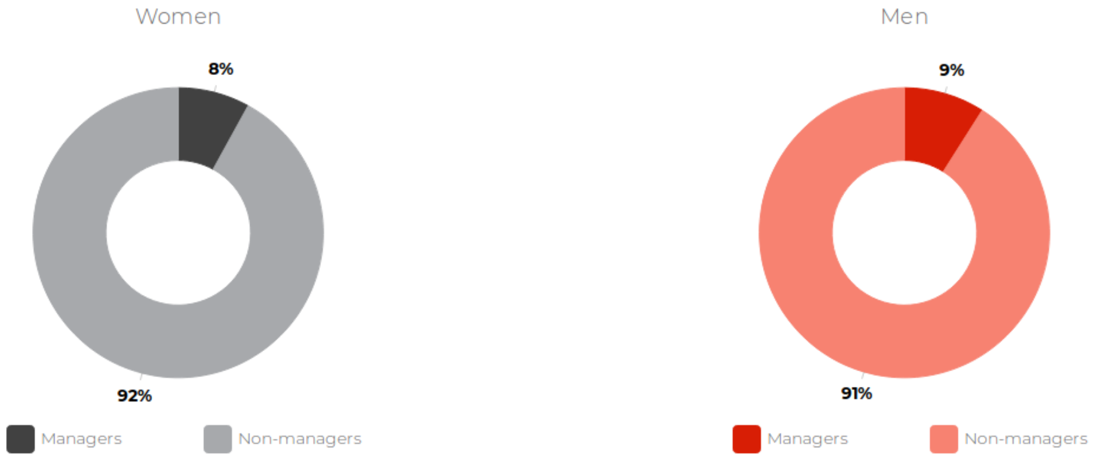


Members of ORLEN Group companies' Supervisory Boards by gender and age as at December 31st 2018

ORLEN Group employees by age and job category as at December 31st 2018



ORLEN Group employees by gender and job category as at December 31st 2018



Safety of Employees and Contractors

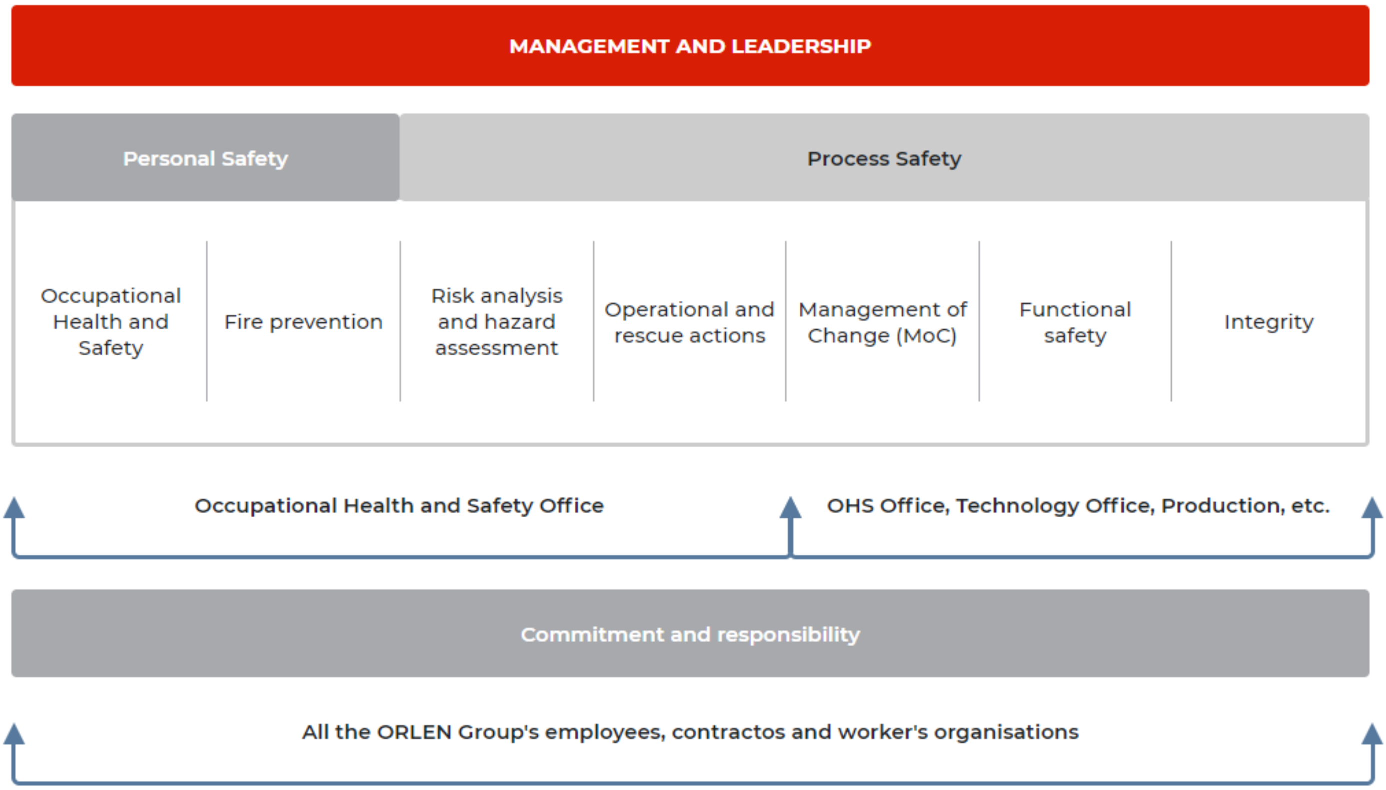
Care for the health and personal safety of employees and other Stakeholders is a natural and integral part of our organisational culture and business. In practice, this means that the Group does everything it can to prevent accidents, industrial failures, fires and other unwanted incidents. This approach to safety management at the ORLEN Group follows from our business philosophy: 'People are our most valuable asset and must be provided with safe working conditions'.

OHS Strategy

The personal and process safety objectives and tasks are defined in the **OHS Strategy** and cover the following key areas:

- **Management and leadership** – building a workplace safety culture within the Group in line with its values; a combination of individual and group values, attitudes, perceptions, competences and behaviours.
- **Personal safety** – building a safe and healthy working environment for the Group's employees, including a contractor supervision system; taking preventive measures designed to ensure fire safety at the Group, and setting standards and relevant organisational projects.
- **Process safety** – activities involving definition of methods and measures to protect people and the environment against the consequences of failures and industrial accidents, determination of existing needs before technological, process or organisational changes, organisational and technical measures undertaken at every stage of a process to guarantee safe process management, safety of the process personnel, and thus process reliability.

OHS Strategy Structure



Published in December 2018, the **Updated ORLEN Group Strategy for 2019–2022** sets out the following objectives in **Occupational Safety:**

- Zero tolerance policy towards accident hazards.
- No accidents at work.
- Further improvement of process safety.

[1]TRR Indicator – international accident rate in enterprises determined as follows: (number of accidents in a given period/number of hours worked in the period) x 1,000,000.

Ensuring highest safety standards

All our OHS efforts were aimed at ensuring the highest safety standards at the ORLEN Group. In 2018, a uniform safety framework was being implemented at the ORLEN Group as part of the **Safety Plus** project, comprising 15 standards representing the highest safety standards identified in the fuel and energy industry. The project will be completed in 2021.

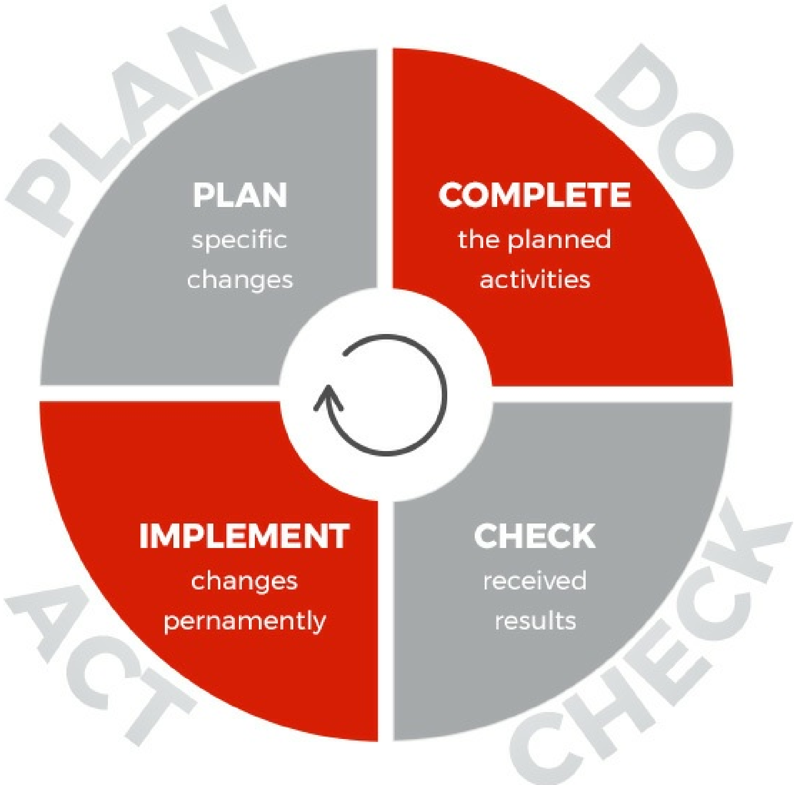
15 safety standards of the Safety Plus project

S1	Permits to perform hazardouswork
S2	Isolation of energy sources
S3	Work in confined spaces
S4	Work at heights
S5	Safe execution of excavation work
S6	Accident investigation
S7	Ensuring safe operation of machinery and tools in work environment
S8	Organization of emergency rescue activities
S9	Measurement of hazardous substances
P1	Preventing oil. gas and other chemical leaks
P2	In-depth analysis of industrial accidents
P3	Emergency plans: their formulation / structuring
M1	Leadership and role of management staff in developing a safety system
M2	Contractor management
M3	Driving management

Work was carried out to develop the **Process Safety Management System based on OSHA 1910.119**. It will provide a more effective framework for achieving operational excellence, as it guarantees technical safety of the process, storage and auxiliary units, and thus prevents any undesirable events that could affect the safety of staff or processes.

As part of maintenance and improvement of the Process Safety Management System (PSMS), the following actions are required in accordance with the Deming cycle:

1. Current status verification.
2. Checking the existing regulations / internal policies for completeness and implementing new regulations/policies.
3. Confirming that each system component has been fully implemented.
4. Satisfying the system requirements based on regulations / policies and making the necessary improvements.



The verification covers the Company's compliance with the requirements for 14 components of the Process Safety Management System under existing regulations by which a given component has been implemented. These include:

1. **Safety culture** – fostering safe behaviours and safety leadership at the Company through management's decisions and activities aimed at ensuring the highest possible safety standards for the employees and processes.
2. **Safety leadership** − invariably the key aspect of building a safety management system and a safety culture − strong, forward-looking leadership and the prominent role of qualified teams and management personnel influencing attitudes and everyday operating activities.
3. **Roles and responsibilities** − defining emergency roles and responsibilities at all levels of the organisation and taking measures to build awareness of the need for continuous improvement and prevention, through developing training programmes and providing training to employees responsible for proactive and preventive activities, as well as emergency response training at all levels of the organisation and to other employees on site, including subcontractors.
4. **Information** – ensuring availability of information on process safety as the knowledge needed to identify and implement activities facilitating achievement of the organisation's objectives; this information must be up to date and easily available in the decision making processes.
5. **Mechanisms** − deployment of mechanisms facilitating a systematic analysis of the risk of major accident and probability of its occurrence, and therefore enabling its avoidance.
6. **Designing** – at any stage of an industrial unit's life, the design process must be based on the applicable standards and guidelines, and should take into account the possibilities and ways of reducing the likelihood of an emergency.
7. **Instructions and procedures** − defining instructions for safe operation of process units that use hazardous substances during normal operation, maintenance, shutdowns, and industrial process adjustments.
8. Supervision over **mechanical integrity** – continuous monitoring of the technical condition of plant and equipment, performed through periodic inspections, reviews and tests, in accordance with the regulatory requirements and industry standards.
9. **Safe work practices** – performing work at a unit in conformity with the highest standards and requirements in order to ensure safety at the work stations and continuity of technological processes, and to prevent emergencies.
10. **Change and project management** – using a systemic approach when changes to an industrial process are necessary, in order to identify whether and how the planned changes may impact process safety.
11. **Contractor management** – making and abiding by arrangements concerning safe performance of work on the PKN ORLEN premises by contractors' employees so as to ensure the highest possible safety standards at all stages of such work.
12. **Responding to failures** – implementing the requirement to monitor, in accordance with best available practices, the operation of process units using hazardous substances so that corrective measures can be implemented should any deviation from normal operation occur, including due to normal wear and tear or corrosion.

13 **Analysis** − assessing the emergency events that have occurred on a regular basis and applying the knowledge gained from incidents at the ORLEN Group or other plants globally, including putting in place mechanisms that foster learning from past experience (lessons learned).

14 **Auditing and compliance assessment** – analysing and reviewing regularly the process safety system in terms of its compliance with the relevant requirements; reviewing the 'Accident Prevention Programme', being one of the key documents (and a systematic programme for the implementation of the overriding goal of proactive accident prevention), and the safety management system in terms of their validity and effectiveness, including information on how the validity and effectiveness is documented and approved, as well as the internal operating emergency response plans that are mandatory for upper-tier and lower-tier establishments (i.e. establishments posing a high or increased risk of a major accident).

Process safety is beginning to transform into a special area related to resilience engineering, which today defines safety as the ability to maintain successful production by a technical system or systems both under normal conditions and in an emergency. What should be kept in mind is the role of organisational systems, one purpose of each is to ensure prompt response capabilities to support business continuity.

Listing of plants with a large and increased risk of a serious industrial accident in the ORLEN Capital Group		
POLAND		
PKN ORLEN	7 ZDR	10 ZZR
ORLEN PALIWA	6 ZDR	1 ZZR
BOP	1 ZDR	---
ANWIL	1 ZDR	---
ORLEN Południe	2 ZDR	---
ORLEN Aviation	---	1 ZZR
IKS 'Solino'	1 ZDR	---
CZECH REPUBLIC		
UNIPETROL RPA	3 ZDR	---
UNIPETROL DOPRAVA	5 ZDR	---
PARAMO	1 ZDR	---
SPOLANA	1 ZDR	---
LITHUANIA		
ORLEN Lietuva	2 ZDR	---

The infographic above illustrates the principal scope of the process safety function. At the ORLEN Group, as many as 30 establishments (facilities) are classified as upper-tier (facilities posing high major accident hazard), and a number almost half of that are lower-tier establishments (posing increased major accident hazard), as per the classification framework under the Seveso III Directive applicable across Europe and implemented into national law by all EU member states in 2015. In Poland, the relevant regulations are laid down in the Environmental Protection Law. It should be noted that the establishments of both types have in place modern and constantly improved process safety management systems as an organised method for managing safety, encompassing all the vital safety components referred to above.

To describe the current status of process safety at the ORLEN Group production companies, the Group uses various process safety indicators, including leading and lagging ones, in accordance with the API754 standards. Those indicators are monitored and measured using the Company’s internal application to help achieve the overarching objective of process safety management, which is preventing and minimising the risk of major accidents. These indicators also serve as the basis for benchmarking against the best companies in the industry and thus contribute to achieving process excellence.

Key projects

Further development of the work safety culture

As regards promotion of work safety culture at the ORLEN Group companies, our key task was to raise the awareness of safe work procedures and to inspire proactive attitudes in our employees and contractors. The '**Employee Support System'** put in place at PKN ORLEN is one of the programmes aimed at strengthening personal security culture. It is based on the Behaviour-Based Safety (BBS) approach used at production companies, which has been adapted to the Company’s needs. The method consists in reinforcing the employees’ safe behaviours during work and promoting best OHS practices. In 2018, the Group continued its cooperation with the Łódź University of Technology with respect to another special edition of a postgraduate programme on industrial process safety, dedicated to the ORLEN Group personnel. Thanks to which process knowledge and skills were acquired by more than 150 ORLEN Group employees representing various areas, from production to investments. Safety awareness and perception is being developed at multiple levels in the organisation. The Company also continued cooperation with the Warsaw University of Technology, where PKN ORLEN employees delivered special lectures on technical safety.

Mandatory safety training programmes for employees and contractors

The ORLEN Group organises **mandatory training programmes on safety** for its employees and contractors to familiarise them with the safety standards applicable at the Group companies. The programme focuses on raising the employees' and contractors' awareness of the importance of correct assessment of the situation, knowledge of potential risks and risk mitigation methods, adherence to OHS rules and procedures, proper use of protective systems and equipment, and the need to report potentially dangerous incidents. The programme includes tools for checking the employees' and contractors' knowledge.

Control and audit system

Internal audits of the companies are held regularly at the ORLEN Group. In 2018, four advisory visits (audits) and ten re-audits were carried out. They included an important component called '**Safety Walks**', consisting in safety reviews at the visited facilities. Results of the assessments and observations made during such visits serve as the basis for formulating and implementing correction and refinement plans and workplace health and safety improvement plans. Other carried out at the Group companies include internal audits, audits by certification bodies, and audits by risk management consultancies. Moreover, regular **safety assessment inspections** are conducted **at the contractors** who perform work for the ORLEN Group.

Incentive programmes and information campaigns focusing on knowledge of occupational safety and promoting healthy lifestyles and work-life balance

The ORLEN Group engages in activities aimed at promoting safe working behaviours among its employees and contractors, such as the '**Safe Maintenance**' or '**Safe Contractor**' competitions, or the '**OHS Incentives**' programme. In addition, the Group companies conduct various **information campaigns** devoted to occupational safety, healthy lifestyle and work-life balance. One of such initiatives is the **Occupational Health and Safety Days** held across the entire ORLEN Group. In 2018, the attractions for employees included the 'Driver Awareness' site, medical booths, and a 7D cinema.

Identification and implementation of innovations and best practices

Best practices are identified on an ongoing basis through experience sharing across the ORLEN Group companies and drawing on the lessons learned by other oil and gas companies with global footprint. Some of the projects in this field carried out at the ORLEN Group companies included the LOTO System, and implementation of 5 S standard of order in the workplace, as well as implementing work organization practices according to Lean Manufacturing standard.

The Lockout – Tagout LOTO system is an activity which depends on safe isolation of various kinds of energy sources to industrial equipment and machinery whenever maintenance or repair work is performed. Lockout prevents from switching on the machine until it is disabled. Tagout refers to a tag which informs and warns that a given machine is locked out while maintenance work is being performed, and may not be switched on until the tag is taken off. The system has been implemented to eliminate accidental and uncontrolled switching on of machines or hazardous energy releases during operation, development, repair and maintenance works, and thus prevent accidents and incidents resulting from inadvertent start-up or re-energising of machines, devices or installations.

Lean Manufacturing is a management system designed to reduce waste and eliminate unnecessary operations, activities and procedures in processes, while providing top quality products and services to meet customer expectations, maintaining low production costs, and using relatively small amounts of raw materials.

Event analysis and risk assessment system

Any accidents or emergencies that occur at the ORLEN Group are analysed and assessed in terms of the likelihood of their recurrence. Communication of near misses and emergencies is based on **'Safety Alerts'**. In the case of emergencies, '**Lesson Learned**' actions are organised based on checklists designed to identify preventive measures in different ORLEN Group locations. Special tools have been implemented for analysing the potential risk of accidents at work and emergencies, and the findings of such analyses serve as the basis for taking preventive measures. Process hazards are reviewed at the ORLEN Group using a range of methods, including HAZOP, which is used to establish the probability of hazards in industrial facilities. HAZOP consists in a systematic review of design assumptions and processes for potential deviations from predetermined parameters.

Company Fire Brigade

The core responsibility of the Company Fire Brigade is to carry out rescue and fire-fighting activities on the premises of PKN ORLEN, as well as in the entire territory of Poland as part of the National Rescue and Firefighting System and the Assistance System for the Transport of Hazardous Materials (SPOT), and to supervise the readiness of the Company's facilities for rescue and fire-fighting activities. Furthermore, the Company Fire Brigade provides chemical and technical rescue, seals leaks, man's safety stations under plant emergency conditions, provides protection during hot works on the premises of the production plant in Płock, and performs fire prevention functions. Firefighters specialise in firefighting in the refining and petrochemical industry, recovery from chemical accidents, as well as water rescue, technical rescue, medical care at first responder level and technical rope rescue activities. For several years, they have been actively cooperating with fire brigades operating across the ORLEN Group in safety improvement efforts. Firefighters are equipped with more than 20 specialist firefighting and rescue vehicles, high volume pumps and water cannons, a rescue boat and specialist protective equipment for staff. The launch of Section 2 of the Company Fire Brigade in September 2018 was a remarkable accomplishment in fire safety improvement on the premises of the Płock production plant. It is located close to critical oil processing facilities and enables a faster response to hazards.

Emergency drills involving employees and rescue and firefighting services

Regular emergency drills are conducted at the ORLEN Group companies, building employees' knowledge of how to behave in an emergency. The drills are also an opportunity to improve cooperation with a view to minimising the potential consequences of industrial failure.

Production assets integrity monitoring and plant maintenance programme

Timely inspection and supervision activities are key to maintaining the integrity of fixed assets. They are carried out during planned maintenance and process shutdowns organised according to long-term schedules. A dedicated programme is also employed for automatic control and security systems, providing, among other things, the timeframes for tests and functionality checks. In parallel, the **Risk Based Inspection (RBI)** programme is being implemented for the Płock facilities in partnership with and under the supervision of the Polish Office of Technical Inspection. The programme offers the added value of continuous improvement of availability and safety of process units with the integrity of production assets maintained. In addition, an **Autonomous Plant Maintenance programme** is in place, making it possible to achieve a higher level of reliability and safety of production units.

Third Party Contractor Safety Management

A model for a third party contractor management system has been developed and implemented with a view to meeting the following main objectives: ***reduction of the number of accidents, fires and emergencies, zero tolerance for unacceptable risik.***

The following specific objectives were achieved in 2018:

- Ensuring that the assignments for contractors are professionally prepared.
- Establishing clear rules.
- Raising awareness of the Company's employees, third party contractors and their employees.
- Ensuring that work is carried out safely and correctly.
- Confirming completion of training for some specific locations.
- Communicating of and fast response to threats.

Key information and indicators regarding safety at the ORLENGroup

Accidents at work involving ORLEN Group employees and contractors

	2018		2017	
	Women	Men	Women	Men
Total number of accidents at work involving ORLEN Group employees[1]	4	38	5	42
Total number of accidents at work involving ORLEN Group contractors[2]	18	32	10	24
Total number of accidents at work involving ORLEN Group employees and contractors	22	70	15	66

Regions[3]

	2018			2017		
	Poland	Czech Republic	Lithuania	Poland	Czech Republic	Lithuania
Total number of accidents at work involving ORLEN Group employees[1]	27	13	2	30	14	3
Total number of accidents at work involving ORLEN Group contractors[2]	30	17	3	29	4	1
Total number of accidents at work involving ORLEN Group employees and contractors	57	30	5	59	18	4

[1]Number of accidents at work involving ORLEN Group employees which were acknowledged by the employer and were the direct cause of the injured employee's taking sick leave.
[2]Number of acknowledged accidents at work involving employees of the ORLEN Group's contractors who performed work for a Group company on premises owned or leased by a Group company, which accidents were the direct cause of the injured employee's taking sick leave. The definition of 'contractor' covers also employees of the PKN ORLEN service stations.
[3]Regions – key markets in which the ORLEN Group has production assets.

	2018		2017	
	Women	Men	Women	Men
Number of minor accidents involving ORLEN Group employees	4	37	5	42
Number of severe accidents involving ORLEN Group employees	0	1	0	0
Number of fatalities involving ORLEN Group employees	0	0	0	0
Total number of accidents at work involving ORLEN Group employees	4	38	0	42

In 2018, 98% of accidents at work involving ORLEN Group **employees** were minor accidents. There was one severe accident.

	2018		2017	
	Women	Men	Women	Men
Number of minor accidents involving ORLEN Group contractors	18	18	10	21
Number of severe accidents involving ORLEN Group contractors	0	8	0	3
Number of fatalities involving ORLEN Group contractors	0	6	0	0
Total number of accidents at work involving ORLEN Group contractors	18	32	10	24

Regions[3]

	2018			2017		
	Poland	Czech Republic	Lithuania	Poland	Czech Republic	Lithuania
Number of minor accidents involving ORLEN Group contractors	**30**	**6**	**0**	28	3	0
Number of severe accidents involving ORLEN Group contractors	**0**	**5**	**3**	1	1	1
Number of fatalities involving ORLEN Group contractors	**0**	**6**	**0**	0	0	0
Total number of accidents at work involving ORLEN Group contractors	**30**	**17**	**3**	29	4	1

In 2018, the number of fatal, collective and severe accidents involving ORLEN Group **contractors** increased. As a result of one event (explosion and a group fatal accident) at the UNIPETROL RPA, Kralupy Terminal, 6 fatalities among contractors were reported. In the category of severe accidents, the number of accidents involving contractors grew by five compared with 2017. Accidents involving contractors and resulting in serious damage to health occurred at the UNIPETROL Group and the ORLEN Lietuva Group.

Combined Total Recordable Rate (TRR) for employees and contractors[4]:

In accordance with the adopted principle that *'Contractor safety is as important as the safety of the ORLEN Group's own employees*,' since 2015 the Group has used the Combined Total Recordable Rate covering also its contractors.

	2018	2017
Combined Total Recordable Rate (TRR) for employees and contractors	1.03	0.95

[4]Counted as the total number of accidents at work involving employees and contractors of ORLEN Group companies and resulting in the injured person taking sick leave in a given period x 1,000,000 / number of man-hours worked by the employees and contractors in this period.

In 2018, the Combined Total Recordable Rate (for employees and contractors) rose slightly. The increase is a typical phenomenon, resulting partly from a higher number of accidents, and partly from improved quality of their reporting and better awareness among all those involved in the process. The Company has developed clear criteria and methods for reporting and recording events, based on which analyses of both the number and causes of events are performed. An analysis of accidents in 2015−2018 has shown that one of the main causes of accidents at work was human error due to employee's incorrect / risky behaviour. Further reduction of the number of accidents should be achieved by increased awareness of employees and the management staff. Apart from preventive measures, behaviour-based safety programmes will be implemented to that end. They promote not only responsibility for one's own safety and safety in the workplace, but also shared responsibility, i.e. paying attention to the activities of one's co-workers and their possible consequences, as well as risk analysis as an essential element in the work process.

TRR for ORLEN Group employees[5]

	2018	2017
Women	0.41	0.56
Men	1.44	1.64
Total	1.17	1.36

[5]Total number of accidents at work involving employees of ORLEN Group companies and resulting in the injured person taking sick leave in a given period x 1,000,000 / number of man-hours worked by the employees in this period.

TRR for ORLEN Group employees[5]

Regions[3]	2018	2017
Poland	1.09	1.26
Czech Republic	1.71	1.91
Lithuania	0.68	1.07
Total	1.17	1.36

The TRR for the ORLEN Group employees has remained relatively unchanged for the last few years, reflecting the process of stabilisation of the Group's accident rate, which has continued since 2014 following a series of strong decreases in TRR values for the ORLEN Group employees.

Severity rates and number of days lost due to post-accident absenteeism at the ORLEN Group in 2018

Severity rates for accidents at work involving ORLEN Group employees[6]

Total	Women	Men
64.71	105.5	60.42

Severity rates for accidents at work involving ORLEN Group employees[6]

Total	Poland	Czech Republic	Lithuania
64.71	60.15	71.23	84.00

[6]Quotient of the number of days lost due to post-accident absenteeism of ORLEN Group employees and the number of accidents at work involving ORLEN Group employees, acknowledged by the employer and resulting in the employee's taking sick leave.

Number of days lost due to post-accident absenteeism at the ORLEN Group[7]

Total	Women	Men
2,718	422	2,296

Number of days lost due to post-accident absenteeism at the ORLEN Group[7]

Total	Poland	Czech Republic	Lithuania
2,718	1,624	926	168

[7]Number of days on which ORLEN Group companies' employees were on sick leaves in the period concerned as a result of an accident at work acknowledged by the employer.

Ensuring work safety and health protection for employees of external contractors performing work on the ORLEN Group premises is one of the Group's priorities. In order to continuously enhance their safety we have taken a consistent, long-term approach to raising their awareness of the importance of proper risk assessment, potential hazards, risk mitigation methods, OHS rules and procedures, proper use of protective systems and equipment, and the need to report potentially dangerous situations. Besides analysing work accidents suffered by contractors, the ORLEN Group also studies data on sick leaves resulting from the accidents occurring in connection with work carried out by contractors on the premises of Group companies.

However, the Group is not legally authorised to publish such data.

Number of occupational disease cases in each employee group[8]

	2018	2017	2016
Office and administrative staff	0	0	0
Higher-rank and mid-level technical staff	0	0	0
Operators of process units and equipment	1	3	4
Repair and maintenance employees	1	0	2
Transport and storage employees	1	0	2
Total *ORLEN Lietuva; ** ORLEN Lietuva (2) and UNIPETROL RPA (1)	3**	3*	6*

[8]Number of acknowledged occupational disease cases is the number of decisions issued by the State Sanitary Inspector to confirm recognition of an occupational disease of a current or former employee of an ORLEN Group company.

Workers with high incidence or high risk of occupational diseases

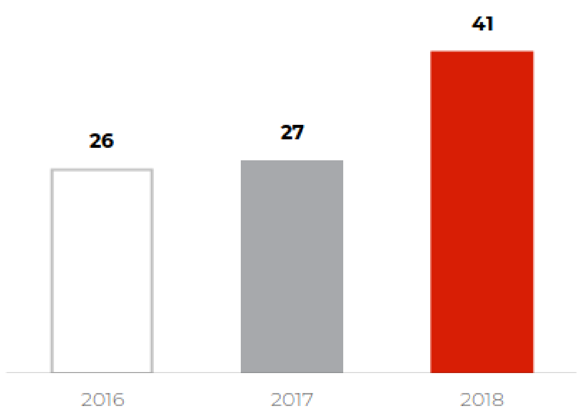
The ORLEN Group constantly monitors and identifies factors that may cause occupational diseases among its employees. Work environment surveys are performed on a regular basis and their results are analysed to assess the risk of potential impact on the health of the Group's employees. With respect to all factors identified for jobs with a high risk of occupational disease, systemic preventive measures have been implemented in the form of technical and organisational solutions offering personal and collective protection. The use of such solutions eliminates the risk of employees developing occupational diseases as a result of harmful factors in their work environment.

The measures implemented by the Group helped reduce the number of occupational disease cases among ORLEN Group employees by a half in 2017–2018 compared with the previous years.

Number of process safety events, by business activity

In 2018, there were no fires that would require intervention by external fire-fighting units. In 2018, the number of fires reported at the ORLEN Group grew compared with 2016−2017; however, this increased number of fire incidents had no safety impacts, as most of them were classified as Group 1 'minor' fires.

Number of fires at the ORLEN Group



Number of fires ORLEN Group[9]

	2018	2017	2016
Total	41	27	26
Of which: relating to technological processes	37	21	20
Of which: requiring intervention by external firefighting units	0	0	4

[9]Number of process-related fires at the ORLEN Group companies, affecting only premises owned or leased by the companies, with the exception of service station areas.

TIER 1, TIER 2 and TIER3 emergencies

TIER 1 emergencies

Emergencies with a significant impact related to a sudden and unexpected substance release due to ineffective protection layers. Such emergencies include a sudden and unexpected release of hazardous substances or non-toxic and non-flammable substances (steam, condensate, hot water, nitrogen, compressed air, CO_2) during ongoing industrial processes, having one or more of the following consequences:

- Injury to an employee of the ORLEN Group or of a contractor or subcontractor, resulting in a sick leave or death.
- Hospital admission and/or death of any other person.
- Officially announced evacuation of local residents or recommendation for them not to leave their homes.
- Fire or explosion resulting in losses in the form of direct costs of at least USD 100 thousand (USD 100,000 x ~3 PLN/USD = ~PLN 300,000).
- Release of excessive pressure into the atmosphere with the use of pressure relief devices in an amount equal to or higher than the threshold amount in any one hour period.
- Release of a substance in an amount equal to or higher than the threshold amount in any one hour period.

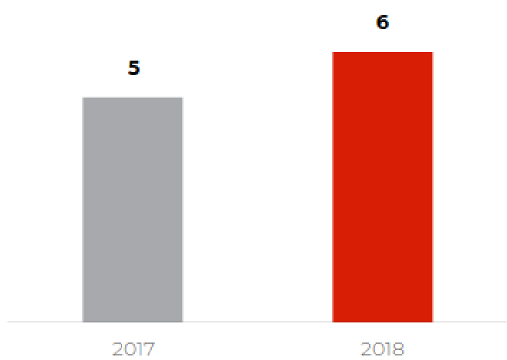
TIER2 emergencies

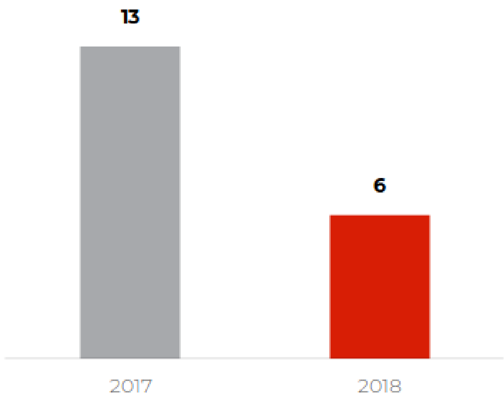
Events of lesser consequence related to a sudden and unexpected substance release due to ineffective protection layers. Such emergencies include a sudden and unexpected release of hazardous substances or non-toxic and non-flammable substances (steam, condensate, hot water, nitrogen, compressed air, CO_2) during ongoing industrial processes, having one or more consequences not classified as TIER1, including:

- Injury to an employee of the ORLEN Group or of a contractor or subcontractor.
- Fire or explosion resulting in losses in the form of direct costs of at least USD 2,500 (USD 2,500 x ~3 PLN/USD = ~PLN 7,500).
- Release of excessive pressure into the atmosphere in an amount equal to or higher than the threshold TIER2 amount in any one hour period.
- Release of a substance in an amount equal to or higher than the threshold TIER2 amount in any one hour period.

Number of TIER1, TIER2 and TIER3 emergencies

TIER1 emergencies



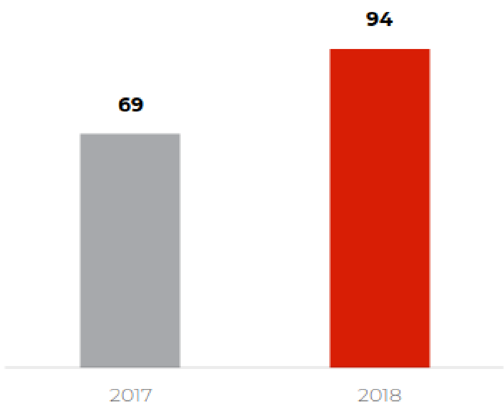


In 2018, the ORLEN Group continued reporting the T3 (TIER 3) process safety indicator referring to near-miss events.

[1]It has been assumed that TIER3 emergencies are emergency shutdowns of installations or process nodes triggered by active or passive protections (automatic or mechanical). TIER3 ratio is calculated as follows:

- *TIER3 production emergencies – number of emergency shutdowns of installations or process nodes triggered by active or passive protections (automatic or mechanical).*
- *TIER3 logistics emergencies – ratio of the number of emergency shutdowns of product loading to rail tank cars and road tankers triggered by active or passive protections (automatic or mechanical) to the total number of loading operations performed at a given time.*

Number of TIER 3 production emergencies at the ORLEN Group

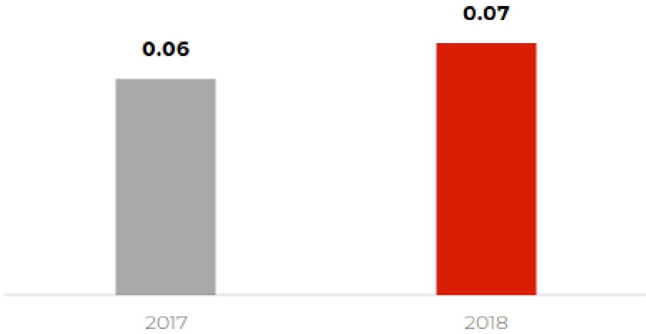


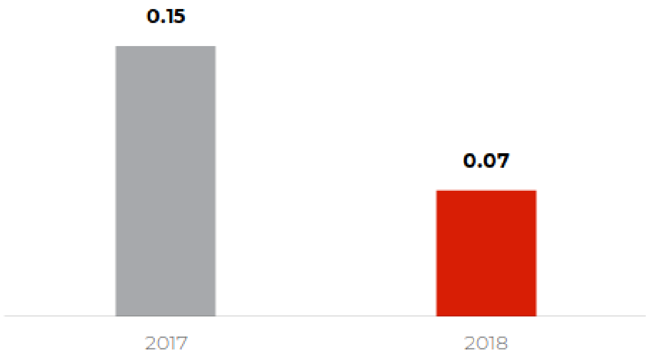
Number of emergencies at the ORLEN Group

	2018			2017		
	Poland	Czech Republic	Lithuania	Poland	Czech Republic	Lithuania
TIER1	2	4	0	1	4	0
TIER2	3	2	1	7	6	0
TIER3 – Production	80	0	14	47	0	22

T1 PSER[2] and T2 PSER[3] indicators

T1 PSER ORLEN Group





TIER1 and TIER2 events reported for 2018 involved only emissions into the environment caused by fires and leaks. There were no emergencies causing serious damage to the natural environment. Liquid leaks were collected and properly disposed of.

*[2]T1 PSER = number of TIER1 emergencies (of greater consequence, related to substance release into the environment) * 1,000,000 / number of man-hours worked by employees and contractors.*
*[3]T2 PSER = number of TIER2 emergencies (of lesser consequence, related to substance release into the environment) * 1,000,000) /number of man-hours worked by employees and contractors.*

Responsibility towards Society

The ORLEN Group comprises 67 companies, including 57 subsidiaries located in Poland, Germany, the Czech Republic, Lithuania, Malta, Sweden, the Netherlands, Slovakia, Hungary, Estonia, Latvia, the US and Canada. The ORLEN Group has more than 21,000 employees. With their families included, this gives in total more than 100 thousand people whose lives are directly affected by PKN ORLEN operations.

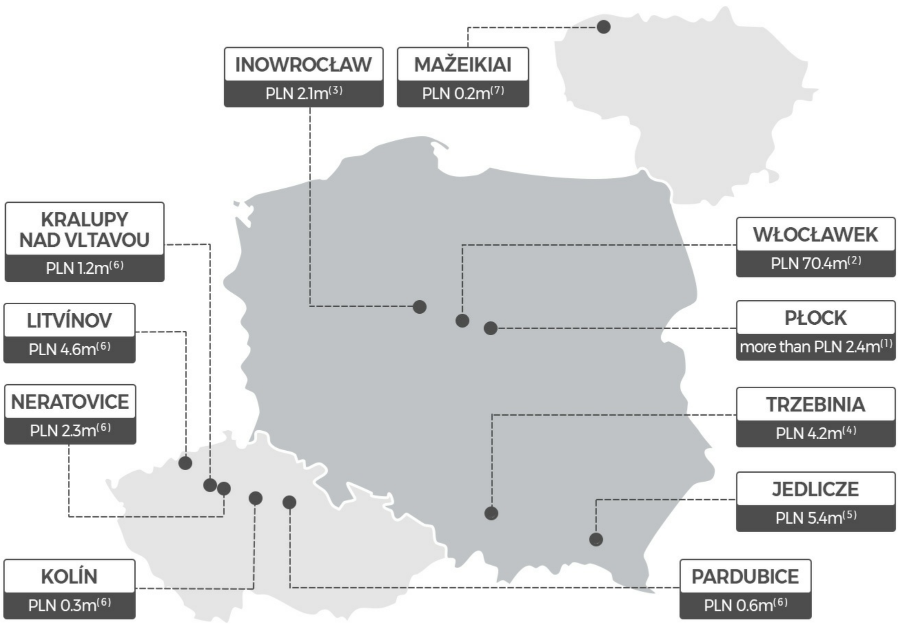
Furthermore, investment projects, current repairs and maintenance work performed by third party contractors for the ORLEN Group add up to more than ten thousand jobs.

All of the subsidiaries follow the Group's CSR Strategy, which states that value growth should be aligned with the interests of external stakeholders. ORLEN Group companies put special focus on their role as socially responsible members of their respective communities. The Group considers both direct and indirect effects of its activities on the environment it operates in. It is an employer, a tax payer, sponsor, charity provider, and partner for numerous suppliers, institutions, and organisations.

Local taxes

The ORLEN Group companies are key local tax payers at their respective locations. For example, the total revenue of the city of Płock related to the operations of PKN ORLEN and the ORLEN Group companies located in the city amounted to more than PLN 246m in 2018, accounting for almost 25% of its total budget.

Local taxes paid by the ORLEN Group companies in key locations in 2018



[1]*It includes, among others taxes: on real estate, on means of transport, corporate income tax, personal income tax, environmental fee, perpetual usufruct fee. Applies to: PKN ORLEN, ORLEN Administracja, ORLEN Centrum Usług Korporacyjnych, ORLEN Serwis, ORLEN Projekt, ORLEN KolTrans, ORLEN Laboratorium, ORLEN Asfalt, Basell Orlen Polyolefins, ORLEN Eko*
[2]*Includes: corporate income tax, personal income tax, perpetual usufruct fee. Applies to ANWIL.*
[3]*Includes: property tax, corporate income tax. Refers to IKS Solino.*
[4]*Includes: property tax, tax on transport means, corporate income tax, personal income tax. Refers to ORLEN Południe.*
[5]*Includes: property tax, corporate income tax, personal income tax. Refers to ORLEN Południe.*
[6]*Includes: real estate tax. Applies to the Unipetrol Group.*
[7]*Includes: land rent, land tax. Refers to ORLEN Lietuva.*

CSR initiatives

The ORLEN Group's efforts in respect of corporate social responsibility are governed by the CSR Strategy. One manifestation of the Group companies' involvement in the lives of local communities is social sponsorship and charity activities. To improve the quality of life of local communities, dedicated programmes have been established, such as those in Płock and Włocławek. The Group companies lend a helping hand to solve problems of their local communities, particularly in the areas of healthcare, safety, and education. ORLEN Group companies also support projects promoting arts and culture, amateur and professional sports, and development of urban infrastructure. The underlying principle is that the Group companies should help eliminate the most pressing problems of their respective communities. Inter-sectoral partnerships are one form of such support.

PKN ORLEN was among the founders of the **Grant Fund for Płock Foundation**, and its representatives are actively involved in the Foundation's activities. The Foundation promotes and provides co-funding for local NGOs' initiatives.

The **ORLEN – GIFT FROM THE HEART Foundation**, established in 2001, fulfils the social responsibility mission of its founder, PKN ORLEN. An important area of the Foundation's activities is assistance to children and carers at **Family Group Homes**. The Foundation pursues this objective through the organisation of summer and winter holidays, support in the Christmas and New Year's period, a scholarship programme for the most talented children from Family Group Homes, an annual conference addressed to the carers, and day-to-day assistance to specific establishments. The Foundation currently provides assistance to some 2,000 children in more than 300 such homes.

In addition to support provided to the Family Group Homes, the Foundation runs a number of other**scholarship programmes**, including '**For Eagles**' for children of the ORLEN Group companies' employees, '**My Above Average Interests**' for students from Płock and the region, a programme for children of Polish parents from Kazakhstan, and special scholarships, such as '**Life to the Full'**.The aim of such programmes is to help young people in their education and pursuit of their passions, improve their motivation, and also encourage their social involvement, e.g., through participation in volunteer work. In 2018, in cooperation with the J.K. Steczkowski BGK Foundation, the Energa Foundation, the LOTOS Foundation, and the Lotto Foundation, our ORLEN – GIFT FROM THE HEART Foundation launched a new scholarship programme – '**Bona Fide**'. It is designed to enable the most talented Polish undergraduates to study at either of the best 50 universities included in the Shanghai Ranking (ARWU). The first edition of the programme was addressed to students majoring in the field of broadly understood administration. Six students were granted scholarships to join the University of Oxford, University College London, Columbia University, University of Cambridge, and the Imperial College London.

The Foundation also engages in initiatives focused on improving safety and healthcare standards. It supports the police units across Poland and operates the '**ORLEN for Firefighters**' programme. In 2018, the Foundation transferred a record amount of more than PLN 2m to 360 professional and voluntary fire-fighting units. The grants were spent on firefighting equipment, water and flood rescue equipment, road and technical rescue equipment, as well as medical, chemical, environmental and technical rescue equipment. Over the 18 years of the programme operation, the firefighters received assistance valued at PLN 12m.

The ORLEN – GIFT FROM THE HEART Foundation focuses on supporting **local communities**. In 2018, it completed the first edition of the '**My Place on Earth**' grant programme: it provided funding to social initiatives, selected through a competition, in such areas as sports, safety, education, history, culture and environmental protection. More than PLN 2m was transferred to local communities (293 entities) in different parts of Poland as part of this project. The aim of 'My Place on Earth' is to support the development of local communities, including by reaching small towns and encouraging activity of rural communities. On the centenary of Poland's independence, the Foundation launched the nationwide '**We keep watch! We remember!**' project, designed to commemorate the heroes killed in World War II. Grants were provided to revitalise memorial sites – sites of burial or death of those killed in the fight with the occupant.

In addition to the initiatives named above, the Foundation supports on a daily basis individuals in need and institutions through **financial donations for specific purposes**. The CSR initiatives of PKN ORLEN and the ORLEN – GIFT FROM THE HEART Foundation also engage **members of the VITAY loyalty scheme and users of the YANOSIK application**. Many of them choose to donate their points to social causes, including support to Family Group Homes or environmental projects.

For more information on the ORLEN – GIFT FROM THE HEART Foundation's activities, see the 'CSR strategy implementation' section.

The **ANWIL for Włocławek Foundation**, established in 2014, supports local initiatives, thus contributing to the future of the Włocławek community. The Foundation runs competitions for the grants it offers to co-finance projects aimed at raising the level of education of the Włocławek residents, counteracting social and economic exclusion, improving the condition of the natural environment, preserving the historical heritage, as well as protecting and promoting health. Over the four years of its operations, the Foundation allocated nearly PLN 5m to social projects. Statistically, every other resident of Włocławek has been the beneficiary of its activities.

In 2018, the ANWIL for Włocławek Foundation implemented the following projects:

- The third edition of the 'I Learn with ANWIL' grant contest, which promotes learning science: 11 projects were granted funding as part of the project.
- The third edition of the 'ANWIL helps' grant contest: 14 projects were awarded funding as part of the employee volunteering financial support programme.
- Scholarships granted to 40 students of junior high schools and secondary schools in Włocławek and the local municipalities.

- The fourth edition of the ‘Adventurous Holiday’ grant contest, which provided funding to 13 programmes for children and young adults; in total, 1,027 youngest residents of Włocławek and neighbouring areas participated in the programmes.
- The fourth grant contest in which non-governmental organisations operating in the city and the neighbouring municipalities applied for financial support for projects integrating representatives of the 50+ age group in joint activities with children and young adults; 27 projects were granted the funding.
- The first edition of the ‘Youth with ANWIL’ scholarship programme, under which five students of Polish public universities, who come from the Foundation’s area of operation were granted scholarships.
- Continuation of the three-year’Streetworking in Włocławek’ programme aimed at promoting equal opportunities for children and young adults at risk of social exclusion or from dysfunctional families; under the programme, 21 children and young adults aged 8 to 16 are assisted on a regular basis by streetworkers.

As part of the ‘**ANWIL Helps**’ employee volunteering programme, company employees can apply for co-financing of their initiatives to support the local community. The projects submitted in 2018 included recreational activities for children attending day care centres, and repair and refurbishment work for the beneficiaries of the volunteers’ support. Additionally, each year, the employee volunteering programme features initiatives undertaken by angling and team sport enthusiasts. They share their passion and skills to include the youngest residents of Włocławek and the region in the organised activities.

A joint project of the Fish Promotion Association and ANWIL, launched in 2015, is the **Mr Carp Restocks the Vistula**’ competition. It is organised with the aim to educate children on the importance of fish to the ecosystem and promote ichthyology. In 2018, children from 41 kindergartens and primary schools located in nine provinces attended the competition, and the Vistula river was restocked with nearly 140 thousand juvenile eel and pike-perch.

Operating in the oil and gas exploration and production business, the **ORLEN Upstream Group** seeks to foster **friendly and lasting relations with the local communities** – authorities, residents, and businesses. Project work is performed in such a manner as to take into account the needs and problems voiced by residents. All contractors engaged by the ORLEN Upstream Group in exploration, appraisal and production projects are required to pay heed to the needs of the social environment, following the principles of corporate social responsibility. In the day-to-day operations as well as when making business decisions, where possible, the ORLEN Upstream Group’s contractors are obliged to take into account and engage their social partners, in particular the local communities. When carrying out its projects, the ORLEN Upstream Group relies to the largest extent possible on local services and suppliers such as municipal services, grocery stores, catering outlets, hotels, and rental of construction equipment. In 2018, the ORLEN Upstream Group used services provided by about 40 companies located within the licence areas where PKN ORLEN’s exploration and production segment conducts its operations. Given the highly specialised nature of its operations, the ORLEN Upstream Group cannot employ representatives of the local community. However, the contractors employ local residents to help carry out geophysical surveys, perform work on the drilling site while drilling, and to supervise the facilities.

The ORLEN Upstream Group seeks to conduct its business in the atmosphere of dialogue and social acceptance. Therefore, in 2018, when preparing for the commencement of field work, its representatives met with local authorities, and jointly agreed a model of dialogue with the local community. Whenever any stakeholders expressed their willingness to meet before the commencement of drilling work or acquisition of seismic data, they were invited to informational meetings or a briefing service was established for them to inquire about the scheduled works and methods of their implementation. Additionally, visits to drilling sites were organised for representatives of local government authorities, on their request.

In 2018, the company took part for the seventh time in the programme of support to firefighting units, organised jointly with the ORLEN – GIFT FROM THE HEART Foundation. It also engaged in the ‘My Place on Earth’ project, supporting the following initiatives: the ‘Cooltural Attitude to Culture’ project by the MOMs’ CLUB association for the support of children and youth, the volunteer firefighting unit in Kęsowo, the Recreational and Sporting Mayday Weekend in Bukowiec. The company’s financial donations were also received by the Krosno Basketball Club, the Polish Chamber of Commerce in the USA, and the Canada – Poland Chamber of Commerce. Its employees take part in volunteering initiatives in the locations of its projects, such as the ‘Become a Santa Claus’ Helper’ campaign.

