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Directors' Report on the operations of Grupa LOTOS S.A. and the LOTOS Group in 2019

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1 Overview of Grupa LOTOS S.A. and the LOTOS Group

Grupa LOTOS S.A. is the second largest fuel producer in Poland. The Company's refinery in Gdańsk is among the newest, the most advanced and most environmentally-friendly plants of this type in Europe. In 2019, the refinery operated at full capacity, having processed 10.7m tonnes of crude oil.

Figure 1. Crude oil processed by Grupa LOTOS S.A. (million tonnes)

Figure 2. Sales of fuels by the LOTOS Group in Poland (million tonnes)

Source: Company

Grupa LOTOS S.A. sells its products in Poland on the wholesale market and through its own retail network of service stations. In 2019, the LOTOS Group's share in the domestic fuel market was 32.6%. As at the end of 2019, with 506 service stations operating under the LOTOS brand, the Group's distribution network was the third largest in Poland. A significant portion of the Group's refining production, approximately 22% of the total output, is exported.

Through its subsidiaries, Grupa LOTOS produces hydrocarbons within Poland's Exclusive Economic Zone of the Baltic Sea. It also produces oil and natural gas from fields located on the Norwegian Continental Shelf and in Lithuania. As at the end of 2019, Grupa LOTOS's total proved and probable (2P) reserves of oil and natural gas were estimated at 81.3 mboe. In 2019, its total production volume reached 7.67 mboe (an average of 20.7 thousand boe per day).

Figure 3. 2P reserves and production (mboe)

Source: Company

The LOTOS Group is also an important player on the rail freight market. In 2019, it held a 9.8% share in rail freight services in Poland, up 0.9pp on 2018.

The key objectives of Grupa LOTOS S.A.'s strategy for 2017–2022 are the Group's stabilisation and sustainable growth. Grupa LOTOS is Poland's leading company and a major energy group. Its vision for growth is to position itself as:

- a producer of premium quality fuels and chemicals, with the optimal degree of vertical integration,
- a provider of specialist logistics and maintenance services, and
- a leader of innovative implementations within its core business, designed to promote sustained growth in shareholder value.

In 2019, the LOTOS Group reported revenue of PLN 29.5bn. A major portion of the revenue was derived from refining operations – 97.5%. The Group's products are mainly purchased by domestic customers, with domestic sales accounting for 81.8% of total revenue.

Figure 4. Financial performance of the LOTOS Group (PLNbn)

Figure 5. LOTOS Group's revenue by segment (PLNbn)

* Adjusted LIFO-based EBITDA.

Figure 6. Operating cash flows and capex (PLNbn)

Figure 7. LIFO-based EBITDA margin and return on equity (ROE) of the LOTOS Group (%)

Source: Company

Apart from Grupa LOTOS S.A., the LOTOS Group comprises 41 entities, operating in Poland, Norway, the United Kingdom and Lithuania. As at the end of 2019, the LOTOS Group employed 5,368 staff, including 1,639 at Grupa LOTOS S.A.

One of the key paradigms underlying the LOTOS Group's operations is sustainable development, understood as efforts to continuously improve efficiency while reducing negative environmental impacts.

Companies of the LOTOS Group are actively involved in projects to protect the natural environment and cut down emissions of pollutants. One of the important initiatives in this area is the LOTOS Blue Trail project. As at the end of 2019, 12 electric vehicle charging points had been installed at LOTOS service stations on A1 and A2 routes. By the end of 2022, the company plans to open a total of 130 electric vehicle charging stations. In addition, in December 2018, at the COP24 summit in Katowice Grupa LOTOS S.A. signed an agreement to finance hydrogen refuelling points under the Pure H2 project. The Company will launch the distribution of very high purity hydrogen (99.999%), which could be used primarily by municipal transport services. The project envisages the construction of a hydrogen purification unit at the LOTOS refinery, a hydrogen sales and distribution station, as well as two vehicle refuelling points (in Gdańsk and Warsaw).

Grupa LOTOS S.A. shares have been listed on the Warsaw Stock Exchange since June 30th 2005. As at the end of 2019, the company's market value was PLN 15.5bn. Grupa LOTOS S.A. was among the twenty largest companies listed on the Warsaw Stock Exchange. The Company's parent is the Polish State Treasury, holding 53.19% of its share capital.

Figure 8. Grupa LOTOS share price from June 30th 2005 to December 30th 2019

Source: Infostrefa.

Table 1. Key financial and operating ratios of the LOTOS Group for 2010–2019

	Unit	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Adjusted LIFO-based EBITDA	PLNm	2,861	3,099	3,051	2,590	2,156	1,391	1,094	2,021	1,181	1,033
Revenue	PLNm	29,493	30,122	24,186	20,931	22,709	28,502	28,559	33,074	29,260	19,663
Profit/loss before tax	PLNm	1,692	2,723	2,448	1,579	-195	-2,124	-59	361	551	722
Net profit/loss	PLNm	1,153	1,587	1,672	1,015	-263	-1,466	39	928	649	681
Production volume	thousand boe/d	21	20	23	27	12	11	5	6	4	4
Crude oil throughput	million tonnes	10.7	10.8	9.6	10.4	10.2	9.5	8.7	9.7	9.2	8.1
Service stations	number[1]	506	495	493	487	476	441	439	405	369	324

Source: Company

[1] Data as at the end of 2019.

2 Macroeconomic environment of Grupa LOTOS and the LOTOS Group in 2019

2.1 Demand for crude oil and natural gas

2.1.1 Globally

In 2019, global demand for crude oil was on average 100.2 mbd (million barrels per day), compared with 99.3 mbd in 2018 (up 0.9%).

Figure 9. **Crude oil demand in 2015-2019** (mbd)

Figure 10. **Key crude oil consumers in 2019** (mbd)

Source: International Energy Agency (IEA).

Currently, the world's largest crude oil consumers are the US, China and India. In the US, a significant portion of crude processed is sourced from domestic reserves.

Demand for crude oil has been steadily growing, with the key drivers of oil and gas demand including:

- Global population growth. At the end of 2019, the world's population was estimated at 7.7bn. Over the past years, it grew at an average rate of 1.6% annually, driven mainly by populations in developing countries (primarily in Asia and Africa).
- Urbanisation rate. Access to energy is closely linked to the urbanisation rate. The most urbanised regions of the world are North America (in 2018, 82% of its population lived in urban areas), Latin America and the Caribbean (81%), and Europe (74%). The urbanisation rate in Asia was approaching 50%. At the same time, Africa is mostly rural, with only 43% of its population living in urban areas in 2018, although this ratio is expected to rise.
- Economic growth rate. In 2019, the global economic growth rate slowed down significantly. The World Bank estimates that in 2019 Gross World Product rose 2.4% year on year (comapred with 3.0% in 2018). The GDP growth rate in developed countries was 1.6% vs 3.5% in emerging economies.
- Environmental protection initiatives: In order to reduce atmospheric pollution, emissions trading schemes have been introduced, whereby CO2 emission allowances can be purchased and sold on market terms. The number of allowances is being gradually reduced, which, coupled with the sizeable demand, drives their prices up. The high price of emission allowances stimulates a shift in the energy mix towards an increased share of renewable energy sources. The crude oil demand is also affected by legal regulations governing exhaust gas emissions from means of transport, which account for approximately 58% of the demand. The EU countries have agreed to adopt standards to reduce carbon dioxide emissions from new cars by 37.5% by 2030 (with an interim target of 15% by 2025). Local measures are also undertaken, e.g. certain European cities have prohibited vehicles with compression-ignition engines. The European Union has issued new regulations on the promotion of renewable energy sources, which requires Member States to add biofuels to gasoline and diesel oils: In December 2018, a Renewable Energy Directive (RED II) was promulgated, providing for a greater role of advanced biofuels.
- By 2030, at least 14% of the energy consumed in transport is to come from renewable sources, while the share of biofuels with a high risk of indirect impact on land use change (ILUC) should gradually decrease, until zero levels are reached in 2030.

- Changes in population preferences. A growing number of societies, especially in highly developed countries, are aware of the climate warming problems. Therefore, despite high prices, they purchase increasingly more electricity-powered vehicles. Electric vehicles are also used for public transport services. New trends in people's behaviours are emerging, such as more frequent use of public transport, car rental and car sharing.
- Technological progress. In addition to the use of new alternative fuels, innovations are being introduced to reduce fuel consumption by traditional propulsion systems, e.g. by improving the efficiency of automotive engines, reducing the weight of commercial vehicles, recovering power during braking, or streamlining vehicle bodies.
-

Figure 11. Growth rate of Gross Domestic Product in 2019
(%)

Source: World Bank, estimate.

2.1.2 Poland

In 2019, fuel consumption in Poland totalled 34.8 mcm, up 4.0% on 2018. A major portion of the total (60.4%) was attributable to demand for diesel oil, which rose 3.6% relative to 2018. Demand for gasoline and aviation fuel also went up (by 5.6% and 6.1%, respectively). On the other hand, demand for light fuel oil and heavy fuel oil fell off (by 6.4% and 4.1%, respectively).

Figure 12. Fuel consumption in Poland
(mcm)

Source: Polish Organisation of Oil Industry and Trade (POPiHN).

2.2 Supply of crude oil and natural gas

2.2.1 Globally

In 2019, crude oil production was 100.3mbd (million barrels per day).

In December 2018, the Organisation of Oil Exporting Countries (OPEC) and a group of other crude oil producers (including Russia and Kazakhstan) announced that they would cut down crude oil production by 1.2 mbd relative to October 2018. In December 2019, the OPEC and non-OPEC countries increased the production cuts to 1.7 mbd, and stated that the agreed volumes would remain in force until the end of March 2020. At the same time, Saudi Arabia undertook to reduce its output by 400 tbd (thousand barrels per day), so the actual reduction volume is 2.1 mbd. 2019 also saw the escalation of tensions in the Middle East (sanctions on Iran, attacks on oil infrastructure in Saudi Arabia) and Libya (the civil war).

Figure 13. Crude oil production in 2015–2019 (mbd)

Figure 14. Main crude oil producers in 2019 (mbd)

Source: IEA.

Currently, the United States is the world's largest oil producer. Over the past ten or so years, its production increased from 5.5 mbd in 2010 to 12.3 mbd in 2019. This was made possible by the development of shale oil extraction technologies and techniques (hydraulic fracturing, horizontal drilling). The high level of crude oil production was also driven by growing US exports, which in 2019 amounted to 3.0 mbd. Other countries of key importance to the international oil market include Russia, Saudi Arabia, Iraq and Canada.

2.2.2 Poland

As at the end of 2019, a total of 86 oil fields were documented in Poland, including in the Carpathian mountains – 29 fields, in the Carpathian foreland – 12 fields, in the Polish Lowlands – 43 fields, and in the Polish economic zone of the Baltic Sea – 2 fields. The Carpathian oil fields are nearing depletion, while in the other areas production and enhanced oil recovery measures are continuing. In 2018, Poland's recoverable reserves of crude oil and condensate (both economic and subeconomic) amounted to 23,956.6 thousand tonnes, down 37.2 thousand tonnes year on year.

In 2018, crude oil and condensate production from all fields was 937.0 thousand tonnes, down by 2.2 thousand tonnes year on year. Domestic reserves cover only 3% of the total domestic oil demand.

In 2019, crude oil continued to be supplied to the Polish refineries (due to their geographical location, oil availability, existing supply infrastructure, and the types of units operated by the refineries) mainly from Russia. However, the share of Russian oil in total supplies fell to 67%, from 89% in 2015. Poland also received crude oil deliveries from Saudi Arabia (approximately 14%), Iraq, Kazakhstan, Nigeria and the US.

2.3 Crude oil and gas prices

In 2019, the price of Brent crude fell by 10.0%, owing mainly to the ongoing trade war between the US and China and Brexit, which translated into a slowdown in economic activity globally, reduced investments and lower trade flows. On the other hand, positive price drivers included the agreement between OPEC and non-OPEC countries to cut down production, as well as the unstable situation in the Middle East (attacks on oil infrastructure). At the same time, the WTI grade price took a much sharper plunge, by 12.8%.

In 2019, the average price of Brent was USD 64.21 per barrel (USD/bbl), down by USD 6.97 on 2018, while the WTI crude price was on average 7.32 USD/bbl lower than the price of Brent.

Given its lower quality and other factors, the price of the Russian crude (URALS) was generally lower than that of Brent, with the difference between the two grades being -0.89 USD/bbl in 2019, and -1.47 USD/bbl in 2018.

Figure 15. Brent, WTI and URALS prices in 2017–2019
(USD/bbl)

Source: Refinitiv, EIA.

In 2019, the price of natural gas fell significantly (for instance by 43.2% on the Dutch TTF exchange), driven by a number of factors, including reduced demand (economic slowdown), growing availability of natural gas from the US and Qatar (supplied in the liquefied form), stable production levels in the United Kingdom and Norway, and supplies from Algeria (gas pipelines to Italy and Spain), with declining production in the Netherlands (the Groningen field).

Throughout 2019, the market was well supplied (high stock levels) with no supply disruptions. In Europe, the intensifying competition from renewable energy sources, resumed operation of certain nuclear power plants in the Asia-Pacific region, and warm winter drove down natural gas consumption and prices at the end of 2019.

Figure 16. Natural gas prices on the National Balancing Point (NBP)
(USD/million BTU[2])

Source: Refinitiv.

[2] BTU - British Thermal Unit

Crude oil prices are denominated in the US dollar. Therefore, it is important for oil importing countries how their currencies trade against and the US dollar. During 2019, the Polish złoty lost 1.0% relative to the US currency. Therefore, the exchange rate had little effect on the crude oil price in the PLN.

Figure 17. PLN/USD exchange rates in 2017–2019

Source: money.pl

In addition, oil and gas prices may be affected by factors such as geopolitical uncertainties and armed conflicts in oil extraction areas, import and export restrictions, weather conditions and natural disasters.

2.4 Crude oil refining

2.4.1 Capacity

In 2019, the primary processing capacities of refineries were estimated at 100 mbd globally. The largest refining units were operated in the US and Canada (20.7% in total) and in China (16.1%). In addition, refineries are becoming increasingly complex, with greater secondary processing capacities.

This long-lasting trend is caused by the combination of older, simpler refineries being closed down, existing plants being extended through the addition of secondary processing capacities, and building of new, highly complex plants. This is due to growing global demand for light and 'clean' products, coupled with a gradual decline in demand for residual fuel oil. Moreover, these changes result from increasingly stricter fuel quality legislation.

Since 2012, many refineries, with a total capacity of 1.7 mbd, have been closed down across Europe. In Europe, there are more than 100 refining plants with different conversion levels, but the profitability of some of them (taking into account the prevailing market conditions, including the new IMO regulations) is low. Therefore, small low-complexity refineries are still at the risk of closure, given their high unit operating costs.

OPEC expects that, given the stagnant economic growth and low fuel demand, coupled with a growing role of other energy sources, by 2040 the utilisation rate of global refining capacities is likely to decline, resulting in plant closures.

Figure 18. Refining capacity utilisation in 2018 and in 2040
(%)

Source: OPEC.

In 2019, the volume of oil processed in Poland was 27.2m tonnes, up 1.1% year on year.

Figure 19. Crude oil throughput in Poland
(million tonnes)

Source: Polish Organisation of Oil Industry and Trade (POPiHN).

2.4.2 Product margins (crack spreads)

In 2019, crack spreads, i.e. differences between the product prices and the reference price of crude oil, were as follows:

- Gasoline – the lowest: 38.11 USD/t, the highest: 205.12 USD/t, change during the year: -6.49%, or -8.96USD/t.
- Jet fuel – the lowest: 104.75 USD/t, the highest: 182.09 USD/t, change during the year: -2.21%, or -3.23 USD/t.
- Diesel oil – the lowest: 72.33 USD/t, the highest: 141.79 USD/t, change during the year: +4.30%, or USD +4.40/t.
- Heavy fuel oil – the lowest: -306.60 USD/t, the highest: -87.22 USD/t, change during the year: -11.49%, or -16.76 USD/t.

Figure 20. Crack spreads in 2019
(USD/t)

Source: Refinitiv.

2.5 Regulatory environment

In Poland, an emissions charge has been included in the price of gasoline and diesel oil since January 1st 2019. It amounted to PLN 0.08 per litre of those fuels, Contributing to the newly established Low Emission Transport Fund, the purpose of which is to help develop the alternative fuels market and infrastructure. 15% of the emissions charge proceeds are transferred to the Low Emission Transport Fund, while the remaining 85% – to the National Fund for Environmental Protection and Water Management.

An Act amending the Act on Biofuel Components and Liquid Biofuels of July 19th 2019 came into force on January 1st 2020. It has introduced, among other things:

- provisions permitting the use, as from 2020, of combined hydrotreatment products to meet the National Indicative Target (NIT) and inclusion in the NIT of biohydrogen contained in liquid fuels produced using biomethane,
- revision of the obligatory biofuel blending mechanism,
- amendments to define in more detail the procedures and requirements for the quality certification of biofuel components,
- amendments relating to the operation of the Low Emission Transport Fund.

Amendments were also made to the Act on Fuel Quality Monitoring and Control Systems. First of all, specific requirements were introduced with respect to marking of liquid fuel filling stations, and for formulating and communicating information on the possibility of filling vehicles with liquid fuels.

2019 was a period of preparations for the of entry into force of new regulations issued by the International Maritime Organization (IMO), which, as from 2020, have tightened the sulfur limits on bunker fuel. One of the key changes that came into force on January 1st 2020 was a global cap on sulfur content in fuel used by marine vessels from 3.5% to 0.5%. A lower sulfur content, of 0.1%, has to be ensured within emission control areas (ECAs), which include Europe. In order to comply with the IMO's requirements, vessel owners may either:

- switch to low-sulfur fuels (MGO 0.5%/Fuel Oil 0.5%); or
- equip their vessels with sulfur control devices (scrubbers); or
- switch to alternative fuels (e.g. LNG).

Both refineries and vessel owners took appropriate steps to prepare for the new regime: the former were constructing or upgrading their refining units to reduce the output of heavy fuel oil, while the latter began to adapt vessels to new low-sulfur fuels (VLSFO or MGO) or to equip them with scrubbers to continue the use of HSFO. Given the ability of market players to adapt to new conditions, no major difficulties are expected with fuel availability. However, the IMO requirements will put a range of business operators under pressure (for instance, low-conversion refineries may be forced to reduce their output), while the position of the LOTOS refinery should remain stable given the capex programme it is implementing (the delayed coking unit with auxiliary facilities).

Apart from the above regulations, which have had an impact on Grupa LOTOS S.A.'s operations, numerous other regulations have been implemented, requiring the Company to incur additional expenditure.

In response to the requirements laid down in the Act on the National Cybersecurity System and recognition of Grupa LOTOS S.A. as a key service operator, on October 1st 2019 a Security Operation Center (SOC) was established at Grupa LOTOS S.A., responsible for developing a central system for reporting, monitoring and coordinating major security incidents at the LOTOS Group. The SOC supervises all activities related to the monitoring, detecting, coordinating and handling of information security incidents at Grupa LOTOS S.A. It is responsible for improving the quality and security of the LOTOS Group's systems, information and assets and for raising cybersecurity awareness.

The Act Amending the Act on Trading in Greenhouse Gas Emission Allowances and Certain Other Acts of July 4th 2019 introduced a requirement to request, in 2019, the National Centre for Emissions Balancing and Management (KOBiZE) for the allocation of free CO_2 emission allowances for 2021–2025 on pre-defined forms prepared by the European Commission. Under the Act, Grupa LOTOS S.A. is also required to prepare a plan for monitoring CO_2 emissions.

The Waste Act, amended in 2018 and 2019, introduced an obligation to maintain waste records, a register of entities marketing products, marketing packaged products and managing waste, as well as reporting in exclusively electronic form. Following the implementation of new regulations on video surveillance of landfill sites, in 2019 Grupa LOTOS S.A.'s integrated permit was amended by deleting the waste recovery process.

As an entity with more than 250 employees, Grupa LOTOS S.A. established an Employee Capital Plan (PPK), as required by the Employee Capital Plans Act of October 4th 2018. To implement its provisions, the Company selected a management entity, with whom it entered into a PPK management agreement. Communication materials were prepared and information sessions were held with the management entity's support. In consequence, agreements to operate PPK were concluded for all those employees who met the statutory requirements and did not opt out, and for those who joined PPK upon request. The first contributions to PPK were charged on salaries and wages disbursed after November 12th 2019, and paid into PPK in December 2019.

Under the Act on the Monitoring System for the Road and Rail Carriage of Goods, a Regulation amending the Regulation on a system for monitoring the movement of goods by road came into force in the fourth quarter of 2019, adding LPG (CN code 2711) to the list of goods covered by that system. The change necessitated some additional implementation work in the IT systems supporting LPG logistics. To ensure high business flexibility, after Grupa LOTOS S.A. had submitted its proposals, the legislator permitted collective notifications, covering a number of LPG cargoes transported at a time. In 2020, the Company will continue implementation work to cover the carriage of another product category, i.e. fuel oils, with the monitoring system.

2.6 Expected developments in the external environment in 2020

The World Bank expects Gross World Product to rise 2.5% in 2020. The economies of Eastern Asia and the Pacific will grow significantly, by 4.1%, with China alone registering a growth rate of 5.9%. GDP in Southern Asia is also expected to grow at a strong rate, by 5.5%, with India's economy expanding by 5.8%. According to the World Bank, the economic growth in developed countries will be markedly lower. The US, eurozone and Japanese economies will grow by 1.8%, 1.7% and 0.7%, respectively. Russia's economic growth will slightly accelerate (to 1.6%). Despite an economic recovery, the GDP growth rate in South America is expected to be weak, including in Brazil (up 2.0%) and Mexico (up 1.2%). Argentina, whose GDP will shrink by 1.3%, will continue to be affected by recession.[3] Poland will be among the fastest-growing countries in the EU, with an expected growth rate of 3.6%.

[3]Source: *Global Economic Prospects. Slow Growth. Policy Challenges*, World Bank, January 2020.

Figure 21. Projected economic growth rate in 2020
(%)

Source: In-house analysis based on data from the World Bank.