ORLEN Południe was engaged in pro-environmental campaigns. For instance, in the Jedlicze municipality it carried out the ‘**Tree for a Bottle**’ project organised under the Responsible Care Programme. All schools and kindergartens in the municipality of Jedlicze organised collections of plastic bottles. In return, they received trees, which they could plant on their premises. The best schools and kindergartens were awarded money to be spent on teaching aids. Another notable example is the ‘**Tree for Waste Paper**’ campaign, a recurring environmental event organised by ORLEN Południe, which has become a fixture in the programme of the Christmas Eve celebrations at the Trzebinia Market Square. The purpose of the project is to exchange waste paper for rooted Christmas trees.

Like other ORLEN Group companies, **IKS Solino** cooperates with the ORLEN – GIFT FROM THE HEART Foundation. It supports scholarship and firefighting unit support programmes, provides funding for various social initiatives, and sponsors schools, associations, sports clubs, parishes, and private individuals.

In its relations with Stakeholders, the Czech subsidiary **Unipetrol** adheres to principles of corporate social responsibility. It lends support to initiatives designed to improve the quality of life in the areas where it operates and cares for the natural environment. Moreover, the company supports and promotes young chemistry talents. The pillars of Unipetrol's social commitment are education, volunteering, charity, environmental protection, and sponsorship.

In late 2016, the company established the **Unipetrol Foundation**, whose goal is to support students of natural science- and technology-oriented faculties by organising internship and work placement programmes as well as grant programmes for secondary school students. In 2018, the Foundation launched a grant programme aimed at supporting educational and research activities at universities. The funds transferred under the programme amounted to CZK 2.7m. The Foundation puts a particular focus on popularising chemistry by pursuing education-oriented projects under the name 'A Miraculous Day with Chemistry'.

For 17 years, Unipetrol has been a partner of the **University of Chemistry and Technology of Prague**. In 2018, it allocated CZK 800 thousand to projects such as 'Summer School' and 'Autumn School', addressed to primary and secondary school teachers, 'Modern Chemistry Lesson' in the Ústí region, and many more. Unipetrol is a partner of the Chemistry Olympiad, and offers internship opportunities to young talents. A branch of the University of Chemistry and Technology of Prague is located within the Záluží industrial park in Litvinov, which gives the students an opportunity to cooperate with the unique **UniCRE research centre** operated by the Unipetrol Group, a one-of-a-kind project in the Czech Republic. At the research centre, students can complete an internship and gain industry experience. What is more, Unipetrol actively supports the '**Zlatý Amos**' project, which seeks to recognise the best chemistry teachers in the Czech Republic.

Since 2012, Unipetrol employees have been involved in volunteering initiatives for the benefit of the company's immediate environment. The company supports the community of the Ústí region on a regular basis. Its employees organise an annual charity drive as part of the 'We Make Dreams Come True' project, with the proceeds going to local charities (nursing homes, children's homes, cultural facilities, etc.). The charity programmes contribute to rebuilding the local infrastructure, organising cultural events, supporting local tourism and sporting activities for children and teenagers. In 2018, Unipetrol employees joined in the '**Donate Fuel for Life**' blood donor campaign. Benzina, a Unipetrol Group company, carries out a CSR project called **Benzina Helps**', pursued in partnership with the Federation of Children's Homes in the Czech Republic.

Another pillar of Unipetrol's CSR agenda is environmental protection. The company is a partner of the Czech Fishery Union and is actively involved in restocking fish into the Bilina river. The company is a sponsor of sports, including hockey and motorsports. Unipetrol also engages in initiatives addressed to children and young athletes.

ORLEN Lietuva, with its registered office in Mažeikiai, Lithuania, implements social-, cultural-, educational-, sports-, and charity-oriented initiatives for the benefit of the local community. The Company has been a long-standing partner of the local branch of the **Lithuanian Red Cross**, supporting nursing of the elderly and purchases of medical equipment, providing financial assistance to families with many children, and helping the rehabilitation of former prisoners.

The Lithuania-based company has been involved in projects promoting culture in Mažeikiai, including the Mažeikiai International Arts Festival, which has been held for more than 10 years, as well as the Festival of Song, Dance and Music.

ORLEN Lietuva engaged in the construction of a new children's ward at **the Blessed Father Michael Sopocko hospice in Vilnius.** In addition, in 2018, it supported the construction of **the brothers Stanisław and Gabriel Narutowicz's monument** in Renavas.

Responsibility towards Suppliers and Customers

Responsibility towards Suppliers

As one of the key groups of Stakeholders, suppliers are required to meet specific criteria relating to ORLEN values and social responsibility. The Procurement area cooperates closely with the Stakeholders, analyses their needs, puts forward common priorities, plans, KPIs and improvements.

The rules of cooperation with suppliers have been changing since 2015. To achieve strategic objectives in the Procurement area, we mainly focus on implementing a method of comprehensive management of procurement categories, a supplier management model (its elements include segmentation, classification, management rules) and global procurement standards. Also, rules of cooperation within the Group were defined and have been consistently implemented. This process is supported by the **Procurement Policy** put in place at the ORLEN Group as an umbrella document setting out the procurement management standards applicable across the Group and covering procedures, processes, tools, systems and procurement structures. Adoption and implementation of the Policy is an important milestone in the process to transform the Group's Procurement area.

ORLEN

Procurement Policy of ORLEN Group

(hereinafter also referred to as: "Policy")

Mission and Vision

The mission of the Procurement Area is to support the implementation of the strategy of ORLEN Group through procurement category management, building a modern management culture and operational excellence as well as concern for to the sustainability of the supply chain.

The vision of the Procurement Area is to become the best procurement organization in Central and Eastern Europe.

The strategic objective of the Procurement Area is to add value and maximize benefits, to focus on objectives that allow for the achievement of business satisfaction, to manage risks and timeliness, ensuring the continuity of business processes within the Group.

The strategic objectives are pursued on the basis of activities under the six pillars:

- Mapping of processes,
- Implementation of the Categories Management model,
- Qualification and evaluation of suppliers,
- Purchasing management in the Group,
- Development of IT systems and tools to support procurement processes,
- Improvement of competences.

ORLEN Group carries out procurement efficiently, in accordance with the highest international procurement standards, as evidenced by the award - CIPS corporate certificate for PKN ORLEN S.A. Its customer focus and concern for operational excellence strengthens the role of ORLEN Group as a reliable, credible and trustworthy partner.

Purpose and scope of the Procurement Policy

The purpose of Procurement Policy of ORLEN Group is to establish the basic principles and the division of responsibilities in conducting procurement processes for ORLEN Group.

The Procurement Policy applies to PKN ORLEN S.A. and to the companies belonging to ORLEN Group which adopted the Policy.

Any exceptions to the Policy require consultation and approval of the Chief Procurement Officer of PKN ORLEN S.A.

The Policy is subject to revision and requires the approval of the Company Strategy Committee.

Supervision

Segment management of the Procurement Area operates in ORLEN Group. The Procurement Area in PKN ORLEN S.A. and the companies belonging to ORLEN Group uphold the interests of ORLEN Group through the strategic objectives defined by PKN ORLEN S.A.

Segment management and supervision by the representatives of PKN ORLEN S.A. in Supervision Boards of ORLEN Group Companies is to ensure consistency and synergy of procurement processes, maximize benefits and minimize risks in the supply chain and to meet business needs for growth and competitiveness of ORLEN Group.

2017 saw a number of initiatives to standardise management of procurement processes, procurement categories and suppliers at Polish and foreign companies of the ORLEN Group. These initiatives are in line with the Procurement Policy and seek to support the ORLEN Group in the pursuit of the Procurement area's strategic objectives. The standards define the scope of cooperation of the procurement function at the Group, including support in procurement processes, formulation and implementation of procurement category strategies and contracting paths, management of strategic relations with suppliers, preparation of market analyses, exchange of procurement data, sharing of knowledge and best procurement practices, standardisation and optimisation of the procurement function and procurement tools.

The key project is the successive implementation of the **Connect Procurement Platform** at the Group companies, which contributes to the application of uniform and consistent procurement processes across the Group, their transparency, knowledge sharing and better communication with suppliers.

In 2018, improvements required by the GDPR were introduced in the Connect Procurement Platform. Rules of the Connect Procurement Platform, specifying the general terms and conditions of its use, were also developed and implemented. One more company joined the group of the Platform users, thus increasing the scope of published requests for proposals.

In 2019, further improvements are planned to be made for the bidders and suppliers that have an account on the Procurement Platform. They include in particular ergonomic enhancements in the supplier zone and optimisation of the notice board for requests for proposals.

In 2018, for the purpose of identifying and verifying suppliers and bidders registered in the Group's systems, each of them was assigned a **DUNS** identifier (DUNS is a uniform system for identification of businesses all over the world). These measures are aimed at preparing supplier information to be input to the **Central Supplier Database,** which is being implemented in 2019. The Central Supplier Database is to serve as a tool to maintain consistency of the supplier and bidder data with data disclosed in public registers, as well as to support cooperation with suppliers and implementation of category strategies at the Group level.

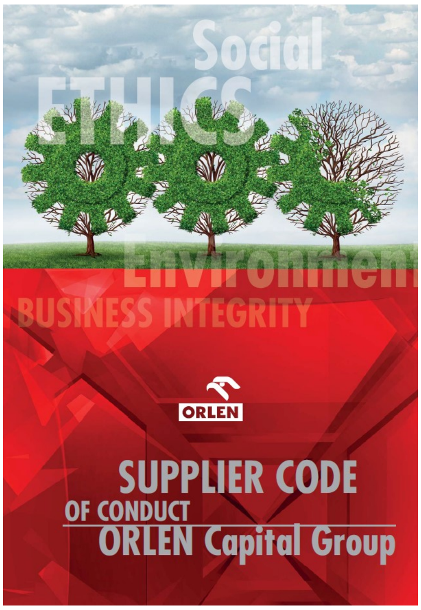
In 2017, we launched a **platform for joint reporting of procurement data based on QlikView** (a business intelligence solution). It is intended to help build a system offering quick access to information about spending, procurement categories, suppliers, contracts and performance indicators for procurement processes. The platform comprehensively supports the category and supplier management processes at the ORLEN Group. In 2018, new functionalities were added, for example monitoring of amounts spent on purchases from local suppliers. The solution was also made available to other ORLEN Group companies. Further development of the system planned for 2019 will focus on a tool for detailed analysis of the results of the Supplier Assessment.

One of the key IT systems supporting the procurement function across the ORLEN Group will be the **Integrated Procurement Tool (IPT)**. Its purchase process is going to be restarted because of the organisation's changing needs and the tool recommendations formulated as a result of procurement process optimisation initiatives. The purpose of the IPT implementation is to provide a tool supporting the P2P (procure to pay) process and to meet the need to manage and have access to information on the ORLEN Group suppliers. It is expected to enhance the efficiency of the procurement function, shorten the procurement process completion times, reduce risk, improve spending transparency and increase savings not only through streamlining the procurement processes but also through greater use of framework agreements at the ORLEN Group.

Another major advantage is that it will offer systematic support for bidder selection and supplier evaluation processes, and will improve communication on the evaluation results and statuses assigned, as well as the progress of remedial plans, various measures undertaken by Group companies and summary of their outcomes.

In a significant step towards ensuring sustainable development and responsible supply chain, PKN ORLEN incorporated the **responsible business and sustainability criteria in its procurement management standard**. The Company promotes social responsibility among its suppliers and seeks to cooperate with trading partners that respect human rights and operate in compliance with the law, ensure safe and fair working conditions, follow the best standards of ethical conduct and care for the environment. CSR criteria have been defined and compiled into a single document entitled **'Supplier Code of Conduct'**. Since April 2016, compliance with the Code has been a mandatory criterion in the process of trading partner selection at PKN ORLEN. In

2017, the 'Supplier Code of Conduct' was implemented at other ORLEN Group companies, so that selection of suppliers is now based on standardised and uniform social, environmental, legal, and ethical criteria applied across the Group. The Code aims to promote responsibility among the ORLEN Group's Stakeholders and encourage responsible practices among the suppliers. As regards social standards, the suppliers agree to take care of their employees' workplace safety and good health, seek to ensure fair and non-discriminatory working conditions, and respect human rights. In the area of environmental standards, they are required to pursue ongoing improvement in environmental impact management and sustainability in procuring and using raw materials, minimise greenhouse gas emissions and ensure responsible management of waste. Compliance with the 'Supplier Code of Conduct' is a mandatory criterion in the process of selecting trading partners. All existing and potential suppliers of the ORLEN Group are obliged to know and accept the requirements concerning human rights, compliance with the law, safe and decent working conditions, highest ethical standards, and care for the natural environment. Acceptance of the Code is a formal condition that has to be satisfied by bidders/supplier to take part in procurement procedures. If the Code is not accepted, the bidder is excluded from further stages of the procurement process due to failure to meet formal criteria.



Various initiatives and best practices are being implemented across the entire ORLEN Group. The key element consolidating procurement activities is the implementation of procurement category strategies defined together with trading partners. **Strategic management of procurement categories** facilitates incorporating development directions outlined in the Company's strategy into operating activities, which are adjusted to the specific nature of each procurement category. This approach is aimed at working out new solutions, process streamlining and cutting costs. In 2017, a new **model for development and implementation of procurement strategies at the ORLEN Group** was approved. It relies on best market practices in this area and seeks to meet the Group's needs. Strategies for the key procurement categories are steadily developed and approved by the Management Board of PKN ORLEN in line with the new model in place at the ORLEN Group.

The ORLEN Group cooperates with carefully selected vendors and service providers. In an effort to continuously improve procurement processes, the Group works to enhance and ensure greater consistency of supplier selection procedures. We have designed a **model for supplier selection in procurement category management strategies, and the key suppliers are evaluated on a regular basis as part of the supplier relationship assessment process**. The selection and assessment criteria are based, among other things, on best market practices. They make it possible to mitigate reputation, financial and process risks, and ensure high quality of cooperation.

We attach particular importance to engaging with local businesses, based in the County of Płock and the Province of Warsaw. By using their services the ORLEN Group contributes to the development of the market and business in its close neighbourhood. Such suppliers know the local market and are often well aware of the needs and expectations of the ORLEN Group companies. Their close proximity also reduces costs, e.g. of transport and accommodation. **In 2018, goods and services sourced from Płock-based companies accounted for some 6.7%* of PKN ORLEN's spending (*excluding purchases from suppliers of crude oil and natural gas).** By cooperating with suppliers from close neighbourhood the Company supports the growth of the local market and implements the objectives of its CSR strategy within the supply chain.

At key foreign companies of the ORLEN Group: Unipetrol (Litvínov) and ORLEN Lietuva (Mažeikiai), spending on services provided by local suppliers was 7.92% **and close to 1%, respectively, of their total expenditure in 2018.**

In November 2018, we organised the first **Fair for PKN ORLEN Suppliers**, where we presented selected procurement categories at the fair stands. The event formula offered an opportunity for the suppliers to talk freely about the possibilities of cooperation as well as about the specifics and requirements of individual procurement categories. The participants could share experience in new products and services, solutions, development plans and innovations. PKN ORLEN had the opportunity to learn suppliers' opinions about the barriers and difficulties in mutual relations.

Responsibility towards Customers

In line with the message of our image campaign 'We Drive Poland Together', launched in 2018, the ORLEN Group means, first and foremost, people – both employees and users of our products and services. One of the principal aspects of the ORLEN Group's operations is a steady improvement in the quality of its products, services and customer service standards. Customers are a key Stakeholder for the ORLEN Group.

An area of particular importance to image building and developing relations with customers and the general public is our service stations and the way they are managed. The stations' staff confirm with their appropriate conduct and attitude in daily work that customers are the pillar of ORLEN Group's success. A necessary condition for achieving a steady improvement of quality standards and relations with each Stakeholder group is the knowledge of where and what changes are required. Our clients' feedback, comments and opinions as well as the results of customer satisfaction surveys are an invaluable source of information in this respect. They are complemented by reports issued after inspections and visits by public authorities, held to assess the solutions we employ to ensure health protection, adequate level of security, and compliance of our business with applicable laws and regulations.

The element of key importance is our commitment to maintaining top quality standards. This applies to our services, goods and fuels offered in our retail networks, the ORLEN Group's refining and petrochemical products, as well as the standards of customer service at our service stations, terminals and sales offices, which we seek to continually enhance. At each level and phase of cooperation, we take care to protect customers' health and security.

We care about the quality of our offer and friendly atmosphere at our service stations. We seek to make a connection with our existing and potential customers by developing modern solutions, inspiring positive emotions and emphasising the national character of our brand and company. The ORLEN brand is now widely recognised and respected by Poles, and this success has been achieved with indirect contribution from other trade names: VERVA, EFECTA, Stop Cafe, and O!Shop.Customers' attachment to the brand is effectively strengthened by the VITAY loyalty scheme and the FLOTA programme targeted at the B2B segment. Other noteworthy brands are Benzina and star, associated with retail chains operating on, respectively, the Czech and German markets.

While managing more than 2,800 service stations, we continue to focus on developing the retail segment. A **modern network and customer-oriented approach** are key to achieving this objective. **In 2018**, we worked to further **develop our food and beverage services –** a new format was introduced, combining a convenience store with a modern food and beverage section. It is branded as Stop Cafe 2.0, O!Shop and ORLEN Drive in Poland and the Czech Republic, and star connect in Germany. The new model was first deployed at newly opened CODO stations, and a process was started to upgrade the existing Stop Cafes and Stop Cafe Bistros to the Stop Cafe 2.0 standard. In Poland, the number of stations operating in the new format grew by 169, and the number of sites based on the simplified format increased by 15. At the previous year's end, our service station network comprised 507 locations with the new store and food service format, including 351 Stop Cafes 2.0 in Poland and 100 in the Czech Republic, and 56 star connect outlets in Germany.

Our market success is founded on customer trust and their loyalty towards our retail chain, which we seek to build by **constantly enhancing the quality of service.** Having employed special coaches at our service stations, who are responsible for training the employees and ensuring top quality service from all team members, and with the **development of the VITAY and FLOTA loyalty schemes**, we can boast a growing base of loyal customers year by year. To meet their expectations and constantly improve service levels, in 2018 PKN ORLEN launched **OrlenPay**, **an innovative mobile payments system**, at its Polish retail chain. This mobile application is an innovative and convenient tool enabling payment for fuel directly at the pump. It is the first such solution for individual and B2B customers on the fuel market in Poland. The application makes fuel purchases much faster and simpler − the customers refuel their cars, pay at the pump, and are free to depart. As the pump quickly becomes available for the next car, other customers have time to do more shopping and buy beverages and food at the station.

As a result of work on new options for trading partners, ORLEN Group's fleet and external customers are now also offered electricity supplies. The main benefits to the customer are better terms of sale and the possibility of simplifying and reducing the number of settlements with external suppliers.

Products and services

In 2018, a new generation of standard fuels under the Efecta brand was introduced in our retail chain. Efecta 95 and Efecta Diesel are the most advanced standard fuels available on the market. They have special cleaning properties to protect both the engine and the entire fuel system, and contain the most sophisticated and selected enhancing components, which improve the performance and prolong the engine life.

Fuel supply and fuel distribution to customers are subject to detailed rules, which guarantee that our fuels are of the highest quality and meet all requirements specified in the applicable standards and laws. These rules significantly limit the risk of fuel mixing or tank overfill during fuel loading at service stations. The fuel supplied to service stations and the condition of the tanks are constantly monitored. The procedures and solutions in place have practically eliminated the risk of soil contamination due to tank leakage.

We quickly respond to any issues or comments raised by the customers regarding our fuels.

Our service stations are not only a place where you can get your fuel. They also feature**well-stocked convenience stores**, whose offer is constantly adjusted to the changing expectations of customers and market trends. When supplies are taken in, the expiry dates of all food and other non-fuel products are checked. The condition of packaging is examined as well. This is also done on an ongoing basis at the stores, during resupply of products on display and checking the condition of products on the shelves. We always follow the mandatory rules of separate storage and display of food products – they are stored in different rooms. Where possible, lubricants, engine fluids and other accessories and car care products are stored in separate storage units. As a result, customers are confident that they buy quality products that meet all relevant requirements.

At our service stations customers may also use various services, including in particular food outlets and car wash. We do our best to prepare the snacks and hot beverages offered at our service stations using proven recipes that meet customers' expectations concerning ingredients and nutritional value, and all this in compliance with the HACCP standard. The coffee we sell is supplied by **Fairtrade** producers.

We have several dozen own recipes for hot and cold snacks and coffee. We are working on eliminating preservatives, glutamate, phosphate, artificial colour additives and flavours. Any new procurement processes will take account of the expectations as to the desired composition of products and semi-products we purchase. In business decision-making and in dealings with suppliers, we already communicate these expectations, requesting suppliers to prepare new product formulas without certain specified ingredients. In one of the main categories we have already achieved our objective, namely the ingredients for our hot dogs are produced without the addition of monosodium glutamate or phosphates.

The popularity of car washes is growing. A majority of automatic car washes operating at retail chains owned by the ORLEN Group have a water recirculation system, which significantly reduces water consumption and the amount of industrial sewage produced. We make every effort to ensure that our car wash equipment provides high quality washing with the least possible environmental impact. In 2018, nearly 70 car washes were upgraded.

Customers are informed of the impact on health and safety of all fuels and other products (food, beverages, sweet and savoury snacks) and services offered at service stations (food, car wash). For fuels, lubricants, car care products and engine fluids safety data sheets are available at all service stations (held by the staff and handed to customers at their request), containing a description and components of those products, information on the risk and hazards as well as procedures to follow in the case of their materialisation. Disclosure requirements concerning the threats and hazards posed by the chemicals manufactured and used by the ORLEN Group are regulated under Polish and EU laws. MSDS documents are the key tool used under the REACH regulation to ensure information flow along the supply chain. Pursuant to Art. 31 of REACH, the supplier of a substance or mixture is required to deliver to the customer an MSDS document in the official language of the member state in whose territory a given substance or mixture is marketed. The provisions of the Polish Labour Code are equally important. Its Art. 221.2 stipulates that 'Any user of hazardous substances or hazardous chemical preparations shall have an up-to-date listing of such substances and preparations, as well as relevant MSDS documents. The substances and preparations shall be handled in packagings protecting against noxious action of such substances and preparations, fires and explosions'.

Health and safety

A vital element in the management of the service station network is our commitment to ensuring safety of all those who visit the stations: customers, travellers, business partners and suppliers. We also aim to improve the comfort of our own personnel's work.

The stations with LPG pumps are adapted to enable safe refuelling of gas-powered vehicles. Service station attendants are always ready to assist customers and help them refuel their cars. At most stations, we doubled the number of LPG refuelling facilities for customers convenience.

Our service stations are a **safe place for both customers and employees.** All sites are equipped with burglary and robbery alarm systems. Contracts with professional security providers guarantee quick arrival of a patrol if needed. All of our service stations have CCTV systems that record all events inside and outside the facilities. The stations also have their own rules for vehicle and human traffic on their premises which, combined with luminescent markings, increase the overall safety.

All ORLEN Group service stations apply the **HACCP Food Safety Management System**, implemented in 2005 based on the requirements of Codex Alimentarius. The service stations have access to the Technical Documentation of HACCP, which is available via the Station Portal. Its purpose is to guarantee that food products sold at the stations satisfy all the sanitary requirements, are safe, and their quality meets the relevant standards, both in the case of individually packaged products and hot meals served in the restaurants.

HACCP has a significant impact on the quality of marketed products − record-keeping, monitoring and handling receipt, storage, preparation for sale, and sale of products in line with the HACCP principles helps to enhance product safety and quality.

HACCP, standing for Hazard Analysis and Critical Control Points, is a system used to identify health threats and the risk of their occurrence at various stages of food production and distribution. It helps control and mitigate all hazards to consumer safety and health. Basically a preventive system, HACCP aims to minimise hazards related to food sale, protecting consumers by guaranteeing safety and high quality of purchased foodstuffs. It also protects food manufacturers, who are able to prove that their products are safe if their production processes are run correctly and are properly documented. HACCP has also been implemented at Czech, Lithuanian and German stations. The system is regularly audited.

The percentage of significant product and service categories for which health and safety impacts are assessed is 100%. In 2018, there were no incidents of non-compliance with regulations and **voluntary codes** concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.

The station personnel are instructed to strictly obey the **ban on selling alcoholic beverages and tobacco products to minors**. Appropriate notices are put up at every site, and awareness training is organised for the staff. Another practice is to make service station personnel sign declarations in which they undertake to observe the Upbringing in Sobriety and Alcoholism Prevention Act, verify the age of potential customers and refuse a sale if they suspect it could be in breach of the Act. Compliance with this requirement was verified both openly and in a covert manner.

Prompted by the latest trends in nutrition, since 2018 the food and drink offering at ORLEN Group service stations in Poland has been expanded to include products for vegans and vegetarians. As part of the ‘Regions’ Pantry’ project, ORLEN service stations sell regional products from local farmers and producers. In 2018, we launched the ‘Drink Polish Juices’ project and sells fruit juices at every service station in Poland. The key objective of the programme is to support Polish fruit growers and family-run fruit processing companies. As at the end of 2018, more than 67% of products sold at ORLEN stations in Poland came from Polish producers, and 80% of all products were manufactured in Poland.

Facilities for the disabled and children

We make an effort to enable access to our locations to people with disabilities.The comfort of the youngest travellers is also our priority.

At most stations there are special parking spaces for the disabled and the forecourts are adjusted to their needs. ORLEN Group is actively modernising its service station network to better meet the needs of people with various dysfunctions. It has implemented standards of planning communication infrastructure in newly built facilities to make them more accessible for the disabled.

As far as our youngest travellers are concerned, their comfort is our priority. Many service stations in Poland and in the Czech Republic offer changing tables for babies. The ORLEN Group started cooperation with Pampers and opened six new rooms where a carer can heat up food and feed and change a baby in comfortable conditions. Children’s needs are also addressed in our food service (mini menu) and store offer (toys, books and fairy tales). Many service stations (mainly located along main transit routes) have playgrounds for kids whose parents are taking a rest while travelling.

PKN ORLEN is also successfully continuing the **Large Family Card** programme, which offers discounts for purchases of goods and services as well as fast-track institutional service to families with many children. As a result, the programme beneficiaries can now use a wide range of discounts when buying fuels, Stop Cafe products, or car wash services.

Customer service standards

ORLEN Group **monitors customer satisfaction and loyalty levels on a regular basis.** Polish fuel market is rather unstable due to volatile fuel prices, development of the service stations network, and introduction of new products to food service, fuel and store portfolios. Customers are offered promotions and attractive products, building their loyalty towards the service station they use most frequently. It is vital to monitor their satisfaction with various aspects of service station activities. One of the elements enhancing customer relations is the ORLEN Group's approach to customers' feedback and **reaction to complaints.** The customers have several options to contact us and express their opinion about a service station or the services: over the Internet, by phone, or personally at service stations. In each case, the contact is registered in the complaints management system, which also records positive opinions and thanks from customers.

In 2018, customers at ORLEN Group service stations completed **over PLN 421 million transactions**. Over that period, more than 7,369 complaints were received, of which 5,387 were to be handled in accordance with the requirements of the Integrated Management System. 4.4% of them were recognised as valid, and the average time for reply was five days. Main issues reported by our customers in 2018:

Issue	Number of complaints
Customer service	1,852
Other	1,540
Quality of fuel	642
Amount of fuel	487
Technical condition of equipment	345
Food products	289
Other products	130
Cleanliness	102
Total	5,387

Every customer complaint is analysed individually, in accordance with the adopted procedures.

Care for the natural environment

ORLEN Group is particularly committed to environmental protection and this commitment also extends to its service stations.

We never lose sight of the need to protect the consumer and the environment at each stage of a non-fuel product's lifecycle. This is particularly important in the case of oils, operating fluids and automotive chemicals. All packaging is checked on delivery and if any damage is discovered the product is returned. Appropriate storage and display policies help mitigate the risk of damage to a product or its packaging and quality deterioration. Our service stations provide containers for used oil and other liquids packaging that may be harmful to the environment. They also provide primary waste collection containers, where customers can dispose of food and beverage packaging, as well as other waste.

All automotive products (oils, fluids, car cosmetics) come with safety data sheets specifying how the product should be stored and what to do in the case of contamination or poisoning.

In the case of fuels, the focus on environmental protection is our priority. To this end we use double-walled tanks to mitigate the risk of fuels leaking into the ground, fuel leak detection systems, station forecourt surface preventing fuels from seeping into the ground, hydrocarbon separators in forecourt rainwater drainage systems to prevent fuel penetration into the ground or groundwater, containment integrity tools during fuel unloading (to significantly reduce vapour emissions), nozzles with the VRS system enabling recirculation of vapour from the car tank directly to a service station tank, and neutralising agents to remove spills or leaks that may occur during refuelling or unloading.

As part of our environmental policy and commitment to environmental protection at the ORLEN Group service station network in Poland, in 2018 we started a pilot project to install **electric vehicle charging stations**. In 2018, two quick charging points were installed, one of which is located in Płock, near the Company's head office, and the other at the service station in Siewierz. Ultimately, we intend to deploy 150 charging stations in urban areas and on main transit routes in Poland. Such facilities will also be installed at Benzina service stations in the Czech Republic. The ORLEN Group network sells also other types of alternative fuels. Examples include hydrogen filling stations located at the service station operating under the star brand in Müllheim and Wolfsburg, Germany, and CNG filling stations located at 35 Benzina service stations in the Czech Republic.

In response to new consumer trends, including those related to mobility in urban areas and economy of sharing, a car sharing (pay-by-the-minute car hire) service is available at selected ORLEN stations. It is operated in cooperation with Traficar. The PKN ORLEN also partnered with Nextbike Polska to offer bike rental at selected stations in large Polish cities.

Protection of customer privacy

Given the requirement to ensure compliance with personal data protection laws, in particular Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC. (General Data Protection Regulation), PKN ORLEN S.A adopted Decision No. 18/2018/DG on the rules governing personal data protection of May 23rd. Furthermore, the PKN ORLEN Management Board appointed a Data Protection Officer (Resolution No, 6066/18 of May 29th 2018).

In 2018, no legitimate complaints regarding infringement of customer privacy or any cases of loss of data were identified at PKN ORLEN. One case of personal data protection infringement occurred at a ORLEN Group company.

Product Responsibility

We seek to consistently reduce the energy consumption of the ORLEN Group'sproduction units, thus fostering operational excellence.

Raw and other materials used in production

In its refining and petrochemical operations, the Group processes various raw materials and semi-finished products. Crude oil is the principal raw material used in production, and other feedstocks include biocomponents and chemicals.

Consumption of raw and other materials

Non-renewable raw materials [t]

	PKN ORLEN		ORLEN Lietuva		Unipetrol	
	2018	2017	2018	2017	2018	2017
Crude oil	15,855,298	15,219,558	9,689,602	9,820,529	7,555,118	7,894,288
Other	1,974,529	1,312,039	217,027	315,893	2,512,813	2,510,229

Renewable raw materials [t]

	PKN ORLEN		ORLEN Lietuva		Unipetrol	
	2018	2017	2018	2017	2018	2017
Biocomponents	804,212	810,499	86,989	52,719	281,230	269,580

Crude oil consumption

	Crude oil consumption		Share of crude in total feedstocks	
	2018	2017	2018	2017
PKN ORLEN	15,855,298	15,219,558	83%	85%
ORLEN Lietuva	9,689,602	9,820,529	97%	96%
Unipetrol	7,555,118	7,894,288	77%	78%

Crude oil, a non-renewable resource, is purchased for all ORLEN Group refineries as part of an integrated procurement process handled by PKN ORLEN, which purchases oil from external suppliers.

Other materials used in our plants include natural gas, biocomponents and semi-finished products, exchanged mainly between the refinery and the petrochemical plants (they are not primary feedstock).

Consumption of biofuels meeting the sustainability criteria

In order to protect the environment, and in view of the national requirements to ensure the mandatory minimum share of biofuels in transport, the ORLEN Group used over 816,000 tonnes of methyl esters and around 260,000 tonnes of bioethanol.

All the biofuels used by the ORLEN Group in its markets met the sustainability criteria specified in the RES Directive and Fuel Quality Directive.

Volumes of biofuels used by the ORLEN Group – biofuels meeting the sustainability criteria on the Polish, Czech and Lithuanian markets:

	Poland*		Czech Republic**		Lithuania		TOTAL	
	2018	2017	2018	2017	2018	2017	2018	2017
Esters [t]	635,516	624,866	111,261	143,000	70,207	42,504	816,984	810,369
of which produced by ORLEN Południe [t]	248,896	192,803	-	-	-	-	192,803	192,803
Bioethanol [t]	177,583	185,433	65,414	34,000	16,783	10,210	259,780	22,643
Esters ['000 liters]	712,548	707,662	126,003	161,948	79,510	48,136	918,061	917,746
of which produced by ORLEN Południe ['000 liters]	281,876	218,350	-	-	-	-	281,876	218,350
Bioethanol ['000 liters]	228,321	234,429	82,698	42,984	21,217	12,908	332,236	290,321

Note: Biocomponents not produced by ORLEN Południe were purchased from third-party suppliers.
**In order to ensure consistency with the NIT report submitted to the Energy Regulatory Office, translation of tonnes into thousands of litres for PKN ORLEN S.A. was based on densities calculated on the basis of the MINISTER OF THE ECONOMY'S REGULATION of October 21st 2014 on the calorific value of particular biocomponents and liquid fuels. For the Czech Republic and Lithuania, standard densities were used.*
*** Biocomponents used for blending fuels for the Czech market.*

Benzene, lead and sulfur content in fuels

The key objective of the ORLEN Group refineries is to make liquid fuels that meet relevant standards and regulatory requirements.

All processes along the production chain are geared towards producing quality components for fuels that comply with those standards and requirements.

PKN ORLEN – production plant in Płock

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in the following units:

- Cracking unit.
- Alkylation unit.
- Reforming unit.
- Isomerisation unit.
- Diesel fuel hydrodesulfurisation unit.
- Hydrocracking unit.

- Petroleum tar hydrodesulfurisation unit.

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons with lower molecular mass, conversion of low-octane C_5-C_6 aliphatic hydrocarbons into higher-octane isomers, dearomatisation, and demetallisation.

Also, sulfur and benzene are removed to achieve concentration levels ensuring the components meet the required quality standards. The fuel components do not contain lead.

Liquid fuels are made by blending selected components (also biocomponents in the case of some fuel types) and adding boosters and additives according to the blending formula.

ORLEN POŁUDNIE

The main purpose of the plant is to produce biodiesel (fatty acid methyl esters).

The key steps in FAME production include:

- Chemical degumming.
- Continuous refining.
- Esterification of fatty acids.
- Transesterification of rapeseed oil.
- Washing and drying of biodiesel.

during which the following processes occur: removal of phosphorus compounds and free fatty acids from rapeseed oil, reduction of acidity, reacting oil with methanol to form methyl esters, biodiesel washing and drying. There is no need to use desulfurisation or benzene and lead removal processes.

ORLEN Lietuva

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in the following units:

- Cracking unit.
- Reforming unit.
- Isomerisation unit.
- Visbreaking unit.
- Oligomerisation unit.
- Diesel fuel hydrodesulfurisation unit.

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons with lower molecular mass, conversion of low-octane C_5-C_6 aliphatic hydrocarbons into higher-octane isomers, dearomatisation, and demetallisation.

Also, sulfur, benzene and lead are removed to achieve concentration levels ensuring the components meet the required quality standards.

Liquid fuels are made by blending appropriate components (also biocomponents in the case of some fuel types) and adding boosters and additives in accordance with the blending formula.

UNIPETROL RPA – Litvinov and Kralupy refineries

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in the following units:

- Cracking unit.
- Reforming unit.
- Isomerisation unit.
- Diesel fuel hydrodesulfurisation unit.
- Hydrocracking unit.
- Visbreaking unit.

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons with lower molecular mass, conversion of low-octane C_5-C_6 aliphatic hydrocarbons into higher-octane isomers, dearomatisation, and demetallisation.

Also, sulfur and benzene are removed to achieve concentration levels ensuring the components meet the required quality standards. The fuel components do not contain lead.

Liquid fuels are made by blending selected components (also biocomponents in the case of some fuel types) and adding boosters and additives according to the blending formula.

The table shows benzene, lead and sulfur content in liquid fuels, by Group company.

All liquid fuels made and marketed by PKN ORLEN and ORLEN Group companies as finished goods (final products ready for sale) meet the applicable legal and formal requirements and standards for benzene, lead and sulfur content.

Management approach to Energy

It is our key goal to develop modern sources of electricity and heat, both for consumption by internal users and for sale to third parties.

Another important aspect of our activities is the development of new projects, such as photovoltaic panels at service stations, electromobility, and planned building of an offshore wind farm with 1,200 MW installed capacity in the Baltic Sea – one of the largest investment projects carried out by PKN ORLEN, aligned with the national strategies for the Polish power industry. At the ORLEN Group, we are committed to continuous efforts towards operational excellence, within such areas as production process optimisation, distribution losses and improved efficiency of process units. Our strategic vision for Power Generation is to transform the ORLEN Group from an energy consumer to an energy producer. All measures aimed at achieving the stated objectives are carried out with due regard for the environment and local communities.

Reducing energy consumption

In 2018, the completed investment projects enabled the ORLEN Group to reduce energy consumption as follows:

- Electricity – 16,632 MWh.
- Heat in steam – 215,711 GJ.

Including:

Orlen Lietuva:
Electricity – savings of 1,848 MWh, achieved by installing frequency converters on the NS-3 and TS-1A pumps
Heat in steam – savings of 153,337 GJ, achieved by replacing the burners and repairing the K2 steam generator

Płock CHP plant:
Electricity – savings of 14,784 MWh, achieved through modernisation of feed water pumps 4PZ1, 6PZ1 and 7PZ1
Heat in steam – savings of 62,374 GJ, achieved by completing stage 4 of the project to limit heat losses in the 0.02, 0.65, 1.7 and 3.2 MPa steam distribution systems

The savings were calculated based on data from PKN ORLEN, Unipetrol and ORLEN Lietuva. The main criterion in selecting the reporting companies was their business materiality for the Power Generation area. The figures are for the Power Generation area only, i.e. CHP and CCGT units.

The organisation’s energy consumption

	Value [GJ]	Value [MWh]
Energy consumption in fuels	84,187,991	23,385,553
Electricity consumption	2,211,043	614,179
Heat consumption	6,825,492	1,895,970
Electricity sold	24,984,321	6,940,089
Heat sold	34,012,153	9,447,820
Total consumption	34,228,052	9,507,792

**Total consumption is calculated as the difference between each unit's consumption of energy in fuel and energy sold to external and internal customers.*

The basis for the calculations was data from tariff metering instruments. The figures above are for the Power Generation area only, i.e. CHP and CCGT units.

Product and service labelling

The ORLEN Group's obligation to provide information on potential hazards associated with the chemicals it manufactures or imports follows from international and EU laws. The scope and division of responsibilities at the Group companies are defined in internal regulations.

Safety data sheets, developed in accordance with the REACH Regulation, are the basic source of information on the classification and hazards for the chemicals **manufactured or imported by the ORLEN Group companies.**

Products are classified based on research and expert knowledge of their properties, and the classification makes it possible to label them correctly (in accordance with the CLP Regulation) and identify risks in transport, based on which the dispatchers prepare the ADR labels (hazard warning labels).

Safety data sheets are mainly a source of information on products intended for industrial and professional applications. In the case of products marketed directly for use by general consumers, the relevant information is provided by ORLEN Group companies by appropriate labelling of product packaging.

Labels on product packaging contain, in addition to pictograms, appropriate hazard statements (H statements) and precautionary statements (P statements).
Given the wide range of applications of ORLEN Group products, information on product packaging is supplemented with detailed data required under specific legal provisions applicable to detergents, fertilizers, etc.

All products offered by the ORLEN Group are subject to the rules described above.

Environmental Responsibility

We improve process planning and execution approaches in line with the requirements of sustainable development. We pursue our objective to consistently reduce our environmental impact by investing in best available techniques (BAT) in environmental protection and ensuring that our production, warehousing and distribution processes are as neutral as possible.

Our approach to environmental protection management is based on the principles of corporate social responsibility and takes environmental criteria into account. We strive to balance our objectives for Stakeholders, reporting the results of our environmental protection efforts. Our environmental objectives are set out in the Integrated Environmental Policy adopted by PKN ORLEN.

Climate policy is among the key challenges facing the ORLEN Group. The growing regulatory pressure to mitigate climate change and promote low-emission economy (EU ETS, IMO) and closed-loop economy is affecting the whole production cycle. PKN ORLEN reviews the impact of the climate package on its business on an ongoing basis, and takes steps to reduce emissions from its units, such as using low-emission natural gas in combustion processes in two new CCGT plants: a 460 MW unit in Włocławek and a 600 MW unit in Płock. In addition, each investment project includes energy efficiency improvement measures. PKN ORLEN seeks to counteract climate change also by building electric vehicle charging infrastructure and biodiversity protection projects.

The Environmental Protection area is responsible for:

- Developing the environmental protection policy, promoting environmental issues, fostering a positive environmental image.
- Developing and updating the balance of carbon dioxide emissions and ensuring effective acquisition of free carbon dioxide emission allowances for installations covered by the emissions trading system, in accordance with the applicable laws.
- Ensuring that the required environmental permits are in place.
- Carrying out organisational and control activities in order to comply with the established environmental standards.
- Implementing and maintaining leakage detection and repair systems – LDAR at the Płock production plant and the PTA plant in Włocławek.
- Calculating and paying environmental charges.

Key ORLEN Group companies have Integrated Management Systems or Environmental Management System Policies in place, incorporating a commitment to protect the environment, which includes preventing pollution, as well as other specific commitments relevant to the operations of each company.

Reducing the environmental footprint has long been one of the ORLEN Group's top priorities. Most of the environmental projects carried out in 2018 involved adaptation of plant and process units to new environmental requirements and standards defined in the EU regulations (BAT Conclusions). Those efforts included administrative work to have the terms of the integrated permits for the Group's plants amended, as well as capex projects related to the production plant and equipment.

2018 saw continued work on tasks related to the implementation of BAT 6 and BAT 18 for the refinery. By October 28th 2018, the LDAR system was implemented for all the 33 refinery units scheduled. Complete algorithms were developed to calculate the fugitive VOC emissions, together with the instructions, for the Płock plant. As a result, compliance with the requirements laid down in the BAT Conclusions was achieved by implementing the LDAR system for refining units at the production plant in Płock, and adjusting the ratio of fugitive VOC emissions at the plant.

It is also a key goal to develop modern sources of electricity and heat, both for consumption by internal users and for sale to third parties.

Another important aspect of our activities is the development of new projects, such as photovoltaic panels at service stations, electromobility, and plans to build a 1200 MW offshore wind farm in the Baltic Sea – one of the largest investment projects carried out by PKN ORLEN, aligned with the national strategies for the Polish power industry. At the ORLEN Group, we are committed to continuous efforts towards operational excellence, within such areas as production process optimisation, distribution losses and improved efficiency of process units. The strategy for the Energy area assumes that the Company will transition from an electricity consumer into an electricity producer. All measures aimed at achieving the stated objectives are carried out with due regard for the environment and local communities.

Each of the ORLEN Group companies has in place rules for establishing and documenting its Environmental Management System procedures. The rules have been approved by independent certification bodies for compliance with the requirements of the international ISO 14001 standard. When establishing their procedural frameworks, the companies relied on a risk-based approach and focused on prevention, in the broad sense of the word. The procedures are designed to ensure uniformity of the processes across the ORLEN Group companies with respect to environmental management and reduction of negative environmental impacts. The procedures define the rules of conduct during both normal operations and maintenance shutdowns, as well as in the case of environmental accidents. At each of the ORLEN Group companies, there are procedures for assessing the Environmental Management System by way of internal audits. The objective of such assessment is to determine the degree of compliance with the requirements of ISO 14001 standard and with any other adopted requirements. If any discrepancies are found, remedial and corrective actions are taken to remove the causes of non-compliance.

The management boards of the ORLEN Group companies conduct a periodic assessment, in line with the adopted procedures, of the operation of the Environmental Management System. The assessments are usually undertaken once a year.

Water

Surface waters were the main water source for the Group companies in 2018. They are abstracted by the ORLEN Group's largest companies: ANWIL, IKS Solino, PKN ORLEN, ORLEN Południe, ORLEN Lietuva, Unipetrol, Paramo and Spolana, and then distributed through water mains to their own production facilities and to other companies' units.

The ORLEN Group consumed more than **90 million m^3** of surface water, groundwater and mains water in 2018, most of which was used by PKN ORLEN, which abstracted 442,856 m^3 of groundwater and 27,714,554 m^3 of surface water, increasing its consumption by more than 2,000,000 m^3 vs. 2017 following the commissioning of the CCGT unit in Płock.

Water consumption figures at the ORLEN Group companies are as follows

Water intake	Water abstraction [m^3]		
	2018	2017	Increase/decrease [%]
Surface water	85,722,181	84,269,186	1.72
Groundwater	3,858,683	3,322,847	16.13
Mains water	699,055	805,942	-13.26
Total	**90,279,919**	**88,397,975**	**2.13**

Effluents

Effluents from all ORLEN Group companies are directed to industrial and rain water sewage systems and then undergo treatment. **Wastewater discharged to the environment is metered. In 2018, the ORLEN Group's overall discharge volumes exceeded 51,000,000 m^3, including almost 45,000,000 m^3 of industrial wastewater – a volume very close to that reported in 2017.**

In addition to PKN ORLEN, the following companies operate their own wastewater treatment facilities: ANWIL, Ship-Service, Spolana, Paramo, Unipetrol, ORLEN Lietuva and ORLEN Południe. All wastewater reaching the wastewater treatment plants undergoes a multi-stage treatment process which includes mechanical, physical, chemical and biological treatments. Once wastewater is treated in accordance with the Company's integrated permits, it is discharged into rivers: Vistula, Elbe, Oder, Vltava, Jasiołka, Bílina, Dubulis, and to the Baltic Sea.

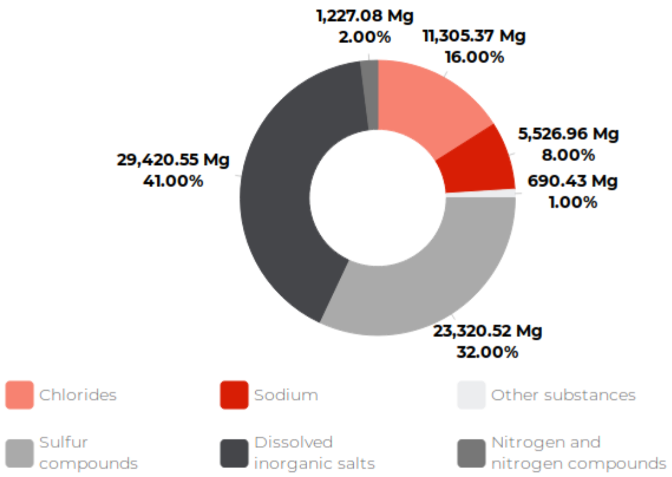
The other companies divert their wastewater streams to wastewater systems operated by other Group companies or third parties.

The table below presents volumes of effluents discharged to the environment by ORLEN Group companies

Effluent type	Effluents discharged to the environment [m^3]		
	2018	2017	Increase/Decrease [%]
Industrial effluents	44,900,036	44,878,631	0.05
Other	6,651,898	6,385,047	4.18
Total	**51,551,934**	**51,263,677**	**0.56**

Rainwater collected directly and treated wastewater from third parties are not used by the ORLEN Group.

Share of particular substance loads in effluents discharged to the environment [Mg]



The substance load in effluents discharged into the environment totalled 71,490 Mg. Chemical oxygen demand for the effluents discharged was 2,976 Mg.

Emissions to the Air

Emissions

Air emissions of pollutants are monitored through periodic or continuous measurements, so that actual emissions can be compared against emission limits defined in the relevant integrated (IPPC) permits on an ongoing basis.

Substances accounting for the largest percentage of total air emissions from the ORLEN Group's installations include: sulfur dioxide, nitrogen oxides, carbon monoxide and dioxide, as well as particulate matter, including PM 2.5 and PM 10. They are generated mainly from the combustion of fuels to produce electricity and heat, as well as in the refining and chemical processes. There are also volatile organic compound emissions and process-specific emissions.

Total ORLEN Group's air emissions, including of carbon dioxide, reached 15,959,041 Mg in 2018.

Air emissions of all ORLEN Group companies, by type of substance [Mg]

Substance	Emissions [Mg]		
	2018	2017	change [%]
Sulfur dioxide	18,290	20,462	-10.61
NOx	10,436	10,516	-0.76
Carbon monoxide	4,559	4,794	-4.91
Particulate matter	1,088	1,665	-34.66
Total energy emissions	**34,373**	**37,437**	**-8.18**
Carbon dioxide	15,907,824	15,176,145	4.82
Other substances	16,844	13,329	26.37
Total emissions	**15,959,041**	**15,226,911**	**4.81**

Out of the 16,884 Mg of other emissions into the air, 66% (11,107 Mg) are volatile organic compounds (VOC).

The increase in emission levels was attributable to methane emissions from the shut-down and start-up of the ANWIL nitric acid unit.

Management of greenhouse gas emissions

Direct greenhouse gas (GHG) emissions at the ORLEN Group comprise CO_2 emissions reported under the EU Emissions Trading Scheme (EU ETS). No biogenic CO_2 emissions were identified. There are also CO_2 emissions not covered by the EU ETS, which totalled 929,104 Mg in 2018.

Greenhouse gas emissions were balanced monthly for the Group's units which participate in the Emissions Trading Scheme (ETS). The utilisation of the CO_2 emission allowance allocations was monitored on an ongoing basis for each unit.

Verified CO_2 emissions from ORLEN Group's EU ETS installations in 2017–2018 [Mg]

Company	Actual emissions [Mg]	
	2018	2017
PKN ORLEN	7,789,688	6,905,728
ORLEN Asfalt	2,073	3,678
ANWIL	1,000,819	1,069,623
Basell Orlen Polyolefins	46,283	36,060
ORLEN Południe	122,640	124,888
ORLEN Lietuva	1,680,865	1,709,530
UNIPETROL RPA	3,209,808	3,324,180
UNIPETROL (Refineries)	879,999	954,012
PARAMO	42,927	41,668
SPOLANA	203,618	208,336
TOTAL FOR THE ORLEN GROUP	**14,978,720**	**14,377,703**

The results of independent carbon emissions verification were positive for all units of the ORLEN Group.

The ORLEN Group monitors emissions against its allowances on an ongoing basis, seeking to ensure that it has the required allowance amounts.

CO_2 emissions of ORLEN Group companies by source

Emission source	CO_2 emissions [Mg]
Technological processes	11,472,214
Power generation	4,433,655
Other	1,955

Other emission sources include fugitive emissions other than from process units, including air emissions from combustion of fuel in combustion engines.

Waste

Waste generated by the ORLEN Group includes primarily waste from processing of crude oil, production of organic chemicals and fuel combustion, as well as sludge from treatment of industrial wastewater, waste oils and post-repair waste.

In total, ORLEN Group companies generated close to 177,000 Mg of non-municipal waste in 2018.

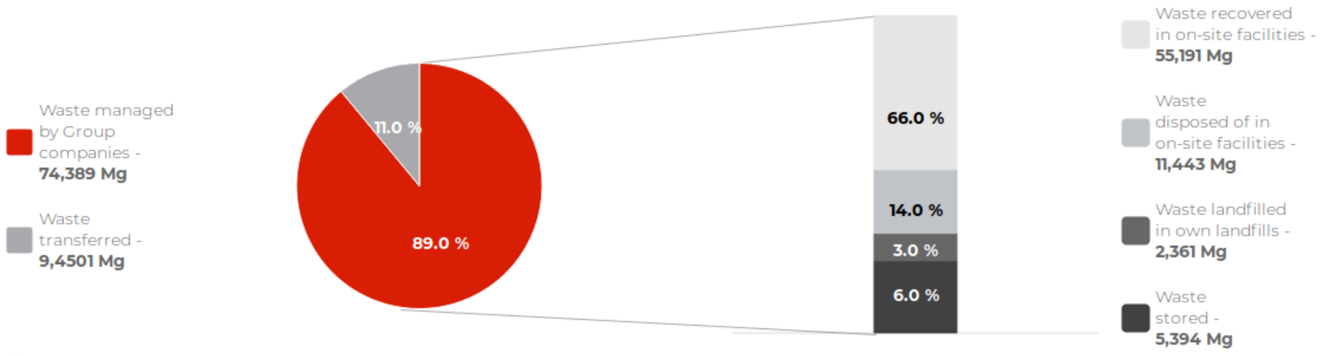
Waste volumes generated at ORLEN Group companies in 2017 and 2018

Quantity of generated waste [Mg]	2018	2017	change [%]
Hazardous waste	83,840	100,128	-16.27
Non-hazardous waste	92,988	112,863	-17.61
Total	**176,827**	**212,991**	**-16.98**

The decrease in the waste volumes was an effect of completion of maintenance work at PKN ORLEN, improvements in technological processes, and dewatering of sludge from industrial wastewater treatment at ORLEN Lietuva.

Out of the total volume of hazardous waste managed by ORLEN Group companies, 55,191 Mg was recycled and 11,443 Mg was disposed of in on-site facilities. 2,361 Mg of hazardous waste was transferred to on-site landfills. More than 5,300 Mg od hazardous waste Was stored. The remaining hazardous waste was transferred to licensed operators.

Waste management at ORLEN Group companies



Non-hazardous wastes that were managed in the companies were subject to recovery processes in the amount of 13 728 Mg and disposal in the amount of 972 Mg at the installations of the Group's companies. 2,061 Mg of non-hazardous waste were transferred to its own landfills. Over 8.6 thousand Non-hazardous waste of Mg is stored. The remaining amount of non-hazardous waste has been transferred to the authorized recipients.

Procedure for dealing with non-hazardous waste in the ORLEN Group companies

The most frequently used recovery methods were regeneration or re-refining and bioremediation of waste oils. Waste disposal takes place chiefly in incineration plants or wastewater treatment plants.

Transboundary transport of waste involves hazardous waste the meaning of the Basel Convention, witch is moved across borders. None of the ORLEN Group comanies recives such waste as they do not own facilities for its processing. Likewise, no waste referred to in the Convention is transferred within the Group.

Pursuant to the Convention, waste subject to transboundary movement, which in the case of the ORLEN Group includes hazardous and non-hazardous catalysts, is transferred for recovery to Western European contries. Once the catalysts are regenerated, they may be used again at the ORLEN Group units.

Environmental Regulations

All ORLEN Group companies hold permits required by law and in 2018 operated in compliance with their terms. Integrated permits and sectoral permits need to be updated on an on-going basis in keeping with the evolving legal environment and business needs.

Environmental compliance of the ORLEN Group's activities last year was verified by the Płock and Włocławek Branches of the Provincial Inspectorate of Environmental Protection, which carried out six inspections at PKN ORLEN's production units in Płock and Włocławek. As the inspections did not reveal any irregularities, the Company did not receive any follow-up recommendations and no sanctions were imposed.

A total of 291 inspections were carried out within the regional structures of PKN ORLEN (fuel terminals and service stations, standalone assets) by the national water management authority (PGW Wody Polskie), Provincial Inspectorates of Environmental Protection, and district and municipal authorities, resulting in 21 follow-up instructions. The recommendations were complied with; they concerned, for instance, discharge of wastewater to the environment in accordance with the applicable requirements, wastewater testing for average daily parameters, and in-service maintenance of wastewater treatment facilities. No fines were imposed following the inspections.

Other companies of the ORLEN Group were also inspected by external bodies for environmental protection, mainly the Environmental Protection Inspection Authority. The inspections focused on compliance with the environmental requirements imposed by regulations and administrative decisions. In 2018, 64 inspections were carried out at subsidiaries, with 5 post-inspection recommendations issued. Sanctions imposed on Group companies for identified cases of non-compliance totalled EUR 5,500. They were imposed for deficient supervision of equipment containing fluorinated greenhouse gases, exceeded emission limits from a steam cracker, and a leakage from sewage system and excessive emissions to air.

Capital Expenditure on Environmental Protection

Key initiatives at PKN ORLEN in 2018 included implementation of the leakage detection and repair system for refinery units (LDAR), upgrade of the existing vapour recovery units VRU 3 and VRU 5 at the railway terminal, installation of a continuous dust extraction system on the catalyst regeneration node at the FKK II unit, installation of flue gas waste heat recovery equipment at the DRW VI unit, installation of new low-emission burners in process furnaces at the alkylation and HROS units, installation of measurement systems on the flare stack at the production plant in Płock, air-tight sealing of open facilities at the wastewater treatment plant site, and construction of a continuous flue gas emission monitoring system at 12 emitters of the refinery, including the DRW II, DRW III, DRW IV, DRW VI, REF V, REF VI, HRK, WW I, WW II, HOG, FKK II, Claus (OGK I and OGK II) units.

The investment projects helped reduce VOC emissions from loading and unloading operations, reduce particulate matter and NOx emissions, and cut down on fuel consumption, resulting in lower CO_2 emissions and savings on air emission charges. The capital expenditure incurred by the Company on environmental projects on the premises of the Płock production plant totalled EUR 14.7m.

A number of environmental projects were also conducted at PKN ORLEN's distribution facilities. These included work undertaken to ensure proper water and wastewater management and to upgrade linear drains and separators at service stations and car washes. Expenditures under environmental projects at service stations totalled EUR 1.2m in 2018. In addition, two fuel terminals, in Mościska and in Sokółka, were upgraded to reduce air emissions. The total cost of the projects at the terminals added up to EUR 2.5m.

Environmental projects were also carried out at 16 ORLEN Group companies. The most important ones were:

- Upgrade of a VRU unit at a fuel loading terminal and replacement of boiler burners in the Paramo CHP plant.
- Equipping Z27–Z30 tanks with trays at ORLEN Oil in Trzebinia.
- Installation of new burners on the K2 boiler of the CHP plant and putting into service of a continuous emission monitoring system (CEMS) for sulfur recovery and hydrogen production units at ORLEN Lietuva.
- Construction of a new heat source at ORLEN Południe's Trzebinia plant.
- Construction of a new boiler house for the steam cracker and upgrade of the flue gas desulfurisation and denitrification technology at the boilers of the T 700 CHP plant at Unipetrol.

The total spending on environmental projects by all ORLEN Group companies in 2018 amounted to nearly EUR 124m, of which almost EUR 28m was spent on projects involving anti-pollution measures and environmental protection management, while the costs of reducing emissions to air and in wastewater totalled approximately EUR 96m.

Environmental fees

Under the EU law, an entity using the natural environment and discharging substances to the environment is required to pay relevant fees pro rata to the type and scale of its environmental impact.

In Poland, the requirement to pay environmental fees is imposed by the Environmental Protection Law, which requires operators of plants to pay for air emissions of gases and particulate matter as well as for the storage of waste. Since January 1st 2018, the obligation to pay fees for discharging effluents to water and soil and for water abstraction has been governed by the Water Law.

In 2018, ORLEN Group companies paid environmental fees for air emissions, abstraction of water, discharge of effluents to water and soil, and storage of waste in own landfills in a timely manner. Therefore, there were no additional payments resulting from failure to correctly calculate the fees or to meet the payment deadline. The amounts to be paid were calculated based on the type and quantity of water abstracted from the environment and the type and quantity of air emissions and effluents discharged to water. It is those environmental impacts that had the largest effect on the fee amounts paid by ORLEN Group companies. Fees for the storage of waste in own landfills represented a small fraction of the total.

An over 13% year-on-year decrease in the total amount of fees for the economic use of the environment was reported in 2018, driven chiefly by a lower fee for water abstraction paid by Unipetrol (a Czech subsidiary).

In 2018, the aggregate amount of the fees was slightly in excess of EUR 15m.

Effluents disposal

Type of fee	Amount [EUR]		change [%]
	2018	2017	
Total air emission	4,807,520 €	5,458,151 €	-11.92
Water abstraction	8,757,538 €	11,234,274 €	-22.05
Effluents disposal	1,339,048 €	529,371 €	152.95
Storage of waste	111,559 €	42,977 €	159.58
Total	**15,015,664 €**	**17,264,773 €**	**-13.03**

Best Practices in the Area of Education

Responsible Care Programme

The Responsible Care Programme is based on the same guiding principles all over the world, but the Polish edition is Europe's largest in terms of the scope and number of implemented projects.

The projects are carried out and coordinated by the Secretariat of the Responsible Care Programme managed by ORLEN Eco under the supervision of the Polish Chamber of Chemical Industry and the Governing Board of the Responsible Care Programme.

ORLEN Group companies participating in the Responsible Care Programme include ANWIL (since 1995), Unipetrol (since 1996), PKN ORLEN (since 1997), Paramo (since 2001), IKS Solino (since 2002), Basell Orlen Polyolefins (since 2003), Unipetrol Doprava (since 2011) and ORLEN Południe (since 2016).

Besides activities that are mandatory under the Programme, ORLEN Group companies also run their own projects, including: 'Tree for a Bottle', 'Mr Carp Restocks the Vistula' competition, 'Catch a Hare' and 'Catch a Hare – Junior Edition' photo contest, 'I Care for the Environment' meetings, 'Nature Watchers' competition, free seminars and training programmes for companies that have joined the Programme, the Chemical Sector Environmental Forum.

In 2018, Group companies continued their activities under the Responsible Care Programme and met all the related reporting obligations (reports, indicators, surveys). The information is used to assess the condition of the environment and the progress of the Responsible Care implementation by chemical industry companies.

'BOP Prospects' at Basell Orlen Polyolefins

'BOP Prospects' is a competition aimed at increasing young people's awareness of the role of plastics, particularly of polyolefins, in human life. It is held by Płock-based Basell Orlen Polyolefins. As part of the project, young people from Płock and its vicinity have a chance to learn about the advantages of plastics and the reasons why plastics are a material of the 21st century. This educational project takes place periodically. After years of public debates, last year it was held as a film competition.

Biodiversity and active protection

In 2018, a conservation plan for areas of natural value in the vicinity the ORLEN production plant in Płock was developed in cooperation with a company specialising in nature conservation. The plan proposes measures to preserve and develop selected elements of the identified habitats, as well as possible educational initiatives in this respect.

There are almost 290 plant and animal species on the Płock production plant's premises and in the immediately adjacent area (based on the wildlife survey carried out in 2017), of which almost 160 have been included in the IUCN Red List of Threatened Species, compiled by the International Union for Conservation of Nature. A vast majority of them (more than 95%) have been classified as the least concern (LC) species. Five species require particular attention – three vulnerable (VU) species, i.e. the common kingfisher *(Alcedo atthis)*, the northern lapwing *(Vanellus vanellus)*, the common carp *(Cyprinus carpio)*, and two species classified by the IUCN as near threatened (NT), i.e. the European rabbit *(Oryctolagus cuniculus)* and the Eurasian otter *(Lutra lutra)*.

Biodiversity initiatives undertaken by ORLEN Group companies in 2018 included a wildlife survey carried out on the ANWIL production plant's premises and in its surroundings, which made it possible to gather information on the condition of species and their natural habitats and to plan the steps to take to protect and increase biodiversity, with a special focus on the two neighbouring Natura 2000 sites, namely Włocławska Dolina Wisły (Włocławek Vistula River Valley, PLH040039) and Dolina Dolnej Wisły (Lower Vistula River Valley, PLB040003). Of more than 220 identified plant and animal species, the vast majority (more than 90%) are included in the IUCN Red List of Threatened Species as the least concern (LC) species. ANWIL's site was found to be home to three lichen species featuring in the Red List of extinct and threatened lichens in Poland (VU category – vulnerable species, and NT – near threatened species); none of them was identified on the Płock site.

On the premises of both production plants, there are protected habitats listed in the Habitats Directive. These include in the case of PKN ORLEN's site: in its eastern and southern parts, i.e. on the Brzeźnica river valley side and near the Moczary retention reservoirs – alder and ash floodplain forests and riparian forests (Alno-Ulmion) (91E0), broadleaved forests (Carpinion) (9170), lowland ranunculus rivers (3260) – a part of a tributary of the Brzeźnica, and riverain herbaceous area (6430) – in the Brzeźnica tributary valley. On the site of the ANWIL plant there are: 35 areas of four types of protected natural habitats (including one in three subtypes) covering almost 130 ha – inland dunes with open Corynephorus and Agrostis grasslands (2330), xeric sand calcareous grasslands (6120), lowland hay meadows (6510), Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) (91E0-1), (91E0-2), and (91E0-3).

Among the birds observed on both plants' sites, there are several species listed in the Birds Directive, which are also under strict protection in Poland: the red-backed shrike *(Lanius collurio)*, the barred warbler *(Sylvia nisoria)*, the western marsh harrier *(Circus aeruginosus)*, the corn crake *(Crex crex)*, the common tern *(Sterna hirundo)*, the black woodpecker *(Dryocopus martius)*, the common kingfisher *(Alcedo atthis)*, the common crane *(Grus grus)* (only on ANWIL S.A.'s premises), and the woodlark *(Lullula arborea)* (only on ANWIL's premises).

The species under strict protection that inhabit the premises of both production plants include four species of bats: the serotine bat *(Eptesicus serotinus)*, the common noctule *(Nyctalus noctula)*, the brown long-eared bat *(Plecotus sp.)*, and the common pipistrelle *(Pipistrellus pipistrellus)*.

For more than a decade, ORLEN Group companies have been actively involved in a project to restore the peregrine falcon *(Falco peregrinus)* – listed on the Polish Red List of Animals as a CR (critically endangered) species. However, in 2018 the falcon nest located on the Płock production plant's premises was taken by a saker falcon *(Falco cherrug)*. It was the second documented hatch of this species in Poland. Four peregrine falcon nestlings hatched on the premises of ANWIL, and as many as five at Unipetrol's production plant in Záluží near Litvínov.

Another interesting initiative that supports biodiversity and also provides the opportunity to cooperate with and educate local communities is the restocking of rivers. In 2018, as part of the project run jointly by ANWIL and primary schools, the Vistula river was restocked with approximately 150 thousand juvenile eel and pike-perch. A similar project was carried out by Unipetrol in collaboration with local fishermen and anglers – as a result, the Bilina river was restocked with 450 kg of bream and roach.

Environmental Grievance

In 2018, 47 complaints regarding environmental impacts were filed with PKN ORLEN's Environmental Inspection System.

46 concerned odour nuisance and were resolved in accordance with systematic internal procedures, and the filing persons received relevant feedback. Most of the complaints were registered when production units were shut down for maintenance work and preparation for process start-ups, which involved emptying and blowing apparatuses, as well as steam cleaning of individual systems containing mixtures of hydrocarbons for flaring.

In 2018, PKN ORLEN received 1 complaint about noise nuisance caused by the flare stack to the city's residents.

7 complaints were registered at the ORLEN Group Czech companies, including 6 at Unipetrol and 1 at Benzina. All concerned nuisance odours. In each case the companies carried out relevant inspections and promptly took measures to reduce the nuisance.

Each complaint was considered on a case-by-case basis and with utmost care. In the areas where odour nuisance was identified, substance concentrations were measured, and ongoing monitoring of weather conditions and substance concentrations in automatic air monitoring stations was undertaken. The technical services took steps to check whether the production, repair and maintenance processes were run correctly, and to minimise the nuisance.

All the grievances filed with the companies by telephone or in writing were resolved by the end of the reporting year.

Counteracting Corruption and Bribery

We are committed to ensuring a fair and transparent business model for the ORLEN Group which guarantees trust, safety, free competition and value for all Stakeholders.

Anti-corruption and anti-bribery activities are carried out by the **Control and Security Office in cooperation with the Financial Control, Risk Management and Compliance Office as well as the Audit Office**.

The responsibilities of the Control and Security Office include:

- Economic, physical, technical and IT security.
- Developing solutions and standards to improve performance of the internal control system.
- Implementing the ORLEN Group Anti-Corruption Policy by monitoring business processes, analysing information and reporting irregularities and instances of abuse.
- Coordinating criminal proceedings conducted by law enforcement authorities and the judiciary, in which PKN ORLEN is involved in any capacity;
- Execution of advanced safety analyses and control processes.

Financial Control, Risk Management and Compliance Office:

- Coordinates the enterprise risk management process across all organisational levels.
- Has joint responsibility with the Control and Security Office for planning and execution of ad hoc and investigative inspections at PKN ORLEN and other ORLEN Group companies and for reporting the inspection findings to the Management Board of PKN ORLEN.
- The Financial Control Department operating within the Office identifies economic irregularities and cases of fraud, verifies compliance of processes and procedures, and examines if the conduct of PKN ORLEN’s and other Group companies’ employees is compliant with the law, internal regulations and established standards.
- Draws up recommendations from financial audits held to reveal alleged economic irregularities and fraud.

Audit Office:

- Defines solutions and standards to mitigate the risk of non-achievement of the Group’s objectives.
- Ensures continuous development of the functional control system in order to improve the efficiency of business processes.

In accordance with the Code of Best Practice for WSE Listed Companies, PKN ORLEN has in place effective functional control, risk management and compliance supervision systems, as well as an internal audit and control function. The simultaneous operation of all those systems and functions allows the Group to exercise ongoing and effective anti-corruption supervision.

PKN ORLEN has implemented a structured management control system, comprising a set of comprehensive procedures. The procedures are managed through a dedicated IT system which ensures their consistency through multifaceted agreements as well as approvals at each level in the organisation.

Key roles in the Corporate Risk Management System

MANAGEMENT BOARD OF PKN ORLEN

- Monitoring of the Corporate Risk Management System
- Risk assessment acceptance for the Company / the ORLEN Group

SUPERVISORY BOARD OF PKN ORLEN

- Monitoring of the Corporate Risk Management System

Financial Controlling, Risk Management and Compliance Office

- Coordination of the process of corporate risk management as well as provision of tools and methodological support for the process participants

Processes owners

- Risk assessment on the process level
- Coordination of the process of control mechanisms self-assessment

Risk owners

- Main risk elements management

Control owners

- Supervision over realization of control activities in processes in which they take part
- Running self-assessment of control mechanisms

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The ORLEN Group Employees

- Risk identification
- Conveying information about potential risk to the Financial Controlling, Risk Management and Compliance Office

In order to minimise the risk of fraud and corruption, PKN ORLEN has adopted the popular**Three Lines of Defence Model**. The first line of defence involves risk management by employees and business units, and controls related to the operational processes. The second line is compliance functions, and the third – internal audit and control, supporting the correct functioning of the specified prevention measures.

First line of defence/prevention – the Integrated Enterprise Risk Management System

Risk management is a continuous process, however it is revised in response to the ever-changing economic environment.

Second line of defence/prevention – the Compliance function

PKN ORLEN's compliance function is based on the following four elements:

- The ERM system, which supports the process of assessment of financial and operational risk compliance with regard to the effectiveness of controls and the ERM Policy and Procedure.
- Has joint responsibility with the Control and Security Office for inspection planning and execution of scheduled, ad hoc and investigate inspections at PKN ORLEN and other ORLEN Group companies and for reporting the inspection findings to the Management Board of PKN ORLEN.
- Assessment of compliance of integrated management systems (ISO /PN); in 2018, there were 537 internal audits of the Integrated Management System, 14 audits of compliance of the CO^2 emissions monitoring system, 7 audits of the ISCC system, and 19 supplier audits.
- It draws up recommendations after financial inspections to eliminate irregularities and economic fraud.

The Company's Integrated Management System (IMS) takes into account the findings of audits and reviews as well as complaints and grievances. Additionally, preventive/corrective measures are taken to address any irregularities identified in the above processes. All these activities are designed to ensure compliance with the adopted reference standards, i.e. ISO 9001 and AQAP 2110 – NATO standard for quality assurance (Quality Management System), ISO 14001 (Environmental Management System), PN-N-18001 (Occupational Health and Safety Management System), and ISO 27001 (Information Security Management System), ISCC system (a certification system for biomass and biofuels), Factory Production Control System, and Food Safety Management System.

IMS audits covered more than 50 identified processes within the organisation. In 2018, there were more than 570 internal audits of the IMS in total, carried out by approximately 30 internal auditors.

Audit programme management takes into account the need to eliminate corruption risks. Prior to the launch and after the end of each internal IMS audit, the audit programme manager evaluates objectivity of the audit process and of the auditor.

An important element in counteracting corruption is the regular education and training programme addressed to internal auditors of the IMS, In 2018, 20 training sessions were held as part of the programme.

Based on the IMS activities, a comprehensive status report is prepared once a year on the organisation's Integrated Management System, which is submitted to the Company's Management Board and published on the Intranet.

PKN ORLEN's compliance with applicable laws or draft legislation is monitored on an ongoing basis and, if necessary, relevant steps are taken to ensure that the Company meets the requirements of Polish and EU laws and regulations.

Third line of defence/prevention – internal audit and control function

The internal audit and control function is performed by the Audit Office and the Control and Security Office, whose responsibility is to assess functional control systems in an independent and unbiased manner, and to analyse business processes.

The activities of the Audit Office conform to the International Standards for the Professional Practice of Internal Auditing, developed by the Institute of Internal Auditors (IIA). Compliance with the Standards is regularly reviewed by an appropriately authorised external entity. In 2016, KPMG ascertained the Audit Office's full compliance with relevant international standards and best practices.

The independence of the Audit Office and of the Control and Security Office is assured through appropriate functional and administrative reporting lines within the Company's organisational structure.

The **Audit Office** and the **Control and Security Office** carry out their activities (audits, consultancy and business analyses) on the basis of annual audit and inspection plans approved by the Company's Management Board. Audit plans are additionally approved by the Audit Committee of the Supervisory Board and the Supervisory Board of the company. As part of their activities, the Audit Office and the Control and Security Office verify on an ongoing basis if processes are executed in line with the applicable internal regulations. Ad-hoc audits and inspections may also be conducted by the Audit Office and the Control and Security Office when and as requested by the Company's Supervisory or Management Board.

The Audit Office continuously monitors its recommendations, based on which it prepares a report twice a year, stating to what extent they have been implemented. Moreover, reports are prepared on a regular (quarterly) basis on the activities of PKN ORLEN's and the ORLEN Group's audit function, which contain a detailed description of key observations. All those reports are submitted to the Company's Management Board and the Supervisory Board's Audit Committee, which performs ongoing assessment of the entire organisation's operations.

The **Control and Security Office,** on the basis of the ongoing monitoring of recommendations and follow-up orders, prepares a report on the status and scope of implementation of the recommendations. Its activities have either a preventive or detective nature. They are complemented by activities performed by ORLEN Ochrona, which has due authorisations and appropriate tools, including the ability to use the services of business intelligence agencies and detectives. If any instance of corruption is suspected, relevant steps are taken in close cooperation with law enforcement agencies, including the police and Central Anti-Corruption Bureau (CBA). The simultaneous operation of all the systems and functions described above allows the Group to exercise ongoing and effective anti-corruption supervision.

In 2018, an **Anti-Corruption Compliance Officer** was appointed. The Officer cooperates directly with the Management Boards of the ORLEN Group companies which have no separate security departments. The next step will be to develop and implement the rules for monitoring the security of business processes, integrated counterparty verification, gift accepting and offering principles, and to update the anonymous misconduct reporting system. Those activities are intended to ensure compliance with EU regulations, due diligence requirements, and the WSE's anti-corruption standards.

Depending on the nature of a given company, the following risks are identified and assessed in the area of counteracting corruption and bribery at PKN ORLEN and other ORLEN Group companies covered by the Enterprise Risk Management System (ERM):

- **Risk of fraud and misconduct.**
- **Risk of breach of the standards of ethics or their incorrect implementation.**
- **Risk of customer, employee or sales agent misconduct in a sale process.**

The following companies and groups of companies were included in the ERM system in 2018: PKN ORLEN, ANWIL, the ORLEN Lietuva Group, the Unipetrol Group, ORLEN Deutschland, ORLEN Paliwa and ORLEN Centrum Usług Korporacyjnych, that is nearly 10% of the ORLEN Group companies.

In 2018, as part of an annual risk self-assessment process and risk controls tests at PKN ORLEN,**530** risks were assessed based on tests of **1 039** controls in **111** business processes. The ORLEN Group companies evaluated **599** risks and **1 882** controls in **190** processes[1].

[1]The data does not include: ORLEN Deutschland and ORLEN Paliwa. The self-assessment process in these companies is carried out in 2019.

Risk Management

In the course of its business, the ORLEN Group conducts ongoing monitoring and risk assessment and undertakes actions aimed at minimizing its impact on the financial situation.

Enterprise Risk Management System

In 2018, the organisation and underlying principles of the Enterprise Risk Management System did not change relative to the previous year. Based on its **Enterprise Risk Management Policy and Procedure**, the ORLEN Group monitors and assesses its risk exposures on an ongoing basis and takes steps to minimise their impact.

As required by these regulations, the Financial Control, Risk Management and Compliance Office was established at PKN ORLEN to coordinate the enterprise risk management (ERM) processes across all levels of the organisation. Management boards at each ORLEN Group company are responsible for risk management at individuals companies.

The Enterprise Risk Management System is a tool used to support effective delivery of the ORLEN Group's strategic and operational objectives. It ensures identification and assessment of strategic risks and control mechanisms for those risks.

Key roles in the Corporate Risk Management System

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- Main risk elements management

Control owners

- Supervision over realization of control activities in processes in which they take part
- Running self-assessment of control mechanisms

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The ORLEN Group Employees

- Risk identification
- Conveying information about potential risk to the Financial Controlling, Risk Management and Compliance Office

Risk assessment by business areas at PKN ORLEN S.A. and the ORLEN Group companies is carried out annually as part of a self-assessment process and is meant to ensure that risk valuations are up to date. The assessment falls within the remit of process and risk owners.

Risk valuation involves a **gross risk** assessment, i.e. determination of the value of risk in the absence of any control mechanisms; **net risk** assessment, i.e. value of risk taking into account the effectiveness of the control mechanisms in place; as well as**target risk** assessment (the level of risk acceptable for the respective business area). Risk valuation is based on the verification of effectiveness of control mechanisms. After completion of the risk assessment process and tests of control mechanisms, the Company's Management Board and Supervisory Board receives a report specifying key risks and planned mitigation measures.

Risks at PKN ORLEN S.A. and other ORLEN Group companies are defined based on a common model and are tied to business processes and strategic objectives.

In 2018, as part of an annual risk self-assessment process and risk controls tests at PKN ORLEN,**530** risks were assessed based on tests of **1 039** control mechanisms in **111** business processes. The ORLEN Group companies evaluated **599** risks and **1 882** control mechanisms in **190** processes.[1]

In 2018, the ERM system covered the following entities: PKN ORLEN, Anwil, ORLEN Lietuva Group, Unipetrol Group, ORLEN Deutschland, ORLEN Paliwa, and ORLEN Centrum Usług Korporacyjnych.

In the **Enterprise Risk Model** adopted by the ORLEN Group, all identified risks are classified into the following categories:

1. **STRATEGIC RISKS** – directly related to strategic objectives, specific actions and performance indicators.
2. **PROJECT RISKS** − events or circumstances which, if they materialise, may have an adverse effect on one or more project objectives. These risks are subject to ongoing assessment during project implementation.
3. **PROCESS / OPERATIONAL RISKS** – identified in the ordinary course of business; their identification facilitates effective process management. These risks are assessed by business owners annually in a self-assessment process.

[1]The data does not include: ORLEN Deutschland and ORLEN Paliwa. The self-assessment process in these companies is carried out in 2019.

Risks and processes classification along with control mechanisms within the ERM functioning

RISKS/PROCESSES	RISK DESCRIPTION	RISK MITIGATION METHOD
STRATEGIC		

Assumptions	• Inconsistent and unrealistic strategic goals and assumptions. • Change of strategic goals/assumptions during the process.	Systematic review of the key strategic goals to check if they are up to date and their ongoing monitoring against the changing environment (regulations, market, key suppliers, etc.).
Division of competences	• Inappropriate division of competences between the organisational units. • No decision-making centre.	High degree of employee specialization, appropriate assignment of duties and responsibilities by developing precise scopes of tasks.
New regulations	• Entry into force of unfavourable legal regulations. • No effective action of the public administration in relation to enforcement of the law.	Participation in public consultations for legislative drafts reducing the risk of unfavourable regulations.
Accidents at work and other threats	• Insufficient knowledge about work safety among contractors. • Threats to work safety and fire safety related to the presence of third-party employees on the ORLEN Group's premises.	Supervision and management of contractors' work by implementation of tools to monitor work safety. Implementation of uniform requirements for contractors and subcontractors in line with the guidelines set forth in the "ORLEN Group Safety Standard no. 9".
PROJECT		
Budget overrun	• Inappropriate estimate of the project implementation costs.	Systematic monitoring of the contractor's activities and potential delays in project realization.
Schedule overrun	• Inappropriate assumptions concerning the project completion time.	Constant supervision over the performance of the work in progress, systematic evaluation of the progress of implementation of successive stages of the project and enforcement of performance of the work.
Project scope modification	• Incomplete performance of the project. • Exceeding the project framework/scope.	Systematic analysis of the environment in which the project is being implemented. Depending on the circumstances arising, potential decision to change the scope of its implementation.
Division of competences	• Inappropriate division of competences between the organisational units. • No decision-making centre.	Preparation and implementation of methodology concerning competency division of project team members in order to avoid conflict of interests. Utilisation of dedicated IT tool supporting project implementation.
Systems	• Absence of IT systems supporting project implementation.	Definition of alternative IT systems at the project planning stage or commencement of testing of other systems allowing project implementation.

PROCESS/OPERATIONAL		
Procurement	Supplying crude oil (by land and by sea) in a quantity and of a quality not corresponding to the requirements. Planning supplies of crude oil in such a way as to meet the quality requirements.	Monitoring of the process of supplies carried out by land and by sea. Using dedicated analytical and statistical tools, analysing industry and news portals. Monitoring of the market of selected crude oil types with regard to their availability and purchase possibility. Confirmation of purchase profitability each time for transactions not covered by contracts.
	Purchase of investment services and biocomponents.	Supplier selection process performed in line with the procedures in force and in accordance with the required documents (including market analysis, time schedule, supplier assessment).
	Guarantee of production continuity.	Making sure that internal procedures are in place making it possible to react effectively in the case of an emergency by way of purchasing services and raw materials for production directly.
Production	Inappropriate planning and management of repairs in the production area.	Functional IT system supporting the repair planning process and maintenance at the production plant.
	Ineffective production balancing.	The area responsible for the production balancing process has tools in place making it possible to perform the balancing process in an optimum manner. The procedures and processes in place define responsibility, scope and deadlines for the provision of input data for the production balancing process.
	Failure to achieve the assumed economic benefits resulting from the implementation of the initiatives.	Ongoing monitoring and verification of initiatives on the basis of expert knowledge, ensuring the realisation of projects with highest efficiency potential.
Distribution and logistics	Environmental pollution as a result of the distribution processes carried out.	Periodic checking of levels of fuel products contamination in Oil Terminals.
	Failure to comply with the requirements to physically maintain an appropriate level of mandatory stocks.	Systematic monitoring of stock levels.
	Failure of the logistics infrastructure affecting supply of products continuity or risk of their loss.	Periodic inspections of the condition of the logistic infrastructure.
	Inefficient process of contract conclusion	Pricing policy setting forth the rules of

Retail	and price negotiations.	collaboration with contracting parties and implemented systemic mechanisms to prevent irregularities. Checking the correctness of parameters of the contracts with fleet clients before entering them into the system and verifying customers' purchasing potential.
	• Failure to apply ethical standards and unfair conduct on the part of employees, fraud on company property and other violations.	Checking compliance with the ethical standards in place, as well as observance of the Ethical Code of Conduct; checking for any signs pointing to violations of ethical standards or fraud.
	• Failure of the pricing policy to maximize benefits and to develop market potential.	Dedicated tools used to manage prices and to ensure the pursuit of an efficient and competitive pricing policy. Checking and monitoring whether changes in retail prices are entered correctly in the systems.
Wholesale	• Readiness to react quickly with regard to adjustment of sales plans in the case of changes in the value and production chains.	Systematic checking of sales and production plan implementation with the participation of the wholesale area and of the supply chain management office.
	• Inefficient process of negotiating terms and of concluding commercial contracts.	Negotiation of trading conditions and signing agreements in accordance with the scope of authority granted. Formal process in place for the conclusion of contracts and for the issuing of opinions about them.
	• Failure of the pricing policy to maximize benefits and to develop market potential.	Price formulas approved by the area responsible for pricing policy development. Additional review by the units responsible for product sale.
	• Commodity risk – related to changes in margins generated from the sales of products, to the Brent/Ural differential, to prices of crude oil and products as well as of CO_2 emission allowances, and to the risk related to prices of commodities in cash-and-carry arbitrage transactions. • Exchange rate risk – related to the currency exposure of cash inflows and outflows, investments as well as assets and liabilities denominated in foreign currencies.	Market risk management policy and hedging strategies defining the rules for measuring individual exposure, parameters and time horizon for the hedging against the specific risk, as well as the use of hedging instruments.
	• Interest rate risk – related to assets and liabilities held, for which the interest revenue and costs depend on variable interest rates.	

Finance[1]	• Liquidity risk – related to an unexpected shortage of cash or lack of cash or access to sources of financing.	Policy for short-term liquidity management, defining the rules of reporting and consolidating liquidity of PKN ORLEN and ORLEN Group companies. The Group pursues a policy of diversifying sources of financing and uses diversified tools for efficient liquidity management.
	• Risk of loss of cash and deposits – risk of bankruptcy of domestic or foreign banks in which the ORLEN Group keeps or invests its cash.	Short-term credit rating of the bank. Short-term liquidity management policy and policy of diversifying sources of financing as well as a tool for efficient liquidity management.
	• Credit risk – related to the contracting parties' failure to pay trade receivables.	Analyses of contracting parties' reliability and solvency. Management based on the procedures and policy adopted with regard to trade credit management and debt recovery.
Applicable law and other regulations[2]	• Amendments to existing legislation or new regulations significantly influencing the ORLEN Group as well as its financial position and business results.	Monitoring changes in legislation in countries, where the ORLEN Group operates as well as active participation in legislative processes.
Corporate management	• Insufficient IT system security.	A procedure in place in relation to the management of logical access to IT systems, which includes for instance authorization of requests to grant or modify rights, restricted access to the OS layer and databases as well as to the system hardware, and complex level of password security.
	• Inappropriately configured operational planning and supply chain optimization model favouring non-optimal business decisions.	Periodic analysis and update of models used for operational planning and daily monitoring of operating plan implementation. Standardization of data layout for corporate planning purposes and precise work scheduling.

[1]*For detailed description of the financial risks as well as the methods applied to measure, manage and hedge the risks, see section 10.3 of the Consolidated Financial Statements for 2018.*

[2]*The principal legislative acts regulating the oil sector include:*

- ***Biofuels*** *– in Poland, delivery of the National Indicative Target is governed by the Act Amending the Act on Biocomponents and Liquid Biofuels and Certain Other Acts of November 24th 2017, which entered into force on January 1st 2018 – the purpose of the amendment is to facilitate the implementation of the National Indicative Target (NIT) by fuel companies and change the structure of its implementation.The regulations essentially remove the quantitative limit on the amount of biocomponents (liquid bio-hydrocarbons, HVO) added to diesel oil, introduce quarterly measurement of the fulfilment of the compulsory blending targets; introduce a mechanism of double counting of 'advanced biocomponents' (mainly derived from waste) in NIT; introduce the possibility of 15% derogation from the NIT in exchange for an emission charge; and lower penalties for failure to meet the NIT. In 2019, NIT was delivered at 5.57% (in terms of the energy value, taking into account the reduction ratio and emission charge of 15%), and will be increased to 8.5% as of 2020. The National Reduction Target (NRT) was also introduced − an obligation to reduce GHG emissions relative to 2010 by 6% by the end of 2020.*

  Delivery of the National Indicative Target in other markets:

  - *The Czech Republic: NIT is achieved by blending biocomponents into gasolines (blending level of 4.1%) and diesel oil (blending level of 6%). Mandatory blending will be accounted for quarterly, and GHG emissions are to be driven down by (–) 6% by the end of 2020.*

   - *Lithuania: mandatory blending of biocomponents into the ES95 gasoline (blending level of 5%) and diesel oil, with the exception of Arctic (blending level of 7%). Consultations are currently under way regarding the probable introduction of mandatory sales of E10 and blending of biocomponents into diesel oil in the winter period starting from 2019, as well as a change in the biofuels obligation (a shift from mandatory addition of biocomponents to each litre of a given type towards a general annual target). Therefore, the final wording and effective dates of those regulations may still change.*

- ***Emergency stocks** – producers and traders must pay a substitute fee for gradual reduction in the amount of physical stocks they are required to maintain. Poland: fulfilment of the physical stocks target – from December 31st 2017: 53 days, the substitute fee maintained at its current level (PLN 43/t of oil equivalent and PLN 99/t of LPG). Czech Republic: emergency stocks are maintained by a state agency for 90 days of net imports of crude oil and are financed from the state budget. Lithuania: maintaining stocks equivalent to the higher of 90 days of average daily net imports or 61 days of average daily domestic consumption. The amount equal to at least 30 days of average daily domestic consumption is collected and maintained by the state agency as earmarked stocks, with the balance maintained by businesses.*
- ***Incentives in electricity costs** – a notification procedure is under way relating to capacity charge reduction for energy-intensive industrial customers (capacity charge incentive). If approved by the European Commission, this solution will make it possible to allocate the capacity charge to various end user groups, thus reducing capacity market costs at the ORLEN Group. A draft act on promoting electricity generated by high-efficiency co-generation plants provides for incentives in relation to co-generation charges for energy-intensive industrial customers; requires a dedicated notification procedure. A co-generation charge incentive will apply to energy-intensive industrial customers for whom the electricity consumption intensity ratio (GVA) is calculated based on the quantity of electricity taken off the grid and used by them in a given settlement period. Introduction of a quality charge incentive for energy-intensive industrial customers is also planned, taking into account in-house electricity cogeneration. The quality charge is the tariff rate of the Transmission System Operator (TSO), which is passed on to end users through the distribution tariff. Ensuring continued application of incentives with respect to the RES charge and excise duty for energy-intensive industrial customers.*
- ***Power generation support systems.***
   - *Capacity market - securing the interests of industrial energy players in the capacity market.*
   - *The draft act on promoting electricity generated by high-efficiency co-generation plants envisages solutions which significantly limit the application of the support system by industrial co-generation units. They include the requirement to introduce to the grid and sell electricity, as well as the requirement to introduce at least 70% of generated heat to the public heating network. A new solution provides for the introduction of a unit CO_2 emissions ratio of less or equal 450 kg/MWh of electricity output, which will exclude from the support system all generation units other than gas-fired ones. The certificate-based support system is to be replaced by a system involving guaranteed bonuses for existing generation units and an auction system for new electricity generators.*
   - *Offshore Wind Power Generation - the new National Energy Policy is to provide for the possible construction of an 8 GW Offshore Wind Farm by 2035. Offshore activities of the transmission system operator and construction of an offshore power grid are being considered. In this scenario, the cost of service lines will be covered by the power system operator. It is assumed that the Offshore Wind Farm would be supported through a dedicated legal act governing the entire investment process from the pre-investment phase until decommissioning, as well as a support system guaranteeing the project's economic viability throughout its life. A scheme regulating the share of local materials and services in the investment process would be an important part of that dedicated legal act. The existing RES support system is based on auctions, with investors placing their bids to sell electricity. Each RES technology has a specific reference price, which is the maximum price for which the bidder may sell electricity generated by a given unit. In 2018, the reference price of electricity generated by offshore wind farms was PLN 450/MWh.*
- ***CO_2 emission allowance system** – in April 2018, Directive (EU) 2018/410 of the European Parliament and of the Council, introducing changes to the CO_2 emission allowance trading system (EU ETS 2021-2030), came into effect. The purpose of the amended ETS Directive is to reduce greenhouse gas emissions by at least 40% by 2030 compared to 1990 levels and to meet the obligations under the Paris Agreement. Key assumptions of the new Directive:*
   - *The total emission limit will be reduced by 2.2% annually (Linear Reduction Factor, LRF).*
   - *57% of emission allowances will be sold on auctions, and the remaining 43% will be distributed free of charge. It will be possible to conditionally reduce the auction pool of allowances by 3% (with a corresponding increase in the percentage of free allowances) if the application of a Cross Sectoral Correction Factor (CSFC) is required.*
   - *As of December 31st 2023, a temporary enhancement of the Market Stability Reserve (MSR) is planned by doubling the number of emission allowances to be deducted from the auction pool and transferred to the MSR (24% instead of 12% of unallocated emission allowances in the market). Starting from 2023, any emission allowances in the MSR in excess of the number of allowances auctioned in the previous year are to be cancelled.*
   - *Benchmarks for 2021-2025 will be set by comparing actual data for 2016-2017 with current-period indicators (taking into account their adjustments within the range from 0.2% to 1.6%). In 2026-2030, indicators will be calculated using the same formula on the basis of data from 2021-2022.*
   - *Sectors exposed to the risk of carbon leakage will receive full allocation of emission allowances (100%). For the remaining sectors, the share of free emission allowances will be 30%. As of 2026, the number of emission allowances will be reduced on a straight-line basis to zero by the end of the period unless other decisions are taken and other principles are introduced following a review performed in accordance with, inter alia, the provisions of the Paris Agreement. The only exception is district heating, which is entitled to a 30% free allocation in the entire settlement period.*
   - *Emission allowances issued from January 1st 2013 are valid for an indefinite term. Emission allowances issued from January 1st 2021 will include information specifying their ten-year validity period falling after January 1st 2021, and will be valid as of the first year of the period.*
- ***Compensation scheme** – in mid-2017, the prices of annual futures for 2019 did not exceed EUR 5 per carbon emission allowance. Following the completion of work on the EU ETS reform, the price of emission allowances went up sharply, exceeding EUR 20 in autumn 2018. In Poland, this translates into an exponential increase in electricity costs. Even today, prices of energy on the Polish wholesale market are already among Europe's highest and among the highest compared to industrialised neighbouring countries. In line with the EU ETS Directive, Polish authorities are entitled to receive funds for those sectors or sub-sectors which are believed to be exposed to a significant risk of carbon leakage due to passing CO_2 emission costs through to power prices in order to compensate for these costs. The draft Act on CO_2 compensation provides for compensation to offset the costs of indirect emissions, with 57% to be allocated to chemical sectors and sub-sectors.*
- ***Regulations on the liquid fuels market and reduction of the grey market:***
   - *The Act Amending the Value-Added Tax Act and Certain Other Acts of July 7th 2016 (the Fuel Package) contains a list of conditions to be fulfilled by the entities seeking a licence to trade in liquid fuels. The purpose is to streamline the liquid fuel market in Poland and guarantee legal production and imports of fuels.*
   - *The Act Amending the Energy Law and Certain Other Acts of July 22nd 2016 (the Energy Package) introduces a number of changes in the Polish liquid fuel market, including new licensing regulations, a register of liquid fuels infrastructure, and extended reporting obligations regarding imports and production of fuels, control powers, etc.*
- ***Monitoring of road and rail freight transport** – the Act on a System of Monitoring Road Freight Transport of March 9th 2017. The purpose of the act is to further curtail the grey economy in fuel trade in Poland, and the legislation supplements the solutions introduced as part of the fuel package and the energy package. The act imposes an obligation to register road transport of goods considered to be sensitive and to establish a system for monitoring such transport. Since 2018, the system has been extended to include the transport of sensitive goods by rail.*

- ***Emission charge*** *− the emission charge is to be paid on motor fuels introduced to the domestic market. The obligation to pay the emission charge arises on the date of excise duty liability. Emission charge is calculated based on the quantity of motor fuels on which excise duty is paid. The rate for both motor gasolines and diesel oils is PLN 80 per 1,000 litres. The amount of emission charge is to be reported and paid by the 25th day of the month following the month in which the payment obligation arose or, in the case of importers, by the payment date of customs charges. Emission charge regulations are effective as of January 1st 2019.*
- ***Retail sales tax*** *– the tax is levied exclusively on retail sale to consumers, with the consumer understood as a natural person not engaged in any business activity and a natural person conducting business activity and purchasing goods without connection with that business activity, as well as farmers subject to lump-sum tax within the meaning of the VAT Act. A retail seller is be understood as a natural person (entered in the Central Register and Information on Economic Activity – CEiDG), a legal person (mainly companies operating under commercial law), and an unincorporated organisational unit, including civil-law companies which engage in retail sales in the course of their business. In the definition of retail sale, goods are understood as movables or parts of movables, and provision of services is excluded from the definition. The tax obligation arises when revenue earned in a given month exceeds PLN 17m (VAT exclusive), and tax is levied on the portion of revenue in excess of that amount earned from that moment. Monthly tax rates are as follows: 0.8% of the tax base, if revenue does not exceed PLN 170m (VAT exclusive); 1.4% of the excess over the tax base, if revenue exceeds PLN 170m (VAT exclusive). The Act will not enter into force before December 31st 2019.*
- ***Natural gas market*** *− the Act Amending the Energy Law and Certain Other Acts of November 30th 2016, which introduced a roadmap for the deregulation of gas prices in Poland as of October 2017, and imposed on importers the obligation to maintain emergency stocks of natural gas. The Act introduces the obligation to reserve additional capacity in gas interconnectors only for the purpose of maintaining gas stocks abroad, which increases the costs required to meet that obligation.*
- ***Ban on Sunday Trading*** *– the Act on Restricted Trading on Sundays and Public Holidays and Certain Other Days of January 10th 2018 has been in effect from March 1st 2018 and regulates retail trading. As of January 1st 2019, trading is allowed on last Sunday of each month and on three Sundays before public holidays (15 trading Sundays and 37 non-trading Sundays). As of January 1st 2020, trading will be allowed only on three Sundays before public holidays and on four additional Sundays throughout the year (7 trading Sundays and 45 non-trading Sundays). The Act provides that service stations are not covered by the trading ban.*
- ***Taxation of upstream activities in Poland*** *– tax on production of certain minerals, payable from 2020, calculated individually for each well, at 1.5%–6% of derived revenue, depending on the type of deposits and hydrocarbons. Production royalty, depending on the volume and quality – for natural gas: PLN 5.34–PLN 24.73/1,000 Nm^3; for crude oil: PLN 38.0–PLN 51.5/tonne. Extraction charge – fixed component (determined on a case-by-case basis) and variable component of 50% of the mineral production royalty for the previous year. Special hydrocarbon tax – payable from 2020, at 0%–25% of net cash flows, depending on the ratio of accumulated revenue to accumulated expenses, real property tax of up to 2% of the initial value of property, plant and equipment, CIT at the rate of 19%.*
- ***Taxation of upstream activities in Canada****: royalties – payable on wells spud on or after January 1st 2017. Royalty rate from 5% to 40%, depending on the type of hydrocarbons, market prices, and well output. Exemption on account of incurred costs of drilling and completion – relief in the form of reduced tax liabilities with respect to all new qualifying wells. Royalty of up to 5% on a well's early production until the well's total revenue from all hydrocarbon products equals the drilling and completion cost allowance, CIT at the rate of 27%.*

Risks relating to **social, employee and respect for human rights, environmental matters, occupational health and safety, anti-corruption and bribery** may occur in the three main categories of risks (strategic, design, process / operational) in the ORLEN Group listed above.

Specific risks and methods of their mitigation in the above areas are presented below.

RISKS/PROCESSES	RISK DESCRIPTION	RISK MITIGATION METHODS
SOCIAL		
Corporate social responsibility	• Lack of public awareness of the ORLEN Group's CSR activities.	Implementation of a CSR strategy defining the ways of communicating CSR initiatives; implementation and supervision of the Responsible Care Framework Management System and appointment of the Responsible Care Framework Management System Officer.
Reputation, brand and marketing management	• Use of the brand in connection with adverse, controversial activities. • Promotional activities with adverse effect on the image of PKN ORLEN.	Supervision over the process of defining the methodology for conducting promotional campaigns, key activities subject to approval by relevant business areas.
Outsourcing and subcontractor risk	• Limited control over the ORLEN Group's processes which are subcontracted or outsourced.	Ensuring correctness, completeness and quality of documentation, including completion reports and checklists, in IT systems.
Procurement management in the process of producer selection	• Delays in the procurement process. • Protracting and inefficient tender and procurement procedures.	Appointment of an evaluation team to assess the submitted bids, conduct negotiations and document the selection process communicating terms of business on time and in line with internal regulations.