The International Energy Agency (IEA) expects oil demand to reach 101.5m barrels per day in 2020, a 1.2% increase year on year. Asia-Pacific will continue to account for the largest increase in consumption (with India's and China's economic situation playing the key role). Recent reforms introduced by India's government are likely to accelerate the country's economic growth. As at the date of issue of this report, there is a global threat of a coronavirus pandemic, which may adversely affect the macroeconomic forecasts for 2020, and thus the global refining margins.

In other regions, demand for crude oil should stabilise at current levels.

As natural gas is a greener fuel, its prominence in the global energy mix is expected to rise (according to IEA, as of 2030 natural gas will play a more important role in the energy mix than coal).

Crude oil production is expected to continue on an upward trend (unconventional deposits) in the US and several other countries, including: Norway (increased output following the launch of production from the Johan Sverdrup field), Brazil (record-high output; Brazil's government is considering whether to open accession negotiations with OPEC in 2020), Canada (with record-high output again), Argentina (production from unconventional deposits, including Vaca Muerta) and Guyana (first oil exports to international markets in late 2019). Give the persisting oil oversupply, decisions taken by OPEC and non-OPEC countries, which have been working together to balance the market since 2017, will continue to play a vital role. Tensions in the Middle East and North Africa will probably have some bearing on the availability and price of crude oil in 2020.

Owing to a high level of global oil stocks (currently 9m barrels above the five-year average) and OPEC's spare capacity, one can expect that the impact on crude oil prices of potential supply disruptions caused by geopolitical instabilities or environmental conditions will be limited.

Key threats to European refineries include growing competition from oil refiners located in the Middle East, Asia and the Pacific (India, China) and Russia, especially during periods of lower demand for fuels. In the long term, potential expansion of Africa's oil processing capacities may intensify competition between refineries in the regions which have for years imported gasoline from Europe. In 2022–2023, the Dangote Group will construct the largest refinery in Nigeria, with a capacity to process 650 thousand b/d. It is expected that their key market in Europe will be the Mediterranean region, but this will nevertheless have an impact on the fuel supply-demand balance on the continent. Another possible threat is a further decline and low level of crack spreads for light distillates (motor gasolines and naphtha), as well as a falling supply of heavy crudes, which may contribute to keeping the Urals-Brent spread low.

3 Grupa LOTOS S.A. strategy for 2017–2022

3.1 Vision and key strategic objectives

The key objectives of Grupa LOTOS S.A.'s strategy for 2017–2022 are the Group's stabilisation and sustainable growth. Grupa LOTOS is Poland's leading company and a major energy group. Its vision for growth is to position itself as:

- a producer of premium quality fuels and chemicals, with the optimal degree of vertical integration,
- a provider of specialist logistics and maintenance services, and
- a leader of innovative implementations within its core business, designed to promote sustained growth in shareholder value.

The strategy sets out five strategic objectives:

- effective use of production licences, further technological optimisation of the refinery, launch of new products and alternative fuels, and commitment to quality;
- consistent and repeatable reduction of operating expenses and optimisation of margins along the value chain;
- readiness to develop and embrace innovation based on dedicated funding, an advanced model of cooperation with research institutions and creative engagement of employees;
- flexible response to risks, perceived also as potential business opportunities;
- commitment to fostering and developing talent within the organisation, improving overall safety and security (across OHS, infrastructure and IT), and raising the standards of corporate social responsibility.

The strategy is to be pursued within two time frames. In 2017–2018, the main goals were to stabilise cash flows, reduce debt, and effectively implement the ongoing investment projects.

In 2019–2022, the Company plans to pursue a new investment programme based on development of selected production assets, building an efficient upstream asset portfolio, further expansion of the retail chain and implementation of innovative projects.

In February 2018, the Energy Ministry and PKN Orlen S.A. signed a letter of intent on the acquisition of Grupa LOTOS S.A. In July 2019, PKN Orlen S.A. filed an application with the European Commission regarding its planned acquisition of an equity interest in Grupa LOTOS S.A. 2019 saw the completion of a due diligence process carried out by PKN Orlen to investigate the financial, tax, commercial and legal position of Grupa LOTOS S.A. in connection with the intended acquisition.

The Grupa LOTOS S.A. strategy for 2017–2022 provides for a number of key strategy implementation metrics:

- twofold increase in annual average LIFO-based EBITDA in 2019–2022,
- reduction of net debt/LIFO-based EBITDA to or below 1.5,
- capital expenditure of PLN 9.4bn over the entire strategy period,
- 2P reserves at more than 60 mboe and daily hydrocarbon production at an average annual level of 30-50 thousand boe/d in 2019–2022,
- increase in the number of service stations to 550,
- Lost Time Injury Frequency Rate below 3.

3.2 Current strategy implementation progress

Selected strategy delivery metrics

(1) 2P reserves: proved and probable
(2) Annual average production volume in barrels of oil equivalent (oil and gas) per day
(3) Net of one-off items
(4) Target number at end of 2020
Source: Company

3.2.1 Effective use of assets along the value chain

Exploration & Production segment

As at the end of 2019, the LOTOS Group's total 2P oil and gas reserves were above the target, at about 81.3 mboe.

In 2019, the LOTOS Group's average production volume was 20.7 thousand boe/d, a 1.4% year-on-year increase attributable to the launch of production from the new Utgard field in Norway given the gradual depletion of producing fields. The production volume was thus below the target set in the strategy for 2017–2022.

Refining throughput

In 2019, the Group's refining throughput came close to 10.7m tonnes, one of the highest volumes on record.

The key project pursued by Grupa LOTOS S.A. in 2019 was EFRA (Effective Refining), ensuring deeper and more economically viable conversion of crude oil thanks to the construction of a state-of-the-art coking unit. The project's main facility, that is the Delayed Coking Unit (DCU), reached the Ready for Start Up status on June 26th 2019, which meant that its construction was formally completed. On September 28th, the unit was started up and on December 1st – placed in service. In December, it was successfully tested for conformity with the licensor's and the contractor's specifications.

Concurrently, the Company continued its studies and preparatory work on further development directions for the refinery. In its strategy, Grupa LOTOS identified the following three directions of the refinery's further development:

- blending unit for the production of Group 2 and 3 base oils (HBO),
- gasoline complex for the production of motor gasolines from naphtha,
- olefins complex with an ETBE unit (i.e. ethyl tert-butyl ether – motor gasoline component increasing the octane rating),
- and a project to construct a captive CHP plant.

The HBO project, enabling the launch of production and sale of high-margin Group 2 and 3 base oils, was selected for further studies and preparatory work.

Given rapid changes on the motor gasoline market, the Company further analysed the project to construct a motor gasoline complex using naphtha to make products offering higher margins, i.e. motor gasolines.

Another expansion project taken under consideration was the construction of a new olefins complex with an ETBE unit. However, taking into account the petrochemical investment projects announced and under way in Poland, the Company considered entering this market segment as an equity investor.

In December 2019, Grupa LOTOS S.A. and the Grupa Azoty Group companies (Grupa Azoty S.A., Grupa Azoty Zakłady Chemiczne Police S.A. and Grupa Azoty Polyolefins S.A.) signed an initial term sheet concerning an investment of PLN 500m in the Polimery Police project. The project involves the construction of a PDH unit for polypropylene production. The investment amount includes a cash contribution of up to PLN 300m to cover the increased share capital of Grupa Azoty Polyolefins S.A. (an SPV) and a subordinated loan for the SPV of up to PLN 200m. Prior to the decision, a letter of intent was signed in April 2019 between Grupa LOTOS S.A. and the Grupa Azoty Group companies.

Commitment to quality

At the end of 2019, the LOTOS retail chain comprised 506 service stations, including 312 CODO and 194 DOFO locations. The chain comprised 21 Motorway Service Areas, offering a wide range of non-fuel products.

In 2019, LOTOS Paliwa continued to standardise its service station chain to ensure a uniform visual identity (both external and internal) and to optimise the quality of service. The company consistently enhances its range of food services, food products and additional services, responding to customer needs following the entry into force of the Sunday trade ban – as a beneficiary of the ban, the company perceives it as a business opportunity.

The *Cafe Punkt* areas, available at more than 80% of the service stations, were a significant driver of the non-fuel margin. At the end of 2019, 36 Subway food outlets were operated within the LOTOS service station chain. The company also tested its own food service format called *Stacja Smaku*.

Key efforts to improve the retail chain's service quality include staff training programmes, sales and incentive competitions for service station staff, development of loyalty schemes and enhancement of the business offering, including through cooperation with large forwarding companies.

For detailed information on changes made with a view to improving the competitive position and appeal of the service station chain to customers, see Section 4, item 4.2.

In line with LOTOS's strategic objectives, the level of customer satisfaction is measured using the NPS methodology implemented in 2017. The results show an increase in customer satisfaction with the quality of service.

3.2.2 Consistent and repeatable reduction of operating expenses and optimisation of margins along the value chain

In 2019, adjusted LIFO-based EBITDA came in at PLN 2.9bn, down 7.7% year on year.

However, relative to 2018 and the Company's strategic projections, the macroeconomic environment was more challenging for the refining business in 2019. The annual average prices of crude oil were slightly below (by 2.7%), while the natural gas prices were significantly below (by 29.7%), the strategic projections. Also the actual product crack spreads were below the long-term projections. The deviation was roughly -7.2% for diesel oil and -25.4% for gasoline.

In 2019, the annual average PLN/USD exchange rate was 3.84 vs the expected 3.70, which had a favourable effect on PLN-denominated revenue.

Figure 22. Crude oil prices

Figure 23. Natural gas prices

Figure 24. Product crack spreads – gasoline (USD/t(

Figure 25. Product crack spreads – diesel oil (USD/t)

Figure 26. Product crack spreads – heavy fuel oil (USD/t)

Source: Grupa LOTOS strategy for 2017–2022, Refinitiv.

One of the key measures taken by the LOTOS Group to improve its financial ratios is to diversify the sources of crude oil supplies. In 2019, more than 22% of oil processed by the LOTOS refinery was imported from sources other than markets east of Poland. The diversification of supply sources played a key role in ensuring continuous and stable crude

oil supplies to the LOTOS refinery, while improving the efficiency of refining operations and expanding experience in the processing of various crudes. The slight decline in crude throughput and diversification compared with 2018 was attributable, among other factors, to the incorporation of EFRA units into the refinery's system.

EBITDA was boosted by the Efficiency Improvement Programme, designed to support the identification and reporting of efficiency-improvement measures at the LOTOS Group. In 2019, a total of 288 measures were identified and reported under the Programme, of which 203 were approved, having generated savings or margin improvement. The largest efficiency gains were achieved in Refining, Energy, Transport and Logistics.

Maintaining a tight cost discipline, the Group also optimised the structure of financing for its operations, keeping the net debt/LIFO-based EBITDA ratio below the target level defined in its strategy, i.e. below 1.5x. In 2019, the ratio of net debt to LIFO-based EBITDA was 1.0x.

As part of its efforts to optimise the refinery operations, the Company took measures to maintain competitive advantages and strengthen the LOTOS Group's leading position in the *Solomon Associates* ranking. The Company carried out initiatives to improve the refinery's energy efficiency, and deployed state-of-the-art IT solutions consistent with the Industry 4.0 concept (the Competence Centre operated in partnership with Microsoft, using cloud computing solutions).

The 2018 Solomon Ranking results, published in late 2019, confirmed the LOTOS refinery's competitive strengths (first quartile), in terms of energy efficiency (EII), return on investment (RoI), plant utilisation (PU) and other aspects.

3.2.3 Readiness to embrace innovation

In 2019, Grupa LOTOS S.A. continued its initiatives in the area of fuels of the future, designed to promote hydrogen-based technologies. The Pure H2 project to construct a hydrogen purification and distribution unit together with two hydrogen refuelling points (in Gdańsk and Warsaw) entered another phase. Hydrogen is to be used mainly to fuel municipal transport vehicles.

In November 2019, Grupa LOTOS and Toyota Motor Poland signed a letter of intent to increase efforts aimed at developing technologies that would enable the use of hydrogen in road transport.

Grupa LOTOS S.A. is also active in undertaking other projects related to new generation alternative fuels, including LNG/CNG. The Company is continuing a project to develop documentation for the construction of a small-scale LNG terminal in Gdańsk.

The Pure H2 project and the Feasibility Study on the Construction of a Small Scale LNG Terminal in Gdańsk and Innovative LNG Bunkering Facilities received EU funding as part of the Connecting Europe Facility (CEF).

In 2019, Grupa LOTOS S.A. and PGNiG S.A. completed two LNG commercial bunkering operations for seagoing vessels. These were the first such operations carried out at sea ports in Gdańsk and Gdynia. LOTOS and PGNiG continued their cooperation in LNG bunkering to enhance the competitive position of Polish ports and to promote the use of LNG, as an environmentally friendly fuel, in the Baltic Sea. As a result, LNG bunkering has become a permanent component of the range of services provided at the ports in Gdańsk and Gdynia.

Forging ties between science and business, Grupa LOTOS S.A. commenced work under the *Structural enhancement of bitumen road surfaces through the use of modified bitumens* research programme in partnership with Budimex, Orlen Asfalt, the Gdańsk University of Technology, the Warsaw University of Technology and the Road and Bridge Research Institute. The subsidiary LOTOS Asfalt undertook an initiative to develop innovative technologies for the production of innovative and environmentally-friendly bitumens.

Following completion, in 2018, of a round of tests carried out at Grupa LOTOS S.A.'s refinery units to check the viability of combined hydrotreatment processes, the Company continued its conceptual work in that area. Combined hydrotreatment products have been included in the Act on Biofuel Components and Liquid Biofuels. The Company's plans are to produce biofuel components through combined hydrotreatment in order to meet the NIT/NRT after prior certification and registration of the biocomponents plant. Concurrently, the Company continued its efforts to ensure the possibility of meeting the NIT/NRT with biohydrogen obtained from biomethane and used as a fuel component.

Grupa LOTOS has become a leader in the promotion of electric mobility in Poland. As part of the LOTOS *Blue Trail* project, 12 charging points were launched along the Tricity – Warsaw route. By the end of 2022, the Company expects to open a total of 130 electric vehicle charging stations.

3.2.4 Active opportunity and risk management

In 2019, the LOTOS Group developed and strengthened its capabilities in managing risks and opportunities. Risk management was actively incorporated into business processes to support business decisions and initiatives were continued to harmonise risk management policies across the Group, systematising the methodologies applied by subsidiaries with diverse business profiles.

Building a management culture based on a risk and opportunity assessment allowed the organisation to take on greater challenges presented by the demanding market. What gave it a competitive advantage was not only risk avoidance,

but also deliberate risk taking and opportunity tapping. Therefore, the LOTOS Group strengthened its openness in communicating risks in order to make swift and effective decisions.

One of the challenges for smooth operation of the LOTOS refinery in 2019 was the Druzhba oil pipeline contamination crisis. By halting the collection and processing of contaminated crude oil and by securing alternative sources of supplies, the Company was able to sustain the refinery operations in a secure and efficient manner. Grupa LOTOS estimated the costs of processing crude oil contaminated with organic chloride in order to make a claim against the Russian suppliers.

3.2.5 Strong team, coherent CSR, and safety

For detailed information on the progress in delivering the Grupa LOTOS strategy in the area of human resources management, an integrated social responsibility policy and a safety culture, see Section 12 *Non-financial statement of Grupa LOTOS S.A. and the LOTOS Group*.

One of the strategic objectives for 2017–2022 is to reduce the LTIF[4] below 3. In 2019, the rate stood at 3.4.

Figure 27. Target LTIF < 3

Source: Company

3.2.6 Status of work on the acquisition of Grupa LOTOS S.A. by PKN Orlen S.A.

On August 22nd 2019, a memorandum of understanding was signed between the State Treasury and PKN Orlen S.A., with Grupa LOTOS S.A. participating in the process, concerning a proposed transaction in which PKN Orlen S.A. would acquire Grupa LOTOS shares from the State Treasury, which in turn would result in PKN Orlen acquiring, directly or indirectly, control of Grupa LOTOS S.A.

The MoU confirmed the framework structure of the transaction, as outlined in the letter of intent executed on February 27th 2018 between the State Treasury and PKN Orlen S.A., subject to its more detailed specification at a later stage of the process, based in particular on remedies resulting from the European Commission's future decision concerning the intended concentration.

The framework transaction structure provided for the acquisition of up to 32.9% of shares from the State Treasury as the first stage of the process. The next stage would involve a tender offer for shares representing up to 66% of total voting rights at the General Meeting of Grupa LOTOS S.A.

On October 1st 2019, the Management Board of Grupa LOTOS S.A. announced the completion of a due diligence process carried out by PKN Orlen S.A. in connection with the transaction.

3.3 Initiatives supporting implementation of the Group's strategy in 2020

Key internal factors that are essential for the LOTOS Group's growth include stabilising the yield stream of the refinery integrated with the EFRA units, directional decisions to implement the second time frame under the 2017–2022 strategy, i.e. allocation of capital expenditure to selected development projects, as described in item 3.2.1, organic expansion of the LOTOS retail chain in the Refining & Marketing segment, proactive response to business opportunities in the Exploration & Production segment, as well as development of filling infrastructure to support the profitability of fuel sales in Poland.

In 2020, the Company will seek to obtain corporate approvals defined as conditions precedent under the initial term sheet with respect to the equity investment in and provision of debt financing for the Polimery Police project.

[4] Lost Time Injury Frequency.

In addition, the Company's growth in 2020 will be affected by the status of the project in which Grupa LOTOS is to be acquired by PKN Orlen.

In 2017–2022, the LOTOS Group plans to allocate approximately PLN 9.4bn to capital expenditure, of which PLN 3.5bn was spent in 2017–2019. In 2019, capital expenditure amounted to PLN 1bn.

The Management Board plans to carry out its capex plans for 2020 based on a mix of internally generated and borrowed funds. In 2019, the net debt/LIFO-based EBITDA ratio was 1.0x, well below the target level set in the strategy, allowing the Company to safely pursue its investment plans, including equity investments.

4 Grupa LOTOS S.A.'s and the LOTOS Group's operations in the Refining & Marketing segment

4.1 Grupa LOTOS S.A. – crude oil refining

4.1.1 Grupa LOTOS S.A. – key facts

The history of Grupa LOTOS goes back to the 1970s, when the crude oil refinery in Gdańsk was built. The joint-stock company Grupa LOTOS Spółka Akcyjna was established on September 18th 1991.

Name	**Grupa LOTOS S.A.**
Registered address	**80-718 Gdańsk, ul. Elbląska 135**
Industry Identification Number (REGON)	**190541636**
Tax Identification Number (NIP)	**5830000960**
KRS entry No.	**0000106150**
Registry court	**District Court for Gdańsk-Północ in Gdańsk, 7th Commercial Division of the National Court Register**
Duration	**The duration of Grupa LOTOS S.A. is indefinite.**

The Company's principal business activity consists in the production and processing of refined petroleum products (mainly fuels) and their wholesale.

Grupa LOTOS S.A. has no divisions (establishments) within the meaning of the Polish Accounting Act.

As at the end of 2019, the Company employed 1,639 employees, up 8% on the end of 2018.

4.1.2 Oil refining market and competition in the region

The Grupa LOTOS refinery, with the annual processing capacity of approximately 10.5m tonnes of crude oil, is one of the most advanced and newest refineries in Europe.

In 2019, the refinery's technological advancement was driven by the 10+ Programme completed in 2011 and the EFRA Project finalised in 2019. The upgrade and extension of the refinery as part of the 10+ Programme resulted in increased yields of high-margin products per barrel of crude processed and an increase in the annual volumes of fuels from 4m tonnes to 7.8m tonnes, while enabling the Group to process more technologically demanding crude types. The EFRA Project was a continuation of the refinery's technological upgrade, naturally complementing its configuration. The new facilities, integrated with the refinery's oil processing line, will enable the Company to increase the output of middle distillates (diesel oil and aviation fuel) by approximately 900 thousand tonnes, from the same volume of crude oil processed. As for the other product categories, the production volumes of naphtha and LPG are expected to change, reaching their respective target levels as part of the optimisation process. The subsidiary LOTOS Asfalt launched market supplies of pet-coke. The Grupa LOTOS refinery's capacity to produce bitumens was also maintained.

The key facilities comprising the new process line constructed under the EFRA (i.e. Effective Refining) Project are: the Delayed Coking Unit (DCU), Coking Naphtha Hydrotreating Unit (CNHT), LPG Treatment Unit (LPGTU), Coke Logistics and Storage Facility (CS-LF), Hydrowax Vacuum Distillation Unit (HVDU), and Hydrogen Generation Unit (HGU). Thus, all of the EFRA Project's facilities reached the operational status.

The main objective of EFRA was to ensure more efficient utilisation of heavy residue, which is the heavy end of crude oil used to make heavy fuel oil or bitumens. The new units constructed under the EFRA Project have perfectly supplemented the existing oil processing line at the LOTOS refinery and enabled a shift in its product mix from low-margin products towards more motor fuels. Thus the LOTOS refinery has gained more flexibility in optimising its output, which will strengthen its competitive position, also in the event of any adverse movements in the market prices of crude oil and oil products.

The upgraded refinery features a high distillate rate (due to a large share of fuels in the product mix) and focuses on medium distillates, which enables the Company to successfully adjust its output to the structure of domestic demand and to exports opportunities.

The refinery's configuration combined with its favourable location are factors enabling flexible selection of crude types to maximise margins on their processing and sale of products.

The refinery's location was a source of major competitive advantage in the region in terms of logistics (access to feedstock and product sales channels). The location close to the handling terminal provided the LOTOS Group with direct access to international markets, enabling it to export its oil products primarily to Scandinavia, north-western Europe and the Baltic states. It also helps the Company to optimise sales channels and purchase various types of crude oil.

The refinery also benefited from a unique combination of supply channels both by land from Russia via the PERN pipeline network, and by sea from numerous countries and the Group's own fields. Access to two supply channels allowed the Group to diversify feedstock deliveries and to respond flexibly to volatile petroleum product and crude oil prices. As a result, Grupa LOTOS S.A. was able to effectively diversify its crude slate and improve its bargaining power for the purchases of Russian crude oil.

Solomon Associates, which prepares the most recognised global ranking of refining plants, has placed the LOTOS refinery among the best 25% of plants, based on key competitiveness indicators, such as the refining margin, energy efficiency, maintenance team efficiency and plant availability, while classifying it as the most advanced refinery in Central and Eastern Europe.

Refineries operating in the region

Situation on the Polish fuel and fuel products market is affected by the operations of several neighbouring refineries. Apart from the market leader, the refinery of PKN Orlen S.A. in Płock, the other refineries operating in the region also supply their products to the Polish market, thus competing with Grupa LOTOS.

Annual crude processing capacities of the key regional competitors are as follows:

- Płock refinery (PKN ORLEN), Poland – approximately 16.5m tonnes,
- Leuna refinery (TOTAL Group), Germany – approximately 12m tonnes,
- Schwedt refinery (PCK Raffinerie GmbH), Germany – approximately 12m tonnes,
- Mažeikiai refinery (PKN Orlen), Lithuania – nameplate capacity of 15m tonnes, but in view of the existing technology set-up and market conditions, only 8m tonnes of the capacity is effectively utilised,
- Schwechat refinery (OMV), Austria – approximately 9.7m tonnes,
- UniPetrol refineries in Kralupy, Litvinov (PKN Orlen), the Czech Republic – approximately 8.8m tonnes,
- Bratislava refinery (Slovnaft, MOL Group), Slovakia – approximately 6.2m tonnes.

Map 1. Grupa LOTOS refinery vs competitors in the region

Source: Company, refining capacity (m tonnes/year)

4.1.3 Main products

The key categories of products obtained from crude oil processing at the Grupa LOTOS refinery are:

- Fuels:
  - Unleaded gasoline. Unleaded gasoline is used in spark-ignition engines. Grupa LOTOS's unleaded gasolines include premium gasoline – LOTOS DYNAMIC 98, containing antioxidants and cleaning additives which ensure better cleaning of the engine, extend its life, and reduce fuel consumption. This DYNAMIC brand premium fuel is marketed solely through LOTOS service stations.
  - Diesel oil. It is designed for compression-ignition engines. The Company's offering includes premium diesel oil – LOTOS DYNAMIC DIESEL which, owing to the use of friction-reducing components, offers more power efficiency and, in winter, guarantees engine start at temperatures as low as -32°C. This DYNAMIC brand premium fuel is marketed solely through LOTOS service stations. Diesel oil has the largest share in the LOTOS Group's sales volume on the Polish market.
  - Fuel oil (light fuel oil). The product is intended for use in heating equipment. With a low sulfur content and unique additives, the product has oxidation resistance and anti-corrosive properties, helps maintain clean nozzles, and reduces noxious combustion emissions.
  - Aviation fuel. The product is intended for use in jet engines.
- Liquefied petroleum gas (LPG). The product can be used as a fuel for: engines equipped with an LPG system, heating equipment, gas tanks and bottles. It may also be feedstock for petrochemical processes.
- Naphtha. Naphtha is used as feedstock in the petrochemical industry and in production of motor gasolines. The entire output of naphtha is exported.
- Heavy fuel oil. The product has three principal applications: as a fuel for power generation, as a bunker fuel (since 2020, in vessels equipped with scrubbers), and as feedstock for further processing, including in coking units.
- Bitumens. The key product in this category is road bitumen used in the construction and maintenance of roads, airports and other hard surfaces. Apart from the road construction industry, bitumens are also used in the manufacturing of construction materials with waterproofing properties, with industrial bitumens being the most popular component.
- Base oils. The key product in this category is Group 1 base oils. They are used as feedstock for lubricating oils, including motor and industrial oils. The LOTOS Group's primary motor oil product lines include: LOTOS Aurum, Hybrid, LOTOS Quazar, premium synthetic oils for passenger cars, LOTOS Thermal Control, mineral, semisynthetic and synthetic oils dedicated for passenger cars, LOTOS Turdus, mineral, semisynthetic and synthetic oils dedicated for lorries. The lines of industrial oils are Hydromil, Transmil, and Remiz, which make up a full category of hydraulic, turbine and machine oils, as well as industrial lubricants.

Other major product lines

- TDAE and RAE class plasticizers marketed under the QUANTILUS T50 and QUANTILUS T60 brands, used by European and Asian tire and rubber manufacturers. These products meet the requirements of the EU REACH directive and have been approved by global tire manufacturers.
- MODBIT modified bitumens – state-of-the-art bitumens enhancing pavement resistance to rutting, and improving durability and resistance to extreme weather conditions.
- Xylene fraction is a product launched in 2012, obtained through reformate splitting. It is used as feedstock in plastics production. Xylene separation will further diversify the LOTOS Group's product portfolio and reduce the share of aromatic hydrocarbons in the range of gasoline components produced by the LOTOS refinery in Gdańsk. This will contribute to greater technological flexibility of the refinery, allowing it to sell some of the components on the fuel or petrochemical markets.
- Pet-coke – produced since 2019 (after the Delayed Cracking Unit (DCU) was launched at the Grupa LOTOS refinery), as a by-product of deep processing of heavy petroleum residue into high-margin middle distillates (diesel oil and aviation fuel).

4.1.4 Volumes of crude oil processing and products

In 2019, the Grupa LOTOS refinery processed 10.7m tonnes of crude oil, translating into the refinery's capacity utilisation rate of 102%. The mix of crudes resulted from the production optimisation process whose objective was to take advantage of opportunities for increasing the refinery's processing margin.

In 2019, the refinery's output was 11.5m tonnes of products[5]. Diesel oil accounted for the largest share of production, with an output of 5.5m tonnes, up 2.9% year on year. Its share in total production was 48.0%.

[5]The difference between the volume of crude oil processed and the refinery's output of products stems from the fact that, apart from crude oil, the processing units and finished product blenders receive biocomponent streams, enhancing additives and middle distillates purchased from third-party suppliers.

Figure 28. Grupa LOTOS S.A.'s product yields
(million tonnes)

Source: Company

The tool by means of which industry players show the refinery's production capacities is the model refining margin. The indicator represents an approximation of the refinery's profitability based on publicly available market quotations published by market data providers (for Grupa LOTOS, it is Refinitiv), taking into account the aggregation of product categories into generally available price indices, on which most sales are based.

The model margin is calculated for a yield structure estimated in the averaged scenario (excluding annual seasonality) of the Grupa LOTOS refinery operation.

Until the end of the third quarter of 2019, the model refining margin published by Grupa LOTOS S.A. had been based on the refinery's then existing configuration. In the fourth quarter of 2019, the Company suspended its publication as, in connection with the launch of EFRA Project units and the changing production volumes, the model refining margin published by Grupa LOTOS ceased to reflect the yield structure and accurately present the refinery's profitability. The Company will update the model margin calculation methodology after the operation of the refinery together with the EFRA units stabilises.

Since the fourth quarter of 2019, the Company has published a monthly structure of refining products to give an approximate view of the effect of the EFRA Project's implementation.

4.1.5 Supply sources

As its main feedstock, Grupa LOTOS S.A. relies on Russian REBCO (Russian Export Blend Crude Oil). Compared with the global Brent oil benchmark, REBCO is a blend of heavier crude grades with higher sulfur content, and yields more middle distillates (diesel oil, aviation fuel). In 2019, the share of REBCO in the crude slate was approximately 78%. Crude oil from the Lubiatów and Rozewie fields accounted for approximately 4% of the LOTOS refinery's crude throughput. Crude oil from other sources accounted for the balance of the crude feed.

Figure 29. Grupa LOTOS S.A.'s crude oil supply sources
('000 tonnes)

Source: Company.

In the refinery production process, the Company uses crude oil, intermediate products, chemicals and petroleum materials with a consolidated value shown in the table below.

Table 2. Breakdown of LOTOS Group's purchases of petroleum merchandise

	2019		2018	
	(PLNm)	share (%)	(PLNm)	share (%)
Liquid gas	112.7	10.4%	123.3	17.5%
Gasolines	8.6	0.8%	138.5	19.7%
Diesel oils	868.5	80.7%	369.7	52.6%
Crude oil	21.9	2.0%	59.5	8.5%
Natural gas	64.3	6.0%	12.1	1.7%
Other	0.8	0.1%	-	-
Total	1,076.8	100.0%	703.1	100.0%

Source: Company

Table 3. Breakdown of LOTOS Group's purchases of feedstocks, semi-finished products, chemicals and petroleum materials

	2019		2018	
	(PLNm)	share (%)	(PLNm)	share (%)
Crude oil	18,683.3	86.7%	19,791.0	85.3%
Gasoline components: MTBE/ETBE	186.6	0.8%	167.8	0.7%
FAME	1,114.2	5.2%	1,015.4	4.4%
Ethyl alcohol	232.6	1.1%	208.1	0.9%
Additives	87.4	0.4%	98.8	0.4%
Diesel oil components	371.6	1.7%	778.9	3.4%
Natural gas	428.1	2.0%	707.9	3.0%
Bitumens, bitumen components and additives	58.6	0.3%	81.0	0.3%
Feedstock for FAME production	374.5	1.7%	351.4	1.5%
Other	16.2	0.1%	12.4	0.1%
Total	21,553.1	100.0%	23,212.7	100.0%

Source: Company

4.1.6 Suppliers

In 2019, the key suppliers to the LOTOS Group whose supplies accounted for more than 10% of the Group's total revenue were: VITOL SA of Switzerland, Joint Stock Company Oil Company Rosneft of Russia, and Tatneft Europe AG of Switzerland. Their shares in the LOTOS Group's purchases were respectively 27%, 25% and 23%. To the best of the Company's knowledge, there were no formal links with the Company that would be relevant to the key suppliers.

4.1.7 Customers

Grupa LOTOS S.A. sells its fuel products on the domestic retail market through the subsidiary LOTOS Paliwa. On the wholesale market, the Company supplies international companies, external customers (including under contracts with the Material Reserves Agency and the Military Property Agency) and, through LOTOS Paliwa, other wholesale customers, as well as independent service stations. In 2019 and 2018, none of the LOTOS Group's customers accounted for more than 10% of total revenue.

4.2 The LOTOS Group's sales of petroleum products on the domestic market

In 2019, fuel consumption in Poland (gasoline, diesel oil and light fuel oil) was 28 mcm, up 3.3% on 2018.

After 12 months, Poland's fuel balance was negative, due mainly to a diesel oil deficit, which has been visible on the market for several years now, widening at a rate faster than an increase in supply. A deficit of gasoline is also worth noting, which emerged in 2017 and continued into 2019.

Figure 30. Gasoline and diesel oil imports to Poland ('000 tonnes)

In 2019, the LOTOS Group held a 32.7% share in the domestic fuel market, up 1.5pp year on year.

Figure 31. LOTOS Group's share in Poland's total domestic fuel market (%)

Figure 32. Share of individual operator groups in the retail fuel market in Poland (%)

Source: Polish Organisation of Oil Industry and Trade (POPiHN).

4.2.1 Retail fuel sales

In 2019, the share of domestic oil companies in the retail market rose from 33.3% in 2018 to 34.2% in 2019, that is by 0.9pp. The share of international companies remained unchanged year on year, at 19.9%. However, independent operators' share declined from 40.5% to 39.3%. The market share of service stations operated by supermarket chains remains unchanged at 6.6%.

According to the POPiHN, there were over 7,600 service stations on the Polish fuel market at the end of 2019, down 2% year on year. As in previous years, 79.8% of them belonged to Polish companies, 20.2% were operated by international corporations, while – which is worth noting – 47.0% were owned by independent operators. The chains owned by oil companies were developed by opening both company-owned dealer-operated (CODO) and dealer-owned franchised (DOFO) stations.

The largest service station chains included:

- PKN Orlen – 1,800, increase by 13 locations year on year
- BP – 575
- LOTOS – 506
- Shell – 415
- Circle(K) – 353

Figure 33. Service stations in Poland at the end of 2019

Source: Polish Organisation of Oil Industry and Trade (POPiHN).

Operations on the Polish retail fuel market are conducted by LOTOS Paliwa through: development and management of the CODO (*Company Owned Dealer Operated)* and DOFO (*Dealer Owned Franchise Operated*) service station networks, and sale of:

- fuels through CODO stations, including Motorway Service Areas,
- fuels to DOFO stations,
- non-fuel goods, including food products, through CODO stations,
- services, including car wash services, through CODO stations,
- alternative fuels services, including LOTOS Blue Trail electric vehicle charging.

As part of its trading activities in 2019, Grupa LOTOS began to gradually replace the volumes of diesel oil sourced externally with its own product from the EFRA unit.

As at the end of 2019, 506 service stations operated under the LOTOS logo, including:

- 312 CODO stations,
- 194 DOFO stations.

In 2019 11 new locations were added to the chain, including 6 CODO and 5 DOFO stations:

- 6 new CODO stations were launched,
- 8 new DOFO stations were added to the chain while 3 franchises were terminated.

The LOTOS Group's objective is to maximise the utilisation of its resources by enhancing fuel sales and non-fuel revenues.

One of the elements of its strategy is to develop the service station chain at motorways and expressways. Sales in the Motorway Service Area format will take place at locations where LOTOS Paliwa operates or will launch service stations following successful tenders.

To enhance its position in the strategic segment of service stations located at motorways and expressways, in 2019 the company participated in contract award procedures organised by the General Directorate for National Roads and Motorways (GDDKiA) to select licencees for MSAs built at new sections of motorways and expressways.

In 2019, 1.3m tonnes of fuels were sold by service stations bearing the LOTOS logo, up 1.2% on 2018.

In 2019, the average daily fuel sales at existing LOTOS service stations fell slightly by 0.1% (while POPiHN stations recorded a 0.4% increase). On the other hand, the average monthly store sales grew by 7.2% (vs +4.5% for POPiHN).

In 2019, the following record-high figures were recorded for the LOTOS service station chain:

- sales at DOFO stations,
- sales of fuels to fleet customers, and
- sales of fuels at CODO stations.

What is more, an unprecedentedly high number of fleet cards were issued, which is guaranteed to improve recognition of the LOTOS brand among service station users.

As a result of the continued efforts to enhance sales efficiency, the profitability of CODO stations improved markedly.

Thanks to the Sunday trading ban and sales initiatives, store sales at CODO stations in 2019 went up by 8.3% year on year. At the same time, cost optimisation measures helped push up the retail margin by 12.0%. Various systemic changes were also made, including the introduction of product category management, active price management, and optimisation of procurement.

Thanks to numerous initiatives, LOTOS Paliwa posted its best performance on record and is a mature business unit generating substantial positive cash flows. Within two years, LOTOS Paliwa repaid all the loans from its shareholder and became a dividend paying company, generating value for Grupa LOTOS Shareholders.

4.2.2 Wholesale of gasoline, diesel oil and light fuel oil

In 2019, the LOTOS Group strengthened its existing and developed new trading relationships with key customers. Further development of these key customer relationships was supported by the Group's reliability as a supplier, the services offered and the quality of fuels supplied.

Within individual business units, the Group took steps to maximise profits, focusing on customers with the greatest growth potential and reviewing its geographical structure to exploit the logistics network in an economically viable way.

Seeking and optimising wholesale synergies between Grupa LOTOS S.A. and LOTOS Paliwa were a factor taken into account in defining the scale and scope of business relationships with customers. The aim was to maximise profit margins, particularly on diesel oil, as demand for diesel significantly exceeded the production capacities of domestic refineries.

Given the volumes of diesel oil obtained from EFRA Project units, the Company plans to establish relationships with new trade partners and to increase the scale of its operations.

In 2019, the LOTOS Group's wholesale operations focused on:

- expanding its business with customers to place significant volumes of diesel oil from EFRA Project units;
- flexibly managing target groups/sales channels in Poland to place fuel products in the most efficient way while ensuring transaction security;
- consolidating sales within the group of strategic customers;
- strengthening its position on existing markets and at the new terminal in Szczecin;
- effectively implementing the pricing policy.

4.2.3 Sale of aviation and marine fuel

The LOTOS Group company responsible for marketing aviation fuel on the home market is LOTOS Air BP Polska.

In 2019, the company improved the profitability of its into-plane services relative to the preceding year and launched operations at a new location in Poznań. LOTOS Air BP supplied fuel at the airports in Warsaw (Okęcie), Gdańsk, Katowice, Lublin, Olsztyn, and Poznań.

In 2019, LOTOS Air BP Polska recorded a decline in wholesale volumes, driven by a year-on-year reduction in demand from PKN Orlen and a lower volume of aviation fuel produced by the LOTOS Group. As part of optimisation efforts, the LOTOS refinery in Gdańsk produced more diesel oil, which was sold on the home market.

Marine fuel was marketed by LOTOS Asfalt, with vessel operators on the Baltic Sea as its key target market. The company's objective for 2020 and beyond is to market marine fuel efficiently, that is to maintain sales of MGO (Marine Gas Oil) and further develop alternative (hybrid) fuels, which is consistent with the IMO 2020 global regulations mandating a 0.5% sulfur cap on marine fuel emissions.

4.2.4 Production and sale of LPG

2019 saw continued marketing efforts to build the position of Grupa LOTOS on the Polish LPG market. Given the expected increase in LPG yields following the launch of EFRA and the hydrogen recovery unit in the coming years, the key areas of focus for the marketing, logistics and refining staff have been to build the market, and to organise and upgrade product storage and loading logistics at the refinery.

The steady growth in LPG output, and consequently of sales, year over year confirms that the measures taken have been effective and need to be intensified going forward.

4.2.5 Production and sale of motor and industrial oils

Production and distribution of lubricants: automotive, industrial and lubricating oils, base oils and car care products are the business of LOTOS Oil Sp. z o.o.

In 2019, LOTOS Oil's sales efforts were focused on the automotive segment, particularly on increasing the share of synthetic and semi-synthetic oil products for passenger cars.

Key factors with bearing on the LOTOS Group's operations in the lubricating oils market included:

- amendment of the Excise Duty Act, introducing full excise duty on products classified under CN code 3403 (lubricating preparations), which in the long run should eliminate improper classification of certain lubricating products;
- introduction by LOTOS Oil into its portfolio of LOTOS Aurum (economy segment) and LOTOS Hybrid (motor oils for hybrid engines) products;
- increased share of high-margin speciality oils (supported by technical advice or comprehensive oil service) in the subsidiary's total sales of industrial oils.

In 2019, the company won a tender for the supply of up to 10,000 tonnes of lubricating products per year and was shortlisted for the final phase of a tender procedure by another global customer (up to 15,000 tonnes per year).

As part of its efforts to create added value and drive economies of scale, LOTOS Oil became a member of the Polish Automotive Group and the Association of Polish Enterprises in Ukraine. The aim of these efforts was to attract new customers for the company's own products, exchange databases with foreign operators and pursue joint projects to further business expansion within the sector.

4.2.6 Production and sale of bitumens

The Group subsidiary dedicated to the bitumens business is LOTOS Asfalt Sp. z o.o., a producer and distributor of a broad range of road bitumens, soft road bitumens, modified bitumens, WMAs (warm mix asphalts) and industrial bitumens. The company also developed made-to-order products.

The outstanding properties of WMAs enable the manufacture of bitumen and aggregate mixes that need better workability due to the production technology, prevailing weather conditions or composition.

LOTOS Asfalt Sp. z o.o. seeks to strengthen its leading position in modified bitumens, which represent a growing segment of the market. In 2019, the company held approximately 45% of the domestic market for modified bitumens.

4.3 Export markets – sale of petroleum coke, heavy fuel oil and naphtha

In 2019, Grupa LOTOS S.A. exported over 2m tonnes of products, half of which was heavy fuel oil. Its other main export products by volume were naphtha, motor gasoline, aviation fuel, and xylene fraction.

Grupa LOTOS S.A.'s export fuels are shipped by land and sea, with the majority of such products delivered by tankers through the handling infrastructure managed by Naftoport. Transhipment takes place through dedicated product pipelines, approximately 12 kilometres in length, for unleaded petrol, reformate, diesel oil, aviation fuel, naphtha, and fuel oil. Tankers with a capacity of 6 to 19 thousand tonnes are used to carry the products.

The company also imports diesel oil using Naftoport's infrastructure and the Gdynia-Dębogórze fuel depot. In the case of xylene fraction, the HES Gdynia Bulk Terminal is used for exports.

The key foreign market for products sold by Grupa LOTOS S.A. are Western European countries, and the key market for products transported by land routes are CEE countries.

Following the launch of the DCU in 2019, sales of pet-coke came close to 60 thousand tonnes. In 2020, its output is expected to reach some 350 thousand tonnes as a result of increased production of high-margin fuels, including diesel oil, gasoline and LPG. The pet-coke product is supplied to Oxbow Energy Solutions B.V., a Dutch company, with which LOTOS Asfalt has signed a 10-year agreement. That customer is one of the largest players on the global pet-coke trading market, which will ensure the stability of pet-coke sales, with a view to sustaining continuous fuel production from the DCU unit.

With the EFRA Project completed, the Company can flexibly optimise its output, to maintain competitiveness of refining products in the event of any changes in the market prices of feedstock or petroleum products.

4.4 Logistics supporting the Refining & Marketing segment

The LOTOS Group consistently adapts its logistics operations to its trading requirements and builds an efficient distribution system that meets the expectations of its customers, while being optimised. The purpose of those measures is to build an optimum logistics chain that would function efficiently in the constantly changing external and internal environments.

Grupa LOTOS S.A. enjoys considerable cost advantages because of its direct access to product and feedstock pipelines linking the refinery in Gdańsk to the liquid fuel handling facilities at Port Północny. Maritime transport plays the key role in the Company's export of oil products, while accounting for a significant portion of feedstock deliveries and components used in production processes. Over 7.9m tonnes of crude oil, petroleum products, and fuel components were loaded and unloaded by Grupa LOTOS S.A. at sea ports in 2019. During the year, 285 tankers were received or dispatched, including 71 transporting crude oil.

Map 2. **Logistics infrastructure of the LOTOS Group**

Source: Company

In 2019, the fuel depot network of Grupa LOTOS S.A. was expanded to include fuel distribution from the Szczecin terminal. The structure of stocks was enhanced to minimise related costs, while ensuring sufficient stocks were held to meet Grupa LOTOS S.A.'s trading requirements.

As part of efforts to optimise operating expenses, work related to rolling stock deployment was continued, resulting in numerous benefits in terms of costs and the number of rail tank cars used. At the same time, some of the railway

infrastructure was upgraded to accommodate tank cars with a payload capacity of up to 22.5 tonnes per axle, which significantly increased daily shipments of oil products.

In secondary logistics of fuels, Grupa LOTOS S.A. adopted a model of cooperation with transport companies that guaranteed appropriate flexibility in customer service with fixed costs curbed to the minimum.