EMPLOYEES		
Availability of employees and subcontractors	• Loss of key personnel. • Persistent shortage of experienced staff with relevant technical expertise.	Monitoring and reviewing of job-specific training needs, oversight of the recruitment process to ensure employment of candidates with relevant qualifications; supporting vocational education to develop practical skills.
Allocation and development of human resources	• Constraints in recruitment/employee turnover; lack of transparency of the recruitment/employment termination process.	Identification of the key skills for a given position at the recruitment stage, supervision of the process of contract termination, control of the position change processes within the Company.
Social security and other benefits	• Miscalculation of social security payments and other employee benefits.	Supervision of the process of calculation and verification of remuneration, social security and other employee benefits.
Workplace accidents and other hazards	• Failure to identify material risks for particular jobs. • Injury/death at a production plant.	Introduction of a health and safety hazard reporting system, including division of responsibilities, supervision of the hazard identification process in the occupational risk assessment, introduction of procedures to follow in the event of an accident at work.
Employees and subcontractors' activities	• Activities of employees and subcontractors resulting in violation of OHS regulations.	Reviewing and issuing opinions on contracts with subcontractors in terms of security certificates and security clauses, implementation of the Comprehensive Prevention System.
RESPECTING HUMAN RIGHTS		
Breach of ethical standards	• Inadequate ethical standards for a given business environment. • No support for employees in resolving conflicts of interest. • Ineffective system of internal reporting of unethical or illegal practices.	Keeping track and reviewing compliance with the value system set out in the 'Core Values and Standards of Conduct of PKN ORLEN S.A.', appointment of the Ethics Officer, introduction of the Anonymous Misconduct Reporting System.
Labour law	• Violations of labour law. • Penalties imposed as a result of court proceedings initiated by current or former employees.	Obligatory knowledge of applicable laws and internal regulations governing employment relationships, i.e. the Work Rules, 'Core Values and Standards of Conduct', etc. Agreement setting out the rules of cooperation between social partners in restructuring processes.
ENVIRONMENTAL		
New trends	• Growing market/public expectations regarding environmental investments. • Little time to adapt to new environmental requirements.	Regular reviews of the compliance of internal regulations with legal requirements and their ongoing monitoring against the changing environment (regulations, decisions of public administration authorities, etc.).

Environmental protection regulations	• New stricter requirements, standards, financial and technical safeguards. • Failure to identify material environmental aspects in the operations. • No measurement results and no data available to prepare the required reports and/or failure to submit the reports to governmental authorities.	Active participation in issuing opinions on new European and national legislation through professional organisations, working committees, etc. Monitoring the validity of decisions issued by governmental authorities, monitoring the process of computing fees for the economic use of the environment, delegation of precisely defined duties and responsibilities with regard to environmental aspects.
Soil and water contamination	• Environmental pollution as a result of accident/failure. • High site restoration costs.	Monitoring of the technical condition of production units and their regular maintenance, ensuring compliance of reporting activities with applicable procedures, recognition of site restoration provisions.
Managing CO_2 and other gas emission allowances	• Failure to meet the requirements and guidelines for monitoring CO_2 and other greenhouse gas emissions. • Failure to obtain a permit for CO_2 and other greenhouse gas emissions.	Updating internal regulations in line with legal requirements, keeping track of the validity of decisions issued by governmental authorities, environmental monitoring and reporting in accordance with applicable procedures.
Environmental impact	• Non-compliance of the production process with applicable environmental protection standards. • Disrupted supply of utilities (water) to production units.	Monitoring of the process of water decarbonisation and distribution, inspecting the technical condition of facilities and equipment.
Wastewater and waste management	• Failure to comply with the conditions specified in relevant decisions as to the type and quantity of generated waste. • Discharge of wastewater in violation of applicable permits.	Delegating responsibilities in waste management processes in accordance with the applicable procedure, monitoring the amount and types of waste in order to apply for and secure required amendments to the relevant administrative decisions, coordinating and monitoring the parameters of discharged effluents.
OCCUPATIONAL HEALTH AND SAFETY		
Workplace accidents and other hazards	• Failure to identify material risks for particular jobs. • Injury/death at a production plant.	Introduction of a health and safety hazard reporting system, including division of responsibilities, supervision of the hazard identification process in the occupational risk assessment, introduction of procedures to follow in the event of an accident at work.
Fire safety	• Fire during transport of products. • Injury/death as a result of fire.	Introduction of occupational health and safety and fire safety instructions, conducting fire safety inspections, appointment of the Fire Safety and Technical Commitee.

Chemicals management	• Accidents/failures during transport or handling of chemicals.	Implementation of the Comprehensive Chemical Rescue Plan, including the delegation of responsibilities; introduction of the Process Safety Management System at PKN ORLEN.
Employees and subcontractors' activities	• Activities of employees and subcontractors resulting in violation of OHS regulations.	Reviewing and issuing opinions on contracts with subcontractors in terms of security certificates and security clauses, implementation of the Comprehensive Prevention System.
ANTI-CORRUPTION AND ANTI-BRIBERY MEASURES		
Fraud and other misconduct	• Accepting financial gain from potential suppliers. • Conflicts of interest with respect to transactions.	Limiting access to supplier offers and the information they contain, monitoring impartiality towards potential suppliers, oversight of the supplier selection acceptance path.
Employees' conduct resulting in violation of law	• Involvement in illegal transactions or concealing information about illegal transactions by employees. • Execution of contracts in circumstances where the law does not permit continuation of the process.	Review of the correctness of contracted obligations against powers of attorney/authorisations, supervision by authorised employees of supplier contracts and protection of the ORLEN Group's interests.
Misconduct on the part of clients or employees	• Theft of fuel by employees or customers. • Release of products to unauthorised persons, for unauthorised vehicles.	Regular inspections of service stations and terminals by authorised employees, supervision of the ordering and dispensing of rewards and products in accordance with the rules

Effect of controls and risk response plans

The Risk Map shows the risk volumes at individual levels

GROSS RISK MAP

5	Impact		1	2	3	
4		2	2	12	10	
3			16	37	2	1
2		3	9	7		
1		2	5			
		Probability				
		1	2	3	4	5

EFECTIVENESS OF CONTROLS

NET RISK MAP

5	Impact	1				
4		2	3	2		
3		1	12	1		
2		13	45	3	2	
1		22	7			
		Probability				
		1	2	3	4	5

- very low
- low
- medium
- high
- critical

Control mechanisms (controls) – mechanisms, procedures and measures designed to influence the likelihood of the risk materialising and the scale of its impact on the company's objectives, such as policies and procedures, division of responsibilities, and controls embedded in processes.

Risk response plans (risk management strategies) – possible solutions and measures reducing threats to, and increasing the chances of success in the achievement of the project's objectives.

The Risk Map shows the location of key risks for the organisation, broken down by risk type, in terms of:

- Gross risk − value of risk if no controls or risk response plans are applied.
- Net risk − value of risk taking into account the effectiveness of the existing controls and risk response plans designed to mitigate the impact and reduce probability of the risk materialising.

Opportunities

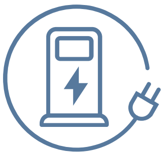
PKN ORLEN's vision reflects the global trends such as regulatory pressure on mitigating climate change, development of alternative fuels, and customers' rising expectations and purchasing awareness.

Equally important for our business are the regulations and pressure from customers concerning the use of bio-derived components in refinery and petrochemical products and the digitalisation of production, which helps to optimise plant operations.

CLIMATE POLICY

Growing regulatory pressure to mitigate climate change and promotion of low-carbon circular economy (EU ETS, IMO) are affecting the entire production cycle

ALTERNATIVE FUELS



Alternative fuels (electromobility, hydrogen, LPG/CNG/LNG), impacting the liquid fuels market Digitalisation of transport, autonomous cars and sharing economy are changing existing mobility models

MODERN CUSTOMER AND SERVICE STATION OF THE FUTURE

Growing expectations and conscious buying behaviours of customers, "digital commerce", "big data", "as well as on-demand" and "sharing economy" are changing the existing sales models

BIO-DERIVED FUELS AND PLASTICS

External regulations (RED I and RED II) and consumer pressure to use bio-derived components in refinery and petrochemical products

DIGITALIZATION OF PRODUCTION

Digitalisation of refining and petrochemical production helps to optimise plant operation and more accurately estimate future demand Continued increase in competitiveness of integrated production

Global changes have been gathering pace in recent years. They have a growing, yet unpredictable, impact on the world around us. To respond to those changes, the ORLEN Group will consistently adapt its business model across all its segments, focusing on:

- **Growth of petrochemical production.**
- **Further integration of refinery assets.**
- **Development of low-carbon energy in the Downstream segment.**

With integrated production assets in three Central European countries, over 30 million tonnes of various crude oil types processed every year, and a portfolio of more than 50 refined and petrochemical products, the ORLEN Group is perfectly placed to further expand its Downstream business.

Key activities to be undertaken in the Downstream segment over the period covered by the 2019−2022 strategy will be aimed at ensuring security of feedstock supplies, further improvement of the operational excellence, and strengthening of the Group's market position.

In the area of feedstock supply security, the ORLEN Group will seek to further diversify its oil supply sources, secure natural gas supplies and build competitive advantage based on low-carbon energy. The ORLEN Group's refineries in Poland, the Czech Republic and Lithuania will continue their efforts to improve effectiveness, capture synergies through greater integration and increase flexibility in response to market and regulatory challenges. Staying in the lead on home markets (e.g. by expanding the product range), implementation of an operational programme for biofuels (construction of production facilities, operational adjustments and development of R&D projects) and investment in extending the petrochemical value chain will be the pillars for the strengthening the ORLEN Group's market position.

Expanding the service station network and strengthening customer relations in Retail

The Retail segment comprises more than 2,800 service stations, making up the largest retail chain in Central Europe. They handle around 1.6 million transactions daily. In Poland alone, they sell 7.1 billion litres of fuel every year, with substantial volumes bought by customers actively participating in the Vitay loyalty scheme and fleet customers.

The growth drivers in the Retail segment will be the modern service station chain, ensuring unique buying experience, and further operational excellence improvement.

PKN ORLEN intends to develop its network of CODO and DOFO stations (nearly 150 new sites by 2022). It plans to increase sales at shops and food outlets, further improve the technical condition of the sites and get ready to sell alternative fuels. In Poland, a charging stations project is being implemented, which is expected to enable electric vehicle drivers to cross the whole country by major communication routes. About 50 charging stations are scheduled to be put into operation by the end of 2019. A total of 150 locations have been selected along transit routes and in cities where the charging stations are to be constructed.

By undertaking a number of initiatives, the Retail segment will transform to provide customers with unique purchasing experience. The planned launch of new products and services and development of customer service channels should be supported by leveraging competitive advantages and business experience (large and dense network of service stations and a sizeable customer base). In the coming years, PKN ORLEN intends to develop upgraded Stop Cafe 2.0 food and beverage outlets. At the end of 2018, there were more than 430 in operation, and the concept was gaining popularity among customers. Tailored and flexible offering (based on big data) and development of the loyalty scheme towards e-commerce will help increase customer satisfaction. PKN ORLEN also seeks to retain its leading position in the home markets and enhance operational excellence by ensuring optimal management of its product range, food offering and services, as well as to improve cost efficiency, customer service processes and station management.

Cautious continuation strategy in the Upstream segment

Growth of the Upstream segment helped to build a solid asset portfolio which may be further developed. In previous years, PKN ORLEN took a number of steps to increase its production potential in Poland (acquisition of two licences from Deutsche Erdoel AG, entering into a joint operating agreement with PGNiG, securing new licences from the Ministry of Environment, and acquisition of FX Energy) and Canada (acquisition of the first Canadian subsidiary TriOil Resources, followed by two other transactions: purchase of Birchill Exploration and Kicking Horse Energy). The ORLEN Group has a strong asset base for value creation: daily output of approximately 18,000 boe in 2018, 2P reserves of approximately 210 mboe, and assets to effectively increase production and steadily improve cost efficiency.

Under the current 2019−2022 strategy, the ORLEN Group intends to build value in the Upstream segment through cautious continuation of the current efforts, i.e. increasing production in Poland and Canada and further improvement of operational excellence and financial strength. The ORLEN Group will closely watch and flexibly respond to developments in the oil and gas market. Consistent improvement of key performance indicators (e.g. better well economics, optimised scope of work) and synergies within the segment in Poland and Canada (e.g. transfer of know-how from Canada, one of the most technologically advanced oil and gas markets) are key elements for the operational excellence improvement in the Upstream business. The segment is expected to start to generate positive cash flows in the period covered by the current strategy.

Innovations that create value

The ORLEN Group's innovation management model brings together all aspects of the Group's strategy and the innovations themselves are understood to mean much more than development and implementation of new products only. We pay attention to product, process and sales innovations. Projects of crucial importance are those relating to our current value chain. Because of the role of intellectual capital in modern economy, we put strong focus on advancement of staff skills and competence. We consistently build our team of experts, especially in the area of R&D, and develop a system to support our leaders. In addition, as part of the strategic development directions we chose to follow, we decided to create a strategic research agenda, deploy innovation acquisition tools (accelerator and CVC fund) and begin closer cooperation with startups.

The innovation strategy relies on external and internal innovations supported with an advanced management model. To stimulate external innovation, the ORLEN Group carries out projects facilitating cooperation as part of an external ecosystem of innovations, successful application of state-of-the-art commercial solutions and use of special tools for project implementation. Internal innovations are efforts to streamline technological and organisational processes, develop the portfolio of R&D projects, and tap synergies within the ORLEN Group. As part of its consistently pursued R&D strategy, PKN ORLEN is also working to develop a concept for the expansion of its research infrastructure through the construction of a Research and Development Centre as a platform for collaboration with the scientific and business communities.

The ORLEN Group supports the culture of innovation to fully benefit from internal and external innovations. Innovation is promoted as the desired attitude across the organisation, and the dedicated decision-making process for innovative projects ensures ability to flexibly respond to market needs. What is more, in 2018 projects were under way to develop a knowledge-based organisation and unleash the internal potential in order to foster culture of innovation. Examples include the continued in-house programme to support innovation among employees, intended to encourage our staff to propose their ideas and to enable identification of highly-innovative solutions (ORLEN Insight – a knowledge-sharing platform, Opportunities Market – a project platform, and a competition for the most innovative project of the year).

Management's Discussion and Analysis of 2018 Financial Results

Last year we proved that we are able to deliver excellent financial performance amid a highly volatile macroeconomic environment. The 32% year-on-year increase in crude oil prices squeezed our refining and petrochemical margins and, in consequence, the impact of macroeconomic parameters reduced our financial results by more than PLN 2.2bn year on year.

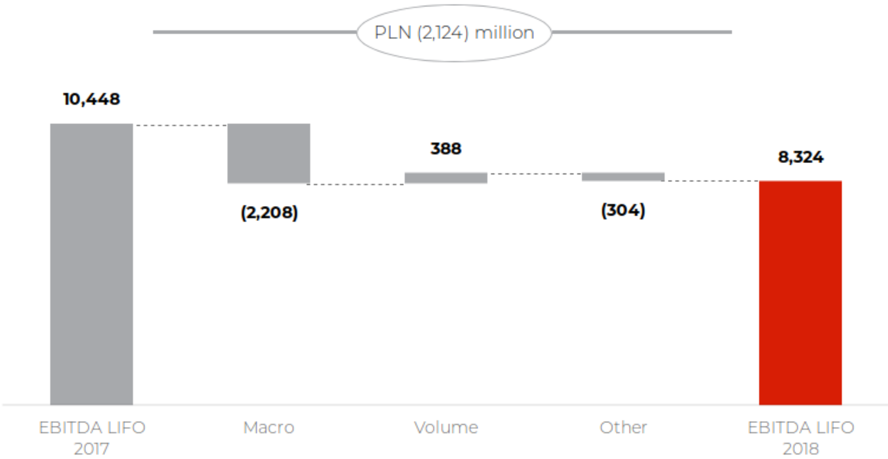
Despite the adverse effects of macroeconomic conditions, we generated PLN 8.3bn of LIFO-based EBITDA for the year, before adjustment for the reversal of impairment losses on non-current assets, and EBITDA in excess of PLN 9.8bn. An achievement that certainly deserves a mention here is another record EBITDA reported in the Retail segment, at PLN 2.8bn.

In 2018 we also executed a number of processes of key importance to the ORLEN Group, including the repurchase of minority interests at Unipetrol, the launch of our ambitious PLN 8.3bn Petrochemicals Development Programme, and embarking on a process to acquire control of Grupa LOTOS.

Wiesław Protasewicz
Member of the Management Board, Chief Financial Officer

The ORLEN Group generated **revenue** of **PLN 109,706 million**, up 15.0% on the previous year, reflecting a 1.2% year-on-year rise in volumes to a record 42.9m tonnes, an increase of USD 17/bbl in oil prices, and resulting growth in the market prices for the Group's products.

In 2018, earnings before depreciation and amortisation, net of the effect of crude price movements on the value of inventories (LIFO-based EBITDA) and net reversals of impairment losses on non-current assets were **PLN 8,324 million**, having decreased by **PLN (2,124) million y/y**:



[1]Net impairment losses on property, plant and equipment and intangible assets:

- *2018: PLN 704 million resulting mainly from the reversal of impairment losses on assets in the Unipetrol Group's downstream segment PLN 741 million and from the recognition of impairment losses on assets in Upstream (PLN 18 million).*
- *2017: PLN (169) million, comprising mainly impairment losses on the ORLEN Upstream Group's exploration assets in Poland.*

Profit earned in 2018 was **PLN (2,124) million** lower year on year:

- **PLN (2,208) million y/y** – negative effect of changes in the macro environment, mainly higher costs of raw materials used for internal energy generation purposes, led by rising oil prices, and lower margins on light distillates, heavy fractions, petrochemical products and fertilizers, which were partly offset by wider margins on middle distillates, PTA and PVC.
- **PLN 388 million y/y** – positive volume effect of favourable market conditions that was achieved despite temporary unavailability of the ORLEN Group's petrochemical units.
- **PLN (304) million y/y** – negative effect of other factors, including:
  - PLN (550) million y/y – effect a change in net balance of other income and expenses following elimination of the effect of reversal of impairment losses on assets, related mainly to lower year on year compensation received from insurers for the ethylene and FCC unit failure at the Unipetrol Group (PLN (389) million y/y) and the absence of penalties received in 2017 for improper performance of the CCGT project in Włocławek, of PLN (97) million.
  - PLN 246 million y/y – other items, mainly PLN (318) million y/y negative effect of inventory remeasurement at net realisable value, and the positive impact of stronger retail and wholesale margins and utilisation of stocks of cheaper oil and petroleum products during maintenance shutdowns in H1 2018.

Including the net effect of impairment reversals of PLN 704 million (mainly in respect of downstream assets at the Unipetrol Group, of PLN 741 million), the ORLEN Group's LIFO-based EBITDA for 2018 totalled **PLN 9,028 million**.

The positive impact of changes in oil prices on inventory valuation, which was reflected in EBITDA amounted to PLN 860 million. As a result, the ORLEN Group's EBITDA for 2018 came in at **PLN 9,888 million.**

Earnings after depreciation and amortisation of PLN (2,673) million reached **PLN 7,215 million.**

Net finance costs amounted to **PLN (104) million** in 2018 and included mainly net foreign exchange losses of PLN (353) million, net interest expense of PLN (168) million and net gain on the settlement and measurement of derivative financial instruments not designated for hedge accounting, relating to exposures associated with the Group's financing activities (PLN 437 million).

The ORLEN Group's profit net of income tax expense of PLN (1,506) million was **PLN 5,604 million**.

Equity at the end of 2018 stood at **PLN 35,739 million**, up PLN 528 million in comparison with the end of 2017, primarily due to a PLN (4,222) million decrease in equity attributable to non-controlling interests following repurchase of Unipetrol shares by PKN ORLEN, payment of dividend from retained earnings PLN (1,283) million, exchange differences on translating the equity of foreign operations, of PLN 375 million, and recognition of the 2018 net profit of PLN 5,604 million.

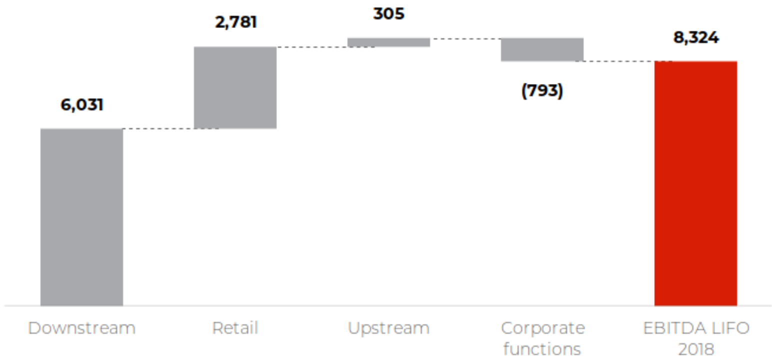
As at December 31st 2018, the Group reported a net debt of **PLN 5,599 million**, up PLN 4,838 million year on year.

Expansion of the ORLEN Group's power generation, logistics, procurement, IT, and retail business led to an increase in total workforce by 1,020 employees y/y, to **21,282**.

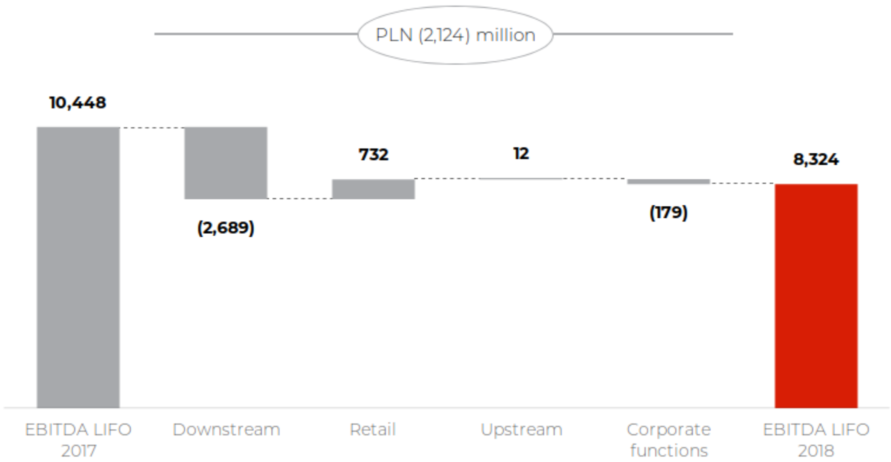
Segment results of the ORLEN Group

The ORLEN Group operates in three major business segments. Corporate functions provide support for business processes performed within the segments.

LIFO-based EBITDA by segment [PLN million]



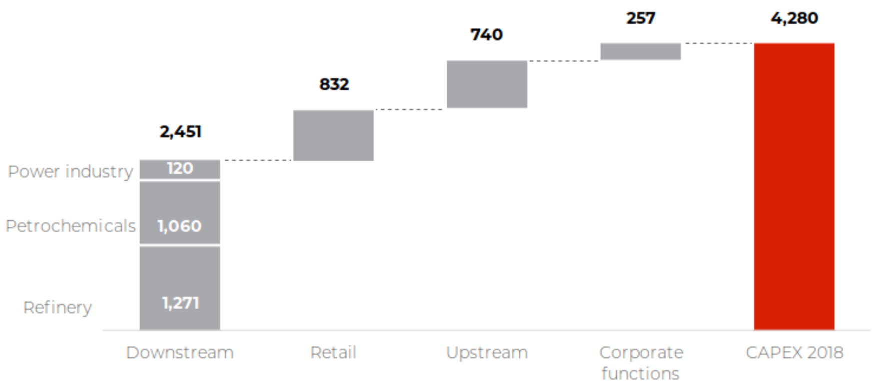
Change in segment performance [PLN million]



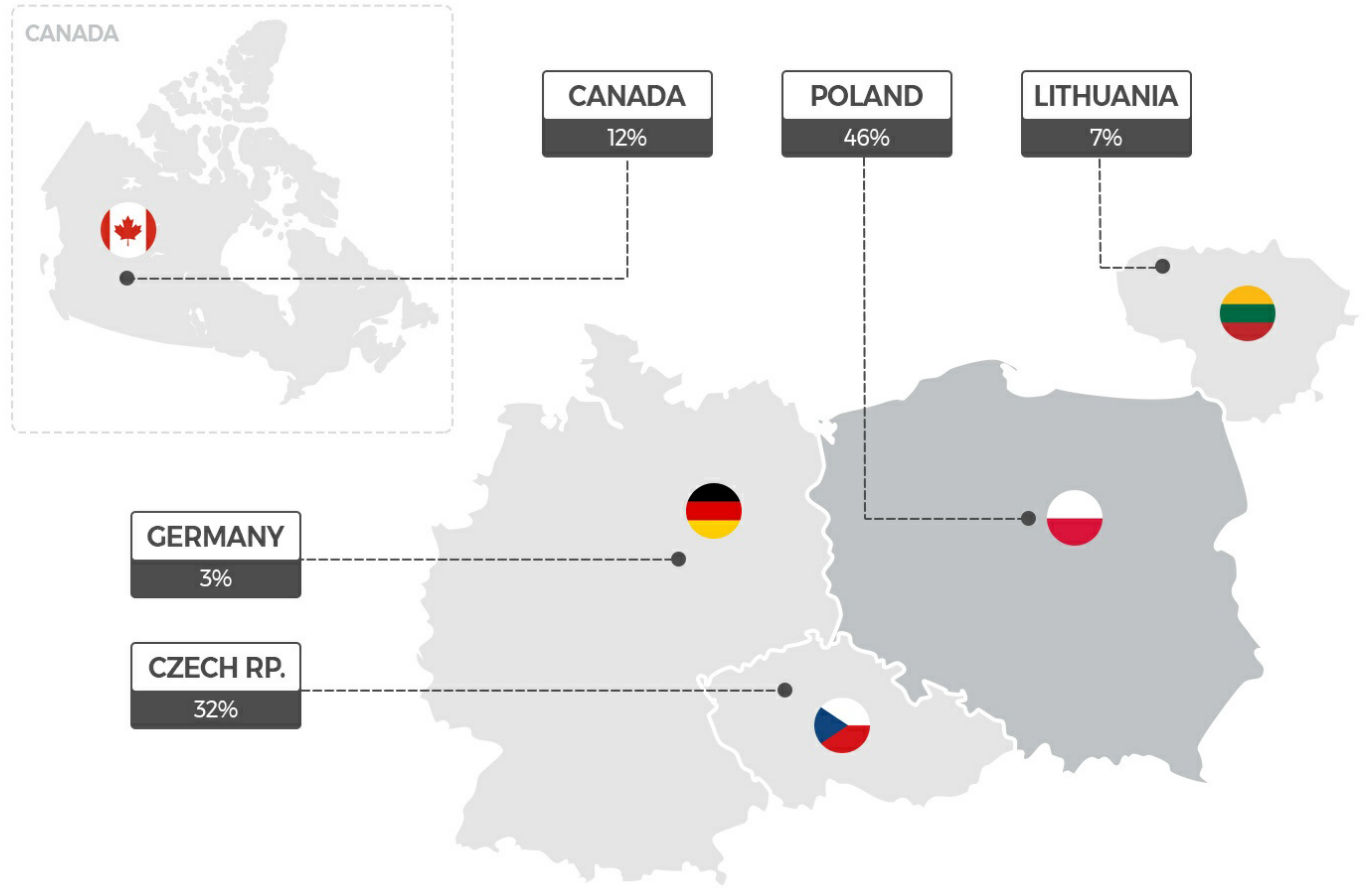
ORLEN Group's capital expenditure

The ORLEN Group allocated **PLN 4,280 million** for the 2018 investment programme.

Capital expenditure by segment [PLN million]



Capital expenditures by operating markets [%]



The most significant investments realised in 2018 comprised of:

DOWNSTREAM

- Construction of CCGT in Włocławek and Płock with infrastructure.
- Construction of polyethylene unit (PE3) in Litvinov.
- Construction of PPF Splitter unit in Lithuania.
- Construction of a metathesis unit in Płock.

RETAIL

- 64 new services stations opened (44 in Poland, 9 in Germany, and 11 in the Czech Republic).
- 109 service station upgraded and rebranded (13 in Poland, 1 in Germany and 95 in the Czech Republic).
- 306 new Stop Cafe/Star Connect (including O!SHOP outlets).

- Canada – PLN 534 million / Poland – PLN 206 million.

Consolidated Financial Statements

1. Consolidated statement of profit or loss and other comprehensive income

	NOTE	2018	2017	change (y/y)	
				value	%
Sales revenues	9.2, 10.1.1, 10.1.2	109,706	95,364	14,342	15.0
revenues from sales of finished goods and services		*91,014*	*72,915*	*18,099*	*24.8*
revenues from sales of merchandise and raw materials		*18,692*	*22,449*	*(3,757)*	*(16.7)*
Cost of sales	10.1.8	(97,265)	(81,766)	(15,499)	19.0
cost of finished goods and services sold		*(80,781)*	*(61,266)*	*(19,515)*	*31.9*
cost of merchandise and raw materials sold		*(16,484)*	*(20,500)*	*4,016*	*(19.6)*
Gross profit on sales		**12,441**	**13,598**	**(1,157)**	**(8.5)**
Distribution expenses		(4,745)	(4,327)	(418)	9.7
Administrative expenses		(1,590)	(1,537)	(53)	3.4
Other operating income	10.1.9	2,150	1,243	907	73.0
Other operating expenses	10.1.10	(1,152)	(568)	(584)	102.8
(Loss)/reversal of loss due to impairment of financial instruments	10.1.12	(16)	-	(16)	-
Share in profit from investments accounted for under equity method	10.2.4	127	248	(121)	(48.8)
Profit from operations		**7,215**	**8,657**	**(1,442)**	**(16.7)**
Finance income	10.1.11.1	1,413	1,760	(347)	(19.7)
Finance costs	10.1.11.2	(1,517)	(1,700)	183	(10.8)
Net finance income and costs		**(104)**	**60**	**(164)**	**-**

(Loss)/reversal of loss due to impairment of financial instruments	*10.1.12*	(1)	-	(1)	-
Profit before tax		**7,110**	**8,717**	**(1,607)**	**(18.4)**
Tax expense	*10.1.13*	(1,506)	(1,544)	38	(2.5)
current tax		*(1,181)*	*(1,329)*	*148*	*(11.1)*
deferred tax		*(325)*	*(215)*	*(110)*	*51.2*
Net profit		**5,604**	**7,173**	**(1,569)**	**(21.9)**
Other comprehensive income:					
which will not be reclassified subsequently into profit or loss		**(24)**	**(13)**	**(11)**	**84.6**
actuarial gains and losses		*(5)*	*(15)*	*10*	*(66.7)*
gains/(losses) on investments in equity instruments at fair value through other comprehensive income		*(23)*	-	*(23)*	-
deferred tax	*10.1.13.2*	*4*	*2*	*2*	*100.0*
which will be reclassified into profit or loss		**462**	**136**	**326**	**239.7**
hedging instruments		*12*	*929*	*(917)*	*(98.7)*
hedging costs		*38*	-	*38*	-
exchange differences on translating foreign operations		*415*	*(618)*	*1 033*	-
deferred tax	*10.1.13.2*	*(3)*	*(175)*	*172*	*(98.3)*
		438	123	315	256.1
Total net comprehensive income		**6,042**	**7,296**	**(1,254)**	**(17.2)**
Net profit attributable to		**5,604**	**7,173**	**(1,569)**	**(21.9)**
equity owners of the parent		*5,556*	*6,655*	*(1,099)*	*(16.5)*

non-controlling interest		*48*	*518*	*(470)*	*(90.7)*
Total net comprehensive income attributable to		**6,042**	**7,296**	**(1,254)**	**(17.2)**
equity owners of the parent		*5,937*	*6,717*	*(780)*	*(11.6)*
non-controlling interest		*105*	*579*	*(474)*	*(81.9)*
Net profit and diluted net profit per share attributable to equity owners of the parent (in PLN per share)		12.99	15.56	(2.57)	(16.5)

2. Consolidated statement of financial position

	NOTE	31/12/2018	31/12/2017	change (y/y)	
				value	%
ASSETS					
Non-current assets					
Property, plant and equipment	*10.2.1*	31,390	29,071	2,319	8.0
Intangible assets	*10.2.2*	1,323	1,272	51	4.0
Investments accounted for under equity method	*10.2.4*	650	715	(65)	(9.1)
Deferred tax assets	*10.1.13.2*	70	49	21	42.9
Derivatives	*10.2.9*	161	303	(142)	(46.9)
Other assets	*10.2.9*	338	330	8	2.4
		33,932	31,740	2,192	6.9
Current assets					
Inventories	*10.2.6.1*	14,362	12,440	1,922	15.5
Trade and other receivables	*10.2.6.2*	10,479	9,518	961	10.1
Current tax assets		114	80	34	42.5

Cash and cash equivalents		4,192	6,244	(2,052)	(32.9)
Non-current assets classified as held for sale	*10.2.6.3*	202	75	127	169.3
Derivatives	*10.2.9*	524	434	90	20.7
Other assets	*10.2.9*	336	133	203	152.6
		30,209	**28,924**	**1,285**	**4.4**
Total assets		**64,141**	**60,664**	**3,477**	**5.7**
EQUITY AND LIABILITIES					
EQUITY					
Share capital	*10.2.8.1*	1,058	1,058	-	-
Share premium	*10.2.8.2*	1,227	1,227	-	-
Hedging reserve	*10.3.4*	361	331	30	9.1
Revaluation reserve		(15)	5	(20)	-
Exchange differences on translating foreign operations		709	334	375	112.3
Retained earnings	*10.2.8.3*	32,387	29,242	3,145	10.8
Equity attributable to equity owners of the parent		**35,727**	**32,197**	**3,530**	**11.0**
Non-controlling interests	10.2.8.4	**12**	**3,014**	**(3,002)**	**(99.6)**
Total equity		**35,739**	**35,211**	**528**	**1.5**
LIABILITIES					
Non-current liabilities					
Loans and bonds	*10.2.7.1*	8,598	6,688	1,910	28.6
Provisions	*10.2.10*	1,055	902	153	17.0
Deferred tax liabilities	*10.1.13.2*	1,445	1,095	350	32.0
Derivatives	*10.2.9*	42	75	(33)	(44.0)
Other liabilities	*10.2.9*	366	311	55	17.7

		11,506	**9,071**	**2,435**	**26.8**
Current liabilities					
Trade and other liabilities	*10.2.6.4*	13,697	14,469	(772)	(5.3)
Liabilities from contracts with customers	*10.2.6.5*	231	-	231	-
Loans and bonds	*10.2.7.1*	1,193	317	876	276.3
Provisions	*10.2.10*	1,019	673	346	51.4
Current tax liabilities		473	290	183	63.1
Derivatives	*10.2.9*	193	313	(120)	(38.3)
Other liabilities	*10.2.9*	90	320	(230)	(71.9)
		16,896	**16,382**	**514**	**3.1**
Total liabilities		**28,402**	**25,453**	**2,949**	**11.6**
Total equity and liabilities		**64,141**	**60,664**	**3,477**	**5.7**

3. Consolidated statement of changes in equity

	Equity attributable to equity owners of the parent							
	Share capital and share premium	Hedging reserve	Revaluation reserve	Exchange differences on translating foreign operations	Retained earnings	Total	Non-controlling interests	Total equity
NOTE	*10.2.8.1, 10.2.8.2*	*10.3.4*			*10.2.8.3*		*10.2.8.4*	
01/01/2018 (approved data)	2,285	331	5	334	29,242	32,197	3,014	35,211
Impact of IFRS 9 adoption	-	-	-	-	(9)	(9)	-	(9)
01/01/2018 (converted data)	2,285	331	5	334	29,233	32,188	3,014	35,202
Net profit	-	-	-	-	5,556	5,556	48	5,604
Items of other comprehensive	-	30	(20)	375	(4)	381	57	438

income								
Total net comprehensive income	**-**	**30**	**(20)**	**375**	**5,552**	**5,937**	**105**	**6,042**
Change in structure	-	-	-	-	(1,115)	(1,115)	(3,107)	(4,222)
Dividends	-	-	-	-	(1,283)	(1,283)	-	(1,283)
31/12/2018	**2,285**	**361**	**(15)**	**709**	**32,387**	**35,727**	**12**	**35,739**
01/01/2017	2,285	(355)	5	946	23,882	26,763	2,522	29,285
Net profit	-	-	-	-	6,655	6,655	518	7,173
Items of other comprehensive income	-	686	-	(612)	(12)	62	61	123
Total net comprehensive income	**-**	**686**	**-**	**(612)**	**6,643**	**6,717**	**579**	**7,296**
Change in structure	-	-	-	-	-	-	2	2
Dividends	-	-	-	-	(1,283)	(1,283)	(89)	(1,372)
31/12/2017	**2,285**	**331**	**5**	**334**	**29,242**	**32,197**	**3,014**	**35,211**

4. Consolidated statement of cash flows

	NOTE	2018	2017	change (y/y)	
				value	%
Cash flows from operating activities					
Profit before tax		**7,110**	**8,717**	**(1,607)**	**(18.4)**
Adjustments for:					
Share in profit from investments accounted for under equity method	*10.2.4*	(127)	(248)	121	(48.8)
Depreciation and amortisation	*10.1.8*	2,673	2,421	252	10.4
Foreign exchange	*10.1.11.4*	319	(233)	552	-

(gain)/loss					
Interest, net	10.1.11.3	203	204	(1)	(0.5)
Dividends		(4)	(4)	-	-
(Profit)/Loss on investing activities, incl.:		(1,100)	549	(1,649)	-
recognition/(reversal) of impairment allowances of property, plant and equipment and intangible assets	*10.1.9, 10.1.10*	*(704)*	*169*	*(873)*	-
Change in provisions	10.2.10	736	345	391	113.3
Change in working capital	10.2.6	(3,059)	(1,967)	(1,092)	55.5
inventories		*(1,729)*	*(1,445)*	*(284)*	*19.7*
receivables		*(1,069)*	*(1,579)*	*510*	*(32.3)*
liabilities		*(261)*	*1,057*	*(1,318)*	-
Other adjustments, incl.:		(732)	(131)	(601)	458.8
rights received free of charge		*(494)*	*(310)*	*(184)*	*59.4*
Income tax (paid)	10.1.13.3	(1,039)	(1,603)	564	(35.2)
Net cash from operating activities		**4,980**	**8,050**	**(3,070)**	**(38.1)**
Cash flows from investing activities					
Acquisition of property, plant and equipment, intangible assets and perpetual usufruct of land		(4,454)	(4,039)	(415)	10.3
Acquisition of shares		(25)	(3)	(22)	733.3
Disposal of property, plant and equipment, intangible assets and perpetual usufruct of land		161	105	56	53.3
Dividends received		196	252	(56)	(22.2)
Settlement of derivatives not designated as hedge accounting		339	(234)	573	-
Other		(15)	(6)	(9)	150.0

Net cash (used) in investing activities		**(3,798)**	**(3,925)**	**127**	**(3.2)** **%**
Cash flows from financing activities					
Redemption of non-controlling shares Unipetrol a.s.		(4,222)	-	(4,222)	-
Proceeds from loans and borrowings received		2 232	6	2,226	37 100.0
Bonds issued		600	400	200	50.0
Repayments of loans and borrowings		(97)	(888)	791	(89.1)
Redemption of bonds		(200)	(700)	500	(71.4)
Interest paid	*10.1.11.3*	(231)	(234)	3	(1.3)
Dividends paid		(1,284)	(1,384)	100	(7.2)
to equity owners of the parent	*10.2.8.6*	*(1,283)*	*(1,283)*	-	-
to non-controlling interest		*(1)*	*(101)*	*100*	*(99.0)*
Payments of liabilities under finance lease agreements		(32)	(28)	(4)	14.3
Other		(3)	(4)	1	(25.0)
Net cash (used) in financing activities		**(3,237)**	**(2,832)**	**(405)**	**14.3**
Net increase/(decrease) in cash and cash equivalents		(2,055)	1,293	(3,348)	-
Effect of exchange rate changes		3	(121)	124	-
Cash and cash equivalents, beginning of the period		6,244	5,072	1 172	23.1
Cash and cash equivalents, end of the period		**4,192**	**6,244**	**(2,052)**	**(32.9)**
including restricted cash		*87*	*3*	*84*	*2,800.0*

Basic Information

5.1. Principal activity of ORLEN Group

PRINCIPAL INFORMATION ABOUT ORLEN GROUP	
NAME OF THE PARENT COMPANY	Polski Koncern Naftowy ORLEN Spółka Akcyjna
REGISTERED OFFICE	ul. Chemików 7, 09-411 Płock
NATIONAL COURT REGISTER NUMBER (KRS)	0000028860
INDUSTRY IDENTIFICATION NUMBER (REGON)	610188201
TAX IDENTIFICATION NUMBER (NIP)	774-00-01-454
PRINCIPAL ACTIVITY	• Frude oil processing. • Production of fuel, petrochemical and chemical goods. • Retail and wholesale of fuel products. • Exploration, recognition and extraction of hydrocarbons. • Generates, distributes and trades of electricity and heat. • Service-related activity: storage of crude oil and fuels, transportation, maintenance and overhaul services, laboratory, security, design, administrative, insurance and financial services.

Polski Koncern Naftowy ORLEN Spółka Akcyjna (“Company”, “PKN ORLEN”, “Issuer”, “Parent Company”) was founded by incorporation of Petrochemia Płock S.A. with Centrala Produktów Naftowych S.A., on 7 September 1999.

PKN ORLEN along with the entities forming the Capital Group of Polski Koncern Naftowy ORLEN S.A. (“ORLEN Group”, “Group”) is one of the biggest and most modern fuel and power companies in Central Europe, operating on the Polish, Lithuanian, Czech, German and Canadian markets. The Group also possesses entities located in Malta, Sweden, the Netherlands, Slovakia, Hungary, Estonia, Latvia and the USA.

Since 26 November 1999 PKN ORLEN shares are listed on the main market of the Warsaw Stock Exchange (WSE) in the continuous quotations system.

5.2. Principles of preparation of financial statements

The consolidated financial statements have been prepared in accordance with accounting principles contained in the International Financial Reporting Standards (IFRS), comprising International Accounting Standards (IAS) as well as Interpretations of Standing Interpretation Committee (SIC) and the International Financial Reporting Interpretations Committee (IFRIC), which were adopted by the European Union (EU) and entered in force by the end of 2018. The Group adopted all IASs and IFRSs in accordance with their effective date.

The consolidated financial statements have been prepared on a historical cost basis, except derivatives measured at fair value and assets measured at fair value through other comprehensive income. The foregoing financial statements have been prepared using the accrual basis of accounting except from the consolidated financial statement of cash flows.

The scope of consolidated financial statements is compliant with the Minister of Finance Regulation of 29 March 2018 on current and periodic information provided by issuers of securities and conditions for recognition as equivalent information required by the law of a non-member state (Official Journal 2018, item 757) ("Regulation") and covers the annual reporting period from 1 January to 31 December 2018 and the comparative period from 1 January to 31 December 2017. Presented consolidated financial statements present a true and fair view of the ORLEN Group's financial position as at 31 December 2018, results of its operations and cash flows for the year ended 31 December 2018.

The consolidated financial statements have been prepared assuming that the ORLEN Group will continue to operate as a going concern in the foreseeable future. As at the date of approval of the foregoing consolidated financial statements, there is no evidence indicating that ORLEN Group will not be able to continue its operations as a going concern. The duration of the Parent Company and the entities comprising ORLEN Group is unlimited.

5.3. Functional currency and presentation currency of financial statements and methods applied to translation of financial data for consolidation purposes

The functional currency of the Parent Company and presentation currency of the foregoing consolidated financial statements is Polish Złoty (PLN).

Translation into PLN of financial statements of foreign entities, for consolidation purposes:

- Particular assets and liabilities – at spot exchange rate as at the end of the reporting period.
- Items of the statement of profit or loss and other comprehensive income and the statement of cash flows - at the average exchange rate for the reporting period (arithmetic average of daily average exchange rates published by the National Bank of Poland ("NBP") in a given period).

Foreign exchange differences resulting from the above recalculations are recognised in equity in the line exchange differences on translating foreign operations.

CURRENCY	Average exchange rate for the reporting period		Exchange rate as at the end of the reporting period	
	2018	2017	31/12/2018	31/12/2017
EUR/PLN	4.2614	4.2576	4.3000	4.1709
USD/PLN	3.6113	3.7783	3.7597	3.4813
CZK/PLN	0.1662	0.1617	0.1673	0.1632
CAD/PLN	2.7861	2.9101	2.7620	2.7765

5.4. Acconuting principles

Significant accounting principles and significant values based on judgements and estimates are presented as a part of the specific explanatory notes to the consolidated financial statements. The Group applied the accounting principles consistently to all presented reporting periods.

The preparation of consolidated financial statements in accordance with IFRSs requires that the Management Board makes expert estimates and assumptions that affect the presented amounts. The estimates and related assumptions are based on historical expertise and other factors regarded as reliable in given circumstances and their effects provide grounds for professional judgment of the carrying amount of assets and liabilities which is not based directly on any other factors.

In the matters of considerable weight, the Management Board might base its judgments, estimates or assumptions on opinions of independent experts. The judgments, estimates and related assumptions are verified on a regular basis.

Selected accounting principles	Note
Investments in subsidiaries, jointly controlled entities and associates	*7.1*
Operating segments	*9.1*
Sales revenues	*10.1.1*
Costs	*10.1.8*
Income tax expenses (tax expense)	*10.1.13*
Property, plant and equipment	*10.2.1*
Exploration and extraction of mineral resources	*10.2.1*
Intangible assets	*10.2.2*
Investments accounted for under equity method	*10.2.4*
Impairment of property, plant and equipment and intangible assets	*10.2.5*
Inventories	*10.2.6.1*
Trade and other receivables	*10.2.6.2*
Trade and other liabilities	*10.2.6.4*
Net debt	*10.2.7*
Equity	*10.2.8*
Provisions	*10.2.10*
Financial instruments	*10.3*
Fair value measurement	*10.3*
Lease	*10.4.2*
Contingent assets and liabilities	*10.4.4*

5.5. Impact of IFRS changes on consolidated financial statements of ORLEN Group

- **IFRS 9 Financial instruments (IFRS 9)**

Selected accounting principles

Measurement of financial assets and liabilities

From 1 January 2018, the Group classifies financial assets into one of the following categories:

- Measured at amortized cost.
- Measured at fair value through other comprehensive income.
- Measured at fair value through profit or loss.
- Hedging financial instruments.

The Group classifies debt financial assets to the appropriate category depending on the business model of financial assets management and on the characteristics of contractual cash flows so called “SPPI criterion” for a given financial asset.

As a result of analysis of intercompany contracts and conditions of other financial instruments, no conditions were identified that caused the SPPI test fail.

The Group as assets measured at amortized cost classifies trade receivables, loans granted, other financial receivables as well as cash and cash equivalents.

At the moment of initial recognition, the Group classifies equity instruments, i.e. shares in other entities, to the category of financial instruments measured at fair value through other comprehensive income.

The Group classifies to assets measured at fair value through profit or loss derivatives that are not designated for hedge accounting and hedged items that are measured in accordance with hedge accounting principles.

The Group classifies financial liabilities into one of the following categories:

- Measured at amortized cost.
- Measured at fair value through profit or loss.
- Hedging financial instruments.

The Group as liabilities measured at amortized cost classifies trade liabilities, loans, borrowings and bonds. Liabilities on derivatives not designated for hedge accounting are classified by the Group as measured at fair value through profit or loss.

The Group classifies to the category of hedging financial instruments, financial assets and liabilities which constitute derivative hedging cash flows and fair value.

Measurement of financial assets at amortized cost

The Group applies the effective interest rate method to measure financial assets at amortized cost.

Trade receivables after initial recognition are measured at amortized cost using the effective interest rate method, including impairment allowances, while trade receivables with a maturity of less than 12 months from the date of recognition (i.e. not including the financing component) and not appointed to factoring, are not discounted and are measured at nominal value.

Measurement of financial assets at fair value through other comprehensive income

Gains and losses on a financial asset constituting an equity instrument for which was applied the option of fair value through other comprehensive income is recognised in other comprehensive income, except for revenues from received dividends.

Measurement of financial assets at fair value through profit or loss

Gains or losses on the measurement of a financial asset that is classified as measured at fair value through profit or loss are recognised in profit or loss during the period in which they were recognised. Gains or losses from the valuation of items measured at fair value through profit or loss also include interest and dividend income.

Measurement of hedging financial instruments

Hedging financial instruments are measured in accordance with the principles of hedge accounting.

Impairment of financial assets

IFRS 9 introduces a new approach to estimating the impairment of financial assets measured at amortized cost or at fair value through other comprehensive income (with the exception of investments in capital assets and contract assets). The impairment model is based on the expected loss calculation as opposed to the applied model in years before 2018 resulting from IAS 39, which was based on the concept of incurred loss. The most significant item of financial assets in the Group's financial statements, which is subject to the new principles of calculating expected credit losses, are trade receivables.

The Group uses the following models for determining impairment allowances:

- General model (basic).
- Simplified model.

The general model is used by the Group for financial assets measured at amortized cost - other than trade receivables and for debt instruments measured at fair value through other comprehensive income.

In the general model, the Group monitors the changes in the level of credit risk associated with a given financial asset and classifies financial assets to one of the three stages of impairment allowances based on the observation of the change in the credit risk level in relation to the initial recognition of the instrument.

Depending on the classification to particular stages, the impairment allowance is estimated in the 12-month horizon (stage 1) or in the life horizon of the instrument (stage 2 and stage 3).

On each day ending the reporting period, the Group considers the indications resulting in the classification of financial assets to particular stages of determining impairment allowances. Indications may include changes in the debtor's rating, serious financial problems of the debtor, a significant unfavourable change in its economic, legal or market environment.

For the purposes of estimating the expected credit loss, the Group uses default probability levels based on market credit quotes of derivatives for entities with a given rating and from a given sector.

The Group includes information on the future in the parameters of the expected loss estimation model by calculating the probability parameters of insolvency based on current market quotes.

The simplified model is used by the Group for trade receivables.

In the simplified model, the Group does not monitor changes in the credit risk level during the life. From 1 January 2018 the Group estimates the expected credit loss in the horizon up to maturity of the instrument.

In particular, for the insolvency event, the Group recognises when the contractor has not satisfied the obligation after 90 days from the due receivables date.