In 2019, work was continued to develop small marine cargo handling, and the project to construct a transhipment terminal on the Martwa Wisła river was approved, progressing to the next level.

Seeking to expand its capacity to dispatch refinery products and to adapt its infrastructure to conditions prevailing on the domestic fuel market, the Group was engaged in a project to construct a railway loading facility, scheduled to be placed in service at the end of 2020.

In 2019, a number of IT improvements were made and, as part of a broader effort to enhance the quality of key customer service, the electronic data exchange interfaces with key customers were upgraded. The SAP system was configured to support the introduction of an emissions charge and tools were put in place at fuel depots to enable product blending in line with current market demand. For the purposes of the Act on the Monitoring System for the Carriage of Goods (SENT), systems have been deployed or adapted to monitor the LPG fuel transport.

In response to market demand, on January 14th 2020 the Company signed contracts to extend and upgrade its fuel depot in Piotrków Trybunalski. The commenced project, to be implemented between 2020 and 2021, is designed to increase the depot's storage capacity to nearly 11 thousand cm, while doubling the amount of fuels it can handle.

4.4.1 Storage and distribution of fuels

LOTOS Terminale S.A. is the business centre responsible for professional fuel storage and distribution operations throughout Poland.

The company operates four fuel depots in Czechowice-Dziedzice, Poznań, Piotrków Trybunalski and Rypin, where it handles more than 2 mcm of fuels annually. LOTOS Terminale has a subsidiary LOTOS Biopaliwa, which produces 100 thousand tonnes of biofuel components per year.

4.4.2 Railway transport

Rail transport of products from the refinery in Gdańsk is a mainstay of the Group's production security. Comprehensive rail logistics services are provided to the entire Group by LOTOS Kolej, a rail operator.

In 2019, LOTOS Kolej provided the following railway services:

- rail freight transport in Poland,
- independent freight transport services in Germany,
- traction services,
- trainload and non-trainload services,
- maintenance of rolling stock,
- eco-friendly cleaning of rail tank cars,
- international rail freight,
- railway siding services for the LOTOS Group,
- lease of rail cars,
- train driver training services.

In 2019, LOTOS Kolej transported 12.8 million tonnes of cargo, 8.4 million of which were hazardous materials. In 2019, the weight of freight carried by the company was up 2.4% over the previous year.

LOTOS Kolej continues to develop its business relations with customers from outside the LOTOS Group in both domestic and international freight transport.

In 2019, LOTOS Kolej continued its four-year contract with the Polish Armed Forces for the transport of F-34 aviation fuel. The contract was awarded following a tender procedure based on strictly defined criteria, including safety and service quality.

In 2019, the company continued to transport grains and fodder under the GMP+ B4 standard, which sets out specific procedures for transporting this type of cargo. Having obtained the certificate required by most exporters of grains and fodder to Western Europe, the company transported these goods by its own means, in dedicated rail cars.

In 2019, LOTOS Kolej held a 9.8% share in the rail freight market in terms of tonne-kilometres, an increase of 0.9pp over the year before[6], having ranked second among all rail freight carriers.

[6]Source: Polish Office of Rail Transport.

LOTOS Kolej, a modern and dynamically growing company, has been providing freight transport services in Germany for over two years now. In 2019, using the services of its own and German train drivers, it transported more than 556 thousand tonnes of goods, but it plans to consistently increase that volume. By expanding the operations in Germany, LOTOS Kolej broadened its offering, while providing its customers with fast and reliable transport services between Poland and Western Europe. In 2019, the company entered into further cooperation agreements with the Russian, Lithuanian and Belarusian railways setting out the mutual conditions of cargo handover at border crossing points, which allowed it to continue freight carriage (i.e. of containers and coal).

In 2019, the company upgraded another two SM42 locomotives to the 6Dg standard, thus expanding its modern shunting fleet to 13 vehicles.

On January 29th 2020, LOTOS Kolej signed a contract to purchase a NEWAG electric locomotive and 216 Kolowag flat wagons as part of its project to purchase modern intermodal rolling stock, partly financed by EU funds. Under the same project, the company purchased a four-axle Griffin electric locomotive, equipped with a level 2 ETCS.

4.5 Refining & Marketing sales structure

In 2019, the LOTOS Group's Refining & Marketing segment sold 11,496 thousand tonnes of products (down 1.6% year on year), the bulk of which (8,936 thousand tonnes, or 77.7%) having been placed on the domestic market. Domestic sales grew 3.8%, while exports fell 16.9% year on year.

At 5,932.2 thousand tonnes (up 8.5%), diesel oil accounted for the major part of overall sales. Its entire volume was sold domestically. Another product category with a significant share in total sales were gasolines (which sold 1,647 thousand tonnes (down 1.2%)). Sales of heavy products also fell off (to 1,798 thousand tonnes, down 14.8%), due mainly to lower exports, which accounted for the majority of sales within this product category.

Table 3. Refining & Marketing sales structure (tonnes)

	2019			2018		
	domestic sales	exports	total	domestic sales	exports	total
Gasolines	1,411,177	236,049	1,647,227	1,312,268	355,666	1,667,933
Pyrolysis gasoline	0	474,031	474,031	0	537,766	537,766
Reformate	0	0	0	0	6,379	6,379
Diesel oil	5,932,327	0	5,932,327	5,454,545	15,073	5,469,617
Bunker fuel	94,537	0	94,537	85,656	0	85,656
Light fuel oil	228,816	0	228,816	239,936	0	239,936
Heavy products	528,637	1,269,442	1,798,080	611,319	1,498,337	2,109,656
Jet	192,200	252,508	444,707	237,868	314,198	552,067
Luboils	26,752	42,295	69,047	26,467	30,547	57,014
Base oils	12,310	174,880	187,189	11,681	193,402	205,083
LPG	243,252	0	243,252	233,907	0	233,907
Other petroleum products	265,724	79,747	345,471	200,131	86,537	286,667
TOTAL	8,935,732	2,528,952	11,464,684	8,413,778	3,037,905	11,451,681

Source: Company

5 LOTOS Group's exploration & production activities

5.1 Organisation of the Exploration & Production segment

As at December 31st 2019, the LOTOS Group's Exploration & Production segment was organised in accordance with the business structure chart shown below.

Chart 1. Exploration & Production business structure
As at December 31st 2019

Source: Company

The LOTOS Group's exploration and production activities are carried out by two dedicated entities: LOTOS Petrobaltic and LOTOS Upstream.

LOTOS Upstream (LUPS) pursues business development plans with the support of the following subsidiaries: LOTOS E&P Norge AS (operations on the Norwegian Continental Shelf), AB LOTOS Geonafta and its subsidiaries (onshore operations in Lithuania), Baltic Gas Sp. z o.o., Baltic Gas i wspólnicy sp. z o.o. sp.k. (the B4/B6 gas field development project), and LOTOS Upstream UK Ltd (a vehicle for potential business expansion in the UK).

LOTOS Petrobaltic and its subsidiaries focus on the exploration and production as well as oilfield operation and services in the Baltic Sea, including production from the B3 field, development of the B8 field to start full-scale production, and execution of exploration projects in the Baltic Sea and within onshore licence areas in Poland. Concurrently, the Exploration & Production segment's current business structure supports the development of LOTOS Petrobaltic's engineering, execution and design capabilities for the offshore sector, which may ultimately be used in providing services outside the LOTOS Group.

5.2 Upstream assets and production volume

The LOTOS Group is engaged in exploration and production activities in Poland, Norway and Lithuania. In 2019, hydrocarbons were produced from fields located in:

- the Baltic Sea – mainly crude oil with a small amount of associated natural gas,
- Norwegian Continental Shelf – natural gas and condensate (i.e. light crude oil) with a predominant share of the gas,
- onshore Lithuania – crude oil.

In 2019, the LOTOS Group's average daily volume of oil and gas production was 20.7 thousand boe, which translates into an annual capacity of some 1 mtoe. Approximately 75% of that total output, i.e. 15.5 thousand boe/d, came from the Norwegian fields.

At the end of 2019, the LOTOS Group's total 2P (proved and probable) reserves were estimated at 81.3 mboe, including 65.2 mboe of crude oil (80% of the total 2P reserves) and 16.1 mboe of natural gas (20% of the total 2P reserves).

Map 3. LOTOS Group's hydrocarbon reserves and output 2P oil and gas reserves as at December 31st 2019
Average daily oil and gas output in 2019

Source: Company

Table 4. Oil and gas sales structure

	2019		2018	
	(by volume)	(%)	(by volume)	(%)
Natural gas (mboe)	3.95	57.8%	4.06	57.9%
Oil (mbbl)	2.87	42.2%	2.94	42.1%
Total oil and gas (mboe)	6.83		7.01	

Source: In-house analysis.

5.3 Exploration and production activities in Poland

5.3.1 Competition for the upstream business

Operators exploring for hydrocarbon deposits, appraising them and producing hydrocarbons from fields in Poland are mainly companies majority-owned by the Polish state. The leader is PGNiG, which:

- is engaged in exploration and appraisal work within 47 licence areas (of which 42 it operates by itself and 5 – jointly with partners). As at the end of 2019, this number accounted for 64% of all licences for exploration and appraisal of crude oil and natural gas deposits issued in Poland;
- holds 190 oil and gas production licences (96% of all licences issued).

The LOTOS Group is the leader in exploration and production within the Polish zone of the Baltic Sea. All the three combined offshore hydrocarbon exploration, appraisal and production licences and all the four licences for production of hydrocarbons from oil and gas fields within the Polish Economic Zone of the Baltic Sea have been issued to the LOTOS Group's subsidiaries and their joint ventures. Work under production licences covering the B4B6 gas fields is being carried out in collaboration with a partner, CalEnergy Resources Poland Sp. z o.o. (through the Baltic Gas Spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. partnership). The LOTOS Group's interest in the B4B6 project is 51%.

Table 5. Companies holding the highest number of licences for exploration and production of hydrocarbons from sources in Poland
As at December 31st 2019

	Licences for exploration and appraisal of hydrocarbon deposits	Licences for production of hydrocarbons from sources in Poland
PGNiG S.A.	47	190
Orlen Upstream Sp. z o.o.	9	
LOTOS Group	4	4
ShaleTech Energy Sp. z o.o.	4	
ZOK Sp. z o.o.		2
TRIAS Sp. z o.o.		1

Source: Public Information Bulletin of the Climate Ministry, Reports and statements on licence awards – December 2019
https://bip.mos.gov.pl/koncesje-geologiczne/raporty-i-zestawienia-dotyczace-udzielonych-koncesji-w-tym-zestawienia-otworow-wiertniczych/raporty-i-zestawienia-rok-2019/raporty-i-zestawienia-grudzien-2019-r/

5.3.2 Key assets of the LOTOS Group (production levels and licences)

The LOTOS Group's key offshore licence assets in Poland include:

- B3 production field: In 2019, the average daily output of crude oil and associated natural gas was 1.3 thousand boe/d. As at the end of 2019, the field's remaining 2P recoverable reserves were estimated at 13.2 mboe. Based on the current licence validity date, production from the field is expected to continue until 2031.
- B8 field under development and initial production: The project is being carried out by B8 Sp. z o.o. Baltic s.k.a. (an SPV), which in 2019 ran initial production at an average daily rate of 3.2 thousand boe/d. At the same time, the shipyard phase of the Petrobaltic rig conversion into the field's production hub was completed. As at December 31st 2019, the field's remaining 2P recoverable reserves were estimated at 34.7 mboe. Based on the current licence validity date, production from the field is expected to continue until 2036.
- B4B6 gas fields under preparation for development: The project is to be delivered through Baltic Gas LLP (an SPV), in partnership with CalEnergy Resources Poland Sp. z o.o. LOTOS holds a 51% interest in the project. The 2C recoverable contingent resources of the B4B6 fields are estimated at 4.8 bcm of gas (for the 100% interest). The project is now awaiting a final investment decision (FID).

Exploration and appraisal work is being carried out by LOTOS Petrobaltic under three offshore licences for exploration, appraisal and production of crude oil and natural gas in Łeba, Rozewie and Gotland. Hydrocarbons are being produced under two production licences covering the B3 field and B8 field (through the SPV B8 Sp. z o.o. Baltic s.k.a). The operations of LOTOS Upstream in the Baltic Sea include work under two hydrocarbon production licences covering the B4 and B6 fields (through the SPV Baltic Gas Sp. z o.o.).

Onshore exploration and appraisal work is being carried out by LOTOS Petrobaltic as the operator of a licence to explore for and appraise crude oil and natural gas deposits in the Młynary area and in partnership with PGNiG within the Górowo Iławeckie licence area (where LOTOS Petrobaltic's interest is 49%). In the Młynary licence area, work to acquire, process and interpret 200 km^2 of 2D seismic profiles was completed. Also, on September 25th 2019, the Environment Ministry issued a decision converting the licence into an exploration and production licence. In the Górowo Iławeckie licence area, work to acquire, process and interpret 112 km^2 of 3D seismic data was completed. Following an analysis of the results, further work is being planned within the area of both licences with a view to their detailed appraisal.

Map 4. Licences held by the LOTOS Group companies in Poland
As at December 31st 2019

Source: Company

5.3.3 Logistics

Crude oil and associated natural gas are produced from the B3 field using the Baltic Beta rig and the PG-1 unmanned drilling rig. All produced crude oil is transported by tankers and sold to Grupa LOTOS S.A. Natural gas is transported via a subsea 80 km pipeline to the CHP plant in Władysławowo, owned by Energobaltic Sp. z o.o. (wholly-owned subsidiary of LOTOS Petrobaltic).

Initial production of crude oil from the B8 field is being handled by the LOTOS Petrobaltic drilling platform. All produced crude oil is transported by tankers and sold to Grupa LOTOS S.A. Production will ultimately be carried out using the Petrobaltic rig, after its launch. Natural gas will be transported via a subsea pipeline to Energobaltic's CHP plant in Władysławowo.

In June 2019, a new Petro Giant drilling rig was purchased from Maersk. Once the adaptation work required for class renewal and crew training is completed, the rig will start workover operations on the LOTOS Group's Baltic Sea fields. Its first task in 2020 will be to work over two wells on the B3 field. Next, further work is planned on the B3 field, i.e. seven well workovers and the drilling of a new B3-18 production well, in order to maximise the recovery rate and enhance production. In addition, the Petro Giant platform is being technically prepared to provide external services.

Sea logistics services in the Baltic Sea region are provided by the Miliana Shipholding Group. The services consist in the receipt and storage of crude oil at production sites, transport of crude from the field onshore, and rescue assistance services for offshore rigs.

5.4 Exploration and production activities in Norway

Exploration and production activities in Norway are conducted through the subsidiary LOTOS E&P Norge AS ("LEPN") of Stavanger. At the end of 2019, LEPN held interests in 27 licences for exploration, appraisal and production of hydrocarbon reserves in the Norwegian Continental Shelf. In January 2020, LEPN was awarded interests in two new licences in Norway following the APA 2019 licensing round (*Awards in Predefined Areas):* 9.74% interest in the 442C licence covering an extension of the Liatårnet discovery and 16% interest in the 036F licence in the Trell/Trine area. The new licences are operated by AkerBP. Both licences are an important addition to the existing asset base in the Greater Heimdal and Trell/Trine areas. Following their formal inclusion, the LOTOS Group's portfolio of Norwegian assets will comprise 29 licences.

In 2019, the LOTOS Group's average daily output in Norway was 15.5 thousand boe/d (+2% year on year), which accounted for 75% of its total production volume. Production comprised natural gas and condensate from fields located in the Heimdal and Sleipner areas, including the Utgard field, brought on stream in September 2019.

As at the end of 2019, the LOTOS Group's P2 hydrocarbon reserves in Norway totalled 30.7 mboe (including 18.8 mboe of crude oil and 12.0 mboe of natural gas), which accounted for 38% of the Group's total 2P reserves.

5.4.1 Competition for the upstream business

Highly prospective in terms of resources and still offering considerable potential for new oil and gas discoveries, the Norwegian Continental Shelf remains an attractive area of activity for companies in the upstream industry, given the prevailing positive trends in cost reduction, efficiency improvement and technology advancement, the active trading market as well as the stable fiscal and regulatory environment.

2019 was another year of strong exploration and production activity within the Norwegian Shelf, as shown below through key statistics:

- NOK 150bn worth of completed projects (excluding exploration) (up 17% over 2018),
- 57 exploration wells drilled (4 more than in the previous year),
- 83 new licences awarded under the APA round (*Awards in Pre-defined Areas*),
- 17 new discoveries (of which Liatårnet is the largest one, with the LOTOS Group's interest of 9.74%),
- 7 new PDOs approved by the regulator,
- the gigantic Johan Sverdrup field, third largest on the Norwegian Shelf, accounting for approximately 20% of total oil production in Norway, brought on stream.

As at the end of 2019, a record-high number of fields (87) were under production.

The Norwegian Continental Shelf still offers attractive growth and value addition potential for exploration and production companies. According to data from the Norwegian Petroleum Directorate, a governmental authority, out of Norway's total oil and gas resources estimated at approximately 15.7 bcm, more than half are still potentially producible, including the remaining recoverable reserves of producing fields or fields under development (approximately 18% of the total), contingent resources of new discoveries (approximately 9%), as well as prospective resources identified within exploration areas (approximately 25%).

Figure 34. Potential resources of the Norwegian Continental Shelf

Source: In-house graph based on data from the Norwegian Petroleum Directorate, url: https://www.npd.no/en/facts/publications/reports2/the-shelf/

In 2019, the daily hydrocarbon production in Norway averaged 3.7 mboe/d (down 6% year on year). According to the Norwegian Petroleum Directorate's estimates, the downward trend should reverse from 2020 onward, with an expected steady increase in oil and gas production at a CAGR of approximately 4-5% over the next five years. The production peak of approximately 4.4 mboe/d is expected to be reached in 2024 at lower operating costs, which should translate into improved project efficiency and profitability combined with higher added value potential of exploration and production activities in Norway.

Operations on the Norwegian Continental Shelf are carried out by various groups of industry investors, including new market players. The competitive environment in Norway is changing, with the most prominent trends of recent years including:

- very active consolidation of assets and companies, which has caused some shifts in the ranking of key players: reduced dominance of oil majors, significant expansion of the business scale and strengthening of the market position by companies such as Var Energi and AkerBP,
- stronger market activity of companies supported by private equity funds,

- continuing divestment of production asset portfolios in the North Sea by large international players and, as a result, their reduced market shares (many large companies, mainly US-based, decided to fully exit Norway, in search for greater growth opportunities matching their scale and aspirations),
- growing difficulties in raising capital for purely exploration projects – a new market trend, driven mainly by the pro-environmental policy pursued in Europe.

Equinor remains the leader on the Norwegian Shelf, holding, together with the state-owned company Petoro, close to 60% of all Norway's production reserves. Other significant market players include: Var Energi, Total, AkerBP, Lundin Petroleum and Wintershall DEA. Another important group of investors are independent E&P operators, supported by private equity funds, such as: Edge Petroleum, OKEA, Chrysaor, Pandion Energy and Wellesley Petroaleum. The remaining market shares are held mainly by large US players, utility companies and state-owned oil producers, such as: Grupa LOTOS, PGNiG and OMV. LOTOS E&P Norge, with a current daily production volume of some 15.5 thousand boe/d and 2P reserves of approximately 30 mboe, holds a 0.4% share in the market.

5.4.2 Key assets of the LOTOS Group (production levels and licences)

The LOTOS Group's key licence assets in Norway include:

- Heimdal producing fields: Atla. LEPN holds a 20% interest in the field, while the remaining interests are as follows: Skirne – 30%, Vale – 25.8%, Heimdal – 5%. As at the end of 2019, the field's remaining 2P recoverable reserves were estimated at 0.9 mboe for the LOTOS Group interest (with a higher share of gas – 61%). In 2019, the average daily production rate was 1.9 thousand boe/d for the LOTOS Group interest.
- Sleipner producing fields: Sleipner Vest, Sleipner East, with the Gungne and Loke satellite fields. LEPN holds a 15% interest. As at December 31st 2019, the remaining 2P recoverable reserves were estimated at 11.7 mboe for the LOTOS interest (with a predominant share of gas – 73%). In 2019, the average daily production rate was 11.4 thousand boe/d for the LOTOS Group interest.
- Utgard production field. LEPN's interest: 17.36%. The field development project was completed, with production launched on September 16th 2019. As at the end of 2019, the field's remaining 2P recoverable reserves were estimated at 5.4 mboe for the LOTOS Group interest (52% of natural gas). The average daily production rate was 7.2 thousand boe/d in Q4 2019 for the LOTOS Group interest.
- Yme field under development. LEPN holds a 20% interest in the field. The field operator is Repsol, and the development activities are being carried out in accordance with the approved new PDO, using a leased platform – Maersk Inspirer. The project is under advanced development, with the production launch date expected by the operator in Q4 2020. The field's 2P recoverable reserves are estimated at 12.7 mboe for the LOTOS Group interest as at December 31st 2019 (100% of crude oil).
- Potential new NOAKA development project. It provides for development of a number of discoveries within the Greater Heimdal area (Frigg Gamma Delta, Rind, Langfjellet, Liatårnet, Fulla and Frøy), in which LEPN holds an average interest of 10%. At the current stage, an optimum development concept for the project is to be selected. Potential resources of the Greater Heimdal area are estimated at approximately 38-49 mboe for the LOTOS Group interest, with first production possible in 2024/25.
- Potential new development project to develop the Trell and Trine discoveries. LEPN's interests are 10% and 16%, respectively. The project is at the stage when a development concept is to be selected, with the base option being a tie-in to the nearby infrastructure of the Alvheim area. The Trell/Trine resources are estimated at approximately 2.6 mboe for the LOTOS Group interest, with first production possible in 2022.

In addition to its interests in the fields as such, LEPN also holds interests (5% and 15%, respectively) in the Heimdal and Sleipner area gas hubs, i.e. the gas and condensate processing and transporting centres of strategic importance to exporting gas from Norway to Central Europe and the United Kingdom.

Map 5. Licences held by LOTOS Exploration & Production Norge AS
As at December 31st 2019

Source: Company

5.4.3 Logistics

LOTOS Norge holds interests in licences covering the production infrastructure in the Heimdal and Sleipner fields, including: the Heimdal gas and condensate processing and transport hub (operated by Equinor, LEPN holds a 5% interest), and the Sleipner gas and condensate processing and transport hub (operated by Equinor, LEPN holds a 15% interest).

Gas produced from the Heimdal and the Sleipner fields is injected into the Gassled pipeline system, and then delivered to off-take points in the UK and continental Europe (the Netherlands, Germany).

Condensate from the Heimdal field is injected into the Forties Pipeline System (FPS), and then delivered to an off-take point at the Kinneil Terminal/Hound Point in Scotland, where it is processed into final products, i.e. Forties Blend crude oil and gas fractions. Condensate from the Sleipner field is transported via a pipeline to an off-take point in Karsto (Norway), where it is processed into final products, i.e. Gudrun Blend light crude and liquid fractions (NGL).

5.5 Exploration and production actvities in Lithuania

5.5.1 Competition for the upstream business

There is no active E&P market in Lithuania. The AB LOTOS Geonafta Group companies are the only entities engaged in production of oil from Lithuanian fields. The LOTOS Group owns 100% of the Lituanian assets, except for UAB Minijos Nafta, where it owns 50% and the remaining investors are: Tethys Oil AB, Odin Energy A/S and private investors.

5.5.2 Key assets of the LOTOS Group (production volumes and licences)

Exploration and production operations in Lithuania are carried out through a subsidiary, AB LOTOS Geonafta of Gargždai. The company is the parent of another group of companies, comprising:

- UAB Genciu Nafta (100% owned by AB LOTOS Geonafta),
- UAB Manifoldas (100% owned by AB LOTOS Geonafta),
- UAB Minijos Nafta (50% owned by AB LOTOS Geonafta).

The LOTOS Group's average daily output in Lithuania in 2019 was 0.7 thousand boe/d (down 13% year on year), which accounted for 3% of the Group's total production volumes.

Production operations were being conducted within the following onshore blocks: Girkaliai, Genciai, Kretinga, Nausodis, Klaipėda, and Gargždai. As at the end of 2019, the LOTOS Group's 2P hydrocarbon reserves in Lithuania totalled 2.7 mboe (100% of crude oil), representing 3% of the Group's total 2P reserves.

Map 6. Licences held by the AB LOTOS Geonafta Group
As at December 31st 2019

Source: Company

5.5.3 Logistics

Crude oil from the Lithuanian fields is produced using onshore production infrastructure. Produced crude oil is transported by road to a marine terminal in Liepāja (Latvia), and then is taken to Gdańsk by a tanker ship, where it is fully processed by the LOTOS refinery. All associated natural gas is flared.

5.6 Key development projects in the Exploration & Production segment

B8 project
Development of a crude oil field in the Baltic Sea

The project is being carried out by the SPV B8 Sp. z o.o. Baltic S.K.A. B8SKA's tasks include initial production of crude oil and continuation of work to launch the Petrobaltic Production Centre on the B8 field. In Q3 2019, the shipyard phase of the rig conversion into an offshore production hub was completed (ONSHORE). The unit was then towed to its target location on the B8 field in the Baltic Sea, and prepared for further offshore work, including functional tests and start-up (OFFSHORE). In Q4 2019, the OFFSHORE work started to functionally test all systems and equipment and to continue the comprehensive start-up of the process modules. As a result of the work, the Production Centre is to achieve its full operational capacity in 2020.

Key parameters of the B8 project:

- LOTOS Group interest 100%
- 2P reserves 34.7 mboe as at December 31st 2019 (91% crude oil, 9% natural gas)
- current output 3.8 thousand boe/d (Q4 2019)
- full-scale production not earlier than in Q2 2021
- expected average output 5.0 thousand boe/d (for 5-year period from full-scale production launch).

Utgard project
Development completed, production started in September 2019

The Utgard field development project was completed and production from the field commenced on September 16th 2019. The project was completed about three months ahead of the original schedule, with 25% savings on the budget. The field's operator is Equinor and its development took less than three years from regulatory approval of the plan of development and operation (PDO) in January 2017. The Utgard field is tied in to the existing Sleipner infrastructure, which delivers additional synergies and added value for the entire Sleipner hub. The average daily production from the Utgard field attributable to the LOTOS interest in the fourth quarter of 2019 was 7.2 thousand boe/d. As at December 31st 2019, the average production attributable to LOTOS was estimated at 5.4 mboe, which translates into a new production forecast of 2.8 thousand boe/d over the five years since the production launch.

Key parameters of the Utgard project[7]:

- LOTOS Group interest 17.36%
- 2P reserves 5.4 mboe as at December 31st 2019 (48% crude oil, 52% natural gas)
- first production September 16th 2019
- current output 7.2 thousand boe/d (Q4 2019)
- expected average output 2.8 thousand boe/d (for 5-year period from production launch)
- operator Equinor Energy AS.

Yme project
Development of an oil field in Norway

The Yme project is at an advanced development stage. The field operator is Repsol, and the development activities are being carried out in accordance with the approved new PDO, using a leased platform – Maersk Inspirer. In 2019, work was continued at the Egersund Shipyard to modify the platform. Also, a caisson permanent support (CPS) structure and a wellhead module (WHM) were installed as planned. Given the current status of the project, the work to modify the Maersk Inspirer rig is expected to be completed in the second quarter of 2020. The operator expects production to start in the fourth quarter of 2020.

Key parameters of the Yme project[8]

- LOTOS Group interest 20%
- 2P reserves 12.7m boe/d as at December 31st 2019 (100% crude oil)
- first production Q4 2020
- expected average output 5.0 thousand boe/d (for 5-year period from production launch)
- operator Repsol Norge AS.

B4B6 development project
Development of natural gas fields in the Baltic Sea

The B4B6 project consists in the development of natural gas deposits in the Baltic Sea, in partnership with CalEnergy Resources Poland Sp. z o.o. The project is being implemented by the SPV Baltic Gas LLP. The LOTOS interest in the project is 51%. The 2C recoverable resources of the B4/B6 fields are estimated at 4.8 bcm (for the 100% interest). The project is now awaiting a final investment decision (FID). The following key tasks were carried out in 2019:

- engineering designs of platforms, onshore gas pipelines and drilling operations and a plan of development and operation were prepared
- steps were taken to secure relevant administrative and environmental permits and to update production licences
- archaeological, geotechnical and geoengineering surveys were conducted at the onshore facilities
- work on contracts for gas transmission and sale of petroleum products from B4B6 was in progress. In particular, a direct agreement to connect the facilities to the transmission network was concluded, and key commercial terms of contracts for the sale of products were agreed with Grupa LOTOS.

Key parameters of the B4B6 project[9]:

- LOTOS Group interest 51%
- 2C resources as at as at December 31st 2019 7.9 mboe (74% natural gas, 26% NGL)

[7] The project parameters are shown for the LOTOS Group's interest.
[8] The project parameters are shown for the LOTOS Group's interest.
[9] The project parameters are shown for the LOTOS Group's interest.

- first production 2023
- expected average output 4.3 thousand boe/d (for 5-year period from production launch).

NOAKA development project
Potential development of discoveries in the Greater Heimdal area in Norway

- LOTOS Group average interest 10%
- estimated resources 38–49 mboe
- first production possible in 2024/2025
- main operator Aker BP ASA.

The project aims to develop several deposits discovered north of Heimdal: Frigg Gamma Delta, Langfjellet, Rind, Fulla and Froy, in which the LOTOS Group holds an average interest of 10% and AkerBP is the operator. The project may also cover the Krafla and Askja discoveries, in which the LOTOS Group does not currently hold any interest, operated by Equinor.

The project is now at the stage when a development concept is to be selected, with an optimum solution for the entire area being currently analysed by both operators. In 2019, the Liatårnet exploration well was drilled within the PL 442 licence area, operated by AkerBP with a 90.26% interest, and with LOTOS Norge's interest of 9.74%. The well encountered an oil accumulation estimated at some 80–200 mboe, which makes Liatårnet the largest hydrocarbon discovery on the Norwegian Continental Shelf in 2019. At least one or two appraisal wells are needed to determine the size of the discovery with greater certainty. The first appraisal well is planned to be drilled in 2020. The discovery may represent another element of the development potential in building a new production hub in Norway under the NOAKA project. The Liatårnet discovery included, potential resources of the NOAKA area attributable to the LOTOS Group interest are estimated at approximately 38–49 mboe, with first production likely in 2024/2025.

Trell/Trine development project
Potential development of fields in the Heimdal area in Norway

- LOTOS Group interest 10% and 16%
- estimated resources 2.6 mboe
- first production possible not earlier than in 2022
- operator Aker BP ASA.

The project involves development of the Trell and Trine fields located in the Heimdal area (in which LOTOS Norge holds interests of 10% and 16%, respectively), with AkerBP as the operator. Analyses of the development concept to tie in the fields to the nearby Alvheim infrastructure were continued in 2019. The Trell/Trine resources attributable to the LOTOS interest are estimated at approximately 2.6 mboe, with first production possible in 2022.

5.7 Scheduled maintenance shutdowns

Norway:

- Heimdal area: 26 days in total in 2020 (21 days in the second quarter, 1 day in the third quarter, and 4 days in the fourth quarter).
- Sleipner area (including the Utgard field): 6 days in total in 2020 (1 day in the first quarter and 5 days in third quarter).
- Longer, periodic maintenance shutdowns in the Sleipner area take place once every three years. The next one is scheduled for the third quarter of 2021 (20 days).

Poland:

- In 2020, one short periodic shutdown is scheduled on the B3 field to disconnect a tanker and unload oil (approximately 3 days).

6 Development of the organisation and infrastructure

6.1 Structure of the LOTOS Group

As at December 31st 2019, Grupa LOTOS S.A. was the parent of the following group:

Chart 2. **Structure of the LOTOS Group**
As at December 31st 2019

Source: Company

The LOTOS Group comprises a number of production, trading and service companies, as well as a foundation.

Apart from Infrastruktura Kolejowa Sp. z o.o. w likwidacji (in liquidation), companies classified as joint ventures and the LOTOS Foundation, all entities shown in the chart above are consolidated using the full method.

As the parent, Grupa LOTOS S.A. defines the Group's business growth strategy and – through participation in their governing bodies – makes key decisions concerning the scope of business and finances of the Group companies. Equity links between Grupa LOTOS S.A. and its subsidiaries strengthen their trading ties. Grupa LOTOS S.A's transactions with its subsidiaries are executed on arm's length terms.

Changes in the structure of the LOTOS Group in 2019:

- KRAK GAZ Sp. z o.o. w upadłości likwidacyjnej (in liquidation bankruptcy). The bankruptcy proceedings were closed, and on August 9th 2019 the company was deleted from the National Court Register.
- On April 18th 2019, a merger of Miliana Shipholding Company Ltd. (the acquirer) and Miliana Shipping Group Ltd. (the acquiree) was registered in the Companies House of the Department of the Registrar of Companies and Official Receiver of the Ministry of Commerce, Industry and Tourism of the Republic of Cyprus. Following the merger, Miliana Shipholding Company Ltd. assumed all rights and obligations of the acquiree, while Miliana Shipping Group Ltd. was deleted from the register.

Recapitalisation of the Exploration & Production segment:

- On October 30th 2019, the General Meeting of LOTOS Upstream Sp. z o.o. passed a resolution to increase the company's share capital from PLN 886,000,000 to PLN 1,224,500,000, through the issue of 3,385,000 new shares with a par value of PLN 100 per share. The shares were acquired by Grupa LOTOS S.A. (the sole shareholder). On December 3rd 2019, the District Court for Gdańsk-Północ in Gdańsk registered the share capital increase in the business register of the National Court Register.
- LOTOS Exploration and Production Norge AS – private placement of subscription warrants On October 25th 2019, the General Meeting of LOTOS Exploration and Production Norge AS passed a resolution

on a private placement with LOTOS Upstream Sp. z o.o. of 1 to 770,000,000 warrants, exercisable by December 31st 2019, each carrying the right to acquire one Series B share with a par value of NOK 1.00 (1 warrant with a price of NOK 1 = 1 share with a value of NOK 1). At the General Meeting, the shareholder LOTOS Upstream Sp. z o.o. (holding 99.9% of the share capital of LOTOS Exploration and Production Norge AS) subscribed for all the 770,000,000 warrants. On November 21st 2019, LOTOS Upstream Sp. z o.o. issued a notice of the exercise of 745,046,878 warrants, i.e. the acquisition of 745,046,878 Series B shares with a par value of NOK 1.00 per share, in exchange for a cash contribution. On January 7th 2020, the share capital increase of LOTOS Exploration and Production Norge AS by NOK 745,046,878 was registered in the Norwegian business register.

- LOTOS Upstream UK Ltd. On December 20th 2019, an increase in the share capital of LOTOS Upstream UK Ltd. was registered, from GBP 15,000 to GBP 409,042, through the issue of 394,042 new ordinary shares with a par value of GBP 1.00 per share. All the new shares were taken up and paid for with a cash contribution by LOTOS Upstream Sp. z o.o., the sole shareholder of LOTOS Upstream UK Ltd.
- SPV Petro Sp. z o.o. On December 20th 2018, the Extraordinary General Meeting of SPV Petro Sp. z o.o. passed a resolution to increase the company's share capital from PLN 5,000 to PLN 20,000, through the issue of 300 new shares with a par value of PLN 50 per share. All the new shares were taken up and paid for with a cash contribution by the sole shareholder, i.e. Technical Ship Management Sp. z o.o. As at the date of this report, the share capital increase was not yet registered.
- Baltic Gas Sp. z o.o. On April 5th 2019, the General Meeting of Baltic Gas Sp. z o.o. passed a resolution to increase the company's share capital from PLN 347,000 to PLN 414,500 through the issue of 1,350 new shares with a par value of PLN 50 per share. All the new shares were taken up and paid for by the existing shareholders in the following manner: Each of LOTOS Upstream Sp. z o.o. and CalEnergy Resources Poland Sp. z o.o. acquired 675 shares. The new shares were paid for with cash. On June 17th 2019, the District Court for Gdańsk-Północ in Gdańsk registered the share capital increase in the business register of the National Court Register.
- Baltic Gas Spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. On June 5th 2019, the shareholders of Baltic Gas Spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. resolved to increase the agreed contributions: LOTOS Upstream sp. z o.o. – by PLN 9,117,918, and CalEnergy Resources Poland – by PLN 4,099,700. In June 2019, cash contributions in the agreed amounts were paid to the company. On July 15th 2019, the District Court for Gdańsk-Północ in Gdańsk registered the increase in the business register of the National Court Register. On November 18th 2019, the shareholders of Baltic Gas Spółka z ograniczoną odpowiedzialnością i wspólnicy sp.k. resolved again to increase the agreed contributions: LOTOS Upstream sp. z o.o. – by PLN 13,520,435, and CalEnergy Resources Poland – by PLN 12,990,223. On January 10th 2020, the District Court for Gdańsk-Północ in Gdańsk registered the increase in the business register of the National Court Register.

6.2 Management model and organisational changes

The LOTOS Group has divided its operations into two main reportable segments:

- Exploration & Production segment – comprising activities related to the acquisition of crude oil and natural gas reserves, and crude oil and natural gas production, as well as the related auxiliary, transport, and service activities,
- Refining & Marketing segment – comprising the production and processing of refined petroleum products and their wholesale and retail sale, as well as auxiliary, transport and service activities.

The role of Grupa LOTOS as the parent of the LOTOS Group is to integrate the key management and support functions. For management purposes, the organisation has implemented a segment-based management model with a number of separate business segments identified.

A business segment is a discrete area of business operations managed at the Group level by a designated Member of the Management Board of Grupa LOTOS S.A. as the entity with control or supervisory powers over the performance of operating functions. The criteria defining a segment include the specialisation/distinctness of functions or processes performed, the ability to determine segment expenses or revenues and expenses, as well as segment autonomy understood as a clear-cut scope of discretion and responsibility that may be assigned to the person managing the segment.

The adopted segmental management model contributes to the achievement of business objectives, improved management efficiency, and cost and revenue synergies across the LOTOS Group. Segmental management covers the pursuit of a uniform strategy, planning and controlling, integrated operations management, and implementation of uniform corporate standards.

As at December 31st 2019, the LOTOS Group's operations were organised into five equally ranking business segments, with particular Group companies allocated to them:

- management segment – falling within the remit of President of the Management Board, with LOTOS Ochrona allocated to it,
- corporate segment – falling within the remit of Vice President of the Management Board, Corporate Affairs,

- refining & marketing segment – falling within the remit of Vice President of the Management Board, Chief Refining and Marketing Officer, to which the following companies have been allocated: LOTOS Paliwa, LOTOS Oil, LOTOS Kolej, LOTOS Terminale and its subsidiary, LOTOS Infrastruktura and its subsidiary, LOTOS Serwis, LOTOS Straż, and LOTOS-Air BP Polska,
- investment and innovation segment – falling within the remit of Vice President of the Management Board, Chief Investment and Innovation Officer, to which the following companies have been allocated: LOTOS Asfalt, LOTOS Lab and its subsidiary, LOTOS Petrobaltic and its Group companies, LOTOS Upstream and its Group companies,
- finance segment – falling within the remit of Vice President of the Management Board, Chief Financial Officer.

Except for a change in the composition of the Management Board and in the Company's organisational structure, there were no other changes of key management policies of Grupa LOTOS S.A. and the LOTOS Group in 2019.

6.3 Employment and remuneration policy

6.3.1 Employment

On December 31st 2019, the LOTOS Group employed a headcount of 5,368, compared with 5,045 at the end of 2018 (up 323 employees). The increase in employment was attributable to the taking over of some shared processes, carried out inside and outside the LOTOS Group (IT, legal support and procurement). As at the end of 2019, Grupa LOTOS S.A. had 1,639 employees, up 126 relative to a year earlier.

Significant headcount additions were also made at the following companies: LOTOS Petrobaltic S.A. (of 102 persons, due mainly to the purchase of the new Petro Giant platform and the need to assemble its crew), LOTOS Kolej Sp. z o.o. (of 41 employees), LOTOS Asfalt Sp. z o.o. (of 18 persons) and LOTOS Paliwa Sp. z o.o. (of 16 persons).

Table 6. Employment at the LOTOS Group (persons)

	Dec 31 2019			Dec 31 2018		
	Blue-collar jobs	White-collar jobs	Total	Blue-collar jobs	White-collar jobs	Total
Grupa LOTOS S.A.	522	1,117	1,639	495	1,018	1,513
LOTOS Paliwa Sp. z o.o.	0	299	299	0	283	283
LOTOS Kolej Sp. z o.o.	727	347	1,074	694	339	1,033
LOTOS Oil S.A.	78	180	258	84	171	255
LOTOS Lab Sp. z o.o.	10	114	124	12	117	129
LOTOS Serwis Sp. z o.o.	359	142	501	351	139	490
LOTOS Straż Sp. z o.o.	81	15	96	79	14	93
LOTOS Asfalt Sp. z o.o.	134	132	266	120	128	248
LOTOS Upstream sp. z o.o.	0	13	13	0	11	11
LOTOS Ochrona Sp. z o.o.	168	23	191	163	24	187
LOTOS Infrastruktura S.A.	43	32	75	40	31	71
LOTOS Terminale S.A.	63	48	111	64	49	113
RC Ekoenergia Sp. z o.o.	39	28	67	41	30	71
LOTOS Biopaliwa Sp. z o.o.	24	14	38	24	15	39
LOTOS Petrobaltic S.A.	249	241	490	171	217	388
ENERGOBALTIC Sp. z o.o.	3	27	30	3	27	30
LOTOS E&P Norge AS	0	29	29	0	27	27
AB LOTOS Geonafta	32	9	41	32	9	41
Other LOTOS Group companies	7	19	26	7	16	23
Total LOTOS Group	2,539	2,829	5,368	2,380	2,665	5,045

Because of the specific nature of the work, men are a predominant group of the LOTOS Group's employees. As at the end of 2019, they accounted for 77.1% of the total workforce. At Grupa LOTOS S.A., the share of men in total workforce was 67.8%.

As at December 31st 2019, 47.2% of the LOTOS Group's workforce were employed in blue-collar jobs (no changes year on year). Blue-collar jobs were held mainly by men: 97.0% of the total blue-collar workforce. At Grupa LOTOS S.A., employees in blue-collar jobs accounted for 31.8% of the total workforce and were only men.

Figure 35. Structure of the LOTOS Group workforce, by sex and job category (persons)

Source: Company

6.3.2 Remuneration policy

As an employer, Grupa LOTOS S.A. optimises remuneration, especially base pay and bonuses, so that its employees enjoy a competitive, performance-linked pay package, while the Company and its shareholders receive a return on capital invested.

Aware of the incentive role of remuneration, Grupa LOTOS S.A. promotes especially those employees who, through their attitudes, behaviour, competence and performance, contribute to its development. The terms of remuneration offered by the Company are as follows:

- Employees are remunerated according to the job type as well as the qualifications and competencies required to perform it,
- Differentiating individual remuneration according to the level of output,
- Achievement of the assumed objectives and targets,
- Rewarding employees for outstanding professional achievements, generating considerable, unexpected added value for the Company.

In addition to the base pay, consistent with the assigned pay grade, a staff member is entitled to additional remuneration calculated and paid in accordance with the generally applicable labour law, i.e. for overtime and night work.

Employees may receive an individual annual bonus in accordance with the rules laid down in the Collective Bargaining Agreement and a special bonus for outstanding professional achievements. Once a year, a periodic payroll review is undertaken.

At the same time, Grupa LOTOS S.A. takes care of the professional development of its employees, offering individual training plans and providing talent with promotion and career paths.

In 2019, Grupa LOTOS S.A. carried out a job valuation exercis. Covering all positions at the Company from senior management to operational roles, its findings were used to validate and develop a new pay scale. Since December 11th 2019, Grupa LOTOS S.A. has been bound by an updated Collective Bargaining Agreement.

Changes in the remuneration system introduced in 2019 include:

- Elimination of the 'A' pay grade category for management staff and making such staff subject to the provisions of the Collective Bargaining Agreement.
- Replacement of the quarterly incentive bonus with an additional percentage of the annual bonus. For staff performing supporting, technical and specialist roles, the maximum individual annual bonus factor has been increased by 3% to 10%, depending on the result of the individual employee assessment performed annually. Other, higher factors to calculate the annual bonus may be set for staff performing managerial and executive

roles as well officer advisers, Management Board advisers and experts, and its disbursement may be made conditional on the achievement of individual objectives. As in previous years, the decision to pay the annual bonus depends on satisfaction of the other requirements set out in Clause 2 of annex 3 to the Collective Bargaining Agreement.