For the purpose of estimating the expected credit loss, the Group uses a provision matrix estimated on the basis of historical levels of repayment and recoveries from receivables from contractors.

The Group includes information about the future in the parameters used in the expected loss estimation model, through the management adjustment of the basic insolvency probability parameters. To calculate the expected credit loss, the Group determines the probability parameter of receivables defaults estimated on the basis of the analysis of the number of unpaid invoices in the last five years, and the liabilities default rate estimated on the basis of the value of unpaid invoices in the last five years.

The expected credit loss is calculated when the receivable is recognised in the statement of financial position and is updated on each subsequent day ending the reporting period, depending on the number of days for which the receivable is due.

(Loss)/reversal of loss due to impairment of financial instruments

The (losses)/reversals of losses due to impairment of financial instruments include, in particular, (losses)/reversals of losses due to impairment of trade receivables and (losses)/reversals of losses due to impairment of granted loans.

Hedge accounting

In the area of hedge accounting, the Group applies the requirements of IFRS 9 in the construction of hedging relationships. In particular, it concerns matching of the definitions of commodity risk hedging to the exposure characteristics and applied risk management strategies. The Group aims to limit the underlying risk in hedging relationships (resulting from various commodity indices on the side of the hedging instrument and the hedged item).

The Group applied principles of recognition the hedging cost within FX hedging transactions, where the forward component and the cross-currency margin is recorded in a separate item in other comprehensive income.

Derivatives designated as hedging instruments from which it is expected that their fair value or resulting from them cash flows will offset changes in fair value or cash flows of hedged item are recognised in accordance with the principles of fair value hedge accounting or cash flows hedges.

The Group assesses the effectiveness of hedging both at the moment of establishing the hedging and in subsequent periods, at least at each end of the reporting period. Verification of satisfaction of the conditions for the effectiveness of linking is made on a prospective basis, based on a qualitative analysis. If necessary, the Group uses a quantitative analysis (linear regression method) to confirm an economic relation between the hedging instrument and the hedged item.

In the case of cash flows hedge accounting, the Group recognises:

- In other comprehensive income, the part of profits or losses related to the hedging instrument, which constitute an effective hedge due to the hedged risk.
- Within the equity in a separate position (hedging cost) in case of currency risk hedge, change in the fair value due to the forward element (including the cross-currency margin).
- In finance result the inefficient part of profits or losses related to the hedging instrument. In case of hedging cash flows from operating activities the ineffective part is recognises in other operating income/expenses, and in case of hedging cash flows of financing activities in finance income/costs and
- Reclassifies profits or losses from equity to the statement of profit or loss to the line, in which the hedged item is presented and
- Excludes profits or losses from equity and adjusts the initial value of the hedged item (if the realization of the hedged item results in the recognition of a non-financial asset e.g. an inventory).

In the case of fair value hedge (operating activity), changes in the fair value of the hedging instrument and the hedged item are recognised in the statement of profit or loss in the item other operating income/expenses.

The table below presents the impact of the implementation of IFRS 9 on the change in the classification and measurement of the Group’s financial assets as at 1 January 2018:

Financial instruments by class	Classification		Carrying amount	
	IAS 39	IFRS 9	IAS 39	IFRS 9
Financial assets measured at fair value through other comprehensive income	Available for sale	Measured at fair value through other comprehensive income	84	84
Trade	Loans and receivables	Measured at amortized cost	8,476	8,467
Derivatives not designated as hedge accounting	Measured at fair value through profit or loss	Measured at fair value through profit or loss	123	123
Cash flow hedging instruments	Hedging financial instruments	Hedging financial instruments	614	614
Cash and cash equivalents	Loans and receivables	Measured at amortized cost	6,244	6,244
Receivables on settled derivatives	Loans and receivables	Measured at amortized cost	126	126

The item of financial assets at fair value through other comprehensive income consists of equity instruments not held for trading, in accordance with IAS 39 classified as available for sale, which were measured by the Group at the purchase price less impairment allowances. The instruments were not acquired for trading in relation to the above, these assets are measured at fair value through other comprehensive income, without the option of subsequent transferring the result from these instruments to the financial result.

- **IFRS 15 Revenue from Contracts with Customers (IFRS 15)**

Selected accounting principles

The Group applies the principles of IFRS 15 in a five-step model in relation to the portfolio of contracts (or performance obligations) with similar characteristics, if the entity reasonably expects that the impact of the following principles on the financial statements will not significantly differ from the application of the following principles to individual contracts (or performance obligations).

Requirements to identify a contract with a customer

A contract with a customer meets its definition when all of the following criteria are met: the parties of the contract have approved the contract and are committed to perform their obligations; the Group can identify each party‘s rights regarding goods or services to be transferred; the Group can identify the payment terms for the goods or services to be transferred; the contract has commercial substance and it is probable that the Group will collect the consideration to which it will be entitled in exchange for the goods or services that will be transferred to the customer.

Identification of performance obligations

At contract inception the Group assesses the goods or services promised in the contract with a customer and identifies as a performance obligation each promise to transfer to the customer: goods or services (or a bundle of goods or services) that can be separated or groups of separate goods or services which are basically the same and for which the transfer to the customer is of the same nature.

Determination of the transaction price

The Group considers the terms of the contract and its customary business practices to determine the transaction price. The transaction price is the amount of consideration to which the Group expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties (for example: some sales taxes, fuel charges, excise taxes). The consideration promised in the contract with a customer may include fixed amounts, variable amounts or both.

To estimate variable consideration, the Group decided to apply the most probable value method for contracts with one value threshold and the expected value method for contracts with more value thresholds from which a rebate is granted to the customer.

Allocating the transaction price to individual performance obligations

The Group allocates the transaction price to each performance obligation (or distinct good or service) at an amount that reflects the amount of consideration to which the Group expects to be entitled in exchange for transferring the promised goods or services to the customer.

Recognition of revenue when performance obligations are satisfied

The Group recognises revenue when (or as) the Group satisfies performance obligations by transferring a promised good or service (i.e. an asset) to a customer (the customer obtains control of that asset). Revenues are recognised as amounts equal to the transaction price that has been allocated to a given performance obligation.

The Group transfers control of good or service over time and, therefore, satisfies a performance obligation and recognises revenues over time, if one of the following criteria is met:

- The customer simultaneously receives and consumes the benefits from performance as the Group performs.
- The asset is created or enhanced as a result of the performance, and the customer controls the asset as it is created or enhanced.
- As a result of the performance of the service, an alternative component for the Group is not created, and the Group has an enforceable right to payment for performance completed to date.

Impact of the implementation of IFRS 9 and IFRS 15 on the Group's consolidated financial statements as at 1 January 2018:

	IFRS / IAS applied	31 December 2017 Carrying amount	Change resulting from change in classification	Change resulting from change in measurement	1 January 2018 Carrying amount	1 January 2018 Impact on retained earnings
Financial assets available for sale	IAS 39	84	(84)	-	-	-
Financial assets measured at fair value through other comprehensive income	IFRS 9	-	84	-	84	-
Trade and other receivables	IAS39/IFRS 9	9,518	-	(10)	9,508	(10)
Other short-term liabilities due to loyalty programs	IAS 18	145	(145)	-	-	-
Other short-term liabilities due to prepaid cards	IAS 18	19	(19)	-	-	-
Other current liabilities due to advances on deliveries	IFRS 15	34	(34)	-	-	-
Liabilities from contracts with customers	IFRS 15	-	198	-	198	-
Deferred tax liabilities		1,095		1	1,096	1

The change in trade and other receivables results from the change in the measurement of impairment allowances estimated in accordance with IFRS 9, considering the requirements of the expected credit losses model.

The impact of the application of IFRS 15 on the items of the consolidated financial statements of the Group in 2018 compared to IAS 11, IAS 18 and related interpretations was immaterial.

IFRSs, announced and adopted by the European Union, not yet effective

- **IFRS 16 Lease (IFRS 16)**

Selected accounting principles

IFRS 16 Leases was published on 13 January 2016 and was adopted by the European Union on 31 October 2017.

In accordance with the requirements of IFRS, from 1 January 2019, the Group will apply the new Standard requirements regarding recognition, measurement and presentation of lease agreements. The application of the new Standard will be made in accordance with the transitional provisions contained in IFRS 16.

The Group will implement IFRS 16 using the modified retrospective approach, therefore, comparative information for the year 2018 will not be converted, and possible total effect of the first application of the new standard will be recognised as an adjustment to the opening balance of retained earnings on the day of first application.

Definition of lease

The Group currently applies the definition of a lease determined in accordance with IFRIC 4. As from 1 January 2019, the Group will be assessed whether the contract is or contains a lease based on the definition of leasing described in IFRS 16.

In accordance with IFRS 16, an agreement is a lease or contains a lease if it transfers the right to control the use of an identified asset for a given period in exchange for remuneration. In order to assess whether the contract provides the right to control over the use of an underlying asset for a given period, the Group assesses whether the client has the following rights for the entire period of use:

1. The right to obtain substantially all economic benefits from the use of the identified asset and
2. The right to manage the use of an identified asset.

The Group applies new guidelines for identifying a lease only for contracts that it has concluded (or amended) on the day of its first application, i.e. 1 January 2019 or after that date. Thereby, for all contracts concluded before 1 January 2019, the Group will apply the practical exemption provided for in IFRS 16, according to which the entity is not required to reassess whether the contract is a lease or contains a lease on the date of first application. The Group applies IFRS 16 only to contracts that were previously identified as leases in accordance with IAS 17 and IFRIC 4, instead.

Group as a lessee

In accordance with the current IAS 17 Leases, the Group classifies leasing contracts as a financial or operating lease based on an assessment of whether the entire risk and benefits resulting from ownership of the leased asset were transferred to the Group, as lessee. In accordance with IFRS 16, the Group recognises in the statement of financial position an asset item under the right of use and lease liability for most leases, except when IFRS 16 provides reliefs for recognition.

For leases not terminated on 1 January 2019, currently classified as operating leases, the Group recognises assets under the right of use and lease liabilities as follows

- The leasing liability measures in the current value of the remaining lease payments, discounted on the basis of the marginal interest rate for the given agreement on the date of the first application.
- The value of the right of use of the underlying asset components for individual lease agreements (separately for each contract), determined at a value equal to the lease liability.

Using the modified retrospective implementation method for IFRS 16, the Group used the following practical solutions for lease contracts previously classified as operating leases in accordance with IAS 17 and therefore includes the following types of contracts as costs:

- Lease agreements, the period of which ends up to 12 months from the date of the initial application of the Standard.
- Lease agreements for which the underlying asset under lease is of low value, ie not higher than USD 5 thousand for example: technical gas cylinders, coffee makers, other small items of equipment.

After the initial recognition, the Group measures the right to use an asset similar to other non-financial non-current assets and the lease liability similar to financial liabilities. As a result, after initial recognition, the Group recognises depreciation of an asset component under the right to use (except when the law meets the definition of investment property) and interest on the lease liability.

The initial valuation of both assets and liabilities is significantly affected by the determination of the leasing period. According to the definition of the leasing period in accordance with IFRS 16, this period includes the non-cancellable period and periods resulting from the option of renewal or termination option, if there is reasonable certainty that the Group will extend the contract or will not use the option of termination.

In addition, the Group made other subjective assessments when making estimates and assumptions that affect the measurement of lease liabilities and use rights to assets in the scope of:

- Determination of marginal interest rates used in discounting future cash flows.
- Indication of the useful lives of the use rights of the assets, recognised as at 1 January 2019.

- Structure of fixed and variable payments in the contract.

The marginal interest rates were determined as the sum of:

1. The risk-free interest rate based on the IRS (Interest Rate Swap) in accordance with the maturity of the discount rate and the relevant base rate for the given currency, and
2. The Group's credit risk premium based on the credit margin calculated taking into account the credit risk segmentation of all companies in which lease contracts have been identified.

For leases not terminated on 1 January 2019, which have been previously classified as finance leases in accordance with IAS 17, the carrying amount of the right to use component and leasing liabilities as at 1 January 2019 will be determined as the carrying amount of the asset leased and leasing liabilities immediately prior to that date measured in accordance with IAS 17.

The weighted average marginal interest rate of the lessee applied to the lease liabilities recognised in the statement of financial position as at 1 January 2019 amounted to 2.62%.

The impact on the financial statements as at the date of initial application is as follows:

The Group has estimated the impact of IFRS 16 and found that on 1 January 2019 the Group will recognise the right to use assets in the amount of PLN 3,316 million and the lease liability in the amount of PLN 3,352 million, what will cause a difference in value to the position of retained earnings in the amount of 4 PLN and recognizing receivables from subleases in the amount of PLN 32 million.

The main components that have been recognized as assets under the right of use are the perpetual useful rights to land, leased land for petrol stations and passenger service areas, buildings, office spaces, rail tankers and tankers, locomotives and passenger cars.

Group as a lessor

In respect to contracts in which the Group is the lessor, at the moment of implementation of IFRS 16 the Group does not make any adjustments. From 1 January 2019, the Group recognises a.m. contracts in accordance with IFRS 16.

Standards adopted by International Accounting Standards Board (IASB), waiting for approval by the European Union

- IFRS 14 - Regulatory Deferral Accounts.
- IFRS 17 - Insurance Contracts.
- Amendment to IFRS 3 - Business combinations.
- Amendments to IFRS 10 - Consolidated Financial Statements and IAS 28 - Investments in Associates and Joint Ventures: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture and further amendments.
- Amendments to IAS 1 - Presentation of financial statements and IAS 8 - Accounting policies, changes in accounting estimates and errors : Definition of Material.
- Amendments to IAS 19 - Employee Benefits: Plan Amendment, Curtailment or Settlement.
- Amendments to various standards due to “Improvements to IFRSs (cycle 2015-2017)” resulting from the annual improvement project of IFRS (IFRS 3, IFRS 11, IAS 12 and IAS 23) primarily with a view to removing inconsistencies and clarifying wording.
- Amendments to references to the conceptual framework in IFRS Standards.

The Group expects that the above standards will have no material impact on consolidated financial statements of ORLEN Group.

The Group intends to adopt new IFRS standards listed above that are published by the International Accounting Standards Board, but not effective as at the date of publication of the foregoing financial statements, in accordance with their effective date.

ORLEN Group's Structure

7.1. Group Structure

SELECTED ACCOUNTING PRINCIPLES

Principles of consolidation

The consolidated financial statements of the Group include assets, liabilities, equity, income, expenses and cash flows of the Parent Company and its subsidiaries that are presented as those of a single economic entity and are prepared as at the same reporting period as separate financial statements of the Parent Company and using uniform accounting principles in relation to similar transactions and other events in similar circumstances.

The subsidiaries are consolidated using full consolidation method, non-controlling interests shall be presented in the consolidated statement of financial position as non-controlling interest, separately from the equity of the owners of the Parent Company.

Joint operations by recognition of respective share in assets, liabilities, revenues and cost.

The joint ventures as well as investments in associates are accounted for under equity method. The Group's share in net profit or loss of the investee is recognised in the Group's profit or loss as other operating activity. For investments in associates - the Group has a significant influence if it holds, directly or indirectly (i.e. through subsidiaries), from 20% to 49% of the voting rights of an entity, unless it can be clearly stated otherwise.

PROFESSIONAL JUDGEMENT

Investments in subsidiaries and jointly controlled entities

The Group, regardless of the nature of its involvement in the entity (the entity in which it invested) defines its status by assessment, whether it controls the entity in which the investment was made, and whether it has a joint control in a joint venture, after consideration of all the facts and circumstances.

PKN ORLEN as the Parent Company is a multi-segment entity, appropriately allocated to all operating segments and corporate functions.

Name of entity	Parent company	Share in total voting rights		Consolidation method/Valuation method
		31/12/2018	31/12/2017	
Downstream Segment				
Grupa ORLEN Lietuva				
AB ORLEN Lietuva	PKN ORLEN S.A.	*100%*	*100%*	*full*
UAB Mazeikiu Naftos prekybos namai	AB ORLEN Lietuva	*100%*	*100%*	*full*
OU ORLEN Eesti	UAB Mezeikiu naftos prekybos namai	*100%*	*100%*	*full*
SIA ORLEN Latvija	UAB Mezeikiu naftos prekybos namai	*100%*	*100%*	*full*

UAB Emas	AB ORLEN Lietuva	*100%*	*100%*	*full*
UNIPETROL Group				
PARAMO, a.s.	UNIPETROL, a.s.	*100%*	*100%*	*full*
Paramo Oil, s.r.o.	PARAMO, a.s.	-	*100%*	*full*
UNIPETROL RPA, s.r.o.	UNIPETROL, a.s.	*100%*	*100%*	*full*
UNIPETROL Slovensko, s.r.o.	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
UNIPETROL Deutschland GmbH	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
UNIPETROL RPA Hungary Kft.	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
Spolana s.r.o.	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
UNIPETROL DOPRAVA, s.r.o.	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
PETROTRANS, s.r.o.	UNIPETROL RPA, s.r.o.	*100%*	*100%*	*full*
Butadien Kralupy a.s.	UNIPETROL, a.s.	*51%*	*51%*	*share in assets and liabilities*
Grupa Basell Orlen Polyolefins				
Basell ORLEN Polyolefins Sp. z o.o.	PKN ORLEN S.A.	*50%*	*50%*	*equity method*
Basell ORLEN Polyolefins Sprzedaż Sp. z o.o.	Basell ORLEN Polyolefins Sp. z.o.o.	*100%*	*100%*	*equity method*
ORLEN Południe Group				
ORLEN Południe S.A.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Energomedia Sp. z o.o.	ORLEN POŁUDNIE S.A.	*100%*	*100%*	*full*
Euronaft Trzebinia Sp. z o.o.	ORLEN POŁUDNIE S.A.	*100%*	*100%*	*full*
Konsorcjum Olejów Przepracowanych – Organizacja Odzysku S.A.	ORLEN POŁUDNIE S.A.	*89%*	*89%*	*full*
ORLEN Oil Group				
ORLEN Oil Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Platinum Oil Wielkopolskie Centrum Dystrybucji Sp. z o.o.[1]	ORLEN Oil Sp. z o.o.	*90%*	*67.49%*	*full*

ORLEN Asfalt Group				
ORLEN Asfalt Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*
ORLEN Asfalt Ceska Republika s.r.o.	ORLEN ASFALT Sp. z o.o.	*100%*	*100%*	*full*
ANWIL S.A.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Inowrocławskie Kopalnie Soli „Solino” S.A.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Kopalnia Soli Lubień Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*
ORLEN Paliwa Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*

Name of entity	Parent company	Share in total voting rights		Consolidation method/Valuation method
		31/12/2018	31/12/2017	
ORLEN Aviation Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
ORLEN Eko Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
Baltic Power Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
ORLEN KolTrans Sp. z o.o.[2]	PKN ORLEN S.A.	99.91%	99.88%	full
Ship-Service S.A.	PKN ORLEN S.A.	60.86%	60.86%	full
ORLEN Serwis S.A.	PKN ORLEN S.A.	100.00%	100.00%	full
Retail Segment				
AB Ventus-Nafta	PKN ORLEN S.A.	100%	100%	full
ORLEN Deutschland GmbH	PKN ORLEN S.A.	100%	100%	full
ORLEN Budonaft Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
ORLEN Centrum Serwisowe Sp. z o.o.	PKN ORLEN S.A.	99.33%	99.33%	full
UNIPETROL RPA, s.r.o.	UNIPETROL, a.s.	100%	100%	full
Upstream Segment				
ORLEN Upstream Group				

ORLEN Upstream Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*
ORLEN Upstream Canada Ltd.	ORLEN Upstream Sp. z o.o.	*100%*	*100%*	*full*
1426628 Alberta Ltd.	ORLEN Upstream Canada Ltd.	*100%*	*100%*	*full*
OneEx Operations Partnership	ORLEN Upstream Canada Ltd.	*100%*	*100%*	*full*
Pieridae Production GP Ltd	ORLEN Upstream Canada Ltd.	*50%*	*50%*	*equity method*
671519 NB Ltd	Pieridae Production GP Ltd	*1000%*	*100%*	*equity method*
KCK Atlantic Holdings Ltd.	ORLEN Upstream Canada Ltd.	*100%*	*100%*	*full*
Pieridae Production LP	KCK Atlantic Holdings Ltd.	*80%*	*80%*	*equity method*
FX Energy, Inc.	ORLEN Upstream Sp. z o.o.	*100%*	*100%*	*full*
Frontier Exploration, Inc.	FX Energy, Inc.	*100%*	*100%*	*full*
FX Energy Netherlands Partnership C.V.	FX Energy, Inc.	*100%*	*100%*	*full*
FX Energy Netherlands B.V.	FX Energy Netherlands Partnership C.V.	*100%*	*100%*	*full*
FX Energy Poland Sp. z o.o.	FX Energy Netherlands Partnership C.V.	*100%*	*100%*	*full*
Corporate Functions				
AB ORLEN Lietuva	PKN ORLEN S.A.	100%	100%	full
UNIPETROL Group				
UNIPETROL, a.s.	PKN ORLEN S.A.	*100%*	*62.99%*	*full*
UNIPETROL RPA, s.r.o.	UNIPETROL, a.s.	*100%*	*100%*	*full*
Unipetrol výzkumně vzdělávací centrum, a.s.	UNIPETROL, a.s.	*100%*	*100%*	*full*
HC Verva Litvinov, a.s.	UNIPETROL RPA, s.r.o.	70.95%	70.95%	full

ORLEN Administracja Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
ORLEN Capital AB	PKN ORLEN S.A.	100%	100%	full
ORLEN Centrum Usług Korporacyjnych Sp. z o.o.	PKN ORLEN S.A.	100%	100%	full
ORLEN Finance AB	PKN ORLEN S.A.	-	100%	full
ORLEN Holding Malta Group				
ORLEN Holding Malta Ltd.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Orlen Insurance Ltd.	ORLEN HOLDING MALTA Ltd.	*100%*	*100%*	*full*
ORLEN Ochrona Group				
ORLEN Ochrona Sp. z o.o.	PKN ORLEN S.A.	*100%*	*100%*	*full*
UAB Apsauga	ORLEN OCHRONA Sp. z o.o.	*100%*	*100%*	*full*
ORLEN Projekt S.A.	PKN ORLEN S.A.	*100%*	*99.77%*	*full*
ORLEN Laboratorium S.A.	PKN ORLEN S.A.	*100%*	*100%*	*full*
Płocki Park Przemysłowo-Technologiczny Group				
Płocki Park Przemysłowo-Technologiczny S.A. (PPPT S.A.)	PKN ORLEN S.A.	*50%*	*50%*	*equity method*
Centrum Edukacji Sp. z o.o.	PPPT S.A.	*69.43%*	*69.43%*	*equity method*

[1]*On 15 January 2019, tranforamtion of Platinum Oil Wielkopolskie Centrum Dystrybucji Sp. z o.o. to Platinum Oil Wielkopolskie Centrum Dystrybucji S.A. took place*

[2]*On 1 March 2019, transformation of ORLEN KolTrans Sp. z o.o. into a joint-stock company took place.*

Activity of core companies belonging to ORLEN Group

Name of entity	Headquarters	Principal activity
AB ORLEN Lietuva (including its own Capital Group)	Lithuania – Juodeikiai	crude oil processing, production of refining products and wholesale
UNIPETROL a.s. (including its own Capital Group)	Czech Republic – Prague	crude oil processing as well as manufacture and distribution of refinery, petrochemical and chemical products
ANWIL S.A.	Poland – Włocławek	production of nitrogen fertilizers, plastic and chemicals
ORLEN Południe S.A.	Poland – Trzebinia	crude oil processing, production and sale of biofuels, oils
ORLEN Oil Sp. z o.o.	Poland – Kraków	production, distribution and sale of grease oils, maintenance liquids
ORLEN Asfalt Sp. z o.o.	Poland – Płock	manufacture and sale of road bitumens and specific bitumen products
ORLEN Paliwa Sp. z o.o.	Poland – Płock	liquid fuels trade
Inowrocławskie Kopalnie Soli „SOLINO" S.A.	Poland – Inowrocław	storage of crude oil, fuels , extraction of brine and packaging of salt
ORLEN Upstream Sp. z o.o. (including its own Capital Group)	Poland – Warsaw	exploration and recognition of hydrocarbon deposits, extraction of crude oil and natural gas

7.2. Changes in shareholder structure of ORLEN Group

TYPE OF TRANSACTION/ENTITIES	TRANSACTION DATE	NUMBER OF AQUIRED/(SOLD) SHARES	SHARE IN TOTAL VOTING RIGHTS AFTER TRANSACTIONS
PURCHASE OF SHARES			
by PKN ORLEN in:			
ORLEN KolTrans Sp. z o.o.	2 February 2018	17	99.91%
ORLEN Projekt S.A.	9 August 2018	35	100.00%
Unipetrol a.s.	23 February 2018	56,280,592	94.03%
Unipetrol a.s.	1 October 2018	10,827,673	100.00%
SALE OF SHARES			
by PKN ORLEN in:			
Polish Sky Finance AB (before ORLEN Finance AB)	18 June 2018	5,000	0.00%
INCREASE IN SHARE CAPITAL AND SUBSCRIPTION OF SHARES			
by PKN ORLEN in:			
ORLEN Upstream Sp. z o.o.	8 August 2018	4,000	100.00%
Baltic Power Sp. z o.o.	26 November 2018	913	100.00%
CHANGE OF COMPANY'S LEGAL FORM			
from joint-stock to limited liability, i.e. from SPOLANA a.s. to SPOLANA s.r.o. (Unipetrol Group)	1 December 2018	-	100.00%
CHANGE OF ENTITIES NAMES			
from ORLEN Finance AB to Polish Sky Finance AB	17 April 2018	-	100%

Changes in the Group structure are an element of the strategy, assuming a focus on core activities and allocating the resulting available capital for development of the Group in the most prospective areas.

STRUCTURED ENTITIES

ORLEN Capital AB

The company’s business is raising funds through the issuance of bonds and other financial instruments for institutional and private investors. ORLEN Capital AB specializes in granting borrowings or loans to Group companies and conducts any other activities related to the financial instruments.

On 30 June 2014 and on 7 June 2016 ORLEN Capital AB issued Eurobonds with 7-year redemption of approximately of PLN 5,375 million translated using exchange rate as at 31 December 2018 (representing EUR 1,250 million).The funds obtained by ORLEN Capital through the issue were transferred to PKN ORLEN under the borrowing agreement. PKN ORLEN is the guarantor of the both issued bonds by an irrevocable and unconditional guarantees issued to the bondholders of PLN 9,030 million translated using exchange rate as at 31 December 2018 (representing of EUR 2.1 billion). The guarantees were granted for the time of the Eurobonds issues, until 30 June 2021 and 7 June 2023, respectively.

ORLEN Insurance Ltd.

ORLEN Insurance is an internal insurance company (i.e. captive), which main purpose is insurance and reinsurance the Group's business, matching insurance to the individual needs of its property and the potential loss of margin.

Segment's Data

9.1. Operating segments

DOWNSTREAM

- Production
- Refining and petrochemical sales
- Power Industry

UPSTREAM

- Exploration and extraction of mineral resources

RETAIL

- Fuel station activities

CORPORATE FUNCTIONS

- Management
- Administration
- Remaining activities, i.e. reconciling items

SELECTED ACCOUNTING PRINCIPLES

Assessments of the segments' financial results and decisions on allocation of resources are performed mainly on the basis of EBITDA. EBITDA is one of a measure of the efficiency of the activity, which is not defined in IFRS. The ORLEN Group defines EBITDA as net profit/(loss) for the reporting period before taking into account the impact of the income tax, effects of financing activities and depreciation costs.

Revenues from transactions with external customers and transactions with other segments are carried out on an arm's length basis.

9.2. Revenues, costs, financial results, investments expenditures

2018

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Adjustments	Total
External revenues	*10.1.1, 10.1.2*	71,663	37,339	605	99	-	109,706
Inter-segment revenues		18,074	135	-	431	(18,640)	-
Sales revenues		89,737	37,474	605	530	(18,640)	109,706
Operating expenses		(85,204)	(35,139)	(570)	(1,327)	18,640	(103,600)
Other operating income	*10.1.9*	1,593	114	271	172	-	2,150
Other operating expenses	*10.1.10*	(456)	(141)	(327)	(228)	-	(1,152)
(Loss)/reversal of loss due to impairment of financial instruments	*10.1.12*	(5)	(2)	-	(9)	-	(16)
Share in profit from investments accounted for under equity method	*10.2.4*	127	-	-	-	-	127
Profit/(Loss) from operations		**5,792**	**2,306**	**(21)**	**(862)**	**-**	**7,215**
Net finance income and costs	*10.1.11*						(104)
(Loss)/reversal of loss due to impairment of financial instruments	*10.1.12*						(1)
Profit before tax							**7,110**
Tax expense							(1,506)
Net profit							**5,604**
Depreciation and amortisation	10.1.8	**1,791**	**461**	**308**	**113**	**-**	**2,673**
EBITDA		**7,583**	**2,767**	**287**	**(749)**	**-**	**9,888**
CAPEX		**2,451**	**832**	**740**	**257**	**-**	**4,280**

2017

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Adjustments	Total
External revenues	*10.1.1, 10.1.2*	61,425	33,350	515	74	-	95,364
Inter-segment revenues		13,816	280	-	342	(14,438)	-
Sales revenues		75,241	33,630	515	416	(14,438)	95,364
Operating expenses		(68,410)	(31,986)	(540)	(1,132)	14,438	(87,630)
Other operating income	*10.1.9*	1,048	105	4	86	-	1,243
Other operating expenses	*10.1.10*	(194)	(133)	(145)	(96)	-	(568)
Share in profit from investments accounted for under equity method	*10.2.4*	247	-	1	-	-	248
Profit/(Loss) from operations		**7,932**	**1,616**	**(165)**	**(726)**	**-**	**8,657**
Net finance income and costs	*10.1.11*						60
Profit before tax							**8,717**
Tax expense							(1,544)
Net profit							**7,173**
Depreciation and amortisation	10.1.8	**1,568**	**422**	**318**	**113**	**-**	**2,421**
EBITDA		**9,500**	**2,038**	**153**	**(613)**	**-**	**11,078**
CAPEX		**2,925**	**678**	**778**	**221**	**-**	**4,602**

CAPEX (Capital expeditures) - increase of property, plant and equipment, intangible assets, investment property and perpetual usufruct of land together with the capitalisation of borrowing costs and a decrease on received/due penalties for improper execution of the contract

Explanatory notes to the statement of profit or loss and other comprehensive income

10.1.1. Sales revenues

SELECTED ACCOUNTING PRINCIPLES

Sales revenues

Sales revenues of goods and services are recognised at a point in time (or over time) a performance obligations by transferring a promised good or service (i.e. an asset) to a customer are satisfied. An asset is transferred when the customer obtains control of that asset. The following circumstances indicate the transfer of control in accordance with IFRS 15: the current right of the seller to consideration for an asset, the legal ownership of the asset by the customer, physical possession of the asset, transfer of risks and rewards and acceptance of the asset by the customer.
Revenues include received and due payments for delivered finished goods, merchandise, raw materials and services, decreased by the amount of any trade discounts and value added tax (VAT), excise tax and fuel charges. Revenues are measured at the fair value of the payment received or due.
Revenues from the sale of finished goods, merchandise, raw materials and services are adjusted for profits or losses from settlement of cash flows hedging instruments related to the above mentioned revenues.
Revenues and costs from services, which beginning and end fall within different reporting periods, are recognised by reference to the stage of completion of the service, when the outcome of a contract can be valuated reliably, in other cases, revenues are recognised only to the extent of costs incurred to the date, but not higher than the costs that the Group expects to recover.

PROFESSIONAL JUDGMENT

Based on analyses of contractual clauses in sales contracts, the Group identified the agency model mainly in the area of LPG sales and non-fuel merchandise sales by ORLEN Deutschland to customers network.The loyalty program VITAY liability, arises at the time of sales of goods and services at own and franchise petrol stations for each single sale transaction and in case of purchase by the Group’s customers in partner’s e-Shops and consists in calculating points entitling to discounts on future purchases. A ratio of 68.5% is adopted to recognise liability taking into account the possibility of its on realisation, based on empirical data of points used compared to those issued to the customer in the last 36 months.The Group provides marketing services to suppliers when purchasing merchandise. The Group assessed, that marketing services provided to suppliers are inseparably linked to the purchase of these merchandise, hence revenues from service reduce costs related to their purchase and release for sale.

	NOTE	2018	2017
Revenues from sales of finished goods and services, net		91,014	72,915
revenue from contracts with customers		*90,792*	-
excluded from scope of IFRS 15		*222*	-
Revenues from sales of merchandise and raw materials, net		18,692	22,449
revenue from contracts with customers		*18,692*	-
Sales revenues, incl.:		**109,706**	**95,364**
revenue from contracts with customers	*10.1.4 – 10.1.7*	*109,484*	-

Contracts excluded from the scope of IFRS 15 refer to lease agreements

Performance obligations

As part of the concluded contracts, the Group commits to transfer refining, petrochemical products and goods, energy, crude oil and gas to customers mainly. Under these agreements the Group acts as a principal. Transaction prices in existing contracts with customers are not restricted.

There are no significant contracts in force in the Group, which allow for obligations to accept returns, pay reimbursements and other similar obligations. There is no significant financing component in contracts with customers. The Group does not identify revenues for which the payment of consideration is contingent.

The guarantees provided under the contracts ensure are guarantees that assure the customer that the good meet complies with the established specification. They do not rely on the performance of distinct service.

In the Downstream segment, there are mainly sales with deferred payment. In the Retail segment, there are both cash sales with a deferred payment date performed by using a fuel cards entitling customers to continuous purchase in the network of petrol stations. Settlements with customers take place in two-week periods (so-called Fleet Cards).

Usually payment is due after transferring good or service. In contracts with Downstream and Retail segments' customers, payment dates not exceeding 30 days are used in most cases, while in the Upstream segment not exceeding 60 days.

The variability of consideration in contracts with customers is connected mainly with volume rebates.

Macroeconomic environment

ORLEN Group operates in the conditions of a changing macroeconomic environment. The economic situation, the labour market and macroeconomic trends have a significant impact on the level of consumption of fuels and petrochemical products, and consequently on sales volume and sales prices. The Downstream segment margin is mainly affected by the dynamic of crude oil prices. Crude oil prices are shaped by factors such as changes in demand, extraction and inventories of crude oil and fuels.

The main economic indicator - GDP, determined by consumption, capital expenditures and exports, allows to assessing at what stage the economy is located. The changes in the GDP index are usually correlated with changes in the unemployment rate and fuel consumption. The general condition of the economy, measured among other things by the level of GDP, affects present and future consumer behaviour.

Breakdown of revenues from contracts with customers by different criteria

The Group divides revenues from contracts with customers by:

- Type of good or service.
- Geographical region.
- Contract type.
- Date of transfer.
- Duration of the contract.
- Sales channel.

In the Group's opinion the above breakdown allows to best acquaint the reader with nature, amount, receiving dates and uncertainty related to revenues and cash flows resulting from contracts with customers.

10.1.2. Sales revenues by operating segments in division on assortments

	2018
Downstream Segment	
Revenue from contracts with customers IFRS 15	**71,568**

Light distillates	12,925
Medium distillates	34,787
Heavy fractions	7,339
Monomers	3,260
Polymers	2,643
Aromas	1,096
Fertilizers	825
Plastics	1,409
PTA	1,528
Other*	5,756
Excluded from scope of IFRS 15	**95**
	71,663
Retail Segment	
Revenue from contracts with customers IFRS 15	**37,232**
Light distillates	14,266
Medium distillates	19,879
Other**	3,087
Excluded from scope of IFRS 15	**107**
	37,339
Upstream Segment	
Revenue from contracts with customers IFRS 15	**605**
NGL***	337
Crude oil	95
Natural Gas	168
Other	5
	605

Corporate Functions	
Revenue from contracts with customers IFRS 15	**79**
Excluded from scope of IFRS 15	**20**
	99
	109,706

	2017
Downstream Segment	
Light distillates	12,071
Medium distillates	28,325
Heavy fractions	5,691
Monomers	2,994
Polymers	2,557
Aromas	1,100
Fertilizers	805
Plastics	1,466
PTA	1,399
Other*	5,017
	61,425
Retail Segment	
Light distillates	13,086
Medium distillates	16,471
Other**	3,793
	33,350
Upstream Segment	

NGL***	249
Crude oil	62
Natural Gas	196
Other	8
	515
Corporate Functions	**74**
	95,364

**Others mainly include: brine, industrial salt, vacuum distillates, acetone, ammonia, butadiene, phenol, technical gases, caprolactam, soda lye and sulphur. In addition, they include revenues from sale of services and materials.*
***The line Other in retail segment includes mainly sale of non-fuel merchandise*
****NGL (Natural Gas Liquids)*

In 2018 and 2017 no leading customers were identified in the Group, for which turnover individually would exceed 10% of total ORLEN Group sales revenues

10.1.3. Sales revenue geographical division - disclosed by customer's premises countries

	NOTE	2018	2017	Share % 2018	Share % 2017
Revenue from contracts with customers					
Poland		49,800	41,831	45.4%	43.9%
Germany		16,776	16,964	15.3%	17.8%
Czech Republic		14,461	13,085	13.2%	13.7%
Lithuania, Latvia, Estonia		10,995	7,797	10.0%	8.2%
Pozostałe kraje		17,452	15,687	15.9%	16.4%
		109,484	95,364	99.8%	100.0%
excluded from scope of IFRS 15					
Poland		117	-	0.1%	-
Czech Republic		104	-	0.1%	-
Lithuanua, Latvia, Estonia		1	-	-	-
		222		0.2%	
	9.2, 10.1.1	**109,706**	**95,364**	**100.0%**	**100.0%**

The line Other countries comprises mainly sales to customers from Switzerland, Singapore, Ukraine, Slovakia, Hungary, United Kingdom, the Nederlands and Irleand.

10.1.4. Revenue from contracts with customers by type of contract

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Total
Based on fixed price contracts		68,010	37,228	605	40	105,883
Based on variable price contracts		3,528	-	-	-	3,528
Based on time and materials consumption		30	4	-	39	73
	10.1.1	**71,568**	**37,232**	**605**	**79**	**109,484**

The customer has the right to discounts, penalties, which constitute in accordance with IFRS 15 an element of variable consideration. The Group recognises revenue in the amount of consideration, to which – in line with expectations- will be entitled and which will not be reversed in the future. Consequently, it does not recognise revenue, that may change due to granted discounts and penalties imposed.

10.1.5. Revenue from contracts with customers by date of transfer

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Total
At a point in time		50,965	19,267	-	15	70,247
Over time		20,603	17,965	605	64	39,237
	10.1.1	**71,568**	**37,232**	**605**	**79**	**109,484**

The transfer of control as the moment of revenue recognition under IFRS 15 is a broader concept than the transfer of risks and rewards, hence the moment of revenue recognition may change. As part of the Downstream segment, in the scope of sales of petrochemical and refinery products, the Group recognises revenue from satisfaction of performance obligation, depending on the terms of delivery (Incoterms) used. In case of some deliveries the Group is obliged to organize transport and/or insurance. When the control of good passes to the customer before the transport is performed, the delivery of goods and transport (and possibly insurance) are separate performance obligation. The delivery of goods is an obligation satisfied at a point in time, while the transport is a continuous obligation (satisfied over time). In case of transport and insurance, the customer receives simultaneously and consumes the benefits from the service.

In the Retail segment, the moment of satisfied a performance obligation is the moment of transfer of good, excluding sales of fuels using Fleet Cards.

In the case of sales transferred over time the Group recognises revenues at least on a monthly basis, where settlements between parties to the contract take place periodically and reflect the amount to receive consideration that the Group has right for transfer of goods and services to the customer. Within the Downstream segment revenues mainly relate to sale of energy and heat and sale of fuels using Fleet cards within Retail segment and sale of gas and crude oil within the Upstream segment.

10.1.6. Revenue from contracts with customers by duration of contract

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Total
Short-term		70,961	37,228	605	40	108,834
Long-term		607	4	-	39	650
	10.1.1	**71,568**	**37,232**	**605**	**79**	**109,484**

The duration of contracts is short-term in the Group. Revenues on services for which start and end dates fall in different reporting periods (long-term contracts) are recognised based on the stage of service completion, if the result on the transaction can be reliably estimated. Long-term contracts that remain unfulfilled in full as at the balance sheet date relate i.a. to construction and assembly contracts, energy sales.

10.1.7. Revenue from contracts with customers by sales channel

	NOTE	Downstream Segment	Retail Segment	Upstream Segment	Corporate Functions	Total
Direct sales		3	37,220	-	-	37,223
Other sales		71,565	12	605	79	72,261
	10.1.1	**71,568**	**37,232**	**605**	**79**	**109,484**

The Group realizes sales directly to end customers in the Retail segment managing the network close to 2,803 fuel stations: its 2,255 own stations and 548 stations operated under franchise agreements.
The Group sales to customers in the Downstream segment are carried out using a network of complementary infrastructure components: fuel terminals, land transhipment bases, pipeline networks, as well as rail transport and tanker trucks.

10.1.8. Cost by nature

SELECTED ACCOUNTING PRINCIPLES

Costs

Cost of sales includes costs of finished goods, merchandise, services and raw materials sold and adjustments related to inventories written down to net realizable value.
Costs are adjusted for profits or losses from settlement of cash flow hedging instruments related to the above mentioned costs.
Distribution expenses include selling brokerage expenses, trading expenses, advertising and promotion expenses as well as distribution expenses.
Administrative expenses include expenses relating to management and administration of the Group as a whole.

	2018	2017	% share	
			2018	2017
Materials and energy	(75,789)	(57,277)	72.7%	64.7%
Cost of merchandise and raw materials sold	(16,484)	(20,500)	15.8%	23.2%
External services	(4,593)	(4,218)	4.4%	4.8%
Employee benefits, incl.:	(2,628)	(2,391)	2.5%	2.7%
payroll expenses	*(2,041)*	*(1,857)*	*2.1%*	*2.2%*
social security expenses	*(450)*	*(407)*	*0.4%*	*0.5%*
Depreciation and amortisation	(2,673)	(2,421)	2.6%	2.7%
Taxes and charges	(1,540)	(1,204)	1.5%	1.4%
Other	(543)	(524)	0.5%	0.5%
	(104,250)	**(88,535)**	**100.0%**	**100.0%**
Change in inventories	479	688		
Cost of products and services for own use	171	217		
Operating expenses	**(103,600)**	**(87,630)**		
Distribution expenses	4,745	4,327		
Administrative expenses	1,590	1,537		
Cost of sales	**(97,265)**	**(81,766)**		

10.1.9. Other operating income

	2018	2017
Profit on sale of non-current non-financial assets	17	40
Reversal of provisions	34	55
Reversal of receivables impairment allowances	-	42
Reversal of impairment allowances of property, plant and equipment and intangible assets and other non-current assets	1,228	77
Penalties and compensations	327	842
Settlement and valuation of derivative financial instruments related to operating exposure	204	-
Ineffective part related to valuation and settlement of operating exposure	99	-
Settlement of hedging costs	24	-
Other, incl.:	217	187
received/due energy certificates	*147*	*132*
	2,150	**1,243**

The line Reversal of impairment allowances of property, plant and equipment and intangible assets and other non-current assets in 2018 concerned mainly the reversal of impairment allowances on non-current assets in the downstream segment in Unipetrol Group in the amount of PLN 906 million and in the Upstream segment in Upstream Group in the amount of PLN 254 million.

On 13 August 2015 the steam cracker unit accident in Unipetrol Group took place. As a result of arrangements with insurers, the final amount of compensation was determined to cover reconstruction costs of installations and lost business profits, therefore in 2018 the Group recognised in the line penalties and compensation the amount of PLN 264 million. The inflow of cash from this title occurred in the 3rd quarter of 2018.

In 2017 the line penalties and compensations includes amounts of claims settlement in Unipetrol Group due to the accident on installation FCC of May 2016 in the amount of PLN 211 million and due to the steam cracker unit accident of August 2015 in the amount of PLN 442 million and includes penalties for improper execution of the contract of the CCGT Włocławek installation of PLN 97 million.

The total value of compensation due to the steam cracker unit accident in Unipetrol Group recognised under in other operating income in 2016 - 2018 amounted to PLN 1,986 million.

10.1.10. Other operating expenses

	2018	2017
Loss on sale of non-current non-financial assets	(47)	(49)
Recognition of provisions	(54)	(46)
Recognition of receivables impairment allowances	-	(35)
Recognition of impairment allowances of property, plant and equipment and intangible assets and other non-current assets	(524)	(246)
Penalties, damages and compensations	(17)	(26)
Settlement and valuation of derivative financial instruments related to operating exposure	(215)	-
Ineffective part related to valuation and settlement of operating exposure	(106)	-
Other, incl.:	(189)	(166)
donations	*(71)*	*(38)*
updated of property rights provision	*(25)*	*(5)*
	(1,152)	**(568)**

In 2018 the line recognition of impairment allowances of property, plant and equipment and intangible assets and other non-current assets concerned mainly recognition of impairment allowances on non-current assets in the downstream segment in Unipetrol Group in the amount of PLN (165) million and in the Upstream segment in the amount of PLN (272) million.

Beginning from 1 January 2018 the Group presents settlement and valuation of derivatives not designated as hedge accounting and the ineffective part of hedged derivatives related to hedging exposures to risk related to operating activities in other operating income and expenses. In previous period, the Group presented the above transactions within finance income and costs. Comparative data were not converted due to their immaterial impact. As a result of changes in the presentation, the Group recognises both changes in the value of the hedged item and the effects of hedging transactions within the result from operations.

In 2018 the net positions of valuation and settlement of derivative financial instruments related to operating exposure (non-designated instruments for hedge accounting purposes) amounted to PLN (11) million, mainly related to commodity swaps which hedge the risk of price changes in oversize inventories, future products sales, including those by fixed price.

In 2018 the net positions of ineffective part concern operating exposure amounted to PLN (7) million and concern mainly commodity swaps hedged risks mentioned above and risk connected with sea crude oil purchases.

10.1.11. Finance income and costs

10.1.11.1. Finance income

	2018	2017
Interest calculated using the effective interest rate method	39	50
Net foreign exchange gain	-	645
Dividends	4	4
Settlement and valuation of derivative financial instruments	1,287	1,025
Reversal of receivables impairment allowances	-	2
Other	83	34
	1,413	**1,760**

10.1.11.2. Finance costs

	2018	2017
Interest calculated using the effective interest rate method	(195)	(197)
Interest on lease	(9)	(8)
Interest on tax liabilities	(3)	(119)
Net foreign exchange loss	(353)	-
Settlement and valuation of derivative financial instruments	(850)	(1,330)
Recognition of receivables impairment allowances	-	(1)
Other	(107)	(45)
	(1,517)	**(1,700)**

In 2018 the net positions of valuation and settlement of derivative financial instruments (non-designated instruments for hedge accounting purposes instruments within risk related to financing activities exposure) amounted to PLN 437 million and concerned mainly hedging the risk of changes in exchange rates in accordance to deposits and payments in foreign currency and hedging of interest rates and payment of bonds interests.
The line other in finance income and finance costs mainly includes transaction differences in currency purchases.

10.1.11.3. Interest, net

	NOTE	2018	2017
Finance income and costs of net interest presented in statement of profit or loss and other comprehensive income	*10.1.11.1 10.1.11.2*	**(165)**	**(155)**
Adjustments to profit before tax of net interest presented in statement of cash flows		**203**	**204**
interest paid concerning financing activities		*231*	*234*
accrued interest concerning investing and financing activities		*(28)*	*(30)*
Net interest concerning operating activities not adjusting profit before tax		(38)	(49)

10.1.11.4. Foreign exchange gain/(loss)

	NOTE	2018	2017
Foreign exchange gain/(loss) surplus presented in statement of profit or loss and other comprehensive income	*10.1.11.1 10.1.11.2*	**(353)**	**645**
Adjustments to profit before tax of foreign exchange differences presented in statement of cash flows		**319**	**(233)**
realized foreign exchange differences concerning investing and financing activities		*44*	*90*
unrealized foreign exchange differences concerning investing and financing activities		*304*	*(363)*
foreign exchange differences on cash		*(29)*	*40*
Foreign exchange differences concerning operating activities not adjusting profit before tax		(34)	412

10.1.12. (Loss)/reversal of loss due to impairment of financial instruments

	2018
(Loss) due to impairment of receivables	(76)
Reversal of loss due to impairment of receivables	60
(Loss) due to impairment of interest on receivables	(2)
Reversal of loss due to impairment of interest on receivables	1
	(17)

10.1.13. Tax expense

SELECTED ACCOUNTING PRINCIPLES

Income tax expenses

Income tax expenses (tax expense) include current tax and deferred tax. Current tax expense is determined in accordance with the relevant tax law based on the taxable profit for a given period and is recognised as a liability, in the amount which has not been paid or receivable, if the amount of the current and prior periods income tax paid exceeds the amount due the excess is recognised.
Deferred tax assets and liabilities are accounted as non-current and are not discounted. They are offset on the level of particular financial statements of the Group companies when there is a legally enforceable right to set off the recognised amounts.

	2018	2017
Tax expense in the statement of profit or loss		
Current tax expense	(1,181)	(1,329)
Deferred tax	(325)	(215)
	(1,506)	**(1,544)**
Deferred tax recognised in other comprehensive income		
Hedging instruments	(3)	(175)
Actuarial gains and losses	4	2
	1	**(173)**
	(1,505)	**(1,717)**

10.1.13.1. Reconciliation of effective tax rate

	2018	2017
Profit before tax	**7,110**	**8 717**
Tax expense by the valid tax rate in Poland (19%)	(1,351)	(1,656)
Differences between tax rates	(35)	25
Lithuania (15%)	*6*	*41*
Germany (29%, 48%)	*(43)*	*(18)*
Canada (27%)	*2*	*2*
Deferred tax provision on capital gains in ORLEN Capital	(112)	-
Tax losses	16	31
Impairment allowances of property, plant and equipment and intangible assets	(23)	7
Investments accounted for under equity method	24	47
Other	(25)	2
Tax expense	**(1,506)**	**(1,544)**
Effective tax rate	**21%**	**18%**

As at 31 December 2018 and as at 31 December 2017, the Group had unsettled tax losses in the total amount of PLN 1 057 million and PLN 314 million, respectively mainly relating to the Upstream Group, for which no deferred tax asset was recognised due to the lack of certainty regarding possible settlement of those losses in the future.