- Flexibility in pay grade assignment Introduction of pay grade categories marked alphabetically from 'A' to 'J'. The assignment of jobs to new categories was preceded by a job valuation exercise.

In an effort to standardise HR management across the LOTOS Group, similar job valuation projects will be implemented at other companies.

6.3.3 Remuneration of members of the governing bodies

The remuneration of Members of the Company's Management Board and Supervisory Board was determined in accordance with the provisions of the Act on Rules of Remunerating Persons Who Direct Certain Companies of June 9th 2016 (Dz. U. of 2019, item 1885) (the "Act").

The remuneration of Members of the Company's Supervisory Board is defined in Resolution No. 3 of the Extraordinary General Meeting on the rules of remunerating Members of the Supervisory Board dated December 22nd 2016, as amended by Resolution No. 25 of the Annual General Meeting dated June 28th 2019. Members of the Company's Supervisory Board are entitled to monthly remuneration calculated as the product of the reference salary amount referred to in Art. 1.3.11 of the Act and a multiplier of:

- 1.7 – for the Chairman of the Supervisory Board,
- 1.5 – for other Members of the Supervisory Board.

The remuneration of Members of the Company's Management Board is defined in Resolution No. 2 of the Extraordinary General Meeting on the rules of remunerating Members of the Management Board dated December 22nd 2016, as amended by Resolution No. 5 of the Extraordinary General Meeting dated March 17th 2017, as later amended by Resolution No. 24 of the Annual General dated of June 28th 2019, and as further specified by Resolution No. 168/IX/2017 of the Supervisory Board of Grupa LOTOS dated March 8th 2017, as amended.

Total remuneration of a Member of the Company's Management Board comprises a fixed component in the form of monthly base pay (the "Fixed Remuneration") and a variable component representing additional remuneration for the Company's financial year (the "Variable Remuneration"). Fixed Remuneration:

- in the case of the President of the Management Board: PLN 61,652.92 per month,
- for other Members of the Management Board: PLN 57,249.14 per month.

The amount of the additional remuneration for a financial year (the Variable Remuneration) depends on the level of delivery against management objectives. The average monthly Fixed and Variable Remuneration of a Management Board Member may not exceed PLN 100,000.00 per financial year.

In 2019, the total amount of benefits paid and payable to Members of the Management Board was PLN 6.42m, relative to PLN 3.08m in 2018.

Table 7. Remuneration paid and payable to Members of the Management Board of Grupa LOTOS S.A. in 2019 (PLNm)

	Fixed remuneration	Variable remuneration	Severance payment	Other benefits	Total
Mateusz Aleksander Bonca	0.75	0.70	0.18	-	1.63
Patryk Demski	0.42	0.24	0.31	-	0.97
Jarosław Kawula	0,687	0,734	-	-	1.42
Marcin Jastrzębski	-	0.38[10]	-	-	0.38
Marian Krzemiński	0.21	-	-	0.01	0.22
Zofia Paryła	0.23	-	-	0.01	0.24
Robert Sobków	0.42	-	0.31	0.02	0.75
Jarosław Wittstock	0.69	0.12	-	-	0.81
Total	3.41	2.17	0.80	0.04	6.42

Table 8. Remuneration paid and payable to Members of the Management Board of Grupa LOTOS S.A. in 2018 (PLNm)

	Fixed remuneration	Variable remuneration	Severance payment	Other benefits	Total
Mateusz Aleksander Bonca	0.71	-	-	-	0.71
Piotr Ciach	0.12	-	-	-	0.12
Patryk Demski	0.36	-	-	0,013	0.37
Marcin Jastrzębski[11]	0.22	-	0.37	-	0.59
Jarosław Kawula	0.69	-	-	-	0.69
Robert Sobków	0.32	-	-	0,024	0.35
Jarosław Wittstock	0.15	-			0.16
Mariusz Machajewski[12]	-	-	0.09	-	0.09
Total	2.57	-	0.46	0.04	3.08

In 2019, Members of the Management Board of Grupa LOTOS S.A. did not receive any remuneration for serving on the supervisory boards of the LOTOS Group subsidiaries.

Former Management Board Members are entitled to receive non-competition compensation calculated by reference to the following formula: 0.5 of fixed monthly remuneration x 6. The compensation is paid in six equal monthly instalments.

[10]Variable remuneration in 2017
[11]including a severance payment for termination of the employment contract and non-compete compensation.
[12]non-compete compensation.

Contracts are concluded for the duration of the manager's appointment. In the event of expiry of a Management Board Member's mandate, including in particular as a result of the Member's death, removal or resignation, the contract is terminated on the last day of the Member's holding the position, without notice and with no further action required.

Either party may terminate the contract on:

- 1 (one) month notice if the Management Board Member held the position for less than 12 (twelve) months,
- 3 (three) months' notice if the Management Board Member held the position for 12 (twelve) months or longer.

If the contract is terminated (other than with immediate effect as provided for in Clause 13.5 of the contract), the Management Board Member will be entitled to a severance payment equal to three times the fixed remuneration, provided that the Member held the position for at least 12 (twelve) months prior to termination.

Remuneration of Supervisory Board Members is shown in Table 9. To the Company's knowledge, Members of its Supervisory Board did not receive any remuneration or awards for serving on the governing bodies of LOTOS Group companies.

Table 9. Remuneration of Members of the Supervisory Board
(PLNm)

	2019	2018
Ciach Piotr	0.08	0.07
Figura Dariusz	0.08	0.08
Golecki Mariusz	0.07	0.08
Kozłowska-Chyła Beata	0.10	0.10
Lewandowska Katarzyna	0.08	0.08
Lewandowski Adam	0.08	0.08
Rybicki Grzegorz	0.08	0.03
Szklarczyk-Mierzwa Agnieszka	0.09	0.08
Total	**0.66**	0.60

6.3.4 Non-financial remuneration components for Members of the Management Board and key managers

Members of the Management Board and key managers were entitled to the following additional benefits:

- A company car made available, depending on the scope of duties, in line with the Company's procedure on the allocation, acquisition and use of company cars in place at the Company, or based on Supervisory Board resolutions in the case of company cars used by Management Board Members,
- Medical care available to the employees and members of their immediate families, based on preferential terms and rates negotiated by Grupa LOTOS, the costs of such benefits being deducted from a Management Board Member's salary.
- Fixed-term life insurance for the duration of the employment contract, based on preferential terms negotiated by Grupa LOTOS, the costs of such insurance being deducted from a Management Board Member's salary.
- Unit-linked group life insurance – with the premium of PLN 250 paid by Grupa LOTOS. The costs of such insurance is deducted from a Management Board Member's salary.
- PLN 15,000 per year of financial support towards training costs.

On January 22nd 2020, the Grupa LOTOS Management Board repealed the existing employment and remuneration rules applicable to key managerial positions. Pursuant to that decision, all employees of Grupa LOTOS S.A. receive the same additional benefits described in the Collective Bargaining Agreement. However, the existing provisions concerning additional benefits set out in the managers' contracts of employment remain in force, as more favourable than the provisions of the Collective Bargaining Agreement.

6.3.5 Liabilities arising from pensions or similar benefits to former members of its management or supervisory bodies

The Company has no liabilities arising from pensions or similar benefits to former members of its management or supervisory bodies.

6.3.6 Assessment of the remuneration policy

Under the present arrangements, a significant portion of the remuneration of Grupa LOTOS S.A.s' management personnel depends on the Company's overall performance. In the Company's opinion, the current remuneration system is sufficient to ensure achievement of the Company's objectives, in particular those related to long-term growth in shareholder value and stability of the Company's business.

7 The LOTOS Group's finance in 2019

7.1 Policies followed in the preparation of full-year financial statements

The LOTOS Group's consolidated financial statements and Grupa LOTOS S.A.'s separate financial statements have been prepared in accordance with the International Financial Reporting Standards ("IFRSs") endorsed by the European Union, issued and effective as at December 31st 2019.

The list of amendments to the applicable standards is presented in Note 4 to the consolidated financial statements (page 10).

7.2 Key factors affecting the financial performance

In 2019, the LOTOS Group's operating profit before depreciation and amortisation and adjusted for one-off items (adjusted LIFO-based EBITDA) came in at PLN 2,861.1m, compared with PLN 3,098.8m in 2018 (down by 7.7%). The Group's net profit was PLN 1,152.9m, down by 27.4% relative to 2018.

Key factors affecting the LOTOS Group's performance:

- Revenue was PLN 29,493.3m, down by PLN 628.4m (2.1%) compared with 2018, due mainly to lower sales volumes and falling prices of crude oil and petroleum products on global markets. The total sales volume of petroleum products, merchandise and materials decreased by 1.3% on 2018. The largest decline was recorded for heavy products (bitumens and heavy fuel oil). Average net revenue per tonne/(toe) of the volume sold in 2019 was PLN 2,435, down by PLN 20 (-0.8%) relative to 2018. For detailed revenue breakdown, see item 7.2.1 of the present section.
- Gross profit was PLN 3,844.2m (down by PLN 658.5m compared with 2018), due to an upward trend in crude oil prices in 2018. As a result of the weighted average cost (WAC) method used to measure inventories, the impact of price changes on cost of sales was deferred in time, and the 2018 gross profit was distorted (higher than actually earned). Therefore, Grupa LOTOS S.A. presents its earnings net of inventory valuation (so called LIFO-based EBIT and LIFO-based EBITDA), which more accurately approximates the Refining & Marketing segment's actual profitability (for more information on the calculation of LIFO-based EBITDA, see item 7.2.4).
- Distribution costs were up by 5.2%, due mainly to the higher average USD/PLN exchange rate and a higher cost of service stations (more service stations and higher staff wages).
- A 16.3% increase was recorded in administrative expenses, attributable mainly to higher employee benefits, primarily as a result of an increase in staffing levels.
- Net other income was PLN 41.9m, down by PLN 214.4m year on year (in 2019, impairment losses on the YME field totalling PLN 105.4m were reversed, while in 2018 the value of the reversal was PLN 349.5m).
- An increase was recorded in net finance costs to PLN -281.7m, compared with PLN -262.0m in the previous year, due mainly to higher interest expense coupled with lower foreign exchange losses.

As a result of the application of cash flow hedge accounting with respect to foreign-currency loans contracted to finance the 10+ Programme, intended as hedges of future USD-denominated petroleum product sales transactions, in 2019 foreign exchange gains on cash flow hedges of PLN 104.5m were taken to reserve capital.

Table 10. Key items of the LOTOS Group's statement of profit or loss
(PLNm)

	2019	2018	2019/2018	
			(PLNm)	(%)
Revenue	29,493.3	30,121.7	-628.4	-2.1%
Cost of sales	-25,649.1	-25,619.0	-30.1	0.1%
Distribution costs	-1,425.6	-1,355.6	-70.0	5.2%
Administrative expenses	-490.8	-422.1	-68.7	16.3%
Net other income/(expenses)	41.9	256.3	-214.4	-83.7%
Operating profit/(loss)	1,969.7	2,981.3	-1,011.6	-33.9%
Net finance income/(costs)	-281.7	-262.0	-19.7	7.5%
Share in net profit/(loss) of equity-accounted joint ventures	4.2	3.3	0.9	27.3%
Pre-tax profit/(loss)	1,692.2	2,722.6	-1,030.4	-37.8%
Income tax	-539.3	-1,135.2	595.9	-52.5%
Net profit/(loss), of which:	1,152.9	1,587.4	-434.5	-27.4%
- attributable to owners of the parent	1,152.9	1,587.4	-434.5	-27.4%

Source: Company

Figure 36. Breakdown of factors affecting the LOTOS Group's net profit/(loss) in 2019
(PLNm)

Source: Company

Figure 37. Sources of the LOTOS Group's net profit/(loss) in 2019
(PLNm)

Source: Company

7.2.1 Revenue

In 2019, the LOTOS Group's revenue was PLN 29,493.3m. Sales of diesel oil accounted for the major share of revenue, having totalled PLN 16,246.8m (55.1% of the Group's total revenue). In 2019, they were up 8.2% year on year. Sales of gasolines were also an important contributor to revenue, amounting to PLN 4,346.6m (14.7% of total revenue), which represented a 2.3% decrease year on year. In 2019, heavy products accounted for 9.0% of the LOTOS Group's revenue. Their value was PLN 2,639.7m (down by 15.8% compared with 2018).

In 2019, the share of domestic sales in the LOTOS Group's revenue went up by 3.7% compared with the previous year, to PLN 24,121.8m (81.8% of total revenue).

Table 11. LOTOS Group's revenue by product category
(PLNm)

	Exploration & Production segment		Refining & Marketing segment		Total	
	2019	2018	2019	2018	2019	2018
Gasolines			4,346.6	4,450.5	4,346.6	4,450.5
Naphtha			936.9	1,157.1	936.9	1,157.1
Diesel oils			16,246.8	15,009.3	16,246.8	15,009.3
Bunker fuel			211.0	201.2	211.0	201.2
Light fuel oil			618.8	640.4	618.8	640.4
Heavy products			2,639.7	3,133.8	2,639.7	3,133.8
Aviation fuel			1,114.2	1,421.7	1,114.2	1,421.7
Luboils			291.4	278.5	291.4	278.5
Base oils			460.1	587.3	460.1	587.3
LPG			513.0	543.8	513.0	543.8
Crude oil commodity				320.8	0.0	320.8
Crude oil product	233.9	285.4			233.9	285.4
Natural gas	434.6	661.8	1.0	0.3	435.6	662.1
Xylene fraction			235.4	250.4	235.4	250.4
Other refinery products, merchandise and materials		0.6	338.0	312.7	338.0	313.3
Other products, merchandise and materials	8.3	6.6	568.2	530.8	576.5	537.4
Services	53.8	48.0	372.8	372.3	426.6	420.3
Effect of cash flow hedge accounting		0.0	-131.2	-91.6	-131.2	-91.6
Total	730.6	1,002.4	28,762.7	29,119.3	29,493.3	30,121.7
Domestic sales	8.0	7.0	24,113.8	23,256.0	24,121.8	23,263.0
Export sales	722.6	995.4	4,648.9	5,863.3	5,371.5	6,858.7

Source: Company

7.2.2 Operating expenses

Operating expenses of the LOTOS Group in 2019 totalled PLN 27,565.5m, 0.6% more than in the previous year.

The main items of operating expenses were:

- Raw materials and consumables used – due, among other things, to lower volumes and value of crude oil processed, and exchange differences on operating activities; these costs dropped by 2.9% year on year, to PLN 22,283.3m.
- Services – totalling PLN 1,468.1m (down by 5.2% on 2018). The decrease was mainly attributable to the implementation of IFRS 16 *Leases* and management changes (the taking over of certain functions previously outsourced from the Group).
- Employee benefits expense – amounting to PLN 920.4m (up by 20.9%). The growth resulted from increased staffing levels due, among other things, to the commissioning of the EFRA Project, purchase of the new Giant platform, one-off payment of special bonuses (included the one-off bonus awarded on completion of the EFRA Project), actuarial remeasurement of payables to employees, as well as current situation on the labour market (favouring employees), which translated into wage pressures.

- Depreciation and amortisation – charges recognised by the Group on this account equalled PLN 909.3m, 25.8% more than in 2018 (an increase in property, plant and equipment and implementation of IFRS 16).

Table 12. LOTOS Group's operating expenses by nature
(PLNm)

	2019	2018	Change in %
Depreciation and amortisation	909.3	722.7	25.8%
Raw materials and consumables used	22,283.3	22,937.5	-2.9%
Services	1,468.1	1,549.0	-5.2%
Taxes and charges	594.6	567.9	4.7%
Employee benefits expense	920.4	761.6	20.9%
Other expenses by nature	235.8	266.6	-11.6%
Merchandise and materials sold	1,046.5	1,280.7	-18.3%
Total expenses by nature	27,458.0	28,086.0	-2.2%
Change in products and adjustments to cost of sales	107.5	-689.3	-115.6%
Total operating expenses, including:	27,565.5	27,396.7	0.6%
Cost of sales	25,649.1	25,619.0	0.1%
Distribution costs	1,425.6	1,355.6	5.2%
Administrative expenses	490.8	422.1	16.3%

Source: Company

7.2.3 Net other income/(expenses)

In 2019, the LOTOS Group's net other income was PLN 41.9m, compared with PLN 256.3m in the previous year. Its major components were the following non-recurring items:

- reversal of impairment loss on the YME field in the amount of PLN +105.4m (PLN +349.5m in the previous year),
- reversal and re-estimation of the provision for liabilities in respect of contingent payments related to the acquisition of Sleipner assets, in the amount of approximately PLN +44.5m (vs PLN -69.2m of the provision recognised in 2018),
- loss on discontinued projects in Norway, equalling PLN -41.2m,
- impairment loss on assets associated with Lithuanian fields of PLN -8.9m,
- impairment loss on ships at the Miliana Group of PLN -5.9m,
- impairment losses on service stations in the amount of PLN -21.3m (vs PLN -33.3m in 2018).

Other than those listed above, the Company has not identified any non-recurring items that would have bearing on its operations, profits earned or losses incurred.

7.2.4 LIFO-based EBITDA

In line with its inventory measurement policy, the LOTOS Group applies the weighted average cost method to measure any changes in inventories. This method defers the impact of changes in crude oil prices on the prices of finished goods. Hence, an upward trend in crude oil prices has a positive effect on financial performance, and the other way around.

To account for such distortions, a management standard in the refining sector is the use of LIFO-based EBITDA, which eliminates the time-lag effect.

Table 13. LIFO-based EBITDA
(PLNm)

	2019	2018	Change 2019/2018	
			(PLNm)	(%)
EBIT (1)	1,969.7	2,981.3	-1,011.6	-33.9%
Depreciation and amortisation (2)	909.3	722.7	186.6	25.8%
One-off items[13] (3)	-159.1	-105.3	-53.8	51.1%
LIFO effect (4)	141.2	-499.9	641.1	-
LIFO-based EBITDA * (1+2 +3 +4)	2,861.1	3,098.8	-237.7	-7.7%

*adjusted for one-off items.

Source: Company

The LOTOS Group's adjusted LIFO-based EBITDA for 2019 was PLN 2,861.1m. Given the significant price decline in the Exploration & Production segment and deteriorated margins on three out of the four key products of the Refining & Marketing segment (gasoline, aviation fuel, heavy fuel oil), the Company believes the decline in the Group's key performance metric should be considered rather low (PLN -237.7m, down -7.7% on 2018).

The adjusted LIFO-based EBITDA was calculated based on the results delivered by:

- the Refining & Marketing segment – PLN 2,223.8m,
- the Exploration & Production segment – PLN 629.5m,
- and consolidation adjustments – PLN 7.8 m.

Figure 38. LOTOS Group's adjusted LIFO-based EBITDA and net profit in 2015-2019
(PLNm)

Source: Company

[13] In 2019: reversal of impairment loss on the YME field of PLN +105.4m, reversal and re-estimation of the provision for liabilities on account of contingent payments related to the acquisition of Sleipner assets of approximately PLN +44.5m, loss on discontinued projects in Norway of PLN -41.2m, impairment loss on assets associated with Lithuanian fields of PLN -8.9m, impairment loss on ships at the Miliana Group of PLN -5.9m, impairment losses on service stations of PLN -21.3m, foreign exchange gains on operating activities of PLN +66.0m, reversal of LIFO write-downs of PLN +20.5m.
In 2018: reversal of impairment loss on the YME field of PLN 349.5m, recognition of insurance receivables in respect of a defective MOPU on the YME field of PLN 118.3m, impairment loss on the Heimdal fields of PLN -48.8m, re-estimation of provision for liabilities on account of contingents payments related to the acquisition of Sleipner assets of approximately PLN -69.2m, reversal of impairment losses on Lithuanian fields assets of PLN 5.0m, provision for tax risk of PLN -52.5m, impairment losses on service stations of PLN -33.3m, impact on LIFO effect of the measurement of a portion of crude oil at prices significantly higher than current prices of PLN -90.9m, foreign exchange losses on operating activities of PLN -66.2m, recognition of LIFO impairment of PLN -6.6m;

7.2.5 Net finance income/(costs)

Key factors behind the net finance costs in 2019, totalling PLN -281.7m (vs PLN -262.0m in the previous year) included:

- negative net balance of interest on debt, interest income, and commission fees of PLN -259.7m (2018: PLN -168.2m),
- net foreign exchange losses of PLN -46.0m (2018: PLN -75.2m),
- net gain on measurement and settlement of market risk hedging derivative instruments of PLN +15.8m (2018: PLN -7.2m).

7.3 Financial position

7.3.1 Assets

As at December 31st 2019, the LOTOS Group's total assets amounted to PLN 23,672.1m, compared with PLN 22,223.9m a year earlier (up by 6.5%).

Main asset categories:

- Property, plant and equipment worth PLN 13,270.8m (56.0% of the Group's total assets). Their value rose 12.6% compared with the end of 2018. The main components of these assets were property, plant and equipment of the Refining & Marketing segment. They amounted to PLN 9,638.4m, having increased 10.2% during the year, mainly as a result of the application of IFRS 16 and in connection with the EFRA Project. At the same time, property, plant and equipment of the Exploration & Production segment went up 19.3%, to PLN 3,632.4m (due mainly to an increase in non-current assets associated with the YME, Sleipner and Utgard fields in Norway, the B8 fields in the Baltic Sea, and the purchase of the Giant drilling platform).
- Inventories measured at PLN 4,854.3m (20.5% of the Group's assets). Their value was close to that recorded at the end of 2018.
- Trade receivables totalled PLN 2,609.1m, i.e. 11.0% of total assets. Their value was PLN 728.7m higher than a year earlier. The increase was recorded mainly in domestic sales, mostly on account of the lack of factoring arrangements.
- Other current and non-current assets decreased, in total, by PLN 491.2m, affected mainly by a bank guarantee provided by BNP Paribas to Exxon Exploration and Production Norge AS to cover Sleipner decommissioning liabilities and the resulting release of funds from the escrow account.
- Cash and cash equivalents The item amounted to PLN 1,516.6m (6.4% of total assets), which was PLN 424.7m less relative to the end of 2018.