10.1.13.2. Deferred tax

	31/12/2017	Impact of IFRS 9 adoption	Deferred tax recognised in profit or loss	Deferred tax recognised in other comprehensive income	Exchange differences on translating foreign operations	31/12/2018
Deferred tax assets						
Impairment allowances	269	1	(156)	-	9	**123**
Provisions and accruals	317	-	58	1	2	**378**
Tax losses	322	-	31	-	1	**354**
Valuation of derivative financial instruments	19	-	7	-	-	**26**
Other	109	-	(3)	3	-	**109**
	1,036	**1**	**(63)**	**4**	**12**	**990**
Deferred tax liabilities						
Temporary differences related to non-current assets	1,801	-	275	-	16	**2,092**
Unrealized foreign exchange	14	-	56	-	-	**70**
Valuation of derivative financial instruments	102	-	(8)	3	-	**97**
Other	165	-	(61)	-	2	**106**
	2,082	**-**	**262**	**3**	**18**	**2,365**
	(1,046)	**1**	**(325)**	**1**	**(6)**	**(1,375)**

	31/12/2016	Deferred tax recognised in profit or loss	Deferred tax recognised in other comprehensive income	Exchange differences on translating foreign operations	31/12/2017
Deferred tax assets					
Impairment allowances	495	(60)	-	(1)	434
Provisions and accruals	222	96	-	(1)	317
Tax losses	493	(153)	-	(18)	322
Valuation of derivative financial instruments	78	18	(77)	-	19
Other	(30)	136	2	1	109
	1,258	**37**	**(75)**	**(19)**	**1,201**
Deferred tax liabilities					
Temporary differences related to non-current assets	1,772	197	-	(3)	1,966
Unrealized foreign exchange	-	14	-	-	14
Valuation of derivative financial instruments	-	4	98	-	102
Other	128	37	-	-	165
	1,900	**252**	**98**	**(3)**	**2,247**
	(642)	**(215)**	**(173)**	**(16)**	**(1,046)**

As at 31 December 2018 deferred tax assets and liabilities amounted to PLN 70 million and PLN 1,445 million, respectively.

10.1.13.3. Income tax (paid)

	NOTE	2018	2017
Tax expense on profit before tax	*10.1.13.1*	**(1,506)**	**(1,544)**
Change in deferred tax asset and liabilities		329	404
Change in current tax receivables and liabilities		149	(328)
Deferred tax recognised in other comprehensive income	*10.1.13.2*	1	(173)
Deferred tax as a result of adoption of IFRS 9	*10.1.13.2*	1	-
Liability for withholding tax		-	57
Foreign exchange differences		(13)	(19)
		(1,039)	**(1,603)**

Explanatory notes to the statement of financial position

10.2. Explanatory notes to the statement of financial position

10.2.1. Property, plant and equipment

SELECTED ACCOUNTING PRINCIPLES

Property, plant and equipment

Property, plant and equipment shall be measured initially at acquisition or production cost and shall be presented in the statement of financial position in its net carrying amount, including grants. Property, plant and equipment are stated in the statement of financial position at the net book value which is the amount at which an asset is initially recognised (cost) less accumulated depreciation and any accumulated impairment losses, as well as received grants for assets.

The costs of significant repairs and regular maintenance programs are recognised as property, plant and equipment.
Fixed assets are depreciated with straight-line method and in justified cases units of production method of depreciation (catalysts, assets arising from development and extraction of mineral resources).
Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately over the period reflecting its useful lives.
The following standard useful lives are used for property, plant and equipment:

- *Buildings and constructions 10-40 years*
- *Machinery and equipment 4-35 years*
- *Vehicles and other 2-20 years*

The method of depreciation, residual value and useful life of an asset are reviewed at least at the end of each year. When it is necessary adjustments of depreciation are carried out in subsequent periods (prospectively).

Grants

Grants are recognised if there is reasonable assurance that the grants will be received and the entity will comply with the conditions attaching to them.
Grants related to assets are recognised as a decrease of a carrying amount of an asset and as a result a decrease of depreciation and amortisation charges over its useful life.

Exploration and extraction of mineral resources

Within the framework of exploration and extraction of mineral resources, the following classification of stage was made:

Stage of exploration and assessment of mineral resources include:

- *Acquisition of rights to explore and extract, exploration and recognition of resources.*
- *Expenditures for exploratory.*
- *Other expenditures which are directly attributable to the phase of exploration and recognition - The Group capitalizes most of the costs incurred as part of this stage.*

The Group shall review annually expenditures incurred in the stage of exploration and recognition of mineral resources in order to confirm the intention of further work. The analyzes are carried out at the level of projects, including works with a defined exploratory and/or prospective purpose, which are conducted in the assigned area. If the work is unsuccessful, resulting in a lack of intention to continue the work, the cost previously recognised as an asset are recognised as cost of a current period.
Expenditures incurred in the exploration and recognition of resources are recognised as assets related to development and extraction of mineral resources within property, plant and equipment at the moment of the conclusion of their technical feasibility and economic viability of mining which are tested for impairment.

Stage of site planning and of extraction of mineral resources

Expenditure incurred for mineral resource sites planning and extraction of resources are capitalized and amortised by unit of production method calculated proportionally to the amount of extraction of hydrocarbons based on unit of installation. The Group calculates the depreciation of all assets related to sites planning and extraction of mineral resources based on so called proved plus probable reserves.
In case of significant change in estimated mineral resources, at the reporting date potential impairment allowances are recognised or reversed.
In case of performance of exploratory drillings on already extracted resource, the Group analyses, if costs incurred enable rising new boreholes. If not, the expenditures are recognised in costs of the current period.

PROFESSIONAL JUDGEMENTS

Expenditures for exploration and evaluation of mineral resources

Application of the Group's accounting policy for expenditures for exploration and evaluation of mineral resources requires an assessment, whether future economic benefits resulting from future extraction or sale are possible or if indications allowing to estimate the resources does not yet exist. When estimating the resources, the Group assesses future events and circumstances, including the assessment whether the extraction will be economically feasible.

ESTIMATES

Useful lives of property, plant and equipment

The Group verifies useful lives of property, plant and equipment once at year end. The impact of verification of useful lives in 2018 resulted in a decrease of depreciation costs by PLN 82 million compared to depreciation costs that were recognised based on useful lives applied in 2017.

Exploration and evaluation of mineral resources

The Group estimates resources based on interpretation of available geological data and verifies then on the current basis, based on effects of further drills, trial exploitation, actual extraction and economic factors such as: hydrocarbons' prices, contractual terms or investment plans.
At the end of each reporting period the Group analyses cost of removal of wells and supporting infrastructure.

Remediation of land – water environment

The Group estimates the level of provisions related to non-current assets, which to a significant probability are needed for land – water environment remediation of the territory of petrol stations, fuel depots and areas of production plants. Detailed information in *note 10.2.10.1**.*

	Land	Buildings and constructions	Machinery and equipment	Vehicles and other	Construction in progress	Exploration and evaluation of mineral resource assets	Assets related to development and extraction of mineral resources	Total
Net carrying amount at 01/01/2018								
Gross carrying amount	1,166	21,838	37,489	2,152	4,267	1,049	5,666	**73,627**
Accumulated depreciation	(11)	(9,521)	(19,741)	(1,315)	-	(24)	(1,392)	**(32,004)**
Impairment allowances	(38)	(2,239)	(8,559)	(107)	(110)	(538)	(792)	**(12,383)**

allowances								
Grants	-	(51)	(113)	(4)	(1)	-	-	
	1,117	**10,027**	**9,076**	**726**	**4,156**	**487**	**3,482**	**29,071**
increases/(decreases), net								
Investment expenditures	-	142	79	58	3,156	237	503	4,175
Depreciation	(1)	(687)	(1,369)	(206)	-	(9)	(312)	(2,584)
Borrowing costs	-	22	26	(2)	(23)	-	-	
Net impairment allowances, incl.: *	5	605	885	17	(31)	(69)	53	1,465
Recognition	*(1)*	*(102)*	*(68)*	*(5)*	*(69)*	*(114)*	*(158)*	
Reversal	*6*	*505*	*410*	*7*	*14*	*44*	*210*	*1,196*
Reclassifications	12	1,236	1,685	287	(3,973)	-	(99)	
Grants	-	3	(25)	1	1	-	-	
Foreign exchange differences, incl.:	19	56	107	13	55	(3)	(12)	
foreign exchange differences of impairment allowances	*(1)*	*(68)*	*(553)*	*(5)*	*(4)*	*(1)*	*3*	
Other	(4)	(25)	(46)	(36)	(10)	(1)	(1)	
	1,148	**11,379**	**10,418**	**858**	**3,331**	**642**	**3,614**	**31,390**
Net carrying amount at 31/12/2018								
Gross carrying amount	1,193	23,634	40,384	2 376	3,476	1,281	6,045	**78 389**
Accumulated depreciation	(11)	(10,505)	(21,601)	(1,420)	-	(31)	(1,695)	**(35 263)**
Impairment allowances	(34)	(1,702)	(8,227)	(95)	(145)	(608)	(736)	**(11 547)**
Grants	-	(48)	(138)	(3)	-	-	-	
	1,148	**11,379**	**10,418**	**858**	**3,331**	**642**	**3,614**	**31 390**

Net carrying amount at 01/01/2017								
Gross carrying amount	1,164	20,837	37,950	2,110	4,707	986	5,307	**73,061 Total**
Accumulated depreciation	(12)	(8,805)	(19,582)	(1,283)	-	(27)	(1,036)	**(30,745)**
Impairment allowances	(37)	(2,531)	(10,338)	(145)	(146)	(495)	(778)	**(14,470)**
Grants	-	(52)	(117)	(5)	(1)	-	-	
	1,115	**9,449**	**7,913**	**677**	**4,560**	**464**	**3,493**	**27,671**
increases/(decreases), net								
Investment expenditures	-	106	66	55	3,460	107	653	4,447
Depreciation	(1)	(649)	(1,188)	(180)	-	(12)	(321)	(2,351)
Borrowing costs	-	29	83	1	(66)	2	-	
Acquisition of subsidiary	-	10	1	3	-	-	-	
Net impairment allowances, incl.: *	-	160	441	25	25	(43)	(96)	
Recognition	-	*(73)*	*(16)*	*(6)*	*(6)*	*(44)*	*(96)*	
Reversal	-	*63*	*7*	*1*	*6*	-	-	
Reclassifications	20	968	2,048	211	(3,765)	(22)	48	
Grants	-	1	4	1	-	-	-	
Sale of subsidiary	-	-	-	-	-	-	-	
Foreign exchange differences, incl.:	(18)	(29)	(99)	(25)	(31)	(4)	(293)	
foreign exchange differences of impairment allowances	*(1)*	*132*	*1,338*	*13*	*11*	-	*82*	*1,575*
Other	1	(18)	(193)	(42)	(27)	(5)	(2)	
Net carrying amount at 31/12/2017	**1,117**	**10,027**	**9,076**	**726**	**4,156**	**487**	**3 482**	**29,071**

**In 2018 and in 2017 the increases/(decreases) net of impairment allowances include recognition, reversal, usage and reclassifications. Description of the reasons for changes in major impairment allowances is presented in the* *note 10.2.5.*

In the 4th quarter of 2018 investments expenditures were reduced by PLN 219 million received/due to penalties for delayed execution of the investment contracts.

In 2018 and 2017 the capitalization rate used to calculate borrowing costs amounted to 0.76% and 1.05%, respectively.
The gross carrying amount of all fully depreciated property, plant and equipment still in use as at 31 December 2018 and as at 31 December 2017 amounted to PLN 4,844 million and PLN 5,044 million, respectively.

10.2.2. Intangible assets

SELECTED ACCOUNTING PRINCIPLES

Intangible assets

An intangible asset shall be measured initially at acquisition or production cost and shall be presented in the statement of financial position in its net carrying amount, including grants.
Intangible assets with the finite useful life are amortised using straight-line method. Amortization shall begin when the asset is available for use i.e. when it is in the location and condition necessary for it to be capable of operating in the manner intended by management.
Standard useful lives of intangible assets are from 2 to 10 for software and from 2 to 15 years for concessions, licenses, patents and similar.
The amortization method and useful life of intangible asset item are verified at least at the end of each year.

Goodwill

Goodwill acquired in a business combination from the acquisition date, shall be allocated to each of the acquirer's cash-generating units (CGU), that is expected to benefit from the synergies of the combination.
After combination the acquirer shall measure goodwill in the amount recognised at the acquisition date less any accumulated impairment allowances.
A cash-generating unit to which goodwill has been allocated shall be tested for impairment annually, and whenever there is an indication that the unit may be impaired

Rights

The main item of rights is CO_2 emission rights, not amortised, tested for impairment.
Granted emission allowances are presented as intangible assets in correspondence with deferred income at fair value as at the date of registration. Purchased allowances are presented at purchase price.
For the estimated CO_2 emission during the reporting period, a provision is created (taxes and charges).
Grants are recognised on a systematic basis in each reporting period to ensure proportionality with the relevant costs of the created reserve.
Outgoing of allowances is recognised using FIFO method (First In, First Out).
Rights also include energy certificates.

ESTIMATES

Useful lives of intangible assets

The Group verifies useful lives of intangible assets once at year end with effect from the beginning of next year. The impact of verification of useful lives in 2018 resulted in an decrease of depreciation costs by PLN 9 million compared to depreciation costs that were recognised based on useful lives applied in 2017.

Change in internally generated intangible assets

As at 31 December 2018 and as at 31 December 2017 internally generated intangible assets amounted to PLN 101 million and PLN 82 million, respectively.

Change in other intangible assets

	Patents, trade marks and licenses	Goodwill	Rights	Other	Total
Net carrying amount at 01/01/2018					
Gross carrying amount	1,602	374	746	113	**2,835**
Accumulated amortisation	(1,112)	(19)	-	(38)	**(1,169)**
Impairment allowances	(104)	(306)	(58)	(5)	**(473)**
Grants	(3)	-	-	-	**(3)**
	383	**49**	**688**	**70**	**1,190**
increases/(decreases), net					
Investment expenditures	10	-	-	39	49
Amortisation	(83)	-	-	(2)	(85)
Borrowing costs	-	-	-	1	1
Net impairment allowances, incl.: *	39	-	1	5	45
Reversal	*29*	-	-	*2*	*31*
Foreign exchange differences, incl.:	7	1	1	(1)	8
foreign exchange differences of impairment allowances	*(2)*	-	-	-	*(2)*
Other**	62	-	2	(50)	14
	418	**50**	**692**	**62**	**1,222**
Net carrying amount at 31/12/2018					
Gross carrying amount	1,717	374	749	105	**2,945**
Accumulated amortisation	(1,229)	(18)	-	(43)	**(1,290)**
Impairment allowances	(67)	(306)	(57)	-	**(430)**

Grants	(3)	-	-	-	**(3)**
	418	**50**	**692**	**62**	**1,222**
Net carrying amount at 01/01/2017					
Gross carrying amount	1,521	384	886	101	**2,892**
Accumulated amortisation	(1,055)	(19)	-	(59)	**(1,133)**
Impairment allowances	(107)	(315)	(59)	(6)	**(487)**
Grants	(3)	-	-	-	**(3)**
	356	**50**	**827**	**36**	**1,269**
increases/(decreases), net					
Investment expenditures	9	1	-	72	82
Amortisation	(73)	-	-	3	(70)
Borrowing costs	-	-	-	1	1
Net impairment allowances, incl.: *	(1)	-	1	2	2
Recognition	*(1)*	-	-	-	*(1)*
Foreign exchange differences, incl.:	(3)	(2)	-	-	(5)
foreign exchange differences of impairment allowances	*4*	*9*	-	*(1)*	*12*
Other**	95	-	(140)	(44)	(89)
Net carrying amount at 31/12/2017	**383**	**49**	**688**	**70**	**1,190**

*In 2018 and in 2017 increases/(decreases) net of impairment allowances include recognition, reversal, usage and reclassifications.
Description of the reasons for changes in major impairment allowances is presented in the *note 10.2.5.*
**Other net increases/(decreases) of property rights consist mainly granted free of charge for 2018 and 2017 and settlement of rights for 2017 and 2016 and relocation of colour energy allowances to non-current assets held for sale.

The gross carrying amount of all fully amortised intangible assets still in use as at 31 December 2018 and as at 31 December 2017 amounted to PLN 582 million and PLN 540 million, respectively.

10.2.2.1. Rights

Changes in owned CO_2 emission rights for 2018

	Quantity (in thous. tonnes)	Value
01/01/2018	29,477	677
Received free of charge	7 841	363
Emission settlement for 2017	(14,342)	(374)
Purchase/(Sale), net	(504)	-
Impairment allowances	-	1
Foreign exchange differences	-	1
	22,472	**668**
CO_2 emission in 2018	14,918	728

The market value of owned EUA rights exceeds their total carrying amount, therefore the Group does not identify impairment indicators.
As at 31 December 2018 the market value of one EUA amounted to PLN 105.95 (representing EUR 24.64 at exchange rate as at 31 December 2018) (source*:* www.theice.com).

The rights to colour energy (energy certificates) recognised in the line rights as at 31 December 2018 and as at 31 December 2017 amounted to PLN
24 million and PLN 11 million, respectively. In 2018, the Group granted free of charge rights to energy certificates in the amount of PLN 150 million and recognised PLN 147 million in other operating income and PLN 3 million as a correction of capital expenditures.

Additionally, as at 31 December 2018 and as at 31 December 2017 the Group recognised CO_2 emission rights in the amount PLN 25 million and PLN 10 million, respectively and rights to colour energy in the amount PLN 61 million and PLN 60 million, respectively in the line trade and other receivables (note 10.2.6.2).

10.2.3. Assets by operating segments and by geographical area

10.2.3.1. Assets by operating segments

	31/12/2018	31/12/2017
Downstream Segment	46,129	42,159
Retail Segment	6,974	6,511
Upstream Segment	4,175	3,839
Segment assets	**57,278**	**52,509**
Corporate Functions	6,914	8,206
Adjustments	(51)	(51)
	64,141	**60,664**

Operating segments include all assets except for financial assets, tax assets and cash. Assets used jointly by the operating segments are allocated based on revenues generated by individual operating segments.

10.2.3.2. Non-current assets by geographical area

			% share	
	2018	**2017**	**2018**	**2017**
Poland	20,202	20,055	61.3%	65.6%
Germany	979	922	3.0%	3.0%
Czech Republic	7,663	5,966	23.3%	19.5%
Lithuania, Latvia, Estonia	1,110	831	3.3%	2.7%
Canada	2,982	2,788	9.1%	9.2%
	32,936	**30,562**	**100.0%**	**100..0%**

Non-current assets by geographical area include property, plant and equipment (note 10.2.1), intangible assets (note 10.2.2), investment property and perpetual usufruct of land (note 10.2.9).

10.2.4. Investments in jointly controlled entities

PROFESSIONAL JUDGEMENT

Based on its own judgment, taking into account its rights, obligations, considering the structure, legal form and the terms of the agreement agreed by the parties, the Group assessed that BOP, PPPT and Pieridae Production constitute a joint contractual arrangement whereby PKN ORLEN exercises joint control over them. The agreements give all shareholders a joint control over the companies, decisions related to significant operations require the unanimous approval of all shareholders, and the legal form of separate entities does not give shareholders the right to their assets and obligations to repay liabilities. In relation to above, the Group classified BOP, PPPT and Pieridae Production as joint ventures that are accounted for under equity method in the

	Place of business	Principal activity	Valuation method
joint ventures			
Basell ORLEN Polyolefins Sp. z o.o. (BOP)	Płock/Poland	production, distribution and sales of poliolefins	equity method
Płocki Park Przemysłowo-Technologiczny (PPPT)	Płock/Poland	construction and renting real estate	equity method
Pieridae Production GP Ltd (Grupa ORLEN Upstream)	Calgary/Canada	exploration and extraction of minerals, storage, transport and logistics	equity method
joint operations			
Butadien Kralupy a.s. (Unipetrol Group)	Kralupy nad Vltavou/Czech Republic	manufacturing of butadien	share in assets and liabilities

The ORLEN Group in accordance with IFRS 11 classified Butadien Kralupy a.s. in as joint operations. Based on Article association of Butadien Kralupy a.s, the Group has the right to proportionate share of the income and bears a proportionate share in the costs of joint operations. As a result, the Group recognises its share (51%) in assets, liabilities, revenues and costs.

ORLEN Upstream Group has participated in the following joint operations:

- Consortium (Blue Gas – Polish Shale Gas program) founded by ORLEN Upstream (OU), Polskie Górnictwo Naftowe i Gazownictwo (PGNIG), LOTOS Petrobaltic and University of Science and Technology (Akademia Górniczo-Hutnicza), Institue of Oil and Gas (Instytut Nafty i Gazu), Gdansk University of Technology, Warsaw University of Technology. Works under the Blue Gas program - Polish Shale Gas were completed, projects settled in both material and financial terms.The program aims to manufacture and commercialize the technology and gain knowledge for the extraction of shale gas in Poland. The cooperation was summarized in all 6 of 10 notified projects. The total contribution of ORLEN Upstream in the implementation of the above projects amounted to PLN 24 million. Applications were collected that provides grounds for applying for patent rights for developed solutions.
- Exploration – extraction projects carried out together with PGNiG (the search areas „Sieraków" – 49% share of ORLEN Upstream, "Bieszczady" – 49% share of ORLEN Upstream and through subsidiary FX Energy Poland the search areas "Płotki" – 49% share of FX Energy Poland). The agreements provide the conduct of joint operations and activities in the field of exploration, prospection and extraction of crude oil and natural gas.

ORLEN Upstream Group has the right to proportionate share of the income and bears a proportionate share in the costs of joint operations.

Investments accounted for under equity method

	31/12/2018	31/12/2017
Joint ventures, incl.:	644	709
Basell ORLEN Polyolefins Sp. z o.o.	*612*	*677*
Associates	6	6
	650	**715**

Share in profit from investments accounted for under equity method

	2018	2017
Joint ventures, incl.:	127	248
Basell ORLEN Polyolefins Sp. z o.o.	*127*	*248*
	127	**248**

Condensed financial information of Basell ORLEN Polyolefines Sp. z o.o.

	31/12/2018	31/12/2017
Non-current assets	835	845
Current assets	1,234	1,242
cash	*345*	*329*
other current assets	*889*	*913*
Total assets	**2,069**	**2,087**
Total equity	**1,269**	**1,375**
Non-current liabilities	49	50
Current liabilities, incl.:	751	662
trade and other liabilities	*729*	*646*
Total liabilities	**800**	**712**
Total equity and liabilities	**2,069**	**2,087**
Net debt	**(345)**	**(329)**
Net assets	1,269	1,375
Group's share in joint ventures (50%)	635	688
Consolidation adjustments	(23)	(11)
Joint ventures investments accounted for under equity method	**612**	**677**

	2018	2017
Sales revenues	3,425	3,526
Cost of sales, incl.:	(2,981)	(2,809)
depreciation and amortisation	*(78)*	*(86)*
Gross profit on sales	**444**	**717**
Distribution expenses	(92)	(94)
Administrative expenses	(22)	(23)
Other operating income and expenses, net	2	-
Profit from operations	**332**	**600**
Net finance income and costs	12	(12)
Profit before tax	**344**	**588**
Tax expense	(66)	(113)
Net profit	**278**	**475**
Total net comprehensive income	**278**	**475**
Net cash from operating activities	**503**	**427**
Net cash (used) in investing activities	**(102)**	**(41)**
Net cash (used) in financing activities	**(385)**	**(497)**
Dividends received from joint ventures	**192**	**248**
Net profit	278	475
Group’s share in joint ventures (50%)	139	238
Consolidation adjustments	(12)	10
Group’s share in result of joint ventures accounted for under equity method	**127**	**248**

In 2018 and 2017, there were no significant restrictions in associates and joint ventures resulting from loans agreements, regulatory requirements and other contractual agreements that would restrict access to assets and settlement of liabilities of the Group.

10.2.5. Impairment of property, plant and equipment and intangible assets

SELECTED ACCOUNTING PRINCIPLES

Impairment of property, plant and equipment and intangible assets
At the end of the reporting period, the Group assesses whether there are indicators that an asset or cash-generating unit (CGU) may be impaired or any indicators that the previously recognised impairment should be reversed.
Assets that do not generate the independent cash flows are grouped on the lowest level on which cash flows, independent from cash flows from other assets, are generated (CGU). If such case occurs, the recoverable amount is determined on the CGU level, to which the asset belongs.
Recognition and reversal of impairment allowances of property, plant and equipment and intangible assets is recognised in other operating activity.

ESTIMATES AND JUDGMENTS

Impairment of property, plant and equipment and intangible assets
The Management Board assesses whether there is any indicator for impairment of an assets or cash generating unit. As part of the analysis of indications, both external factors - including primarily the macroeconomic environment as well as internal environment are analyzed - including strategic decisions, financial projections and operational plans. If there is any indicator for impairment, the estimation of recoverable amount of an asset is made.

As at 31 December 2018, an impairment indicators were identified in the ORLEN Group in accordance with IAS 36 “Impairment allowances of assets” related to the approval on 20 December 2018 The Strategy of the ORLEN Group for the years 2019-2022 ("Strategy") by the Management Board and the Supervisory Board of PKN ORLEN.
The detailed information on key pillars and directions of development has been presented in document available on the PKN ORLEN website.
The assumptions of the ORLEN Group Strategy are focused on ensuring raw material security, strengthening market position and customer relationships, using the integrated value chain to pursuit of operational excellence and maintaining readiness for market and regulatory challenges. An important element of the strategy is also the attitude to support innovation and development infrastructure, focus on safety and care for the environment and the surroundings.
The macroeconomic assumptions were based on analyses and recommendations of renowned global advisors, including IHS Markit, Nexant, JBC Energy, PVM, EIA, Platts, Continuum Economics, Wood Mackenzie Chemicals, observations of main competitors and expert knowledge of the ORLEN Group.

The Mid-Term Plan approved in the framework of the ORLEN Group Strategy in the perspective of 2019-2020 assumes an increase in crude oil prices by USD 18 / bbl as compared to the average from 2017 - 2018 from the previous Strategy. The assumed increase in the price of crude oil is a consequence of the growing demand with limited possibilities of supply growth.
The Mid-Term Plan in the perspective of 2019-2020 assumes the increase of the model downstream margin, among others due to the tightened limits of sulphur content in bunker fuel, (so-called IMO effect - regulations of the International Maritime Organization). Compared to the average for 2017-2018 from the previous Strategy, this increase is 2.2 USD / bbl and is next to the discount rate a positive factor affecting the valuation of production assets. In the long term perspective, the Group expects adjustment of the market and return of the margins to historical levels.
The Mid-Term Plan in 2019-2020 assumes a model average petrochemical margin of 808 EUR / t. In comparison to the previous strategy, in which for 2017-2018, petrochemical margins were assumed at the level of 793 EUR / t, the currently forecasted level is by 15 EUR / t higher.
These create favorable macroeconomic conditions for investment processes and allows full use of production assets.

Assets of the Upstream segment located both in Poland and Canada have been assessed by independent companies using current knowledge and geological techniques, engineering and computer software.
For the assessment of production assets in ORLEN Upstream Canada, the Reserve Report was prepared (valuation of the concession assessing the production potential of the assets). For exploration rights for extraction were valued (valuation based on their production potential and the expected level of raw material prices, the so-called Assessment of Non-Reserve Lands). They are the basis for the assessment of fair value.
The actual reports revealed a significant increase in the level of production potential relative to the last resource verification by 40%.

The assessment of the prospects of exploited deposits and discoveries of oil and gas in Poland was made on the basis of the Reserve Report prepared by a reputable European adviser. The actual report revealed a significant increase in the level of exploration reserves compared to the last resource verification by 13%.

Decisions on impairment of expenditures incurred for individual exploration and recognition projects are made in case of a negative assessment of the perspectives of the area.

Due to the lack of a reliable estimate of the price, at which would have taken place potential transaction to sale the assets of the Group as the recoverable value of its individual assets is its value in use, according to IAS 36.20. The Upstream segment assets test was performed by reference to the fair value reduced by the costs of reclamation.
The fair value is based on the expected discounted cash flows generated by a single CGU (Cash Generating Unit) until the end of extraction. The valuation is based largerly on non-market input data (valuation level 3, as defined in IFRS13 - Fair value measurement) – mainly these are forecasts for future oil and gas prices, and evaluation of the production potential of the reserves.

The impairment tests were performed on the basis of assets of the ORLEN Group as at 31 December 2018 and net cash flows projected in the approved within the Strategy the Mid-term Plan or in the mentioned above reports, discounted to their present value using the discount rates which reflect the current market value of money and the specific risks to the valued assets. Discount rates were calculated as the weighted average cost of engaged equity and debt. Sources of macroeconomic indicators necessary to determine the discount rate were published by prof. Aswath Damodaran (source: http://pages.stern.nyu.edu) and government bonds quotation available as at 31 December 2018.

The discount rate structure used in the impairment tests of assets by cash-generating unit of ORLEN Group as at 31 December 2018

	Poland				Czech Republic			Lithuania		Canada	Germany
	Refining	Petrochemical	Retail	Upstream	Refining	Petrochemical	Retail	Refining	Retail	Upstream	Retail
Cost of equity	11.94%	10.56%	10.28%	12.49%	10.98%	9.61%	9.33%	14.08%	12.09%	10.56%	6.99%
Cost of debt after tax	3.00%	3.00%	3.00%	3.00%	2.27%	2.27%	2.27%	4.17%	4.17%	2.06%	0.78%
Capital structure	0.55	0.38	1.14	1.11	0.55	0.38	1.14	0.55	1.14	0.55	1.14
Nominal discount rate	**8.77%**	**8.46%**	**6.40%**	**7.51%**	**7.89%**	**7.57%**	**5.56%**	**10.56%**	**7.86%**	**7.54%**	**3.68%**
Long-term rate of inflation	2.50%	2.50%	2.50%	2.50%	2.10%	2.10%	2.10%	2.10%	2.10%	2.00%	1.80%

The Group identifies significant drops in discount rates relative to the verification of the value of the ORLEN Group assets that took place on December 31, 2016 and when the update of the ORLEN Group Strategy for 2017-2021 adopted by the Management Board and Supervisory Board of the ORLEN Group Strategy on December 15, 2016 was the indicator.

The discount rate structure used in the impairment tests of assets by cash-generating unit of ORLEN Group as at 31 December 2016

	Poland				Czech Republic			Lithuania		Canada	Germany
	Refining	Petrochemical	Retail	Upstream	Refining	Petrochemical	Retail	Refining	Retail	Upstream	Retail
Cost of equity	15.40%	14.70%	17.65%	15.13%	11.88%	11.21%	14.07%	15.26%	17.83%	8.91%	11.10%
Cost of debt after tax	2.37%	2.37%	2.37%	2.37%	1.56%	1.56%	1.56%	4.27%	4.27%	1.70%	0.88%
Capital structure	0.60	0.29	1.12	1.24	0.60	0.29	1.12	0.60	1.12	0.47	1.12
Nominal discount rate	**10.50%**	**11.93%**	**9.57%**	**8.06%**	**8.00%**	**9.04%**	**7.45%**	**11.13%**	**10.65%**	**6.60%**	**5.69%**
Long-term rate of inflation	1.38%	1.38%	1.38%	1.38%	1.98%	1.98%	1.98%	1.84%	1.84%	1.78%	1.50%

We observe that the reduction of the expected rates of return on investment is a consequence of structural changes taking place in the global economy and the fact that we are entering a group of developed markets. The sustainable business strategies characteristic for this group require extending the horizon of return on investment, which is consistent with the reduction of discount rates. The nominal risk free rate is reduced. The GDP indicator is in the same direction, which is the result of, among others structural changes in demography, the maturing of economies, the developing process of better use of existing assets, the so-called sharing economy, as well as the growing share of the services in the entire GDP basket.

Net impairment allowances of property, plant and equipment and intangible assets

	2018	2017
ORLEN Upstream	(18)	(140)
Grupa Unipetrol	741	(12)
ORLEN Asfalt	-	(8)
Other	(13)	(5)
	710	**(165)**

As a result, in 2018, the Group recognized the total net reversal effect on impairment losses on assets in the amount of PLN 710 million.

The Unipetrol Group reversed impairments on assets in the net amount of PLN 741 million resulting from the identification of a significant excess of the value in use of the downstream segment over its assets. As a result, the Unipetrol Group recorded the net reversal of impairment on the assets of the Refining segment in the amount of PLN 656 million, Petrochemical in the amount of PLN 85 million (including 50 mln PLN which was alocated to other segments, mainly to Corporate Functions). As part of the tests, discount rates of 7.89% were applied for refining assets of the Unipetrol Group and 7.57% for the petrochemical assets of the Unipetrol Group, which in line with the general market trend are lower than the rates recognized as at 31 December 2017 by -

0.97p.p. and -0.88p.p.

The positive impact on the valuation of the value in use of assets allowing for the reversal of historically established impairments in Unipetrol Group included, among others: reduction of discount rates, improvement of model refining and petrochemical margins, in relation to the previous strategy, planned commencement in 2019 of the new installation for the production of PE3 polyethylene in Litwinow increasing the production of higher-margin polyethylene.

The value in use of the assets of the downstream segment in the Unipetrol Group:

Refining	4,179
Petrochemical	5,535
	9,714

In 2018, the ORLEN Upstream Group assessed the prospects of concessions located in Poland and identified the premises for carrying out a test of the value of production assets in Poland based on the Reserve Report prepared by an independent company. As a result, it recognized an impairment of PLN (207) million (including PLN 100 million relating to upstream assets in the Płotki project, PLN 82 million due to the prospects for prospecting exploration licenses - mainly the Karbon project and PLN 25 million other exploration assets - materials) and reversals of impariment in the amount of PLN 45 million (mainly assets from exploration under the Płotki project). The value of non-current assets of the segment in Poland was updated with a net value of PLN (162) million.
In addition, the Group received a report prepared as at 31 December 2018 allowing the estimation of the fair value of assets for the development and extraction of mineral resources in Canada, which was prepared by an independent company. The ORLEN Upstream Group recognized impairments and reversals of imairments based on a reserve report, reversal of impairments in connection with the sale of upstream assets in Canada and impairments of assets from exploration. The total value of recognized impairments amounted to PLN (65) million (including cash-generating units: mainly Kaybob PLN 53 million, Peace River Oil PLN 3 million, Central Alberta Gas PLN 2 million, other PLN 7 million exploration assets), and reversals of impairments 209 PLN million (including cash generating units: mainly Ferrier PLN 145 million, Peace River Gas PLN 56 million and Southern Alberta PLN 8 million). The value of non-current assets of the segment in Canada has been updated with a net value of PLN 144 million.
The total effect of recognized allowances of impairments and reversals of impairment losses on the non-current assets of the ORLEN Upstream Group in 2018 is PLN (18) million.

Fair value of the Upstream segment's assets in the Upstream Group:

ORLEN Canada	5,841
FX Energy Poland	539
ORLEN Upstream Poland	314
	6,694

The remaining impairments concerned the revaluation of assets mainly in the area of the retail segment by fuel stations.
The Group did not identify any impairment of other assets of the ORLEN Group.

Sensitivity analysis of the downstream segment of the Unipetrol Group assets value in use within an impairment test performed as at 31 December 2018

	in PLN million	EBITDA		
DISCOUNT RATE	**change**	**-5%**	**0%**	**5%**
	- 1 p.p.	*lack of impact*	*lack of impact*	*lack of impact*
		-	-	-
	0.0 p.p.	*decrease of reversal*	-	*lack of impact*
		(398)		-
	+ 1 p.p.	*decrease of reversal*	*decrease of reversal*	*lack of impact*
		(812)	(405)	-

Sensitivity analysis of the Upstream Group assets value in use within an impairment test performed as at 31 December 2018

	in PLN million	EBITDA		
DISCOUNT RATE	**change**	**-5%**	**0%**	**5%**
	- 1 p.p.	*increase in allowance*	*decrease in allowance*	*decrease in allowance*
		(59)	81	214
	0.0 p.p.	*increase in allowance*	-	*decrease in allowance*
		(135)		136
	+ 1 p.p.	*increase in allowance*	*decrease in allowance*	*decrease in allowance*
		(204)	(74)	56

Net impairment allowances of property, plant and equipment and intangible assets in 2017

As at 31 December 2017, the Group identified in accordance with IAS 36 “Impairment allowances of assets” impairment indicators of exploration assets in FX Energy Poland in Upstream Group and impairment indicators of Orlen Asfalt assets due to the closure of the modified bitumen production plant in Trzebinia.

As at 31 December 2017 as a result of an independent valuation of the exploration assets, an impairment allowances of exploration assets of FX Energy Poland of PLN (97) million was recognized. The value in use of exploration assets was estimated at the discount rate of 8.69% and amounted to PLN 501 million.

Sensitivity analysis of the FX Energy Poland exploration assets value in use within an impairment test performed as at 31 December 2017

	in PLN million	HYDROCARBONS PRICES		
	change	**-5%**	**0%**	**5%**
DISCOUNT RATE	**- 0.5 p.p.**	*increase in allowance*	*decrease in allowance*	*decrease in allowance*
		(25)	10	35
	0.0 p.p.	*increase in allowance*	-	*decrease in allowance*
		(42)		24
	+ 0.5 p.p.	*increase in allowance*	*decrease in allowance*	*decrease in allowance*
		(59)	(18)	14

Additionally, in the 3rd quarter of 2017, as a result of the decision to partially narrow the exploration area of ORLEN Upstream Group in Poland, an impairment of exploration and recognition of mineral resources assets of FX Energy Poland of PLN (43) million was recognised.
The total influence of impairment allowances on exploration assets in FX Energy Poland on the financial result in 2017 on the Upstream segment amounted to PLN (140) million.
Other impairment allowances recognised in 2017 concerned mainly the impairment of assets in the Unipetrol Group in the amount of PLN (12) million for impairment of the Retail segment and ORLEN Asfalt in the amount of PLN (8) million in the Downstream segment.

10.2.6. Net working capital

Net working capital

The Group defined net working capital as: inventories and trade and other receivables decreased by trade and other liabilities.

	NOTE	Inventories	Trade and other receivables	Trade and other liabilities	Net working capital
31/12/2017		**12,440**	**9,518**	**14,469**	**7,489**
31/12/2018		**14,362**	**10,479**	**13,697**	**11,144**
Change in working capital in the statement of financial position		**(1,922)**	**(961)**	**(772)**	**(3,655)**
Adjustments		**193**	**(108)**	**511**	**596**
Change in rights and advances for non-financial non-current assets	*10.2.6.2*	-	*(6)*	-	*(6)*
Change in investment liabilities	*10.2.6.4*	-	-	*368*	*368*
VAT on investment liabilities		-	-	*42*	*42*
Withholding tax		-	*(55)*	*55*	-
Foreign exchange differences		*193*	*(35)*	*16*	*174*
Other		-	*(12)*	*30*	*18*
Change in working capital in the statement of cash flows		**(1,729)**	**(1,069)**	**(261)**	**(3,059)**

10.2.6.1. Inventories

SELECTED ACCOUNTING PRINCIPLES

Inventories
Inventories, including mandatory reserves comprise products, semi-finished products and work in progress, merchandise and materials.
Finished goods, semi-finished products and work in progress are measured initially at production cost. Production costs include costs of materials and costs of conversion for the production period of finished goods, semi-finished products as well as work in progress and systematic allocation of fixed and variable production overheads estimated for its normal level.
Finished goods, semi-finished products and work in progress shall be measured at the end of the reporting period at the lower of cost or net realizable value.
Outgoings of finished goods, semi-finished products and work in progress are determined based on the weighted average cost of production.
Merchandise and materials are measured initially at acquisition cost, while as at the end of the reporting period merchandise and raw materials are measured at the lower of cost or net realizable value. Outgoings of merchandise and raw materials are determined based on the weighted average acquisition cost.
The initial value of inventories is adjusted for their profits or losses from settlement of cash flow hedging instruments.
Impairment tests for specific items of inventories are carried out at the end of each month. Write-down to net realizable value concerns inventories that are damaged or obsolete and the selling price have fallen. Raw materials held for use in the production are not written down below acquisition or production cost if the products in which they will be incorporated are expected to be sold

at or above cost.
However, when a decline in the price of materials indicates that the cost of the products exceeds net realizable value, the materials are written down to net realizable value.
Recognition and reversal of impairment allowances of inventories is recognised in cost of sales.

ESTIMATES

Net realizable values from sale of inventories
The inventory impairment allowances required estimation of the net realizable values based on the most recent sales prices at the moment of estimations.

	31/12/2018	31/12/2017
Raw materials	8,330	6,911
Semi - finished goods and work in progress	1,403	1,289
Finished goods	4,012	3,566
Merchandise	617	674
Inventories, net	**14,362**	**12,440**
Impairment allowances of inventories to net realisable value	301	134
Inventories, gross	**14,663**	**12,574**

The main item of inventories, which is realized by more than 12 months after the end of the reporting period are mandatory reserves. As at 31 December 2018 and as at 31 December 2017 the value of mandatory reserves presented in consolidated financial statements amounted to PLN 5,607 million and PLN 4,262 million, respectively.

Change in impairment allowances of inventories to net realizable value

	2018	2017
At the beginning of the period	134	158
Recognition	215	119
Reversal	(26)	(54)
Usage	(29)	(77)
Foreign exchange differences	7	(12)
	301	**134**

In 2018 and 2017 the recognition and reversal of net impairment allowances of inventories to net realizable value related mainly to the downstream segment and amounted to PLN (189) million and PLN (65) million, respectively.

10.2.6.2. Trade and other receivables

SELECTED ACCOUNTING PRINCIPLES

Receivables

Receivables, including trade receivables, are recognised initially at a fair value and subsequently, at amortised cost using the effective interest rate including expected credit loss. The Group applies simplified methods of valuation of receivables measured at amortized cost if it does not distort information included in the statement of financial position, in particular when the period until the repayment date is not long.

ESTIMATES

Impairment of trade and other receivables

As default the Group recognises that the customers do not meet obligations after 90 days from maturity of receivables.
For the purpose of estimating the expected credit loss, the Group uses the provision matrix, which was estimated based on historical levels of repayment and recoveries from receivables from customers. The Group includes information on the future in parameters used in the expected loss estimation model, through the management adjustment of the basic default probability rates. The Group does not monitor changes in the credit risk during life of instrument. From 1 January 2018 the Group estimates the expected credit loss until maturity of instrument.

	NOTE	31/12/2018	31/12/2017
Trade receivables, incl.:		9,299	8,476
from contracts with customers		*9,270*	-
Other		128	161
Financial assets		**9,427**	**8,637**
Excise tax and fuel charge		131	120
Other taxation, duties, social security and other benefits		190	216
Advances for non-current non-financial assets		156	178
Prawa majątkowe		86	70
Rights		99	70
Advances for deliveries		390	227
Prepayments		**1,052**	**881**
Receivables, net		**10,479**	**9,518**
Expected credit loss	*10.2.6.2.1*	430	-
Receivables impairment allowance	*10.2.6.2.1*	-	448
Receivables, gross		**10,909**	**9,966**

Division of financial assets denominated in foreign currencies is presented in note 10.3.5.2. Division of receivables from related

parties is presented in note 10.4.6.2.
The Group expects that the trade and other receivables by contractors will be realized no later than twelve months after the end of the reporting period.

10.2.6.2.1. Change in expected credit loss of trade and other receivables

	NOTE	2018
01/01/2018 (approved data)		448
Impact of IFRS 9 adoption		10
01/01/2018 (converted data)		458
Recognition	*10.1.12*	78
Reversal	*10.1.12*	(71)
financial		*(61)*
non-financial		*(10)*
Usage		(39)
Foreign exchange differences		4
		430

Change in impairment allowances of trade and other receivables

	NOTE	2017
01/01/2017		479
Recognition	*10.1.10*, *10.1.11.2*	36
Reversal	*10.1.9*, *10.1.11.1*	(44)
Usage		(20)
Foreign exchange differences		(3)
		448

10.2.6.2.2. Ageing analysis of trade receivables and expected credit loss as at 31 December 2018

	Trade receivables, gross value	Expected credit loss (in horizon of whole life)	Weighted average rate of expected credit loss	Trade receivables, net value
current	8,838	16	0.0018	8,822
from 1 to 30 days	407	2	0.0049	405
from 31 to 60 days	31	8	0.2581	23
from 61 to 90 days	6	1	0.1667	5
more than 90 days past due	418	374	0.8947	44
	9,700	**401**		**9,299**

Detailed information about credit risk is presented in note 10.3.5.4.

10.2.6.3. Non-current assets classified as held for sale

	31/12/2018	31/12/2017
Pouce Coupe area*	108	-
Energy rights	90	72
Items of non-current assets	4	3
	202	**75**

**The transaction was finalized on 3 January 2019. The assets were valued in accordance with IFRS 5 at fair value (according to the sales price), therefore in 2018 an impairment allowances in the amount of PLN (6) million, was created.*

10.2.6.4. Trade and other liabilities

SELECTED ACCOUNTING PRINCIPLES

Liabilities

Liabilities, including trade liabilities, are initially measured at fair value and subsequently, at amortised cost using the effective interest rate method.

The Group applies simplified methods of valuation of liabilities measured at amortized cost if it does not distort information included in the statement of financial position, in particular when the period until settlement of the liability is not long.

	31/12/2018	31/12/2017
Trade liabilities	7,275	7,901
Investment liabilities	1,067	1,435
Finance lease	36	32
Other	321	287
Financial liabilities	**8,699**	**9,655**
Payroll liabilities	331	284
Excise tax and fuel charge	2,858	2,830
Value added tax	1,516	1,377
Other taxation, duties, social security and other benefits	197	190
Holiday pay accruals	76	76
Other	20	57
Non-financial liabilities	**4,998**	**4,814**
	13,697	**14,469**

Division of financial liabilities denominated in foreign currencies is presented in note 10.3.5.2. Division of liabilities from related parties is presented in note 10.4.6.2

As at 31 December 2018 and as at 31 December 2017 in the Group were no material overdue liabilities.

The Group expects that the payment of trade liabilities to contractors will take place no later than twelve months after the end of the reporting period.

10.2.6.5. Change in liabilities from contracts with customers

	2018
01/01/2018 (approved data)	-
Impact of IFRS 15 adoption	198
01/01/2018 (converted data)	198
Revenues recognised in a given reporting period, included in the balance of liabilities from contracts at the beginning of the period	(132)
Revenue adjustments	75
Advances received, prepayments	106
Others	(16)
31/12/2018	**231**

The Group fulfils its liabilities from contracts with customers with respect to advance payments received, prepayments up to one year. Revenues adjustments related to deferred part of revenue related to the loyalty program VITAY, according to which the customer is entitled to future benefits (so-called VITAY points). Points are valid for 3 years from the date they were obtained. During this period, the Group expects to satisfy a performance obligation by exchanging collected points for transfered goods / services to customers and recognise revenues.

10.2.7. Net debt and equity management

SELECTED ACCOUNTING PRINCIPLES

Net debt

The Group defined net debt as: non-current and current loans, borrowings and bonds lower by cash and cash equivalents.

Cash comprises cash on hand and in bank accounts. Cash equivalents are short-term, highly liquid investments (of initial maturity up to three months), that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value. Valuation and outflows of cash and cash equivalents in foreign currencies are based on FIFO (First In First Out) method. The Group to assess the level of debt used ratios: net financial gearing (net debt / equity (calculated as at the end of the period) x 100%) and net debt / EBITDA before net impairment allowances.

Changes in liabilities from financing activities

	Loans	Bonds	Cash and cash equivalents	Net debt	Financial lease	Change in liabilities from financing activities
	(A)	(B)	(C)	(A + B - C)	(D)	(A + B + D)
01/01/2018	48	6,957	6,244	**761**	198	**7,203**
Cash changes						
net proceeds/(outflows)	*2,135*	*400*	*(2,055)*	4,590	*(32)*	2,503
interest paid	*(27)*	*(195)*	-	(222)	*(9)*	(231)
Non-cash changes						
exchange differences	*(4)*	*164*	*3*	157	-	160
valuation of debt	*111*	*202*	-	313	*8*	321
new finance lease agreements	-	-	-	-	*64*	64
31/12/2018	**2,263**	**7,528**	**4,192**	**5,599**	**229**	**10,020**
Net financial gearing						**15.7%**
Net debt / EBITDA before net impairment allowances						**0.61**

	Loans	Bonds	Cash and cash equivalents	Net debt	Financial lease	Change in liabilities from financing activities
	(A)	(B)	(C)	(A + B - C)	(D)	(A + B + D)
01/01/2017	940	7,495	5,072	**3,363**	170	**8,605**
Cash changes						
net proceeds/(outflows)	*(882)*	*(300)*	*1,293*	(2,475)	*(28)*	(1,210)
interest paid	*(33)*	*(193)*	-	(226)	*(8)*	(234)
Non-cash changes						
exchange differences	*(9)*	*(318)*	*(121)*	(206)	-	(327)
valuation of debt	*(38)*	*273*	-	235	*9*	244
settlement of loans hedging instruments	*63*	-	-	63	-	63
acquisition of subsidiary	*7*	-	-	7	*1*	8
new finance lease agreements	-	-	-	-	*54*	54
31/12/2017	**48**	**6,957**	**6,244**	**761**	**198**	**7,203**
Net financial gearing						**2.2%**
Net debt / EBITDA before net impairment allowances						**0.07**

10.2.7.1. Loans and bonds

	Non-current		Current		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Loans	2,151	-	112	48	2,263	48
Bonds	6,447	6,688	1,081	269	7,528	6,957
	8,598	**6,688**	**1,193**	**317**	**9,791**	**7,005**

As at 31 December 2018, indebtedness due to loans relates to a loan reimbursed by PKN ORLEN from a consortium of banks under the Agreement for a multi-currency revolving loan of 25 April 2014 in the amount of PLN 2,151 million translated using the exchange rate as at 31 December 2018 (which corresponds to EUR 500 million).
The ORLEN Group bases its financing on fixed and floating interest rates. Depending on the currency of financing these are relevant interbank rates increased by margin. The margin reflects risk of the Group and in case of some long-term contracts depends on net debt/EBITDA ratio.

10.2.7.1.1. Loans

- **W podziale na waluty (w przeliczeniu na PLN) / według rodzaju stopy procentowej.**

	31/12/2018	31/12/2017
PLN - WIBOR	-	6
EUR - EURIBOR	2,152	-
USD - LIBOR USD	5	-
CAD - LIBOR CAD	106	42
	2,263	**48**

As at 31 December 2018 unused credit lines (note 10.3.5.4) increased by trade and other receivables (note 10.2.6.2) and cash and cash equivalents exceeded trade and other liabilities (note 10.2.6.4) by PLN 8,155 million.
The Group hedges partially cash flows related to interest payments regarding external financing in EUR and USD, by using interest rate swaps (IRS).
In the period covered by the foregoing consolidated financial statements as well as after the reporting date there were no cases of violations of loans or interests repayment.
In case of operating loans agreements, the ORLEN Group entities have obligation to maintain selected financial ratios within specified ranges. In 2018 these ratios assessed by the creditor banks were at a safe level. The value of covenant as at 31 December 2018 included in the loan agreements of PKN ORLEN (net debt / EBITDA before net impairment allowances) amounted to 0.61 and fulfill the obligations contained in loan agreements.

10.2.7.1.2. Bonds

- **By currency (translated into PLN).**

	31/12/2018	31/12/2017
PLN	2,116	1,716
EUR	5,412	5,241
	7,528	**6,957**

- **By interest rate.**

	Fixed rate bonds		Floating rate bonds		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Nominal value	5,549	5,549	2,000	1,600	7,549	7,149
Carrying amount	5,513	5,342	2,015	1,615	7,528	6,957

	Nominal value		Subscription date	Maturity date	Base rate	Margin	Rating
	PLN	EUR					
Bond issue program 2017-2018							
A Series	200	-	19.09.2017	19.09.2021	6M WIBOR	1.00%	A(pol)
B Series	200	-	08.12.2017	08.12.2022	6M WIBOR	1.00%	A(pol)
C Series	200	-	10.05.2018	05.06.2022	6M WIBOR	1.20%	A(pol)
D Series	200	-	06.06.2018	19.06.2022	6M WIBOR	1.20%	A(pol)
E Series	200	-	27.06.2018	13.07.2022	6M WIBOR	1.20%	A(pol)
Bond issue program 2013-2014							
F Series	100	-	09.04.2014	09.04.2020	Fixed interest rate 5%		A(pol)
Retail bonds	**1,100**	**-**					
Corporate bonds	**1,000**	**-**	**27.02.2012**	**27.02.2019**	**6M WIBOR**	**1,60%**	**-**
Eurobonds	2,131*	500	30.06.2014	30.06.2021	Fixed interest rate 2.5%		BBB-, Baa2
Eurobonds	3,318**	750	07.06.2016	07.06.2023	Fixed interest rate 2.5%		BBB-, Baa2
Eurobonds	**5,449**	**1,250**					
	7,549	**1,250**					

**translated into PLN using the exchange rate as at 31 December 2014*

***translated into PLN using the exchange rate as at 31 December 2016*

The difference between the nominal value and carrying amount of bonds results from measurement of bonds according to amortized cost using the effective interest method.

In the 2nd quarter of 2018 PKN ORLEN redeemed retail bonds E series in the total amount of PLN 200 million issued under public bond issue program conducted in 2013-2014.
Under the second public bond issue program PKN ORLEN in the 2nd quarter of 2018 issued retail bonds series C and D in the total amount of PLN 400 million and in the 3th quarter of 2018 issued retail bonds series E in the total amount of PLN 200 million.

10.2.7.2. Equity management policy

Equity management conducted across the Group is performed to protect the Group's financial security in the process of continuing operations while maximizing the profitability to shareholders, in particular by:

- Providing access to liquidity for the Group entities and development of effective liquidity distribution structures within the Group.
- Diversification of sources of external financing and maintaining their long-term maturity, taking into account banking and non-banking sources.

The above actions are performed based on the constant monitoring of:

- Net financial gearing of the Group - as at 31 December 2018 and as at 31 December 2017 amounted to 15.7% and 2.2% respectively.
- Net debt to EBITDA ratio before net impairment allowances.
- PKN ORLEN rating.

Dividend paid per ordinary shares – depends on the financial position of the Group, including maintaining financial ratios at the safe level. Dividend for the previous years paid in 2018 and in 2017 amounted to PLN 3 per share for both dates.

10.2.8. Equity

SELECTED ACCOUNTING PRINCIPLES

Share capital
Equity paid by shareholders and stated at nominal value in accordance with the Parent Company's articles of association and the entry in the Commercial Register.
Share capital as at 31 December 1996, in accordance with IAS 29, § 24 and 25, was revalued based on monthly price indices of consumer goods and services.

Share premium
Equity created by the surplus of the issuance value in excess of the nominal value of shares decreased by issuance costs Capital from issue of shares above their nominal value as at 31 December 1996, in accordance with IAS 29, § 24 and 25, was revalued based on monthly price indices of consumer goods and services.

Hedging reserve
Equity including valuation and settlement of hedging instruments that meet the criteria of cash flow hedge accounting.

Exchange differences on translating foreign operations
Result mainly from translation of the financial statements of the foreign companies into PLN under consolidation procedures.

Retained earnings
include:

- *Reserve capital created and used in accordance with the Commercial Companies Code.*
- *Actuarial gains and losses from post-employment benefits.*
- *The current reporting period profit/loss.*
- *Other capitals created and used according to the rules prescribed by law.*

10.2.8.1. Share capital

	31/12/2018	31/12/2017
Share capital	535	535
Share capital revaluation adjustment	523	523
	1,058	**1,058**

In accordance with the Polish Commercial Register, the share capital of Polski Koncern Naftowy ORLEN S.A. as at 31 December 2018 and as at 31 December 2017 was divided into 427,709,061 ordinary shares with nominal value of PLN 1.25 each.

Liczba wyemitowanych akcji				
A Series	B Series	C Series	D Series	Total
336,000,000	6,971,496	77,205,641	7,531,924	**427,709,061**

In Poland, each new issue of shares is labelled as a new series of shares. All of the above series have the same rights.

Shareholders' structure

	Number of shares/voting rights	Nominal value of shares (in PLN)	Share in share capital
State Treasury	117,710,196	147,137,745	27.52%
Nationale-Nederlanden OFE*	30,000,000	37,500,000	7.01%
Aviva OFE*	28,240,000	35,300,000	6.60%
Other	251,758,865	314,698,581	58.87%
	427,709,061	**534,636,326**	**100.00%**

**According to the information from the Ordinary General Shareholders' Meeting convened for 26 June 2018, continuing the Meeting on 17 July 2018*

10.2.8.2. Share premium

	31/12/2018	31/12/2017
Nominal share premium	1,058	1,058
Share premium revaluation adjustment	169	169
	1,227	**1,227**

10.2.8.3. Retained earnings

	31/12/2018	31/12/2017
Reserve capital	25,993	21,735
Other capital	884	884
Actuarial gains and losses	(37)	(32)
Net profit for the period attributable to equity owners of the parent	5,556	6,655
Impact of IFRS 9 adoption	(9)	-
	32,387	**29,242**

10.2.8.4. Equity attributable to non-controlling interest

	31/12/2018	31/12/2017
Unipetrol Group	1	3,000
Other	11	14
	12	**3,014**

	31/12/2018	31/12/2017
At the beginning of the period	3,014	2,522
Share in profit net, incl.:	48	518
Unipetrol Group	*49*	*518*
Share in items of other comprehensive income	57	61
hedging reserve, net	*17*	*68*
exchange differences on translating foreign operations	*40*	*(7)*
Change in the structure of non-controlling interest	(3,107)	2
Paid and declared dividends	-	(89)
	12	**3,014**

Condensed financial information relating to UNIPETROL GROUP

	31/12/2018	31/12/2017
Non-current assets	7,787	6,104
Current assets	6,898	6,259
cash	*253*	*401*
other current assets	*6,645*	*5,858*
Total assets	**14,685**	**12,363**
Total equity	**9,810**	**8,121**
Non-current liabilities	605	393
Current liabilities, incl.:	4,270	3,849
trade and other liabilities	*3,786*	*3,383*
loans and borrowings	*4*	*3*
Total liabilities	**4,875**	**4,242**
Total equity and liabilities	**14,685**	**12,363**
Net debt	**(249)**	**(398)**

	2018	2017
Sales revenues	21,745	19,811
Cost of sales, incl.:	(20,527)	(17,832)
depreciation and amortisation	*(540)*	*(459)*
Gross profit on sales	**1,218**	**1,979**
Distribution expenses	(416)	(432)
Administrative expenses	(285)	(261)
Net other operating income and expenses, incl.:	1,021	663
reversal/recognition of impairment allowances of property, plant and equipment and intangible assets	*741*	*(12)*
penalties, damages and compensations	*272*	*659*
(Loss)/reversal of loss due to impairment of financial instruments	1	-
Profit from operations	**1,539**	**1,949**
Net finance income and costs	176	(229)
Profit before tax	**1,715**	**1,720**
Tax expense	(308)	(317)
Net profit	**1,407**	**1,403**
Items of other comprehensive income	284	160
Total net comprehensive income	**1,691**	**1,563**

In 2018 and 2017, there were no significant restrictions in entities with significant non-controlling interest resulting from credit agreements, regulatory requirements and other contractual arrangements that would restricted access to assets and settlement of liabilities of the Group.

10.2.8.5. Proposal for distribution of the Parent Company's profit for 2018

The Management Board of PKN ORLEN, after considering the liquidity situation and achievement of strategic financial objectives, recommends to distribute the net profit of PKN ORLEN for the year 2018 in the amount of PLN 5 434 149 842.17 as follows: PLN 1,496,981,713.50 PLN will be allocated as a dividend payment (PLN 3.5 per 1 share) and the remaining amount of PLN 3,937,168,128.67 as reserve capital. The Management Board of PKN ORLEN proposes 22 July 2019 as the dividend date and 5 August 2019 as the dividend payment date. This recommendation of the Management Board will be presented to the General Shareholders' Meeting of PKN ORLEN, which will make a conclusive decision in this matter.

10.2.8.6. Distribution of the Parent Company's profit for 2017

The Ordinary General Meeting of Shareholders of PKN ORLEN S.A. on 26 June 2018 distributed the net profit of PKN ORLEN for the year 2017 in the amount of PLN 6,101,792,575.09 as follows: the amount of PLN 1,283,127,183 was allocated as a dividend payment (PLN 3 per 1 share) and the remaining amount of net profit of PLN 4,818,665,392.09 as reserve capital.

10.2.9. Derivatives and other assets and liabilities

Derivatives and other assets

	Non-current		Current		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Cash flow hedging instruments	143	303	483	311	626	614
currency forwards	*143*	*303*	*209*	*225*	*352*	*528*
commodity swaps	*-*	*-*	*274*	*86*	*274*	*86*
Derivatives not designated as hedge accounting	16	-	39	123	55	123
currency forwards	*-*	*-*	*5*	*89*	*5*	*89*
commodity swaps	*-*	*-*	*34*	*33*	*34*	*33*
currency interest rate swaps	*11*	*-*	*-*	*1*	*11*	*1*
interest rate swaps	*5*	*-*	*-*	*-*	*5*	*-*
Fair value hedging instruments	2	-	2	-	4	-
commodity swaps	*2*	*-*	*2*	*-*	*4*	*-*
Derivatives	**161**	**303**	**524**	**434**	**685**	**737**
Other financial assets	95	93	336	133	431	226
receivables on settled derivatives	*-*	*-*	*306*	*126*	*306*	*126*
financial assets measured at fair value through other comprehensive income	*86*	*-*	*-*	*-*	*86*	*-*
financial assets available for sale	*-*	*84*	*-*	*-*	*-*	*84*
hedged item adjustment	*4*	*-*	*21*	*-*	*25*	*-*
other	*5*	*9*	*9*	*7*	*14*	*16*
Other non-financial assets	243	237	-	-	243	237

investment property	*108*	*104*	*-*	*-*	*108*	*104*
perpetual usufruct of land	*115*	*115*	*-*	*-*	*115*	*115*
other	*20*	*18*	*-*	*-*	*20*	*18*
Other assets	**338**	**330**	**336**	**133**	**674**	**463**

Instrumenty pochodne oraz pozostałe zobowiązania

	Non-current		Current		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Cash flow hedging instruments	-	-	105	141	105	141
currency forwards	*-*	*-*	*-*	*7*	*-*	*7*
commodity swaps	*-*	*-*	*105*	*134*	*105*	*134*
Derivatives not designated as hedge accounting	38	75	66	172	104	247
currency forwards	*-*	*-*	*18*	*100*	*18*	*100*
commodity swaps	*-*	*-*	*21*	*72*	*21*	*72*
interest rate swaps	*38*	*56*	*-*	*-*	*38*	*56*
currency interest rate swaps	*-*	*19*	*27*	*-*	*27*	*19*
Fair value hedging instruments	4	-	22	-	26	-
commodity swaps	*4*	*-*	*22*	*-*	*26*	*-*
Derivatives	**42**	**75**	**193**	**313**	**235**	**388**
Other financial liabilities	357	302	79	125	436	427
liabilities on settled derivatives	*-*	*-*	*67*	*125*	*67*	*125*
investment liabilities	*102*	*108*	*-*	*-*	*102*	*108*
finance lease	*193*	*166*	*-*	*-*	*193*	*166*
hedged item adjustment	*3*	*-*	*1*	*-*	*4*	*-*
refund liabilities	*-*	*-*	*11*	*-*	*11*	*-*
*other**	*59*	*28*	*-*	*-*	*59*	*28*

Other non-financial liabilities	9	9	11	195	20	204
deferred income, incl.:	9	9	11	195	20	204
VITAY loyalty program, prepaid cards	-	-	-	164	-	164
Other liabilities	**366**	**311**	**90**	**320**	**456**	**631**

**In 2018, the line other in other financial liabilities relates mainly liabilities due to donations in the amount of PLN 21 million and a guarantees in the amount of PLN 29 million.*

10.2.9.1. Financial assets measured at fair value through other comprehensive income

Investments in equity instruments measured at fair value through other comprehensive income	Fair value of asset	Dividends recognised during the reporting period, relating to investments held at the end of the reporting period	Indication of the reason for applying particular variant of presentation
Naftoport Sp. z o.o.	40	4	Instruments not acquired for trading, without impact of reclassification of profit/loss on financial result
Bank Ochrony Środowiska S.A.	18	-	
Pieridae Energy Limited	27	-	
Wodkan S.A.	1	-	
	86	**4**	

10.2.10. Provisions

SELECTED ACCOUNTING PRINCIPLES

Provisions

The amount recognised as a provision is the best estimate of the expenditure required to settle the present obligation at the end of the reporting period.

Environmental provision

The Group creates provisions for future liabilities due to reclamation of contaminated land or water or elimination of harmful substances if there is such a legal or constructive obligation. Environmental provision for reclamation is periodically reviewed on the basis of the degree of contamination. Changes of provision increase or decrease in the current period the value of asset causing the obligation of reclamation. In case of decrease of provision is higher than carrying amount of the asset, the amount of that excess is recognised in profit or loss.

Jubilee bonuses and post-employment benefits

Under the remuneration plans employees of the Group are entitled to jubilee bonuses, paid to employees after an elapse of a defined number of years in service as well as retirement and pension benefits, paid once at retirement or pension. The amount of

above benefits and jubilee bonuses depends on the number of years in service and an employee's remuneration.
The jubilee bonuses are other long-term employee benefits, whereas retirement and pension benefits are classified as post-employment defined benefit plans.
Provisions are determined by an independent actuary and revalued if there are any indications impacting their value, taking into account the staff turnover and planned change in wages.
Actuarial gains and losses from post-employment benefits are recognised in components of other comprehensive income and from other employment benefits are recognised in profit or loss.

CO_2 emissions, energy certificates

The Group recognises the estimated CO_2 emissions costs during the reporting period in operating activity costs (taxes and charges). Provision is recognised based on the value of allowances taking into account the principle of FIFO (First In First Out) In case of a shortage of allowances, the provision is created based on the purchase price of allowance concluded in forward contracts or market quotations of allowances at the reporting date.
Energy certificates are property rights to energy and energy efficiency certificates. The Group recognises provisions for the estimated volume of energy rights and energy efficiency certificates for depreciation in the reporting period, which is recognised as a reduction of revenues from sales of energy or as operating costs in case of purchase of electricity for own needs.
The obligation to submit energy certificates for depreciation or to pay a substitute fee or obtain a statement together with an energy efficiency audit is regulated on the basis of separate regulations.

Other provisions

Other provisions include mainly provisions for going on legal proceedings and are recognised after consideration of available information, including the opinions of independent experts.
The Group recognises provisions if at the end of the reporting period the Group is an obligation arising from past events that can be reliably estimated and it is probable that fulfilment of this obligation will cause an outflow of resources embodying economic benefits.

ESTIMATES

Recognition of provisions requires estimates of the probable outflow of resources embodying economic benefits and defining the best estimate of the expenditure required to settle the present obligation at the end of the reporting period. Provisions are recognised when the probability of outflow of resources embodying economic benefits is higher than 50%.

Provisions

	Non-current		Current		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Environmental	782	626	64	67	846	693
Jubilee bonuses and post-employment benefits	233	238	56	39	289	277
CO_2 emissions, energy certificates	-	-	784	376	784	376
Other	40	38	115	191	155	229
	1,055	**902**	**1,019**	**673**	**2,074**	**1,575**

Changes in provisions

	Environmental provision	Jubilee bonuses and post-employment benefits provision	CO_2 emissions, energy certificates	Other	Total
01/01/2018	693	277	376	229	1,575
Recognition	198	32	800	15	1,045
Reversal	(4)	-	(4)	(30)	(38)
Usage	(46)	(20)	(395)	(53)	(514)
Foreign exchange differences	5	-	7	(6)	6
	846	**289**	**784**	**155**	**2,074**
01/01/2017	608	245	365	276	1,494
Recognition	134	49	378	19	580
Reversal	(9)	-	(15)	(48)	(72)
Usage	(36)	(16)	(343)	(18)	(413)
Foreign exchange differences	(4)	(1)	(9)	-	(14)
	693	**277**	**376**	**229**	**1,575**

	2018	2017
Change in provisions presented in the statement of financial position	**499**	**81**
Usage of prior year provision for CO_2 emissions, energy certificates from previous year	395	336
Capitalization of environmental provision	(137)	(99)
Actuarial gains and losses	(5)	(15)
Foreign exchange differences	(16)	42
Change in provisions in the statement of cash flows	**736**	**345**

10.2.10.1. Environmental provision

The Group has legal obligation to clean contaminated land – water environment in the area of production plants, fuel stations, fuel terminals and warehouses.

The Group estimated the provision for environmental risk related to the removal of pollution based on analyses provided by independent expert or own analysis taking into account the expected costs of remediation. Depending on the type of facility generating the pollution, the provision is estimated by taking into account the frequency of remediation, the scale of environmental pollution and the achieved ecological effects. The decommissioning of most facilities will take place in the more distant future and the precise requirements that will have to be met when the removal event occurs are uncertain. The level of uncertainty is burdened with potential change in regulations concerning, among others environmental and social expectations. At the same time, technological progress is an important factor that will determine future decommissioning costs.

At the stage of development and extraction of hydrocarbon deposits, the Group recognises provisions for the cost of removal of drillings and supporting infrastructure.
The line environmental provision mainly concerns entities operating in Poland, Czech Republic and Canada. In the Czech Republic, obligations arising from pollution of soil-cum-water environment arising before the date of privatization of individual entities lies with the Czech state. In case of pollutants, arising after this date, this is the obligation of the Group companies.
In Poland provision was discounted based mainly on the risk-free rate set on the level of yields on 10-year treasury bonds and adjusted by the 5-year inflation rate. As at 31 December 2018 and as at 31 December 2017 the rate amounted to 0.35% and 0.86%, respectively.
The companies of the Upstream segment in Canada to update the environmental provision applied the nominal discount rate as at 31 December 2018 and 31 December 2017 at 2.15% and 2.20%, respectively.

10.2.10.2. Provision for jubilee bonuses and post-employment benefits

Change in employee benefits obligations

	NOTE	Jubilee bonuses provision		Post-employment benefits		Total	
		31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
At the beginning of the period		145	137	132	108	277	245
Current service costs		14	7	6	5	20	12
Interest expenses		4	4	4	4	8	8
Actuarial gains and losses arising from changes in assumptions:		9	14	5	15	14	29
demographic		*-*	*7*	*1*	*4*	*1*	*11*
financial		*7*	*6*	*4*	*5*	*11*	*11*
other		*2*	*1*	*-*	*6*	*2*	*7*
Past employment costs		(13)	-	3	(1)	(10)	(1)
Payments under program		(14)	(17)	(7)	(3)	(21)	(20)
Other		(1)	-	2	4	1	4
	10.2.10	**144**	**145**	**145**	**132**	**289**	**277**

The carrying amount of employee benefits liabilities is equal to their present value as at 31 December 2018 and 31 December 2017.

Employee benefits liabilities divided into active and retired employees

	Active employees		Retired employees		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Poland	196	205	56	38	252	243
Czech Republic	19	17	-	-	19	17
Lithuania, Latvia, Estonia	18	17	-	-	18	17
	233	**239**	**56**	**38**	**289**	**277**

	Jubilee bonuses provision		Post-employment benefits		Total	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Employee benefits liabilities divided into geographical structure						
Poland	139	140	114	104	253	244
Czech Republic	5	5	14	12	19	17
Lithuania, Latvia, Estonia	-	-	17	16	17	16
	144	**145**	**145**	**132**	**289**	**277**
Maturity of employee benefits analysis						
up to 1 year	32	19	24	20	56	39
above 1 to 5 years	50	54	26	19	76	73
above 5 years	62	72	95	93	157	165
	144	**145**	**145**	**132**	**289**	**277**

The weighted average duration of liabilities for post-employment benefits in 2018 and in 2017 amounted to: Poland 8 and 8 years, the Czech Republic 9 and 8 and Lithuania, Latvia, Estonia 14 and 12 years, respectively.

In 2018 the amount of provision for employee benefits changed as the result of update of assumptions, mainly in relation to discount rate, projected inflation and expected remuneration increase ratio. Should the 2017 assumptions be used, the provision for the employee benefits would be lower by PLN (15) million.

Sensitivity analysis to changes in actuarial assumptions

As at 31 December 2018, the Group used the following actuarial assumptions that had an impact on the level of actuarial provisions for the Polish entities: discount rate 3.1%, expected inflation 3.2% in 2019 and 2.9% in 2020 and 2.5% in subsequent years, the remuneration increase rate: 5% in 2019 and 3% in subsequent years. In the Group's foreign entities the main impact had value of discount rate: from 1.2% to 2%.
The Group analysed the impact of the financial and demographic assumptions and calculated that the changes of ratios: remuneration ratio by +/- 0.5 p.p., the discount rate by +/- 0.5 p.p. and the rate of turnover by +/- 0.5 p.p. in Poland, Czech, Lithuania, Latvia and Estonia are no higher than PLN 4 million. Therefore, the Group does not present any detailed information.

The Group carries out the employee benefit payments from current resources. As at 31 December 2018 there were no funding plans and the Group paid no contributions to fund liabilities.

10.2.10.3. Provision for CO2 emissions, energy certificates

Provision for CO_2 emissions and energy certificates comprises mainly recognition of the provisions for the cost of CO_2 emissions estimated in the reporting period. As at 31 December 2018 and as at 31 December 2017 the value of the provision amounted to PLN 728 million and PLN 364 million, respectively.

10.2.10.4. Other provisions

As at 31 December 2018 and as at 31 December 2017 other provisions mainly comprise provisions for the risk of unfavourable decisions of pending administrative or court proceedings in the amount of PLN 95 million and PLN 164 million, respectively.

Explanatory notes to the financial instruments and financial risk

10.3. Explanatory notes to the financial instruments and financial risk

SELECTED ACCOUNTING PRINCIPLES

Financial instruments

Measurement of financial assets and liabilities

At initial recognition, the Group measures financial assets and liabilities not qualified as at fair value through profit or loss (i.e. held for trading) at their fair value plus transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability. The Group does not classify instruments as measured at fair value through profit or loss upon initial recognition, i.e. does not apply the fair value options.

At the end of the reporting period, the Group measures item of financial assets and liabilities at amortised cost using effective interest rate method, except for derivatives, which are measured at fair value.

The Group uses simplified methods of valuation of financial assets and liabilities accounted at amortized cost if it does not distort information included in the statement of financial position, in particular when the period until the repayment of debt or settlement of the liability is not long.

Financial assets accounted at amortized cost, where the Group applies simplifications, are accounted at initial recognition in the amount due, and later, including at the end of the reporting period, in the amount of the payment due less impairment allowances.

Financial liabilities for which the Group applies simplifications are measured at initial recognition and at a later date, including at the end of the reporting period, in the amount of payment due less expected credit loss impairment allowances.

Gains and losses resulting from changes in fair value of derivatives, for which hedge accounting is not applicable, are recognised in the current year profit or loss.

Hedge accounting

Derivatives designated as hedging instruments whose fair value or cash flows are expected to offset changes in fair value or in the cash flows of a hedged item are accounted for in accordance with fair value or the cash flow hedge accounting.

The Group has two types of hedging relation: cash flow and fair value hedge.

The Group assess effectiveness of cash flow hedge at the inception of the hedge and later, at minimum, at reporting date. In case of cash flow hedge accounting, the Group recognises in other comprehensive income part of profits and losses connected with the effective part of the hedge, whereas profits or losses connected with the ineffective part - under profit or loss.

In addition (in case of currency risk hedge - spot rate risk element), as part of equity in a separate item, the Group recognises a change in the fair value due to the hedge costs.

To assess the effectiveness of hedge the Group uses statistical methods, including in particular, regression analysis and the direct compensation method. The verification of fulfilment of conditions in the scope of binding effectiveness is made on a prospective basis, based on a qualitative analysis. If it is necessary, the Group uses quantitative analysis (linear regression method) to confirm the existence of an economic link between the hedging instrument and the hedged item.

In case of applying fair value hedge accounting, the Group recognises profits or losses resulting from the revaluation of fair value of derivative financial instrument in financial result, and adjusts carrying amount of hedged item by profit or loss related to the hedged item, resulting from the risk being hedged and recognises it in the profit or loss (in the same item in which hedging derivatives are recognised).

If a hedge of a forecast transaction subsequently results in the recognition of a financial asset or a financial liability, the associated gains or losses that were recognised in other comprehensive income are reclassified to profit or loss of the reporting period in the same period or periods during which the asset acquired, or liability assumed, affects profit or loss.

However, if the Group expects that all or a portion of a loss recognised in other comprehensive income will not be recovered in one or more future periods, it reclassifies the amount that is not expected to be recovered to profit or loss.

If a hedge of a forecast transaction subsequently results in the recognition of a non-financial asset or a non-financial liability, or a forecast transaction for a non-financial asset or non-financial liability becomes a firm commitment for which fair value hedge accounting is applied, the Group removes the associated gains and losses that were recognised in the other comprehensive income and includes them in the initial cost or other carrying amount of the asset or liability when the item appears in the statement of financial position.

If a hedge of a forecast transaction results in the recognition of revenue from sales of products, merchandise, materials or services, the Group removes the associated gains or losses that were recognised in the other comprehensive income and adjusts above revenues.

In case of applying fair value hedge accounting, cumulated adjustment of hedged item valuation for hedged risk is transferred to the financial result at the moment when the realization of hedged item affects the result.

Derivatives are recognised as assets when their valuation is positive and as liabilities in case of negative valuation.

Fair value measurement

The Group maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs to estimate the fair value, i.e. the price at which an orderly transaction to transfer the liability or equity instrument would take place between market participants as at the measurement date under current market conditions.

The Group measures derivatives at fair value using valuation models for financial instruments based on generally available exchange rates, interest rates, forward and volatility curves for currencies and commodities quoted on active markets.

The fair value of derivatives is based on discounted future flows related to contracted transactions as the difference between term price and transaction price.

Forward exchange rates are not modelled as a separate risk factor, but derive from the spot rate and the respective forward interest rate for foreign currency in relation to PLN.

PROFESSIONAL JUDGEMENTS

Financial instruments

The Management Board assesses the classification of financial instruments, nature and extent of risk related to financial instruments and application of the cash flow hedge accounting. The financial instruments are classified into different categories depending on the purpose of the purchase and nature of acquired assets.

10.3.1. Financial instruments by category and class

Financial instruments by class	Financial instruments by category			31/12/2018	31/12/2017
	IFRS 9	IAS 39	NOTE		
ASSETS					
Measured at fair value through other comprehensive income	Measured at fair value through other comprehensive income	Available for sale	*10.2.9.1*	**86**	84
Derivatives not designated as hedge accounting	Measured at fair value through profit or loss	Measured at fair value through profit or loss	*10.2.9*	**55**	123
Cash flow hedging instruments	Hedging financial instruments	Hedging financial instruments	*10.2.9*	**626**	614
Fair value hedging instruments	Measured at fair value through profit or loss	-	*10.2.9*	**4**	-
	Measured at amortized cost	*Loans and receivables*		**13,964**	15,023
Trade receivables	*Measured at amortized cost*	*Loans and receivables*	*10.2.6.2*	**9,299**	8,476
Cash and cash equivalents	*Measured at amortized cost*	*Loans and receivables*		**4,192**	6,244

Receivables on settled derivatives	*Measured at amortized cost*	*Loans and receivables*	*10.2.9*	**306**	126
Hedged item adjustment	*Measured at amortized cost*	-	*10.2.9*	**25**	-
Other	*Measured at amortized cost*	*Loans and receivables*	*10.2.6.2*, *10.2.9*	**142**	177
				14,735	**15,844**
LIABILITIES					
Derivatives not designated as hedge accounting	Measured at fair value through profit or loss	Measured at fair value through profit or loss	*10.2.9*	**104**	247
Cash flow hedging instruments	Hedging financial instruments	Hedging financial instruments	*10.2.9*	**105**	141
Fair value hedging instruments	Measured at fair value through profit or loss	-	*10.2.9*	**26**	-
Finance lease	Excluded from the scope of IFRS 9	Excluded from the scope of IAS 39	*10.2.6.4*, *10.2.9*	**229**	198
	Measured at amortized cost	Measured at amortised cost		**18,697**	16,889
Loans	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.7.1.1*	**2,263**	48
Bonds	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.7.1.2*	**7,528**	6,957
Trade liabilities	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.6.4*	**7,275**	7,901
Refund liabilities	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.9*	**11**	-
Investment liabilities	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.6.4*, *10.2.9*	**1,169**	1,543
Liabilities on settled derivatives	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.9*	**67**	125
Hedged item adjustment	*Measured at amortized cost*	-	*10.2.9*	**4**	-
Other	*Measured at amortized cost*	*Measured at amortised cost*	*10.2.6.4*, *10.2.9*	**380**	315

				19,161	17,475

10.3.2. Income, expenses, profit and loss

	Financial instruments by category			2018	2017
	IFRS 9	IAS 39	NOTE		
Interest income				*39*	*50*
from assets measured at amortisated cost	*Measured at amortized cost*	*Loans and receivables*	*10.1.11.1*	39	50
Interest costs				(204)	(205)
from liabilities measured at amortisated cost	*Measured at amortized cost*	*Loans and receivables*	*10.1.11.2*	*(195)*	*(197)*
from lease	*Excluded from the scope of IFRS 9*	*Excluded from the scope of IAS 39*		*(9)*	*(8)*
(Loss)/reversal of loss due to impairment of financial instruments	Measured at amortized cost	-	*10.1.12*	(17)	-
Recognition/reversal of receivables impairment allowances	Measured at amortized cost	*Loans and receivables*		-	8
other operating income/expenses	*Measured at amortized cost*	*Loans and receivables*	*10.1.9, 10.1.10*	-	*7*
finance income/costs	*Measured at amortized cost*	*Loans and receivables*	*10.1.11.1, 10.1.11.2*	-	*1*
Financial instruments gains/(losses)				94	344
	Measured at amortized cost	*Loans and receivables*		*470*	*(1,081)*
	Measured at amortized cost	*Measured at amortized cost*		*(823)*	*1,726*
	Measured at fair value through profit or loss	*Measured at fair value through profit or loss*		*426*	*(305)*
	Cash flow hedging	*Cash flow hedging*		*(7)*	-

	financial instruments (ineffective part)	*financial instruments (ineffective part)*			
	Hedging financial instruments (settlement of hedging costs)	*-*		*24*	*-*
	Measured at fair value through other comprehensive income	*Available for sale*		*4*	*4*
Other finance income/costs	*Measured at amortized cost*	*Measured at amortized cost*		*(16)*	*(1)*
				(104)	**196**
other, excluded from the scope of IFRS 7				**(11)**	**(129)**
Provisions discounting				(8)	(10)
Interest on tax liabilities				**(3)**	**(119)**

In 2018 gains/(losses) on investments in equity instruments at fair value through other comprehensive income amounted to PLN (23) million.

10.3.3. Fair value measurement

31/12/2018

				Fair value hierarchy	
	NOTE	Carrying amount	Fair value	Level 1	Level 2
Financial assets					
Financial assets measured at fair value through other comprehensive income	*10.2.9.1*	86	86	46	40
Derivatives	*10.2.9*	685	685	-	685
		771	**771**	**46**	**725**
Financial liabilities					
Loans	*10.2.7.1.1*	2,263	2,263	-	2,263
Bonds	*10.2.7.1.2*	7,528	7,788	7,788	-
Finance lease	*10.2.6.4*, *10.2.9*	229	236	-	236
Derivatives	*10.2.9*	235	235	-	235
		10,255	**10,522**	**7,788**	**2,734**

31/12/2017

				Fair value hierarchy	
	NOTE	Carrying amount	Fair value	Level 1	Level 2
Financial assets					
Quoted shares		43	43	43	-
Derivatives	*10.2.9*	737	737	-	737
		780	**780**	**43**	**737**
Financial liabilities					
Loans	*10.2.7.1.1*	48	48	-	48
Bonds	*10.2.7.1.2*	6,957	7,361	7,361	-
Finance lease	*10.2.6.4, 10.2.9*	198	207	-	207
Derivatives	*10.2.9*	388	388	-	388
		7,591	**8,004**	**7,361**	**643**

For other classes of financial assets and liabilities fair value represents their carrying amount.

10.3.3.1. Methods applied in determining fair value (fair value hierarchy)

Financial liabilities due to loans, bonds, finance lease and liabilities and receivables for borrowings are measured at fair value using discounted cash flows method. Discount rates are calculated based on market interest rates according to quotations of 1-month, 3-months and 6-months interest rates increased by proper margins for individual financial instruments. In the item financial assets measured at fair value through other comprehensive income, quoted/unquoted shares not held for trading are included.
In 2017, in accordance with IAS 39, these assets were classified as available for sale and measured at purchase price less impairment allowances.
During the reporting period and the comparative period there were no reclassifications of financial instruments in the Group between Level 1 and 2 of fair value hierarchy.

10.3.4. Hedge accounting

The ORLEN Group applies cash flow and fair value hedge accounting.

Cash flow hedge accounting concerns:

- Forward sales and purchase of foreign currency operating activity hedging.
- Hedging the change in margins on refinery and petrochemical products sold.
- Hedging the periodic increase in operating inventories.
- Hedging the timing mismatches due to purchase of crude oil and sales of refinery products.

Fair value hedge accounting concerns:

- Hedging the sales of bitumen and aviation fuel at a fixed price.

Currently, the sources of ineffectiveness in case of hedge accounting for currency risk is the difference between the maturity date for hedging instrument, falling on the last business days of the M-1 month and maturity of the hedged item, where the revenues from sale of petrochemical products are realized in the first consecutive days of the given M month .

However, in case of commodity risk, sources of ineffectiveness result from the risk components designated for the hedged item, which are a part of the probable planned future purchase of oil and hedging instruments based solely on commodity indices of refinery products sold or purchased crude oil.

The sources of ineffectiveness for both the hedging of currency risk and commodity risk were the creation of new hedging relationships from 1 January 2018. Part of instruments, therefore, at the time of establishing the relations already had a valuation, which generates sources of ineffectiveness.

There is partially natural hedging for USD/PLN exchange rate, as revenues from sales of products depending on USD exchange rate are offset by the cost of buying crude oil in the same currency. Due to the fact that PKN ORLEN has a long position in EUR and the relatively low interest rates for EUR (as compared to PLN rates), it was considered reasonable to strive for a situation in which the Group has debt obligations in foreign currency (currency conversion debt from PLN to debt in EUR through the execution of CCS transactions).

Information on hedging instruments – maturity structure

Risk type/type of instrument	Unit of measure	up to 1 year	above 1 to 3 years	above 3 to 5 years
Cash flow hedge				
Foreign exchange risk				
Currency forwards - long position hedge (buy)				
Nominal value	EUR	600,000,000	830,000,000	455,000,000
Average exchange rate EUR/CZK		26.57	26.83	27.28
Nominal value	USD	21,237,178	12,992,248	-
Average exchange rate USD/PLN		3,57	3,56	-
Currency forwards - short position hedge (sell)				
Nominal value	USD	1,205,565	-	-
Average exchange rate USD/CZK		22.68	-	-
Nominal value	EUR	495,000,000	600,000,000	-
Average exchange rate EUR/PLN		4.64	4.57	-
Commodity risk				
Commodity swaps - future revenues hedge (sell)				
Petrol				
Volume	MT	15,000	-	-

Average price		725.76	-	-
Diesel				
Volume	MT	27,100	-	-
Average price		661.70	-	-
Crude oil				
Volume	BBL	8,148,400	-	-
Average price		61.40	-	-
Commodity swaps - inventories (buy)				
Crude oil				
Volume		3,813,200	-	-
Average price		59.98	-	-
Commodity swaps - future manufacturing costs hedge (buy)				
Crude oil				
Volume	BBL	996,000	-	-
Average price		54.89	-	-
Fair value hedge				
Commodity risk				
Commodity swaps - future revenues hedge (buy)				
Heating oil				
Volume	MT	47,812	43,793	-
Average price		300.47	260.85	-
Diesel				
Volume	MT	411	-	-
Average price		625.54	-	-

Crude oil				
Volume	BBL	181,250	72,040	-
Average price		59.76	57.09	-
Jet				
Volume	MT	46,000	-	-
Average price		656.31	-	-
Commodity swaps - future revenues hedge (sell)				
Diesel				
Volume	MT	4,371	4,379	-
Average price		571.57	580.91	-

Planned realization date of hedged cash flows and fair value which will be recognised in the profit or loss

	31/12/2018	31/12/2017
Currency operating exposure	2019-2022	2018-2020
Commodity risk exposure	2018-2020	2018-2019

Hedge accounting effects on financial situation and results

Link type/risk type/type of instrument	Buy (B)/Sell (S)	Hedging strategies within the cash flow hedge	Unit of measure	Nominal value/volume	Assets	Liabilities	Changes in fair value (as basis for determining an ineffective part in a given period)
Cash flow hedge							
Foreign exchange risk							
FX_EUR.PLN	S	sales of goods denominated in foreign currencies/indexed to foreign currencies	EUR	1,095,000,000	203	-	(112)
FX_EUR.CZK	S		EUR	1,885,000,000	144	-	(70)
FX_USD.PLN	B		USD	34,229,425	5	-	13
FX_USD/CZK	B		USD	1,205,565	-	-	-

					352	**-**	**(169)**
Commodity risk							
Crude oil	S	time mismatch on crude oil purchases	BBL	8,148,400	243	-	299
Crude oil	B		BBL	4,809,200	3	105	(141)
Petrol	S	oversize inventories hedge	MT	15,000	12	-	17
Petrol	B	oversize inventories hedge	MT	-	-	-	(5)
Diesel	B	oversize inventories hedge	MT	-	-	-	(3)
Diesel	S	crack margin hedge, oversize inventories hedge	MT	27,100	16	-	50
					274	**105**	**217**
					626	**105**	**48**
Fair value hedge							
Ryzyko towarowe							
Crude oil	B	bitumen sale at fixed price	BBL	253,290	-	4	(4)
Heating oil	B	bitumen sale at fixed price	MT	91,605	2	8	(6)
Diesel	S	bitumen sale at fixed price	MT	9,161	2	-	2
Jet	B	JET fuel sale at fixed price	MT	46,000	-	14	(14)
					4	**26**	**(22)**
					630	**131**	**26**

Carrying amount was recognised in statement of financial position in Derivatives and other assets and liabilities

Cash flow hedge

Risk type/position type	Changes in fair value of the hedged item (as basis for determining an ineffective part in a given period)	Hedging reserve (gross value) for relationships remains in hedge accounting
Foreign exchange risk (EUR)		
Future sales revenues	172	316
Foreign exchange risk (USD)		
Future manufacturing costs	(4)	5
	168	**321**
Commodity risk		
Inventories	102	(98)
Future sales revenues	(265)	257
	(163)	**159**
	5	**480**

Fair value hedge

Risk type/position type	Accumulated balance sheet adjustment due to fair value		Item in statement of financial position in which carrying amount was recognised	Changes in fair value (as basis for determining an ineffective part in a given period)	Difference between profit or loss due to hedge on hedging instrument and hedged item
	Assets	Liabilities			
Commodity risk					
Future sales revenues	25	4	Derivatives and other assets and liabilities	(22)	(1)

Impact of cash flow hedge accounting on the statement of profit or loss and other comprehensive income

Risk type/position type	Profits or losses from hedge for the reporting period recognised in other comprehensive income	Ineffectiveness of hedge recognized in profit or loss in the period	Item in the statement, where ineffectiveness of hedge was recognised	Amount reclassified from other comprehensive income to profit or loss as adjustment due to reclassification, because:	
				Implementation of hedged item in the period (continued relationships)	Item in profit or loss, that includes reclassification adjustment
Foreign exchange risk (EUR/PLN)					
currency forwards	(281)	-		(179)	Sales revenues
currency forwards	98	-		(15)	Other operating income/expenses
Foreign exchange risk (USD/PLN)					
currency forwards	12	-		1	Manufacturing costs (operational)
	(171)	**-**		**(193)**	
Commodity risk					
commodity swaps	108	2	Other operating income and costs	(67)	Inventories
commodity swaps	(20)	(8)	Other operating income and costs	(22)	Manufacturing costs (operational)
commodity swaps	133	4	Other operating income and costs	269	Sales revenues
	221	**(2)**		**180**	
	50	**(2)**		**(13)**	

Reconciliation of equity from hedge accounting

	Hedging reserve by			
	Effective part of change in fair value	Effective part due to settlement of instruments	Cost of hedging related to occurrence of	Total

Foreign exchange risk				
01/01/2018	**519**	**-**	**-**	**519**
Cash flow hedge	**(198)**	**6**	**32**	**(160)**
Impact of valuation of hedging transactions (effective part)	(5)	-	34	29
Reclassification to profit or loss in connection with realization of hedged item	(193)	-	-	(193)
Instruments for settlement	-	6	(2)	4
31/12/2018	**321**	**6**	**32**	**359**
Commodity risk				
01/01/2018	**(51)**	**-**		**(51)**
Cash flow hedge	**210**	**-**		**210**
Impact of valuation of hedging transactions (effective part)	50	-	n/d	50
Reclassification to profit or loss in connection with realization of hedged item	180	-	n/d	180
Settlement of ineffective part	(20)	-	-	(20)
31/12/2018	**159**	**-**	**-**	**159**
Hedging reserve, gross 01/01/2018	**468**	**-**	**-**	**468**
Deferred tax from hedging instruments settlement and valuation	(90)	-	-	(90)
Settlement of ineffective part	(47)	-	-	(47)
Hedging reserve, net 01/01/2018	**331**	**-**	**-**	**331**
Hedging reserve, gross 31/12/2018	**480**	**6**	**32**	**518**
Deferred tax from hedging	(86)	(1)	(6)	(93)

instruments settlement and valuation				
Settlement of ineffective part	(64)	-	-	(64)
Hedging reserve, net 31/12/2018	**330**	**5**	**26**	**361**

10.3.5. Risk identification

Risk management is mainly focused on the unpredictability of markets and aims to reduce the impact of volatility on the Group's financial results.

Type of risk		Exposure	Measurement of exposure	Management/Hedging
MARKET RISK	**Commodity**	• Risk of changes in refining and petrochemical margins on sale of products and Brent differential fluctuations; - risk of changes in crude oil and products prices related to the time mismatch. • Risk of changes in CO_2 emission rights prices. • Risk of changes in crude oil and refinery product prices related to the obligation to maintain mandatory reserves of crude oil and fuels. • Risk arising from firm liabilities and receivables,	Based on planned cash flows.	Market risk management policy and hedging strategies, which define principles of measurement of individual exposure, parameters and the time horizon of risk hedging and hedging instruments. Market risk management is performed using derivatives, which are used only to reduce the risk of changes in fair value and the risk of changes in cash flows. By setting the market valuation of instruments, the Group uses its own recording systems and valuation of derivatives as well as relies on information obtained from market-leading banks and brokerage companies or information services. Transactions are concluded only with reliable partners, allowed to participate in transactions as a result of the application of appropriate procedures and signing of appropriate documentation.

		including the provision of pricing formulas based on a fixed price over time to selected customers.		
	Exchange rates changes	• Economic currency exposure resulting from inflows decrease by expenses indexed to or denominated in other than the functional currency. • Currency exposure resulting from investment or probable liabilities and receivables in foreign currencies. • Balance sheet exposure resulting from assets and liabilities denominated in foreign currency.	Based on planned cash flows. Based on analysis of balance sheet positions.	
	Interest rates changes	Exposure resulting from owned assets and liabilities for which interest gains or losses are dependent on floating interest rates.	Based on total gross debt to positions for which interest costs are dependent on floating interest rate.	
Liquidity		Risk of unforeseen shortage of cash or lack of access to financing sources, both in the horizon of short and long-	Based on planned cash flows in short and long-term horizon.	Liquidity risk management policy, which defines rules of reporting and consolidation of liquidity of PKN ORLEN and ORLEN Group entities. Group carries out a policy of its financing sources diversification and uses range of tools for effective liquidity management.

	term, leading to temporary or permanent loss of ability to pay financial liabilities or the need to obtain funds on unfavourable terms.		
Losing cash and deposits	Risk of bankruptcy of domestic or foreign banks, in which accounts are kept or in which cash is invested.	Regular review of credit rating of banks and setting limits on concentration of funds.	Management based on principles of surplus cash management, which determine possibility of granting quotas for individual banks made on the basis of, among others, ratings and reporting data. Cooperation mainly with crediting banks.
Credit	Risk of unsettled receivables for delivered products and services by customers related to the creditability of customers with whom trade transactions are concluded.	Analysis of creditability and solvency of customers.	Management based on procedures and policies adopted for management of trade credit and debt recovery including the determination of limits and hedging.

Hedging strategies within hedge accounting	Component	Type of relationship
Bitumen sales at fixed price	Brent risk component, which is a part of an unconditional and binding commercial commitment from concluded sale transaction at a fixed price	fair value hedge
Aviation fuel sales at fixed price	Jet fuel risk component, which is a part of an unconditional and binding commercial commitment from concluded sale transaction at a fixed price	fair value hedge
Bitumen sales at fixed price	Fuel Oil risk component, which is a part of an unconditional and binding commercial commitment from concluded sale transaction at a fixed price	fair value hedge
Time mismatch on crude oil purchases, which is hedged to the planned period of crude oil processing and sales of products of oversize inventories	Brent risk component, which is part of future crude oil purchase; an item identified based on crude oil deliveries from the month of execution/delivery of hedging transaction in the order in which they were received	cash flow hedge
	Brent risk component, which is a part of diesel oil sales; an item identified based on sales invoices issued in the month of execution/delivery of hedging transaction in the order in which they were issued	
Oversize inventories	Brent DTd risk component, which is part of future crude oil purchase; an item identified based on crude oil deliveries from the month of execution/delivery of hedging transaction in the order in which they were received	cash flow hedge

Oversize inventories and crack margin	EBOB/ULSD risk component, which is a part of diesel oil sales; an item identified based on sales invoices issued in the month of execution/delivery of hedging transaction in the order in which they were issued	
Sales of goods denominated in foreign currencies/indexed to foreign currencies	Invoices for sales denominated in foreign currency or indexed to exchange rate of foreign currency issued on the day of Forward transaction and subsequent days in the order in which they were issued; nominal value in foreign currency up to the nominal value of hedging instrument in foreign currency	cash flow hedge
	Deliveries for sales denominated in foreign currency or indexed to exchange rate of foreign currency received on the day of Forward transaction and subsequent days in the order in which they were delivered; nominal value in foreign currency up to the nominal value of hedging instrument in foreign currency	

The ORLEN Group applies a consistent financial risk hedging policy based on market risk management policy and strategies supported and supervised by the Financial Risk Committee, the Management Board and the Supervisory Board of PKN ORLEN.

Standard hedge against currency economic exposure is done in a rolling and recurring basis, covering a period of the next 12 months.
Opportunistic hedge against currency economic exposure in EUR (due to its stability and predictability) for periods of over 48 months is allowed.

A dedicated hedging strategy determines the optimal heeding levels for the standard period and acceptable deviations.
In case of commodity risk, the hedged level for particular exposures is in line with the recommendations for individual companies approved by the Financial Risk Committee.
Exposure to commodity price risk related to time mismatches on non-normative operating inventories is hedged for 100% of the volume of inventories exposed to the risk concerned.
Exposure to commodity price risk related to time mismatch on purchases of crude oil is hedged on a volume equivalent to 90% of the volume of oil purchased exposed to the risk concerned.
Exposure due to the refining margin is hedged opportunistically. In line with the strategies adopted in this respect, the refining margin is hedged in the horizon of up to 12 months in advance on the volume of planned production not exceeding 30% in PKN ORLEN, and 50% in Unipetrol and in ORLEN Lietuva.
All transactions hedging the commodity and currency exposure in Unipetrol and ORLEN Lietuva are performed on the PKN ORLEN balance sheet and then transferred to the companies on the basis of intercompany transactions.

10.3.5.1 Commodity risk

The impact of commodity risk hedging instruments on the Group's financial statements

Type of hedged raw material/product	Unit of measure	31/12/2018	31/12/2017
Crude oil	bbl	13,775,890	13,273,000
Heating oil	t	91,605	625,616
Gas	gj	-	1,825,000
Other	t	88,261	505,361

The net carrying amount of commodity risk hedging instruments as at 31 December 2018 and as at 31 December 2017 amounted to PLN 147 million and PLN (48) million, respectively.