Figure 39. LOTOS Group's assets
(PLNm)

Source: Company

7.3.2 Equity and liabilities

On December 31st 2019, equity totalled PLN 12,715.4m (53.7% of total equity and liabilities). Its value rose 5.7% compared with the end of 2018, which resulted mainly from a PLN 589.4m increase in retained earnings, and foreign exchange gains on cash flow hedges adjusted by the tax effect of PLN 84.6m, taken to reserve capital.

Main items of liabilities:

- Borrowings, other debt instruments and finance leases of PLN 4,416.4m (18.6% of total equity and liabilities). They increased by PLN 532.4m from the end of 2018. The increase followed the implementation of IFRS 16 *Leases* and withdrawal, at the parent's option, of a deposit securing loan interest and principal repayments; at the same time, some of the credit facilities were repaid, including facilities granted for the 10+ Programme at Grupa LOTOS S.A., the purchase of service stations at LOTOS Paliwa, the purchase of an oil platform at SPV Baltic Sp. z o.o., and the refinancing and financing of inventories.
- Trade payables equalled PLN 1,940.8m (8.2% of total equity and liabilities). They were 1.4% higher than in the previous year.
- Other liabilities and provisions, including mainly investment commitments, and liabilities under excise duty, fuel charge and VAT, increased by PLN 383.2m.
- Current tax payables dropped by PLN 348.2m.

Figure 40. The LOTOS Group's equity and liabilities (PLNm)

Source: Company

As at December 31st 2019, the LOTOS Group's debt equalled PLN 4,416.4m, and was PLN 532.4m higher than at the end of December 2018, mainly as a result of the implementation of IFRS 16 *Leases*. The ratio of debt adjusted for free cash to equity was 22.8% (including lease liabilities representing 10.0% of equity), which is 6.6pp higher compared with December 31st 2018. Net debt totalled PLN 2,899.8m. The ratio of net debt to adjusted LIFO-based EBITDA as at December 31st 2019 was 1.0x, of which 0.4x was attributable to IFRS 16 *Leases*.

7.4 Cash flows

As at December 31st 2019, the LOTOS Group's cash balance (including current account overdrafts) amounted to PLN 1,516.6m.

In 2019, net cash flows decreased the amount of cash and cash equivalents by PLN 421.7m, where:

- The LOTOS Group generated positive cash flows from operating activities of PLN 2,130.2m, attributable mainly to net profit increased by depreciation and amortisation, income tax, and higher provisions, and reduced by higher trade receivables resulting from the lack of factoring arrangements in 2019.

- Cash flows from investing activities equalled PLN -407.9m driven mainly by expenditure on key development projects, including EFRA, related to crude oil and gas production from the Norwegian and Baltic Sea fields. They also included funds released from the Sleipner decommissioning escrow account.
- Negative cash flows from financing activities, of PLN -2,141.2m, were mainly attributable to the negative balance of proceeds from borrowings and repayment of borrowings (facilities taken out by Grupa LOTOS S.A. to finance inventories and the 10+ Programme; LOTOS Asfalt's investment loan), as well as interest paid, dividend distributed and payments due under lease contracts.

Table 14. Cash flows
(PLNm)

	2019	2018
Cash and cash equivalents at beginning of period	1,938.3	1,920.6
Cash flows from operating activities	2,130.2	2,327.5
Cash flows from investing activities	-407.9	-1,086.6
Cash flows from financing activities	-2,141.2	-1,235.0
Effect of exchange rate fluctuations on cash held	-2.8	11.8
Change in net cash	-421.7	17.7
Cash and cash equivalents at end of period	1,516.6	1,938.3

Source: Company

7.5 Financial ratios

In 2019, key profitability ratios of the LOTOS Group were lower than in the previous year. This was caused mainly by lower revenue, which was not accompanied by an adequate decrease in operating expenses. Yet, despite the drop, return on capital employed was relatively high.

Table 15. LOTOS Group's profitability ratios

	2019	2018
LIFO-based EBIT margin (Adjusted LIFO-based EBIT/revenue) (%)	6.6	7.9
LIFO-based EBITDA margin (Adjusted LIFO-based EBIT + amortisation/depreciation)/revenue) (%)	9.7	10.3
Net margin (Net profit (loss)/revenue) (%)	3.9	5.3
Return on equity – ROE (Net profit (loss)/equity at end of period) (%)	9.1	13.2
Return on assets - ROA (Net profit(loss)/total assets at end of period) (%)	4.9	7.1
Return on average capital employed – ROACE (Operating profit/(loss) after tax/equity + Net debt at end of period) (%)	10.2	17.3

Source: Company

Figure 41. LOTOS Group's profitability ratios (%)

Figure 42. LOTOS Group's liquidity ratios

Source: Company. Adjusted LIFO-based EBIT and LIFO-based EBITDA margins

As at the end of 2019, the LOTOS Group maintained its liquidity ratios at satisfactory levels, including:

- Current ratio of 1.6, compared with 1.5 at the end of the previous year, Resulting from the increase in current assets (+3.2%), with current liabilities dropping by (-4.7%).
- Quick ratio was 0.8 (vs 0.7 a year earlier), affected by a slight increase in inventories (by 0.1%).

Total debt ratio was also at a safe level. Working capital to total assets increased, following a PLN 576.0m increase in working capital (with current assets up by PLN 290.0m, and current liabilities down by PLN 286.0m).

Table 16. The LOTOS Group's liquidity and debt ratios

	Dec 31 2019	Dec 31 2018
Current ratio (Current assets/current liabilities)	1.6	1.5
Quick ratio (Current assets – inventories)/current liabilities)	0.8	0.7
Working capital to total assets (Current assets – current liabilities)/total assets) (%)	15.2	13.5
Total debt ratio (Total liabilities/total assets) (%)	46.2	45.8

Source: Company

Turnover ratios in 2019 were as follows:

- The inventory cycle was 60.0 days, i.e. 9.1 days longer than in the previous year.
- The average collection period was 27.8 days, which was very close to the 2018 levels.
- The average payment period was 27.4 days, i.e. two days shorter as a result of lower average trade payables (-6.3%), with cost of sales up by (+0.1)%.

As a result of these changes, the cash conversion cycle increased by 11.2 days relative to the year before.

Table 17. The LOTOS Group's turnover ratios

	Dec 31 2019	Dec 31 2018
Inventory turnover period (Average inventories/revenue) x 365) (days)	60.0	50.9
Average collection period (Average trade receivables/net sales) x 365) (days)	27.8	27.6
Average payment period (Average trade payables/cost of sales) x 365) (days)	27.4	29.3
Cash conversion cycle (Inventory cycle + average collection period – average payment period) (days)	60.4	49.2

Source: Company

7.6 The LOTOS Group's financial performance by business segment

7.6.1 Refining & Marketing segment

In 2019, the Refining & Marketing segment's revenue came to PLN 28,826.2m, down by 1.2% compared with 2018. The decrease reflected mainly a 1.6% drop in the segment's sales volume. The average selling price was PLN 2,514 per tonne, i.e. was 0.4% higher than in 2018.

Sales of diesel oil accounted for the major share of revenue, Having totalled PLN 16,246.8m, up 8.2% year on year. Sales of gasolines were also an important contributor to the segment's revenue, amounting to PLN 4,346.6m, which represented a 2.3% decrease year on year.

The LOTOS Group's 2019 operating profit in the Refining & Marketing segment was PLN 1,474.4m.

In order to eliminate the effect of inventory measurement with the weighted average cost method on operating profit, and the resulting delay in reflecting any changes of crude oil prices in the prices of finished products, a management standard in the refining sector is the use of LIFO-based EBITDA. Additionally, for management purposes, operating profit/(loss) is adjusted to account for any non-recurring/one-off items (e.g. foreign exchange gains or losses on operating activities, impairment losses on assets).

LIFO-based EBITDA adjusted for one-off items rose 2.2% year on year.

The increase in depreciation and amortisation of the Refining & Marketing segment in 2019 was mainly attributable to the implementation of IFRS 16 *Leases*.

Table 18. Refining & Marketing financial results
(PLNm)

	2019	2018	2019/2018	
			(PLNm)	(%)
Revenue	28,826.2	29,171.9	-345.7	-1.2%
EBIT	1,474.7	1,928.7	-454.0	-23.5%
Depreciation and amortisation	673.1	497.6	175.6	35.3%
EBITDA	2,147.8	2,426.3	-278.5	-11.5%
LIFO effect	141.2	-499.9	641.1	-128.3%
One-off items[14]	-65.2	249.5	-314.7	-126.1%
Adjusted LIFO-based EBITDA	2,223.8	2,175.9	47.9	2.2%

Source: Company

7.6.2 Exploration & Production segment

In 2019, revenue in the Exploration & Production segment was PLN 1,186.7m, a decline of PLN 277.0m compared with 2018. The main reason was a drop in the prices of natural gas (-44.5%) and of Brent dtd crude (-9.8%) on global markets.

The major decline in hydrocarbon prices resulted in a PLN 287.0m decrease in adjusted LIFO-based EBITDA compared with the previous year.

[14] The balance of impairment losses/write-downs, provisions and other items in 2019 was PLN 65.2m (for details, see the 'LIFO-based operating performance' table on page 58)
In 2018, the balance of impairment losses/write-downs, provisions and other items was PLN -249.5m (for details, see the 'LIFO-based operating performance' table on page 58).

Table 19. Exploration & Production financial results
(PLNm)

	2019	2018	2019/2018	
			(PLNm)	(%)
Revenue	1,186.7	1,463.7	-277.0	-18.9%
EBIT	487.2	1,046.2	-559.0	-53.4%
Depreciation and amortisation	236.2	225.1	11.1	4.9%
EBITDA	723.4	1,271.3	-547.9	-43.1%
One-off items[15]	-93.9	-354.8	260.9	-73.5%
Adjusted EBITDA	629.5	916.5	-287.0	-31.3%

Source: Company

Figure 43. LOTOS Group's LIFO-based EBITDA by segment
(PLNm)

Source: Company

[15] The balance of impairment losses/write-downs and provisions in 2019 was PLN 93.9m (for details, see the "LIFO-based operating performance" table on page 58).
In 2018, the balance of impairment losses/write-downs and provisions was PLN 354.8m (for details, see the "LIFO-based operating performance" table on page 58).

7.7 Borrowings

7.7.1 Bank borrowings of Grupa LOTOS S.A.

Inventory financing and refinancing facility

As at December 31st 2019, the nominal amount drawn under the credit facility for the refinancing and financing of inventories, advanced by bank syndicate (Table 20, p. 67) was PLN 189.9m (USD 50.0m).

On December 3rd 2019, an annex was signed to the agreement for the financing and refinancing of inventories of October 10th 2012. The annex extended the term of the agreement until December 18th 2020. Also, the composition of the bank syndicate being party to the agreement and the respective shares of individual banks in the facility amount were changed. In addition, the obligation to hold deposits securing payment of interest on the facility was removed from the agreement.

Refinancing of credit facilities taken out to fund the 10+ Programme

On July 2nd 2019, Grupa LOTOS S.A. and a bank syndicate comprising:

- ING Bank Śląski S.A.,
- Bank PEKAO S.A.,
- PKO BP S.A.,
- Sumitomo Mitsui Banking Corporation Bank EU AG,
- Intesa Sanpaolo S.p.A,
- Caixabank S.A. (Spółka Akcyjna),
- Industrial and Commercial Bank of China (Europe) S.A.,
- and Erste Group Bank AG,

signed credit facility agreements for a total amount of USD 500m to refinance credit facilities contracted in 2008 to finance the 10+ Programme.

Under the agreements, the bank syndicate extended to the Company:

- a USD 400m term facility,
- a USD 100m working capital facility, disbursable in USD, EUR or PLN.

The facilities must be repaid within five years of disbursement. They bear interest at variable rates based on LIBOR, EURIBOR and WIBOR. Repayment is secured by a declaration of voluntary submission to enforcement. The other terms and conditions of the credit facility agreements do not differ from standard terms commonly applied in agreements of such type.

On July 15th 2019, a PLN 1,515.6m credit facility (USD 400m) was disbursed. At the same time, through bank settlements, the funds were fully transferred for repayment of debt under the agreements executed in 2008 to finance the 10+ Programme. The balance of debt related to the financing of the 10+ Programme, of PLN 200.1m (USD 53.4m), was repaid with Grupa LOTOS S.A.'s cash. In addition, in connection with the repayment of all facilities taken out to fund the 10+ Programme, all related security interests, including registered pledges and mortgages over the Company's assets, were released.

As at December 31st2019, the nominal amount drawn under the above facility agreements was PLN 1,519.1m (USD 400m). As at December 31st2018, the nominal amount drawn under the investment facilities financing the 10+ Programme was PLN 1,951.2m (USD 519m).

Other facility agreements

On December 5th 2019, Grupa LOTOS S.A. signed a EUR 2.0m credit facility agreement with PKO BP S.A. The purpose of the agreement is to finance the Pure H2 project, which is to build and launch infrastructure for the production and distribution of high purity hydrogen. The facility repayment date falls on December 23rd 2023. The facility bears interest at a floating rate based on 3M EURIBOR. Repayment is secured by a declaration of voluntary submission to enforcement. As at December 31st 2019, the Company carried no liabilities under the facility.

The parent has access to working-capital facility financing totalling PLN 150m. As at December 31st 2019 and December 31st 2018, the Company carried no liabilities under these facilities.

Financing of upstream projects of LOTOS Exploration and Production Norge AS

On March 21st 2019, LOTOS Exploration and Production Norge AS signed a reserve-based loan (RBL) agreement for up to USD 220m with a bank syndicate comprising BNP Paribas, Skandinaviska Enskilda Banken AB, PKO BP S.A., PEKAO S.A. and Bank Gospodarstwa Krajowego. The loan is secured by pledges over company shares, licences, inventories and bank accounts, assignment of receivables and assignment of insurance policies.

The following two bank guarantees are applicable under the RBL agreement:

- guarantee for NOK 1,070m to cover decommissioning liabilities with respect to Sleipner DSA issued by Bank BNP Paribas in favour of ExxonMobil Exploration and Production Norge AS,
- guarantee for NOK 167m to cover decommissioning liabilities with respect to Heimdal area issued by PKO Bank Polski in favour of Spirit Energy Norway AS.

As at December 31st 2019, LOTOS Exploration and Production Norge AS carried no outstanding liabilities under the agreement.

7.7.2 Bank borrowings of other Group companies

As at December 31st 2019, the aggregate liabilities outstanding under credit facility agreements of other Group companies were PLN 1,178.0m (December 31st 2018: PLN 1,135.3m). The outstanding amount comprised mainly liabilities incurred by LOTOS Asfalt Sp. z o.o. and LOTOS Paliwa Sp. z o.o., as well as by the Exploration & Production segment companies SPV Baltic Sp. z o.o.

Agreement for the financing of the EFRA Project

On June 30th 2015, LOTOS Asfalt Sp. z o.o. and a consortium of financial institutions signed a credit facility agreement (and auxiliary agreements) under which the company obtained additional funds necessary to finance the EFRA Project.

On January 29th 2019, an annex to the facility agreement was signed amending, among other things, the availability period, the repayment schedule and the planned completion date.

As at December 31st 2019, the amount of outstanding liabilities under the above facility agreements was PLN 956,7m (December 31st 2018: PLN 899.7m).

Bank borrowings of LOTOS Paliwa Sp. z o.o.

Liabilities of LOTOS Paliwa Sp. z o.o. under bank borrowings include primarily amounts outstanding under investment facilities granted by PKO BP S.A., Pekao S.A and mBank S.A. for the refinancing and financing of service station acquisitions.

As at December 31st 2018, the outstanding amount of liabilities under the investment facility agreements was PLN 110.9m (December 31st 2018: PLN 137.5m).

Bank borrowing of SPV Baltic Sp. z o.o.

On January 31st 2014, SPV Baltic Sp. z o.o. signed an investment facility agreement with Nordea Bank Polska S.A. (currently PKO BP S.A.) to finance the purchase of a drilling rig (agreement of December 20th 2013). As at December 31st 2018, the outstanding amount of liabilities under the facility was PLN 39.8m (December 31st 2018: PLN 51.2m).

On October 21st 2019, SPV Baltic Sp. z o.o. signed an annex to the investment facility agreement with PKO BP S.A., under which the facility repayment term was extended until December 31st 2024 and some security interests were released.

7.7.3 Non-bank borrowings

The Group's non-bank borrowings include mainly liabilities of SPV Baltic Sp. z o.o. (an upstream company) under a loan agreement executed with Agencja Rozwoju Przemysłu S.A. on January 31st 2014 to finance the purchase of a drilling rig (contract of December 20th 2013). As at December 31st 2019, the outstanding amount of liabilities under the loan was PLN 39.8m (December 31st 2018: PLN 51.2m).

On October 21st 2019, SPV Baltic Sp. z o.o. signed an annex to the loan agreement with Agencja Rozwoju Przemysłu S.A., under which the loan repayment term was extended until December 31st 2024 and some security interests were released.

Liabilities under loans advanced to other Group companies include loans of LOTOS Kolej Sp. z o.o contracted to partly finance the upgrades of locomotives.

In 2019, no loan agreements with LOTOS Group companies were terminated.

Company	Lender	Principal amount as per agreement		Outstanding amount (current portion)		Outstanding amount (non-current portion)		Maturity date of		Financial terms (interest rate, interest payment schedule, etc.)	Security
		PLN (million)	Foreign currency (million)	PLN (million)	Foreign currency (million)	PLN (million)	Foreign currency (million)	current portion	non-current portion		
Grupa LOTOS S.A.	Bank syndicate (1)	-	USD 400.0	190.1	USD 50.0	-	-	Dec 18 2020	-	3M or 6M LIBOR USD, depending on the interest period selected at a given time + bank margin	registered pledge over inventories, registered pledge over bank accounts, assignment of rights under inventory insurance agreements, assignment of rights under inventory storage agreements, voluntary submission to enforcement
Grupa LOTOS S.A.	Bank syndicate (2)		USD 500.0	325.3	USD 85.7	1,215.3	USD 320.0	Jul 15 2020	Jul 15 2024	1M, 3M or 6M LIBOR USD, depending on the interest period selected at a given time + bank margin	voluntary submission to enforcement
LOTOS Paliwa Sp. z o.o.	Bank syndicate (3)	150.0	-	16.7	-	41.6	-	Dec 31 2020	Jun 30 2023	3M WIBOR + bank margin	mortgages
LOTOS Paliwa Sp. z o.o.	Bank syndicate (4)	100.0	-	10.0	-	42.6	-	Dec 31 2020	Mar 31 2025	3M WIBOR + bank margin	mortgages
LOTOS Kolej Sp. z o.o.	Fund for Environmental Protection and Water Management in Gdańsk	6.9	-	0.7	-	3.0	-	Nov 30 2020	Jul 31 2024	0.8 of the rediscount rate on promissory notes, not less than 3%	blank promissory note, assignment of claims
LOTOS Asfalt Sp. z o.o.	Consortium of financial institutions (5)	300.0	-	0.2	-	-	-	Feb 20 2019	-	3M LIBOR or 6M LIBOR + bank margin	ceiling mortgage; registered pledges over inventories, all assets and rights, and on receivables; power of attorney over bank accounts; voluntary submission to enforcement; assignment of rights under project agreements, insurance policies, trade contracts; pledge over the parent's shares In LOTOS Asfalt Sp. z o.o.; assignment of rights under conditional loan agreement
		-	USD 357.0	210.2	USD 55.4	746.3	USD 210.4	Dec 21 2020	Dec 31 2024		
LOTOS Terminale S.A.	Bank Millennium S.A.	50.9	-	5.1	-	22.0	-	Dec 31 2020	Apr 30 2025	3M WIBOR + bank margin	mortgage and registered pledge, assignment of receivables and assignment of rights under insurance policies
SPV Baltic Sp. z o.o.	PKO BP S.A.	100.0	-	7.1	-	32.7	-	Dec 31 2020	Dec 31 2024	1M WIBOR + bank margin	registered and financial pledges over shares and assignment of rights under insurance policies

SPV Baltic Sp. z o.o.	Agencja Rozwoju Przemysłu S.A.	100.0	-	7.1	-	32.7	-	Dec 31 2020	Dec 31 2024	1M WIBOR + bank margin	registered and financial pledges over shares, assignment of rights under insurance policies and blank promissory note
				46.9	-	174.6	-				
			TOTAL	725.6	USD 191.1	1,961.6	USD 530.4				
				772.5		2,136.2					

Table 20. LOTOS Group's bank and non-bank borrowings as at December 31st 2019

Bank syndicate (1): Pekao S.A., Société Générale S.A., Bank Handlowy w Warszawie S.A., mBank S.A., Industrial and Commercial Bank of China (Europe) S.A. (Spółka Akcyjna) Polish Branch, Intesa Sanpaolo S.p.A. (Spółka Akcyjna) Polish Branch, Banco Santander S.A., CaixaBank S.A. Polish Branch, Sumitomo Mitsui Banking Corporation Bank EU AG,

Bank syndicate (2): ING Bank Śląski S.A., PEKAO S.A., PKO BP S.A., Sumitomo Mitsui Banking Corporation Bank EU AG, Intesa Sanpaolo S.p. A, Caixabank S.A., (Spółka Akcyjna) Industrial and Commercial Bank of China (Europe) S.A., (Spółka Akcyjna), Erste Group Bank AG,

Bank syndicate (3): Pekao S.A., PKO BP S.A.,

Bank syndicate (4): Pekao S.A., mBank S.A

Consortium of financial institutions (5): Bank Gospodarstwa Krajowego, Bank Millennium S.A., Pekao S.A., Bank Zachodni WBK S.A., PKO BP S.A., Powszechny Zakład Ubezpieczeń S.A., Powszechny Zakład Ubezpieczeń na Życie S.A. and Société Générale S.A.