Sensitivity analysis for changes in prices of products and raw materials

Analysis of the influence of changes in the carrying amount of financial instruments on result before tax and hedging reserve to a hypothetical change in prices of products and raw materials:

	Assumed variations		Influence on result before tax		Influence on hedging reserve		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
			Increase of prices		Increase of prices		Total influence	
Crude oil USD/bbl; CAD/bbl	29%	25%	(46)	(56)	(266)	(194)	(312)	(250)
Diesel USD/t	24%	22%	-	(29)	(12)	(42)	(12)	(71)
Gasoline USD/t	24%	25%	-	-	(7)	(2)	(7)	(2)
Heating oil USD/t	28%	25%	-	-	-	(133)	-	(133)
Gas CAD/Gj	23%	23%	-	4	-	-	-	4
JET fuel USD/t	-	21%	-	-	-	(3)	-	(3)
			(46)	**(81)**	**(285)**	**(374)**	**(331)**	**(455)**

At the same percentage price decrease, the sensitive analysis states variations of the same value as in the above table but with the opposite sign.
Applied for the sensitivity analysis of commodity risk hedging instruments variations of crude oil, gas and products prices were calculated based on their observed volatility. The influence of changes in prices was presented on annual basis.
In case of derivatives, the influence of crude oil, gas and products prices variations on fair value were examined at constant level of currency rates.

10.3.5.2. The risk of exchange rates changes

Currency structure of financial instruments

Financial instruments by class	EUR		USD		CZK		CAD		Other currencies after translation to PLN		Total after translation to PLN	
	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Financial assets												
Financial assets measured at fair value through other comprehensive income	-	-	-	-	-	-	10	-	-	-	27	-
Trade receivables	581	562	211	193	8,260	7,757	17	9	51	24	4,772	4,332
Derivatives	83	131	87	49	-	1	-	7	-	-	685	737
Cash and cash equivalents	555	799	202	376	1,360	4,279	1	-	17	24	3,393	5,364
Receivables on settled derivatives	-	-	81	36	-	-	-	-	-	-	306	126
Hedged item adjustment	-	-	7	-	-	-	-	-	-	-	25	-
Pozostałe	8	7	3	1	26	120	-	28	1	-	48	129
	1,227	**1,499**	**591**	**655**	**9,646**	**12,157**	**28**	**44**	**69**	**48**	**9,256**	**10,688**
Financial liabilities												
Loans	500	-	1	-	-	-	38	15	-	-	2,263	42
Bonds	1,259	1,256	-	-	-	-	-	-	-	-	5,412	5,241
Trade liabilities	315	306	994	1,242	3,442	3,479	24	19	10	8	5,742	6,228
Investment liabilities	70	114	8	11	1,224	1,310	31	29	-	-	620	808
Derivatives	16	23	44	80	-	-	-	6	-	-	235	388
Liabilities on settled derivatives	-	-	18	36	-	-	-	-	-	-	67	125
Hedged item adjustment	-	-	1	-	-	-	-	-	-	-	4	-
Other	1	-	54	55	263	216	-	-	-	-	253	228
	2,161	**1,699**	**1,120**	**1,424**	**4,929**	**5,005**	**93**	**69**	**10**	**8**	**14,596**	**13,060**

Sensitivity analysis for changes in the exchange rates

	EUR/PLN		USD/PLN		CZK/PLN		CAD/PLN		Total	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
	odchylenie kursów +15%									
Influence on result before tax (A)	(1,665)	(751)	57	(297)	4	51	1	7	(1,603)	(990)
Influence on hedging reserve (B)	(686)	(675)	42	4	-	-	-	-	(644)	(671)
Influence on foreign exchange differences on subsidiaries from consolidation (C)	165	122	4	13	114	123	(28)	(18)	255	240
Total influence (A+B+C)	**(2,186)**	**(1,304)**	**103**	**(280)**	**118**	**174**	**(27)**	**(11)**	**(1,992)**	**(1,421)**
Sensitivity of net investment in foreign operations including hedging reserve (D)	119	105	322	278	1,458	1,218	295	280	2 194	1,881
Total influence on profit or loss and other comprehensive income (A+B+D)	**(2,232)**	**(1,321)**	**421**	**(15)**	**1,462**	**1,269**	**296**	**287**	**(53)**	**220**

At variation of currency rates by (-)15% the sensitivity analysis states variations of the same value as in the above table but with the opposite sign.
Variations of currency rates described above were calculated based on average volatility of particular currency rates in 2018 and 2017.
The influence of currency rate variations on fair value of derivatives was examined at constant level of interest rates.

10.3.5.3. The risk of interest rates changes

Structure of financial instruments subject to risk of interest rates changes as at 31 December 2018

Financial instruments by class		WIBOR	EURIBOR	LIBOR USD	LIBOR CAD	Total
	NOTE					
Financial assets						
Derivatives	*10.2.9*	11*	357	328	-	685**
		11	**357**	**328**	**-**	**685**
Financial liabilities						
Loans	*10.2.7.1.1*	-	2,152	5	106	2,263
Bonds	*10.2.7.1.2*	2,015	-	-	-	2,015
Derivatives	*10.2.9*	27*	70	165	-	235**
		2,042	**2,222**	**170**	**106**	**4,513****

**In financial assets and liabilities – net derivatives include cross interest rate swaps (CIRS) valuated at the amount of PLN 16 million was recognised, which are sensitive to both WIBOR and EURIBOR interest rates changes.*
***Total assets and liabilities on derivatives include CIRS valuation of PLN 11 million and PLN 27 million, respectively.*

Structure of financial instruments subject to risk of interest rates changes as at 31 December 2017

Financial instruments by class		WIBOR	EURIBOR	LIBOR USD	LIBOR CAD	Total
	NOTE					
Financial assets						
Derivatives	*10.2.9*	2*	547*	171	19	737**
		2	**547**	**171**	**19**	**737**
Financial liabilities						
Loans	*10.2.7.1.1*	6	-	-	42	48
Bonds	*10.2.7.1.2*	1 615	-	-	-	1,615
Derivatives	*10.2.9*	19*	96*	276	16	388**
		1,640	**96**	**276**	**58**	**2,051****

**In financial assets and liabilities – net derivatives include cross interest rate swaps (CIRS) valuated at the amount of PLN 17 million was recognised, which are sensitive to both WIBOR and EURIBOR interest rates changes.*
***Total assets and liabilities on derivatives include CIRS valuation of PLN 2 million and PLN 19 million, respectively.*

The ORLEN Group is exposed to risk of cash flows changes in interest rates arising from owned assets and liabilities, for which interest gains or losses are depend on floating interest rates.
The ORLEN Group hedges the consolidated exposure to volatility of cash flows due to changes in interest rates. For this purpose, interest rate swap and currency swap are used.
Measurement of risk is based on total gross debt to positions for which interest costs are depend on floating interest rates.

Sensitivity analysis for the interest rates changes

Interest rate	Assumed variations		Influence on result before tax		Influence on hedging reserve		Total	
	31/12/2018	31/12/2017	2018	2017	2018	2017	2018	2017
WIBOR	+0.5p.p.	+0.5p.p.	(10)	(3)	-	-	(10)	(3)
LIBOR USD	+0.5p.p.	+0.5p.p.	4	6	-	-	4	6
EURIBOR	+0.5p.p.	+0.5p.p.	(1)	16	-	(1)	(1)	15
			(7)	**19**	**-**	**(1)**	**(7)**	**18**

At variation of interest rates by (-) 0,5% the sensitive analysis states variations of the same value as in the above table but with the opposite sign.

The above interest rates variations were calculated based on observations of average interest rates fluctuations in 2018 and 2017. The influence of interest rates changes was presented on annual basis.
For derivatives in sensitivity analysis for the risk of interest rates changes interest rate curve displacement due to potential reference rate change was used, provided that other risk factors remain constant.

Sensitivity analysis to commodity risk, exchange rates changes and to the risk of interest rates changes was carried out based on the same methodology.

10.3.5.4. Liquidity and credit risk

Liquidity risk

Maturity analysis for financial liabilities as at 31 December 2018

		up to 1 year	above 1 to 3 years	above 3 to 5 years	above 5 years	Total	Carrying amount
	NOTE						
Loans - undiscounted value	10.2.7.1.1	112	2,151	-	-	2,263	2,263
Bonds	10.2.7.1.2	1,051	361	2,983	3,246	7,641	7,528
floating-rate bonds - undiscounted value		*1,046*	*258*	*818*	-	*2,122*	*2,015*
fixed rate bonds - undiscounted value		*5*	*103*	*2,165*	*3,246*	*5,519*	*5,513*

Trade liabilities	10.2.6.4	7,275	-	-	-	7,275	7,275
Investment liabilities	10.2.6.4, 10.2.9	1,067	19	14	69	1,169	1,169
Derivatives - undiscounted value	10.2.9	180	50	-	-	230	235
gross exchange amounts, incl.:		*39*	-	-	-	*39*	*45*
currency forwards	10.2.9	*15*	-	-	-	*15*	*18*
currency interest rate swaps	10.2.9	*24*	-	-	-	*24*	*27*
net exchange amounts, incl.:		*141*	*50*	-	-	*191*	*190*
interest rate swaps	10.2.9	-	*38*	-	-	*38*	*38*
commodity swaps	10.2.9	*141*	*12*	-	-	*153*	*152*
Liabilities on settled derivatives	10.2.9	67	-	-	-	67	67
Hedged item adjustment	10.2.9	1	3	-	-	4	4
Other	10.2.6.4, 10.2.9	368	63	31	158	620	620
		10,121	**2,647**	**3,028**	**3,473**	**19,269**	**19,161**

Maturity analysis for financial liabilities as at 31 December 2017

		up to 1 year	above 1 to 3 years	above 3 to 5 years	above 5 years	Total	Carrying amount
	NOTE						
Loans - undiscounted value	10.2.7.1.1	48	-	-	-	48	48
Bonds	10.2.7.1.2	253	1,148	417	5,240	7,058	6,957
floating-rate bonds - undiscounted value		*248*	*1,040*	*417*	-	*1,705*	*1,615*
fixed rate bonds -		*5*	*108*	-	*5,240*	*5,353*	*5,342*

undiscounted value							
Trade liabilities	10.2.6.4	7,901	-	-	-	7,901	7,901
Investment liabilities	10.2.6.4, 10.2.9	1,435	18	14	76	1,543	1,543
Derivatives - undiscounted value	10.2.9	312	48	-	-	360	388
gross exchange amounts, incl.:		*166*	*(8)*	-	-	*158*	*187*
currency forwards	10.2.9	*98*	-	-	-	*98*	*100*
currency interest rate swaps	10.2.9	-	*(8)*	-	-	*(8)*	*19*
commodity swaps	10.2.10	*68*	-	-	-	*68*	*68*
net exchange amounts, incl.:		*146*	*56*	-	-	*202*	*201*
currency forwards	10.2.9	*7*	-	-	-	*7*	*7*
interest rate swaps	10.2.9	*23*	*33*	-	-	*56*	*56*
commodity swaps	10.2.9	*116*	*23*	-	-	*139*	*138*
Liabilities on settled derivatives	10.2.9	125	-	-	-	125	125
Other	10.2.6.4, 10.2.9	320	44	25	124	513	513
		10,394	**1,258**	**456**	**5,440**	**17,548**	**17,475**

A financial liquidity risk is the loss of ability to settle current liabilities on time.
The ORLEN Group is exposed to liquidity risk resulting from the relation between current assets and short-term liabilities. As at 31 December 2018 and 31 December 2017, the current liquidity indicator amounted to 1.8 for both dates.

The objective of the liquidity risk management process is to ensure the Group's financial security and financial stability, and the basic tool limiting the above risk is the ongoing review of matching maturities of assets and maturity of liabilities. Moreover, the ORLEN Group carries out a policy of its financing sources diversification and uses range of tools for effective liquidity management.
The ORLEN Group uses systems of cash concentration ("cash-pool systems") to effectively manage current financial liquidity and to optimize financial costs within the ORLEN Group. At the end of 2018, the following cash-pool systems existed operated by PKN ORLEN:

- Cash-pool systems dedicated to Polish companies of the ORLEN Group. As at 31 December 2018 systems included a total of 24 ORLEN Group entities.
- International cash-pool system dedicated to foreign companies of the ORLEN Group. As at 31 December 2018 the system comprised 8 ORLEN Group foreign companies.

PKN ORLEN may issue bonds within the settled limits as well as purchase bonds issued by the ORLEN Group entities when managing liquidity. Additional information about bonds in note 10.2.7.1.2.
In 2018, the ORLEN Group invested cash in bank deposits. Decisions regarding bank deposits are based on maximization of the rate of return and assessment of the financial condition of banks requiring a short-term rating by the bank for investment-grade deposits.

As at 31 December 2018 and as at 31 December 2017 the maximum possible indebtedness due to loans amounted to PLN 10,025 million and PLN 9,929 million, respectively. As at 31 December 2018 and as at 31 December 2017 PLN 7,181 million and PLN 9,178 million, respectively, remained unused.
The value of guarantees regarding liabilities to third parties granted during ongoing operations as at 31 December 2018 and as at 31 December 2017 amounted to PLN 579 million and PLN 350 million, respectively. These concerned mainly: civil-law guarantees of contract performance and public-law guarantees resulting from generally applicable regulations secured regularity of business licensed in the liquid fuels sector and resulting from this activity tax and customs receivables, etc.
In addition, guarantees and sureties granted in the Group on behalf of related parties as at 31 December 2018 and as at 31 December 2017 amounted to PLN 10,570 million and PLN 10,216 million, respectively. They were mainly related to secure of ORLEN Capital future liabilities due to these transactions of Eurobonds issuance and timely payment of liabilities by related parties.
Based on analysis and forecasts as at the end of the reporting period, the Group recognised the probability of payment of above amounts as low.

Credit risk

The Group assess that the risk of unsettled receivables by customer in the field of undue receivables and due receivables not covered by allowance is negligible, due to effective management of trade credit and debt recovery. The Group, among others, sets limits for particular customers and establishes hedges, has the possibility to compensate of mutual debts. The Group uses non-recourse factoring, as well as reverse factoring solution.
Limits are set based on financial analysis of customers(on basis of provided financial statements) and history of cooperation. Separate group are customers for whom an insurance limit is issued e.g.: fleet, micro fleet, export contractors.
Some contractors make a deposit on account. In case of the absence of credit limit, contractors are obliged to make a prepayment.
The measure of credit risk is the maximum credit risk for each class of financial instruments, which is equal to their carrying amount (note 10.2.6.2, 10.2.9).

As at 31 December 2018 and as at 31 December 2017 the Group received bank and insurance guarantees of PLN 2,793 million and PLN 2,804 million, respectively. The Group additionally receives from its customers collateral in the form of sureties, voluntary submission to execution (Article 777 of the Code of Civil Procedure), deposits, registered pledges, mortgages and bills of exchange.

Other explanatory notes

10.4.1. Concessions held

The Group's operations require concessions, due to their importance to the public interest.

31/12/2018	Remaining concessions periods (in years)
Electrical energy: manufacturing, distribution, trade	1-12
Heating energy: manufacturing, transmission, distribution, trade	7-12
Natural gas: distribution, trade in Poland and abroad	2-12
Liquid fuels: manufacturing, transmission, storage, transhipment, trade in Poland and abroad	3-12
Non-reservoir storage of crude oil and liquid fuels	11
Rock salt: exploitation	14
Exploration and recognition of crude oil and natural gas deposits	1-4
Marine Wind Farms: preparation, implementation, operation	23
Personal and property security services	indefinitely

As at 31 December 2018 and as at 31 December 2017 the Group had no liabilities related to concession services in scope of IFRIC 12 – Service concession arrangements.

10.4.2. Leases

SELECTED ACCOUNTING PRINCIPLES

Lease

A lease is an agreement whereby a lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period of time. Assets used under the finance lease, that is under agreement which transfers substantially all the risks and rewards incidental to ownership of an asset to the lessee, are recognised as assets of the lessee. Assets used under the operating lease, that is under the agreement that does not transfer substantially all the risks and rewards incidental to ownership of an asset to the lessee, are recognised as assets of the lessor. Determining whether the transfer of risks and rewards exists depends on the assessment of essence of the economic substance of the transaction.

PROFESSIONAL JUDGMENT

The Management Board assesses qualifying lease agreements as a finance lease or operating lease based on the analysis of essence of the economic substance of the transaction.

10.4.2.1. Group as a lessee

Operating lease

As at 31 December 2018 value of future minimum lease payments due to operating lease agreements amounted to PLN 5,675 million.

As at 31 December 2017 value of future minimum lease payments due to non-cancellable lease agreements previously disclosed in financial statements for the year 2017 amounted to PLN 773 million and was based on legal interpretation of the definition of non-cancellable lease. As a result of reassessment of the definition of non-cancellability, especially taking into account economic aspects, additional agreements are now included in the operating lease agreements and include mainly perpetual useful of land, leased land for petrol stations and motorway service areas, office spaces, railway tank cars and auto cisterns. If these agreements were included in the value of future minimum lease payments due to non-cancellable operating lease as at 31 December 2017, they would amount to approximately PLN 5,449 million.

For perpetual useful of land the Group adopted that non-cancellable period is the entire period for which the right was granted.

	Value of future minimum lease payments	
	31/12/2018	31/12/2017
up to 1 year	492	346
above 1 to 5 years	1,270	1,049
above 5 years	3,913	4,054
	5,675	**5,449**

Finance lease

As at 31 December 2018 and as at 31 December 2017 the Group was a lessee under finance lease agreements, which relates mainly to the buildings and constructions, machinery and equipment and vehicles.

In concluded lease agreements, the general conditions of finance lease are effective, they do not contain any clauses concerning contingent rent payables, give the possibility to purchase the leased equipment and eventually can be prolonged.

		Present value of future minimum lease payments		Value of future minimum lease payments	
	NOTE	31/12/2018	31/12/2017	31/12/2018	31/12/2017
up to 1 year		36	32	44	39
above 1 to 5 years		81	68	103	89
above 5 years		112	98	139	126
	10.2.6.4, *10.2.9*	**229**	**198**	**286**	**254**

Property plant and equipment used on the basis of finance lease agreements

	31/12/2018	31/12/2017
Property, plant and equipment	**221**	**190**
Buildings and constructions	146	124
Machinery and equipment	23	31
Vehicles and other	52	35

10.4.2.2. Group as a lessor

Operating lease

Operating leases relate to the investment property owned by the Group, under lease contracts in most for indefinite period. All operating lease contracts contain market review clauses in the event that the lessee exercises its option to be prolonged.

Non-cancellable undiscounted operating lease receivables

	31/12/2018	31/12/2017
up to 1 year	4	4
from 1 to 5 years	16	15
above 5 years	60	57
	80	76

10.4.3. Investment expenditures incurred and future commitments resulting from signed investment contracts

The total amount of investment expenditures together with borrowing costs incurred in 2018 and in 2017 amounted to PLN 4,280 million and PLN 4,602 million, respectively, including PLN 204 million and PLN 79 million of investments relating to environmental protection.

As at 31 December 2018 and as at 31 December 2017 the value of future commitments resulting from contracts signed until this date amounted to PLN 1,281 million and PLN 1,538 million, respectively.

10.4.4. Contingent assets and liabilities

SELECTED ACCOUNTING PRINCIPLES

Contingent assets and liabilities

The Group discloses at the end of reporting period information on contingent assets if the inflow of resources embodying economic benefits is practically probable. If it is practicable the Group estimates the financial impact of contingent assets valuing them according to the principles of valuation provisions.

The Group discloses at the end of reporting period information on contingent liabilities if the outflow of resources embodying economic benefits is probable, unless the possibility of outflow of resources embodying economic benefits is remote.

ESTIMATES

Contingent liabilities

The Group estimates possible future liabilities constituting contingent liabilities based on the value of claims under ongoing proceedings in which the ORLEN Group entities act as the defendant.

10.4.4.1. Contingent assets

As at 31 December 2018 there were no contingent assets and as at 31 December 2017 they were related to compensation for the steam cracker unit accident in Unipetrol Group. Detailed description in the Consolidated Financial Statements for 2017.

10.4.4.2. Contingent liabilities

Information concerning significant proceedings in front of court, body appropriate for arbitration proceedings or in front of administration bodies in which the companies of the ORLEN Group act as the defendant:

I.P.-95 s.r.o. compensation claim against UNIPETROL RPA s.r.o.
On 23 May 2012, Unipetrol RPA s.r.o. received from the District Court in Ostrava a claim brought by I.P.-95 s.r.o. for compensation related to the filing by Unipetrol RPA s.r.o. a motion for bankruptcy of I.P.-95 s.r.o. in November 2009. The total amount of the claim is approximately PLN 299 million, translated using the exchange rate as at 31 December 2018 (representing CZK 1,789 million). Unipetrol RPA s.r.o. is one of eight defendants which the claim was brought against. At the request of the I.P.-95 s.r.o proceeding is pending concerning the accession to the claim as plaintiff NESTARMO TRADING LIMITED. The court refused the Company permission to enter to the case. In February 2018, the court dismissed in entirety claim ruling in favour of Unipetrol RPA s.r.o. On 3 April 2018, I.P.-95 s.r.o. appealed against the decision of the court of first instance. On 22 May 2018, the District Court in Ostrava obliged I.P. - 95 s.r.o. to pay the appeal fee. On 11 December 2018, the court of second instance dismissed the appeal of I.P.-95 s.r.o. from the judgment of the District Court in Ostrava. The judgment is binding. Currently I.P. - 95 s.r.o. has the option to file a cassation appeal against the judgment of the court of second instance. According to UNIPETROL RPA s.r.o. the claim is without merit.

Claim of Warter Fuels S.A. (before: OBR S.A.) against PKN ORLEN for compensation
On 5 September 2014, OBR S.A. (currently: Warter Fuels S.A.) filled an action against PKN ORLEN with the District Court in Łódź for a claim for payment in respect of an alleged breach by PKN ORLEN of patent rights. The amount of the claim in the lawsuit was estimated by Warter Fuels S.A. in the amount of approximately PLN 83 million. The claim covers the adjudged sum of money from PKN ORLEN for Warter Fuels S.A. in the amount corresponding to the value of the license fee for the use of the solution under the above patent and adjudge the obligation to repay the benefits derived from the use of this solution. On 16 October 2014 PKN ORLEN responded to the lawsuit. By the procedural document from 11 December 2014 the value of the dispute was referred to by the plaintiff in the amount of approximately PLN 247 million. So far, several hearings took place (last on 28 September 2018), during which witnesses submitted by the parties were heard by the court. The PKN ORLEN attorney submitted a request to suspend the proceedings due to parallel proceedings for determining the right to the disputed patent, the outcome of which will have significance for the resolution in the case of breach. The request was not considered yet. In the opinion of PKN ORLEN the above claims are without merit.

Polocktransneft Druzhba claim against AB ORLEN Lietuva
On 21 September 2017, AB ORLEN Lietuva received from the court a claim brought by the Belarusian company Polocktransneft Druzhba (operator of the Belarus section of the Druzhba pipeline) for payment of compensation for crude oil (so-called ‘technological oil’) which from 1992 was located in Lithuanian section of the Druzhba pipeline and used by ORLEN Lietuva after operation of this section was stopped in 2006. Polocktransneft Druzhba believes that this oil was its property. The value of the claim is approximately PLN 315 million, translated using the exchange rate as at 31 December 2018 (representing USD 84 million). The claim also includes a request for procedural interest and litigation cost. ORLEN Lietuva responded to the claim. On 15 March 2018 a hearing took place. On 29 March 2018, the court dismissed the plaintiff's claim. Polokotransneft Druzhba appealed against the judgment dismissing the claim. ORLEN Lietuva responded to the appeal. The appellate hearing date was not set. According to ORLEN Lietuva, the above claim is without merit.

Except of described above proceedings, the Group has not identified any other significant contingent liabilities.

10.4.5. Excise tax guarantees

Excise tax guarantees and excise tax on goods and merchandise under the excise tax suspension procedure as at 31 December 2018 and as at 31 December 2017 amounted to PLN 2,626 million and PLN 2,577 million, respectively.

10.4.6. Related party transactions

In 2018 and 2017 and as at 31 December 2018 and as at 31 December 2017 on the basis of submitted declarations, there were no transactions of related parties with members of the Management Board and the Supervisory Board of the Parent Company.

In the 2018 and 2017, on the basis of submitted declarations, there were transactions of close relatives with the other key executive personnel of the Parent Company and key executive personnel of the ORLEN Group companies with related parties in the amount of PLN 0.3 million and PLN 0.5 million, respectively included the main amounts regarded purchase of legal services and marketing services.

10.4.6.1. Remuneration paid and due or potentially due to the members of the Management Board, the Supervisory Board of the Parent Company and other members of key executive personnel of the Parent Company and the ORLEN Group companies

	2018	2017
Parent Company		
Short-term employee benefits	40.3	42.3
Board of Directors	*9.5*	*12.9*
Supervisory Board	*1.2*	*0.8*
Other key executive personnel	*29.6*	*28.6*
Termination benefits (severance pay and other remuneration)	11.1	2.5
Board of Directors	*1.2*	*1.4*
Other key executive personnel	*9.9*	*1.1*
Subsidiaries		
Short-term employee benefits	130.8	123.4
Post-employment benefits	0.4	0.3
Other long term employee benefits	0.2	0.2
Termination benefits (severance pay and other remuneration)	7.6	5.0
	190.4	**173.7**

The above table presents remuneration paid and due or potentially due to the key management personnel of the Parent Company and subsidiaries in the reporting period.

Moreover, as at 31 December 2018 and 31 December 2017 PKN ORLEN has provisions for post-employment benefits in the amount of PLN 0.2 million and PLN 0.3 million, respectively and other long term employee benefits in the amount of PLN 0.5 million for both dates.

Bonus systems for key executive personnel of the ORLEN Group
The bonus regulations applicable to the Management Board of PKN ORLEN, directors directly reporting to the Management Board of PKN ORLEN and other key positions of the ORLEN Group have certain common features. The persons subject to the above mentioned systems are remunerated for the accomplishment of specific goals set at the beginning of the bonus period, by the

Supervisory Board for the Management Board Members and by the Management Board for the key executive personnel. The Bonus Systems are consistent with the Concern's Values, so as to promote the cooperation between individual employees in view to achieve the best possible results for the ORLEN Group. The targets set are qualitative as well as quantitative and are settled after the end of the year for which they were set.

Remuneration regarding non-competition clause and dissolution of the contract as a result of dismissal from the position held

In the second half of 2018 based on the resolution of the Ordinary General Meeting of PKN ORLEN of 17 July 2018 changes were introduced to the contracts of the Management Board Members of PKN ORLEN regarding non-competition.Pursuant to the contracts, the Management Board Members of PKN ORLEN and the Management Board Members of the ORLEN Group companies are obliged to refrain from competitive activities for a period of 6 months, after the date of termination of the contract. During this period, they receive a remuneration (compensation) of 50% or 100% of the six-month basic salary, payable in 6 equal monthly instalments. Non-competition clauses in contracts after termination of the function of the Management Board Member shall enter into force only after 3 or 6 months as the Management Board Member.

In addition, contracts provide for the payment of severance pay in the event of termination or cancelation of the contract by the Company, for reasons other than a breach of basic, essential obligations under the contract, provided fulfilling the function of the Management Board Member for a period of at least 12 months. In this case, the severance pay is three times monthly basic salary.

Directors directly reporting to the PKN ORLEN Management Board are normally required to refrain from competitive activities for a period of 6 months. During this time, they receive a remuneration of 50% of the six-month basic salary, payable in 6 equal monthly instalments. The severance pay for terminating the contract by the Employer is normally six times monthly basic salary.

10.4.6.2. ORLEN Group companies' transactions and balances of settlements with related parties

	Sales		Purchases	
	2018	**2017**	**2018**	**2017**
Jointly-controlled entities	**2,956**	**2,718**	**(143)**	**(142)**
joint ventures	*2,794*	*2,577*	*(45)*	*(42)*
joint operations	*162*	*141*	*(98)*	*(100)*
Associates	**-**	**40**	**-**	**(4)**
	2,956	**2,758**	**(143)**	**(146)**

	Trade and other receivables		Trade and other liabilities	
	31/12/2018	**31/12/2017**	**31/12/2018**	**31/12/2017**
Jednostki współkontrolowane	**614**	**484**	**16**	**16**
wspólne przedsięwzięcia	*593*	*463*	*5*	*8*
wspólne działania	*21*	*21*	*11*	*8*
	614	**484**	**16**	**16**

The above transactions with related parties include mainly sales and purchases of refinery and petrochemicals products and of

services.
In 2018 and in 2017 there were no related party transactions in the Group concluded on other than an arm’s length basis.

10.4.6.3. Transactions with entities related to the State Treasury

As at 31 December 2018 and 31 December 2017 the State Treasury owned 27.52% of the ORLEN Group Parent Company's shares - PKN ORLEN and has ability to exert a significant influence on it.

The Group identified transactions with related parties with the State Treasury mainly on the basis of "The Council of Ministers Regulation of 3 January 2017 on the list of companies in which the rights of the State Treasury shares carry other than the President Council of Ministers members of the Council of Ministers’, Government Plenipotentiaries or state legal entities” (Official Journal 2017, item 10, as amended Official Journal 2017, item 205 and item 1164).

In 2018 and in 2017 and as at 31 December 2018 and as at 31 December 2017, the Group identified the following transactions:

	2018	2017
Sales	1,943	1,548
Purchases	(5,126)	(3,589)

	31/12/2018	31/12/2017
Trade and other receivables	230	298
Trade and other liabilities	189	559

Above transactions were concluded on an arm’s length basis and were related to the ORLEN Group current operating activities and concerned mainly fuel sales, purchase and sales of natural gas, energy, transport and storage services.
Additionally, there were also financial transactions (bank fees, commission) with Bank PKO BP, Bank Pekao S.A. and Bank Gospodarstwa Krajowego.

10.4.7. Remuneration arising from the agreement with the entity authorized to conduct audit of the financial statements

	2018	2017
Parent Company	**1.6**	**1.7**
Audit of financial statements	0.9	1.0
Other assurance services	0.7	0.7
reviews of financial statements	*0.5*	*0.5*
other services	*0.2*	*0.2*
Subsidiaries of the Capital Group	**3.8**	**3.9**
Audit of financial statements	3.5	3.6
Other assurance services	0.3	0.3
reviews of financial statements	*0.2*	*0.2*
other services	*0.1*	*0.1*
	5.4	**5.6**

In the period covered by the foregoing consolidated financial statements the entity authorized to conduct audit of the Company's financial statements was Deloitte Audyt spółka z ograniczoną odpowiedzialnością spółka komandytowa. Pursuant to the agreement concluded on 21 March 2017 for 2017 and 2018, Deloitte Audyt spółka z ograniczoną odpowiedzialnością spółka komandytowa beginning from the 1st quarter of 2017 conduct the interim reviews and audit of separate financial statements of PKN ORLEN and consolidated financial statements of the Group. On 20 December 2018 the Supervisory Board of PKN ORLEN selected Deloitte Audyt spółka z ograniczoną odpowiedzialnością spółka komandytowa to conduct reviews of interim financial statements and audit separate financial statements of PKN ORLEN and consolidated financial statements of the Group for the years 2019-2021.

Events after the end of the reporting period

After the end of the reporting period, no other events occurred than disclosed in the foregoing consolidated financial statements, which would require recognition or disclosure.

Statements of the Management Board and approval of the financial statements

In respect of the reliability of preparation of consolidated financial statements

The Management Board of PKN ORLEN hereby declares that to the best of its knowledge the foregoing consolidated financial statements and comparative
data were prepared in compliance with the accounting principles applicable to the ORLEN GROUP in force and that they reflect true and fair view on
financial position and financial result of the ORLEN GROUP.

In respect of the management board report on the operation of ORLEN Group and PKN ORLEN S.A.

The Management Board of PKN ORLEN herby declares that the foregoing Management Board Report on of the operations of the ORLEN GROUP and PKN
ORLEN gives a true view of the ORLEN GROUP and PKN ORLEN S.A. development, achievements and position and includes a description of key threats
and risks.

The foregoing consolidated financial statements were approved by the Management Board of the Parent Company on 20 March 2019.

Outlook 2019+

Minerals and waste - change in the rules of the game

In an extensive sustainability survey conducted by McKinsey & Company in 2017, a shift in approach to raw materials was identified as one of the most pressing challenges facing business, involving particularly energy efficiency improvements, optimisation of product (and service) design and enhanced waste management. It is imperative to optimise resource use in today's reality of extensive exploitation of natural resources and inevitable increases in raw material prices and in emissions and waste disposal costs. But how have raw materials become a key sustainable development theme? Until now, in the economy dominated by linear production models, there was no need to radically change the approach to raw material strategies. However, times have changed. The world economy is at a stage where further evolutionary changes in economic models are no longer sufficient. In August 2018, HSBC issued a warning to investors about the ramifications of resource overexploitation. Citing Global Footprint Network's calculations, one the world's largest investment banks noted that seven months into 2018 the global economy had already consumed natural resources that the earth would take 12 months to replenish (in other words, in 2018 humans would use 70% more resources than the earth is able to renew in a year). HSBC added that many companies were poorly prepared for the progressing climate change and that they were inefficient in resource use. This powerful warning to investors signifies that, contrary to popular belief, new strategies for managing raw materials should not be treated as mere PR or CSR stunts. Rather, they are dictated by the need to brace for uncertain times and look for business opportunities in an ever-changing world, where prices and availability of raw materials are becoming a daily challenge across industries. **What helps in solving this dynamic puzzle is strategic thinking.**

Strategic thinking

Innovation is the key driver of social and economic development, as it rapidly improves efficiency and helps cross new frontiers of development. It is a business product that changes the rules of the market game in a given area. The source of almost any innovation is a non-obvious combination of two or more things. Unfortunately, it is hard to predict which changes are vital and how to combine them. We are searching for innovative solutions by trial and error, but we are definitely not aiming in every direction. The corporate world is divided into leaders and followers. Followers follow the path of the leaders: they get captivated by global megatrends and look for local niches where proven solutions can be used and possibly improved. Although it is a faster and safer way of catching up with the world's best, reducing the distance to the leaders, it unfortunately offers no possibility of joining this group. Leaders have no one to imitate and if they do not want to be caught up, they need to look for original solutions. The next new frontier of development is what they should be aiming for, as it is a barrier to growth in a given area, which cannot be broken by incremental innovations. On the other hand, it is an innovation that will break the barrier. A case in point is fracking, an unconventional method of extracting natural gas and crude oil directly from the source rock, which has changed the rules of the game on the global gas and oil market, transforming the shortage of these energy sources into their oversupply. The next frontier tends to always be insufficiently scrutinised, described, and understood. The point is to spot it before others do, and take a strategic position by investing in crossing the frontier, just as George P. Mitchell, The Father of Fracking, did. Companies which succeed in doing so gain an immense, lasting advantage (monopoly rent). **What helps companies take a position is strategic thinking.**[1]

According to Professor Rumelt, the aim of strategy is to pave the way for much higher efficiency in a changing environment. Most successful companies quickly exploit changes in their environment – in technology, consumer tastes, laws, resource prices, and competitive behaviour – and ride that change with quickness and skill. Even though effects of these changes may emerge in ten or more years, leading companies gauge the prospects and take strategic positions now. 'Take a position' means invest in resources that will be made more valuable by the changes that are happening now. **Therefore, strategy starts with identifying changes and their drivers in your environment. Gauging business opportunities that can be brought by those changes is the starting point for taking a good position and is the essence of strategic thinking.** In a world that is confusing and uncertain, it is not easy to clearly predict which positions will pay off. If we could actually calculate the financial implications of such choices, we would not have to think strategically. We would just run spreadsheets. When there is no such opportunity, **strategic thinking is essentially a substitute for clear connections between the positions we take and their economic outcomes.** In doing business, you cannot get rid of ambiguity and uncertainty – they are the flip side of opportunity. Here is Rumelt's warning: *'If you want certainty and clarity, wait for others to take a position and see how they do. Then you'll know what works, but it will be too late to profit from the knowledge.'*

Where are the economic and social forces (mega-trends) trying to take you? Should your strategy ride those forces or fight them? Where and when will we come to the next frontier of development? What would be the right response? Strategic thinking boils down to solving this dynamic puzzle and gives strategy a momentum. Small groups of talented people are the best choice here, as solving puzzles is usually a one man task. After the key to the puzzle is found, larger groups and more complex processes can help choose a better solution, and also get consensus, buy-in and consequently commitment.

Where are the mega-trends trying to take you?

Where are the economic and social forces (mega-trends) trying to take you? Should your strategy ride those forces or fight them? Where and when will we come to the next frontier of development? What would be the right response? For many years now, PKN ORLEN Strategy Office has been probing into key megatrends in technology, society and economy, which are changing business models of power and fuel companies. By putting strategy dynamics into practice, we have identified five leading mega-trends which will impact PKN ORLEN's business in 2040 and beyond:

- Customers and their changing preferences and behaviours: remote sales, increase in production on demand, using rather than possessing, conscious consumption with due consideration for human rights, natural environment and climate.
- New mobility developing in four dimensions: autonomous driving, use of 4G and 5G networks, electrification of drives and shared mobility[2].
- e.0 economy – digital, electrical, smart, efficient, renewable (circular).
- Sustainable development: climate and environmental pressures, renewable (circular) economy.
- A new geography of demand, supply and influence: water, food, minerals.

We discussed those issues extensively in our reports and previous Outlooks, as well as on our blog. The trends we have identified no longer set us apart as many oil companies perceive the future in a similar way. We use similar sources of information and similar tools, draw similar conclusions, and with each new report, such as the most recent McKinsey report on the prospects for the global energy sector, our knowledge broadens little by little.

However, reports only document what we have already learnt and understood. As far as looking for new frontiers is concerned, direct contact with representatives of various circles, including science, business, governmental and non-governmental organisations is far more effective. One of the most prominent and opinion-forming events in the global energy and transport sector is CERAWeek, an annual energy conference held in Houston, Texas. We have taken part in the conference for more than ten years. 2019 marked the 38th anniversary of this influential event, ranked among the top five 'corporate leader' conferences in the world. The theme for CERAWeek 2019 was 'New World of Rivalries: Reshaping the Energy Future'.

The latest reports and direct meetings with business leaders and experts lead to one very strong conclusion: the **megatrends** we have identified **have already begun to change the future of energy and the automotive industry**. While last year a conviction prevailed in the oil sector that looking at a time horizon until 2040 there were no signs that global demand for oil and oil derivatives might fall, it has now been replaced by a widespread expectation that demand for these commodities will begin to shrink before 2040. As refineries have already invested heavily in new capacities, declining demand is likely to be accompanied by narrowing refining margins. That is not altered by the fact that oil giants specialising in crude oil production have been making considerable investments (e.g. ExxonMobile), because despite the prospect of shrinking global demand, access to new reserves will be needed and there will surely be enough demand for the industry leaders. (If investment in development of new reserves were to cease completely, oil production from active fields would decline at a rate of about 3 million barrels per day, which is about 3% of annual oil consumption.)

The changes are therefore progressing, although they might not yet be obvious or visible to the untrained eye. Our empirical knowledge about innovation is derived from the IT sector, because that is where innovation is most prolific. Looking at how quickly the tablet and smartphone have become part of our daily lives, we would have to assume that in ten years' time roads will be full of electric cars and electricity will be generated from the wind and sun in large volumes. However, in the case of energy things are different – new technologies take much longer to mature and the time lag before their importance is revealed is longer. A new technology with a target energy generation potential equal to 10% of global demand has a chance to materialise when it meets 1% of demand. If it leaves laboratories with a global potential of 10 megawatts of effective average annual capacity, it needs to grow 20,000 times to reach a capacity equivalent to 1% of global energy demand. That corresponds to more than 14 doublings of capacity. If the capacity doubled regularly every three years, it would take 40 years of exponential growth before such new technology becomes visible in the global energy mix. Also the petroleum, petrochemical and energy business in which we currently operate is characterised by a high inertia due to the decades-long plant life cycle, years long investment cycle. and a high concentration of expenditures due to the indivisibility of the plant. Given the life cycle of vehicles (about 20 years on average), similarly inert is the automotive industry, which is our customer – consuming the fuels and selected plastics and petrochemical products, which are used in the production of cars.

If only this perspective were taken into account, we could say that for the next ten years the megatrends changing the energy sector future will not yet pose a real threat to PKN ORLEN's current business models. What is more, new regulations coming into force at the beginning of 2020, concerning reduction of sulfur emissions from maritime transport (the IMO Regulations), are already generating additional demand for diesel fuel and crude oil, improving the condition of the refining sector. However, all this together creates a rather risky trap into which short-term thinking might lead: since no threats are visible and the business is doing well, it could be worthwhile to strengthen our position in those areas where we are earning money today. Unfortunately, investing in mature innovative projects (TRL 7-10), i.e. pursuing the follower strategy, does not fundamentally change current business models and in the long run does not limit the risk of colliding against continuation barriers generated by global mega-trends (falling demand for petroleum fuels, worsening refining margins). **The only chance to build new business areas lies in investments that would place us in new frontier areas, i.e. investments in innovations at an early stage of technological advancement (TRL 1-6).** Due to the long maturation period of such projects, investments need to be started now, because the transition from TRL 2-3 to TRL 7-8 may take more than ten years. This is one of the reasons why PKN ORLEN has been investing in the Research and Development Centre and streamlining and strengthening its strategic research agenda, so that the physical infrastructure can be filled with the content produced by its R&D efforts.

Barriers to continuation – a quest to find frontiers of development

Awareness of the risks associated with continuation of traditional business models is quite widespread. One look at the demographic trends is enough to see them. In 1970, global population was 3.7 billion people, half of what it is today, and the consumption of natural resources, such as biomass, fossil fuels and non-metallic minerals, was three times lower. By 2050, the world's population is forecast to grow by nearly 3 billion, which is equal to the current populations of China and India combined, and if current consumption patterns continue, the consumption of mineral resources will at least double. **Without a change of the global economy growth model, meeting the needs of a global population of more than 10 billion people would face a barrier from supply of water, food and minerals, and, on the other hand, a barrier of the globe's capacity to absorb pollutants and waste.** Thus, continuation of this growth model is not possible. So where should we look for new growth opportunities? Where is the next frontier of development for our business?

What can help us here is strategic thinking and trying to imagine the opportunities that will be created by the new balance of power on the market. Such reflection is particularly important today in the area of natural resources and for those companies whose profitability depends on the prices and availability of essential feedstocks as well as on costs of emissions and waste disposal. The consumption rates for vital natural resources, including air, water, minerals and rare earth elements, have recently become a real economic challenge. Over the last century, the consumption of metals grew at truly astonishing rates. Nowadays, people use six times more iron per person than they did a hundred years ago, which required a 26-fold increase in iron ore extraction. Critical metals such as lithium, copper, uranium, gold and rare earth elements are used in the production of modern electronics devices, starting from smartphones and batteries to end with advanced weapon systems. Rare metals are also particularly important for renewable energy-based technologies, such as electric cars or solar panels. For example, a single Tesla vehicle requires about 7 kg (a bowling ball's weight) of lithium, and thin, cheap solar panels need tellurium, one of the rarest elements on Earth. **According to experts, the limited availability of critical metals and rare earth elements is affecting the transformation process in the energy sector.** Many of them wonder whether availability of critical elements will be a catalyst or impediment for this transformation. The consensus of experts from industry, government agencies, and academia speaking at the mineral resources conference held at Stanford University in December 2018 can be summarised as follows:

- *A modern smartphone uses the majority of elements in the periodic table.* ***However, modern electronics, which are essential for the development of renewable energy and digitised interconnecting transport systems, require very small quantities of critical elements and there is no risk of running out. However, there is a risk of supply chain disruption.***
- ***Such disruptions can take many forms, including economic and political ones.*** *For example, critical and rare minerals are often by-products of much larger mineral extraction operations, such as copper mining, so if the price of copper goes down, then the production of these critical elements will also be at risk. Furthermore, production of a number of important elements is concentrated in just a few countries, especially China, which accounts for 93% of the world's rare earth elements output. If ports in China were destroyed by a natural disaster such as a tsunami, this would have serious consequences for the global trade in these elements and for leading economies.*
- ***Therefore, mineral mapping projects using cutting-edge geophysical imaging tools, such as LIDAR and hyperspectral imaging, in such countries as the US are increasingly important.*** *If the US was to launch a nationwide geological mapping project, this should be done quickly, as* ***there is an about 12 years' lag between the discovery of a mineral and the start of its production.***

There are three types of innovation that can help reduce the risk of supply chain disruptions:

- ***Increasing extraction.*** *Scientists have demonstrated that clay layers at supervolcano calderas around the world (formed by severe eruptions leading to the collapse of the volcano mouth) contain large deposits of lithium.* ***If the technology to affordably extract lithium from clay can be developed, it would diversify the global supply of lithium, which is currently produced mainly in Chile and Australia from non-clay sources. Such diversification may significantly***

change the lithium market in the future.

- ***Reducing waste. Technological innovation can also contribute to reducing critical mineral waste during the production phase.*** *For example, about half of the neodymium used in magnetic materials ends up on the factory floor because this is what production of magnets looks like.*
- ***Reducing consumption.*** *Scientists and engineers are exploring ways to further minimise the amount of critical and rare minerals required for electronics.*

The example of rare earth elements affects energy and transport, but is not remote from the business practice of other industries. Similar problems relate to water, air and agricultural produce, and the fast pace of depletion of key natural resources is no longer just an environmental issue or a CSR or PR issue at company level, but first and foremost a real economic challenge. Skyrocketing raw material prices and mounting supply issues (e.g. in the case of cobalt used to produce lithium-ion batteries) **make a shift in the approach to natural resources one of the most pressing sustainability challenges for many companies**. However, it is not all only about supply constraints and elevated material prices. Customers and investors have new requirements and see the risks from continuation of existing business models. They do not want to engage in projects that involve excessive emissions or irresponsible use of resources (an example of this approach was the famed decision of a large bank to withdraw from a coal-based power generation project). **Continued activity in the linear business model, even in the short run, requires in-depth reflection on whether investors seeking long-term profits would want to finance such projects.**

What do leaders do?

Extending the life cycle of products so that customers make less frequent purchases is by all means possible. The question is, though: how will companies make a profit? Business-wise, relying on aggressive marketing and labelling products as ‘morally obsolete’, that is persuading customers to buy new goods before the ones they have shown the firsts signs of physical wear and tear, is very tempting. Social pressure, coupled with more and more stringent environmental requirements and increasingly heavy fines for non-compliance both in and outside of the European Union, are being felt by companies and often make them rethink their strategic development directions. Eliminating or significantly reducing this operating cost category is simply becoming a matter of cost-effectiveness In the ‘Pillars of Business Sustainability – Vision, Raw Materials and Talent’ report, we have analysed companies that have already started building resilience through closed-loop business models, by looking at why and how they are working toward that goal. These are our observations:

Companies putting sustainability strategies into practice are forward-looking. Instead of merely adapting to existing regulations, they strive to build resilience to inescapable regulatory tightening. In the short term, given the current regulatory landscape, designing business models to close the raw material/waste loops does not yet look attractive. It still makes more economic sense to pursue a linear model of production and bear any adjustment costs. But as the strategic planning horizon is extended, the advantages of linear models shrink and turn into permanent losses, to finally become stranded assets. Looking further ahead, raw material prices and costs of adapting to increasingly strict climate change and environmental standards are almost certain to go up. **So there is a clear path to follow: design your business so that customer needs can be met with raw materials consumption brought down to a minimum.** And this is not only about recycling, although recycling can deliver tangible gains for a business, or about reducing emissions and other manufacturing waste, although such reduction is also extremely important. **The vital thing is not to manufacture products that consumers will quickly use, discard and replace with new ones.**

Is it possible, despite all that, to maintain business models based on strong replacement demand? Under what conditions? Difficult as it may be, it does seem possible. **For a business to be sustainable, closed loop economy is critical**, because given the current surge in consumption and growing populations, development based on the linear economy model of take-make-dispose can no longer be continued. **As regulations will become increasingly stringent and emission charges will increase, the profitability of linear models will shrink.** This is why companies have already started to design their products and organise their sales and customer relations so that products no longer fit for use (because of moral or physical obsolescence) can be recovered. Many examples can be found in the automotive industry. The benefits are manifold, including reduced procurement volumes, lower regulatory costs of waste disposal, improved efficiency, stronger customer relations, investor satisfaction, and better access to long-term capital. This is strongly encouraged by the sharing megatrend, already seen in mobility, that could be replicated for all durable goods[3]. Consumption patterns need to change gradually as well. Improved material efficiency is becoming a key to success in developing tangible goods. Digitisation has already become a factor in simplifying products and catering to various needs. One of the advantages of electric cars is their lower complexity. Manufacture of furniture presents yet another example. In the future, the trend to simplify will be even more pronounced. On the other hand, as consumers we are not likely to readily embrace the idea of satisfying our needs with fewer products. As before, we will still expect every season to bring new designs. It seems that digital products and services will play an increasingly important role in meeting our needs, and industrial designs will change frequently, the difference being that new cars or new sweaters will be made from recycled materials and our old car and old sweater will be reused by the manufacturers.

Leading energy companies have already started to spin off entities that will operate under more flexible rules, based on new business models, and that will perhaps also gain access to financing for low-emission investment projects on more preferential terms. What such companies have in common is long planning horizons, measured in decades rather than years, which manifest themselves in their vision of growth that serves as a compass to navigate the uncertain waters of technology and regulation. **They root out short-termism within the organisation by devising strategies expected to deliver results over a few decades.** They have concrete operational plans underpinning their long-term vision that are actioned step by step starting now. **Long-term visions are implemented through 'budding'**, that is by successively developing small-scale, regenerative-by-design and innovative projects.

Leading companies effectively rein in the expectations of shareholders, who seek quarterly earnings growth at the expense of building long-term advantage. **They receive funding from long-term investors in exchange for 'strategic thinking".** Such investors are interested primarily in supporting creative people who – by implementing their projects – will add value to resources developed as part of successive innovative ventures. Therefore, **in order to create an organisation able to withstand any short-term turbulence and resist temptations, you need talent – human resources that are not restrained by any rigid rules of the corporate game.** Such organisations employ talent in key positions within their corporate fabric, which does not necessarily mean they are promoted to managerial roles. What matters, instead, is expert development. In order to coordinate the work of such teams, agile project work methods are used, geared towards swift gathering of knowledge and flexible adaptation to a changing landscape.

The future looks very interesting and strategic options come in abundance. The winners will be those determined to embark on a sustainable development strategy right now.

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[1]Strategic thinking is a concept introduced by Richard P. Rumelt. We present this concept based on the interview published in McKinsey Quarterly in 2007.
[2]ACES as Autonomous driving, Connectivity, Electrification of vehicles, Shared mobility.
[3]PAAS (Product As A Service)