Source: Company

Table 21. LOTOS Group's intercompany loans as at December 31st 2019

Lender	Borrower	Principal as per loan agreement	Amount outstanding as at Dec 31 2019 (current portion)		Amount outstanding as at Dec 31 2019 (non-current portion)		Maturity date of		Financial terms (interest rate, interest payment schedule, etc.)	Security	Date of the agreement
		Foreign currency (million)	PLN (million)	Foreign currency (million)	PLN (million)	Foreign currency (million)	current portion	non-current portion			
LOTOS Petrobaltic S.A.	Energobaltic Sp. z o.o.	PLN 9.9	4.3	-	0.8	-	Mar 31 2020	Feb 28 2021	1M WIBOR + margin	Blank promissory note with a 'protest waived' clause and promissory note declaration	Oct 30 2013
LOTOS Petrobaltic S.A.	Energobaltic Sp. z o.o.	PLN 3.0	-	-	2.4	-	-	Dec 31 2021	1M WIBOR + margin	Blank promissory note with a 'protest waived' clause and promissory note declaration	Jul 16 2019
LOTOS Petrobaltic S.A.	SPV Petro Sp. z o.o.	PLN 22.3	7.6	-	15.4	-	Sep 30 2020	Dec 31 2022	1M WIBOR + margin	Blank promissory note	Jun 6 2019
LOTOS Petrobaltic S.A.	SPV Petro Sp. z o.o.	PLN 14.8	4.4	-	9.6	-	Sep 30 2020	Dec 31 2022	1M WIBOR + margin	Blank promissory note	Aug 2 2019
LOTOS Petrobaltic S.A.	B8 Sp. z o.o. SKA	PLN 8.5	-	-	10.4	-	-	Dec 31 2022	3M WIBOR + margin	Blank promissory note	Oct 20 2015
LOTOS Petrobaltic S.A.	B8 Sp. z o.o. SKA	PLN 80.0	-	-	80.0	-	-	Jul 31 2022	1Y WIBOR + margin	Blank promissory note	Oct 30 2018
LOTOS Petrobaltic S.A.	SPV Baltic Sp. z o.o.	USD 14.0	-	-	69.3	USD 18.2	-	Jan 31 2022	6M LIBOR + margin	Blank promissory note	Dec 23 2013
LOTOS Petrobaltic S.A.	SPV Baltic Sp. z o.o.	PLN 46.3	-	-	55.4	-	-	Jan 31 2022	6M WIBOR + margin	Blank promissory note	Jan 27 2014
Kambr Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.2	0.3	USD 0.1	0.0	USD 0.0	Dec 31 2020	Jun 30 2022	1M LIBOR + margin	None	May 29 2013
Petro Icarus Company Limited	Miliana Shipmanagement Limited	USD 1.1	1.2	USD 0.5	0.2	USD 0.1	Dec 31 2020	Jun 30 2022	1M LIBOR + margin	None	May 29 2013

Granit Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.2	0.3	USD 0.1	0.1	USD 0.0	Dec 31 2020	Jun 30 2022	1M LIBOR + margin	None	May 29 2013
Bazalt Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.2	0.3	USD 0.1	0.0	USD 0.0	Dec 31 2020	Jun 30 2022	1M LIBOR + margin	None	May 29 2013
Granit Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.6	3.3	USD 0.9	-	-	Jun 30 2020	-	1M LIBOR + margin	None	Dec 10 2014
Petro Icarus Company Limited	Miliana Shipmanagement Limited	USD 3.6	14.0	USD 3.7	-	-	Jun 30 2020	-	1M LIBOR + margin	None	Dec 10 2014
Kambr Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.7	3.5	USD 0.9	-	-	Jun 30 2020	-	1M LIBOR + margin	None	Dec 10 2014
Bazalt Navigation Company Limited	Miliana Shipmanagement Limited	USD 0.6	3.0	USD 0.8	-	-	Jun 30 2020	-	1M LIBOR + margin	None	Dec 10 2014
Miliana Shipping Group	Miliana Shipmanagement Limited	USD 0.2	0.5	USD 0.1	0.2	USD 0.1	Dec 31 2020	Dec 31 2021	1M LIBOR + margin	None	Aug 25 2016
Miliana Shipmanagement Limited	St. Barbara Navigation Company Limited	USD 1.1	0.5	USD 0.1	1.5	USD 0.4	Dec 31 2020	Apr 30 2023	1M LIBOR + margin	None	Nov 10 2016
Petro Aphrodite Company Limited	Miliana Shipmanagement Limited	USD 0.2	0.9	USD 0.2	-	-	Jun 30 2020	-	1M LIBOR + margin	None	Aug 19 2016
Grupa LOTOS S.A.	Energobaltic Sp. z o.o.	PLN 10.0	10.0	-	-	-	Mar 31 2020	-	6M WIBOR + margin	Blank promissory note, mortgage of up to 15m	Dec 19 2016
Grupa LOTOS S.A.	LOTOS Upstream Sp. z o.o.	PLN 9.6	9.5	-	-	-	Jun 30 2020	-	3M WIBOR + margin	Blank promissory note with a 'protest waived' clause	Mar 14 2019
Grupa LOTOS S.A.	SPV Petro Sp. z o.o.	USD 0.7	-	-	2.5	USD 0.7	-	Dec 31 2022	1M LIBOR + margin	Blank promissory note with a 'protest waived' clause, security interest in a drilling platform	May 16 2019
			35.8 28.3	PLN USD 7.5	174.0 73.8	PLN USD 19.5					
Source: Company			64.1		247.8						

Table 22. LOTOS Group's intercompany loans advanced in 2019

Lender	Borrower	Principal as per loan agreement	Amount outstanding as at Dec 31 2019				Maturity date of		Financial terms (interest rate, interest payment schedule, etc.)	Security	Date of the agreement
			(current portion)		(non-current portion)						
		Foreign currency (million)	PLN (million)	Foreign currency (million)	PLN (million)	Foreign currency (million)	current portion	non-current portion			
Grupa LOTOS S.A.	LOTOS Norge AS	PLN 90.0	-	-	-	-	loan repaid		3M NIBOR + margin	Blank promissory note with a 'protest waived' clause and promissory note declaration	Feb 20 2019
Grupa LOTOS S.A.	LOTOS Upstream Sp. z o.o.	PLN 9.6	9.5	-	-	-	Jun 30 2020	-	3M WIBOR + margin	Blank promissory note with a 'protest waived' clause	Mar 14 2019
Grupa LOTOS S.A.	SPV Petro Sp. z o.o.	USD 0.7	-	-	USD 0.7	2.5	-	Dec 31 2022	1M LIBOR + margin	Blank promissory note with a 'protest waived' clause, security interest in a drilling platform	May 16 2019
LOTOS Petrobaltic S.A.	SPV Petro Sp. z o.o.	PLN 22.3	7.6	-	15.4	-	Sep 30 2020	Dec 31 2022	1M WIBOR + margin	Blank promissory note	Jun 6 2019
LOTOS Petrobaltic S.A.	Energobaltic Sp. z o.o.	PLN 3.0	-	-	2.4	-	-	Dec 31 2021	1M WIBOR + margin	Blank promissory note with a 'protest waived' clause and promissory note declaration	Jul 16 2019
LOTOS Petrobaltic S.A.	SPV Petro Sp. z o.o.	PLN 14.8	4.4	-	9.6	-	Sep 30 2020	Dec 31 2022	1M WIBOR + margin	Blank promissory note	Aug 2 2019

7.8 Financing of the B8 project under a notes issue

In 2016, the SPV B8 Spółka z ograniczoną odpowiedzialnością Baltic S.K.A. (E&P segment) concluded agreements with Bank Gospodarstwa Krajowego S.A. (BGK) and Polski Fundusz Rozwoju S.A. (Fundusz Inwestycji Infrastrukturalnych – Dłużny Fundusz Inwestycyjny Zamknięty Aktywów Niepublicznych) for the financing of the development of the B8 oil field in the Baltic Sea, including senior notes and subordinated notes programme agreements.

On July 25th 2018, B8 spółka z ograniczoną odpowiedzialnością Baltic S.K.A. and BGK concluded an annex to the senior note programme agreement and annexes to the terms and conditions of the notes issued by the company and acquired by BGK. On July 27th 2018, B8 Spółka z ograniczoną odpowiedzialnością Baltic S.K.A. issued notes with a total nominal value of USD 30m. The issue proceeds were used to redeem all notes acquired by Polski Fundusz Rozwoju S.A. All the issued notes are due at dates falling in the period from September 30th 2020 to June 30th 2022. In relation to the outstanding notes of B8 Spółka z ograniczoną odpowiedzialnością Baltic S.K.A., the non-current portion of liabilities under the agreement was presented under current liabilities, because as at December 31st 2019 there were time and budget overruns. As at December 31st 2019, BGK did not accelerate the liabilities. Additionally, negotiations are being held with the bank concerning further financing, due to end in March 2020.

As at December 31st 2019, the liability under the outstanding notes issued by B8 Spółka z ograniczoną odpowiedzialnością Baltic S.K.A., net of issue costs, was PLN 231,8 (as at December 31st 2018: PLN 227.0m).

7.9 Capital expenditure

In 2019, the LOTOS Group's capital expenditure exceeded PLN 1,024.7m, most of which was spent on the construction of a delayed coking unit (EFRA Project) and on oil and gas production, mainly from the B8 field in the Baltic Sea and from the Sleipner and YME area fields on the Norwegian Continental Shelf.

Table 23. LOTOS Group's capital expenditure on key projects in 2019
(PLNm)

Refining & Marketing segment		Exploration & Production segment	
Project	(PLNm)	Project	(PLNm)
EFRA	134.2	B8 field	140.4
Expansion of service station network	96.0	Sleipner, Norway	46.5
Hydrogen Recovery Unit (HRU)	26.0	Norway – Heimdal	36.8
Other	139.0	YME, Norway	291.1
		Giant platform	55.6
		Other	59.1
Total	395.2	Total	629.5

Source: Company

7.10 Contingent liabilities

An unconditional and irrevocable guarantee issued by LOTOS Upstream Sp. z o.o. for the benefit of the government of Norway, covering the exploration and production activities of LOTOS Exploration and Production Norge AS on the Norwegian Continental Shelf, was effective as at December 31st 2019. In the guarantee, LOTOS Upstream Sp. z o.o. undertook to assume any financial liabilities which may arise in connection with the operations of LOTOS Exploration and Production Norge AS on the Norwegian Continental Shelf, consisting in exploration for and extraction of the natural resources from the sea bottom, including their storage and transport using means of transport other than ships.

As at December 31st 2019, an excise bond in the form of two promissory notes for a total lump sum of PLN 240m, valid from August 20th 2019 to August 19th 2020, which were submitted by Grupa LOTOS S.A. to the Head of the First Tax Office in Gdańsk, continued in effect.

7.11 Management of financial resources

For information on the management of financial resources at the Company and the LOTOS Group, see 'Financial risk' in the 'Risk management' Section.

7.12 Financial performance guidance

Grupa LOTOS S.A. did not publish consolidated or separate financial guidance for 2019.

8 Grupa LOTOS S.A.'s finances in 2019

8.1 Key factors affecting the financial performance

In 2019, Grupa LOTOS S.A. generated net profit of PLN 859.7m, down 35.5% year on year. The Company's operating profit was PLN 775.8m (vs PLN 1,329.2m in 2018).

In 2019, the Company's net profit was impacted by the following factors:

- A decline in net revenue, Which amounted to PLN 26,313.0m, down 1.6% year on year. Revenue was boosted by higher sales volumes, offset by falling prices of petroleum products across global markets. The total volume of petroleum products, merchandise and materials sold by the Company in 2019 was 11,633.5 thousand tonnes (up +210.3 thousand tonnes, or +1.8%, on 2018). The average net selling price was PLN 2,262 per tonne, down by PLN 79 (-3.4%%) year on year.
- Increase in cost of sales. It amounted to PLN 24,509.4m (up 0.6% year on year). The average unit cost of sales was PLN 2,107 per tonne (down PLN 26 on 2018). The average cost was lower than the average net selling price by PLN 155 per tonne.
- 3.8% increase in distribution costs, due mainly to a 1.8% increase in sales volumes and a 6.4% increase in the average annual USD/PLN exchange rate.
- Significant increase in administrative expenses (up 17.1%), due mainly to a higher employee benefits expense, reflecting a higher headcount of employees at the Company.
- Net other expenses of PLN -20.5m (2018: PLN -67.2m).
- Lower net finance income (down PLN 41.2m).

Table 24. Key items of the statement of profit or loss of Grupa LOTOS S.A.
(PLNm)

	2019	2018	2019/2018	
			(PLNm)	(%)
Revenue	26,313.0	26,737.3	-424.3	-1.6%
Cost of sales	-24,509.4	-24,369.0	-140.4	0.6%
Distribution costs	-775.8	-747.5	-28.3	3.8%
Administrative expenses	-262.8	-224.4	-38.4	17.1%
			46.7	
Net other income/(expenses)			-562.10	X
	-20.5	-67.2		
Operating profit/(loss)	744.5	1,329.2	-584.7	-44.0%
			-41.2	
Net finance income/(costs)	210.7	252.0		-16.4%
Pre-tax profit/(loss)	955.2	1,581.2	-626.0	-39.6%
Income tax	-120.9	-247.3	126.4	-51.1%
Net profit/(loss)	834.3	1,333.9	-499.6	-37.5%

Source: Company

Table 25. LIFO-based EBITDA for Grupa LOTOS S.A.

	2019	2018	2019/2018	
			(PLNm)	(%)
EBIT	744.5	1,329.2	-584.7	-44.0%
Depreciation and amortisation	393.6	367.0	26.6	7.2%
EBITDA	1,138.1	1,696.2	-558.1	-32.9%
LIFO EFFECT	115.3	-476.2	591.5	X
One-off items[16]	-86.6	215.5	-302.2	X
Adjusted LIFO-based EBIT	773.2	1,068.6	-295.4	-27.6%
Adjusted LIFO-based EBITDA	1,166.8	1,435.6	-268.8	-18.7%

Source: Company

Figure 44. Sources of net profit earned by Grupa LOTOS S.A. in 2019 (PLNm)

Source: Company

8.1.1 Revenue

In 2019, Grupa LOTOS S.A.'s sales volume reached 11,633.5 thousand tonnes (up 1.8% on 2018). There was a rise in the share of domestic sales in the total figure (+5.3pp). The most significant increase in term of both sales volumes and revenue was recorded for diesel oils, up by 6.7% and 6.5%, respectively, year on year. The revenue decline recorded in 2019 was attributable to lower revenue from foreign sales.

8.1.2 Operating expenses

In 2019, Grupa LOTOS S.A.'s operating expenses amounted to PLN 25,548.0m, up 0.8% year on year.

[16] In 2019: foreign exchange gains on operating activities of PLN +66.1m, reversal of LIFO write-downs of PLN +20.5m.
In 2018: impact on LIFO effect of the measurement of a portion of crude oil at prices significantly higher than current prices of PLN -90.9m, foreign exchange losses on operating activities of PLN -65.5m, recognition of LIFO write-downs of PLN -6.6m; recognition of VAT provision of PLN -52.5m.

The main items of the Company's operating expenses were:

- Raw materials and consumables used – totalling PLN 22,707.4m, down 1.8% relative to 2018, due mainly to a lower volume of crude oil processed and exchange differences on operating activities (net gains in 2019 vs net losses in 2018).
- Services – of PLN 1,021.2m (up 5.5%). Their rise was principally driven by higher costs of logistics and maintenance services.
- Taxes and charges – PLN 497.5m (up 3.8%), driven by a rise in the stocks charge, rising CO_2 emission costs and higher property taxes.
- Depreciation and amortisation – PLN 393.6m (up 7.2%), following the commissioning of EFRA units and implementation of IFRS 16 *Leases*.
- Employee benefits expense – PLN 294.5m (up 23.5%), driven by rising employment levels, an increase in salaries and wages, and actuarial remeasurement of payables to employees.

Table 26. Operating expenses of Grupa LOTOS S.A.
(PLNm)

	2019	2018	Change in %
Depreciation and amortisation	393.6	367.0	7.2%
Raw materials and consumables used	22,707.4	23,116.0	-1.8%
Services	1,021.2	968.4	5.5%
Taxes and charges	497.5	479.2	3.8%
Employee benefits expense	294.5	238.4	23.5%
Other expenses by nature	93.0	110.3	-15.7%
Merchandise and materials sold	349.1	550.3	-36.6%
Total expenses by nature	25,356.3	25,829.6	-1.8%
Change in products and adjustments to cost of sales	191.7	-488.7	-139.2%
Total	25,548.0	25,340.9	0.8%
Cost of sales	24,509.4	24,369.0	0.6%
Distribution costs	775.8	747.5	3.8%
Administrative expenses	262.8	224.4	17.1%

Source: Company

8.1.3 Net other income/(expenses)

In 2019, the Company's net other income was PLN 10.8m (2018: PLN -67.2m), including mainly grants received of PLN 13.6m. In 2018, net other income was affected by tax risk provisions (PLN 52.5m).

8.1.4 Net finance income/(costs)

The Company's net finance income was PLN 210.7m. It comprised primarily:

- dividends received of PLN +313.3m,
- gains on measurement and settlement of financial instruments of PLN +32.2m,
- net interest on debt, interest income, bank commission fees and guarantees of PLN -93.2m,
- foreign exchange losses of PLN -37.3m.

8.2 Financial position

8.2.1 Assets

As at December 31st 2019, Grupa LOTOS S.A.'s total assets amounted to PLN 16,475.6m, an increase of 1.2% relative the end of 2018.

Key factors that contributed to the increase in assets included:

- PLN 782.6m increase in trade receivables, mainly from non-Group entities under domestic sales, due primarily to the lack of factoring arrangements in 2019,
- PLN 338.5m increase in shares following the share capital increase at LOTOS Upstream and acquisition of the new shares by Grupa LOTOS S.A.;
- PLN 874.7m decrease in cash and cash equivalents;
- PLN 129.1m decrease in property, plant and equipment, due mainly to depreciation, offset by purchases of property, plant and equipment for the EFRA Project.

Figure 44. Assets of Grupa LOTOS S.A.
(PLNm)

Source: Company

8.2.2 Equity and liabilities

At the end of 2019, Grupa LOTOS S.A.'s equity was PLN 10,339.3m (having increased PLN 361.0m compared with the end of 2018). The increase was chiefly attributable to net profit of PLN 834.3m earned in 2019, adjusted for dividend payments of PLN 554.6m and actuarial losses relating to defined post-employment benefits, adjusted for the tax effect, of PLN -3.3m. Equity included foreign exchange gains on cash flow hedges, adjusted for the tax effect, recognised in reserve capital in the amount of PLN 84.6m.

As at December 31st 2019, the share of equity in total equity and liabilities rose to 62.8% (from 61.3% at the end of 2018).

As at the end of December 2019, the Company's liabilities amounted to PLN 6,136.3m, having gone down PLN 166.8m year on year. Key factors behind the change in Grupa LOTOS S.A.'s liabilities relative to the end of 2018:

- PLN 365.6m decrease in borrowings and lease liabilities, due mainly to repayment of investment facilities of PLN 453.9m and the inventory financing facility of PLN 576.1m. In addition, the Company availed itself of the option to withdraw deposits securing facility interest and principal repayments. At the same time, following the implementation of IFRS 16, debt under lease contracts increased by PLN 189.6m and foreign currency facilities were measured at a higher exchange rate at the end of 2019.
- Absence of current tax payables (PLN -156.9m).
- PLN 67.9m increase trade payables, due mainly to a higher value of crude oil purchased in December 2019 relative to December 2018.
- PLN 238.3m increase in other provisions and liabilities, mainly liabilities to the state budget on higher VAT, excise duty, fuel charge and emissions charge payable.

As at December 31st 2019, Grupa LOTOS S.A.'s debt was PLN 1,920.3m (having been reduced by PLN 365.5m on December 31st 2018). The ratio of debt adjusted for free cash to equity was 15.5%, up 4.5pp on December 31st 2018.

Figure 45. Equity and liabilities of Grupa LOTOS S.A.
(PLNm)

Source: Company

8.3 Cash flows

As at December 31st 2019, the Company held cash of PLN 319.0m. Net cash flows in 2019 amounted to PLN -871.7m (2018: PLN +362.7m).

This change was a combined result of the following cash flows:

- Positive cash flows generated by the Company from operating activities of PLN 1,007.9m (up PLN 20.4m on 2018). In addition to net profit earned in 2019 and amortisation/depreciation, they were positively affected by an increase in liabilities. On the other hand, an increase in trade receivables was a negative contributor.
- Cash flows from investing activities were PLN -119.1m and involved mainly the acquisition of shares in LOTOS Upstream (PLN -338.5m) and purchase of property, plant and equipment (PLN -100.2m). At the same time, the Company received dividends (PLN +312.9m).
- Negative cash flows from financing activities of PLN -1,759.9m, related chiefly to repayment of borrowings and interest (PLN -1,126.9m), as well as dividend paid (PLN -554.6m).

Table 27. Cash flows
(PLNm)

	2019	2018
Cash and cash equivalents at beginning of period	1,190.7	828.0
Cash flows from operating activities	1,007.9	987.5
Cash flows from investing activities	-119.1	253.4
Cash flows from financing activities	-1,759.9	-881.0
Change in net cash	-871.7	362.7
Cash and cash equivalents at end of period	319.0	1,190.7

Source: Company

8.4 Investments and capital placements

In 2019, Grupa LOTOS S.A. did not make any equity investments outside of the group of its related entities; for details, see Section 6.6.1.

8.5 Dividend

On June 28th 2019, the Annual General Meeting of Grupa LOTOS S.A. passed a resolution to distribute an amount PLN 554,620,086.00 from the Company's 2018 profit as dividend to the shareholders.

The pre-tax dividend per share was PLN 3.

The number of shares carrying the right to dividend was 184,873,362. The Annual General Meeting also set the dividend record date for September 12th 2019 and the dividend payment date for September 27th 2019.

9 Risks in the LOTOS Group's operations

Risks inherent in the LOTOS Group's operations include risks specific to the Oil & Gas industry, such as market risk, exploration risk, crude oil production and processing risks, related to process safety, human safety and the environment, as well as risks related to development projects pursued by the Group.

Market risk related to the prices of crude oil, gas and petroleum products is one of the key risks with material bearing on the Group's financial performance. The prices of these commodities and products are shaped on international markets, over which Grupa LOTOS S.A. has no control. Although this is a natural risk for all industry operators, the LOTOS Group has put in place various measures to mitigate its adverse impact, but also capture the resulting opportunities.

A source of opportunities and risks for the Group are its development initiatives and strategic projects, including projects to deepen the level of crude oil conversion (e.g. EFRA) as well as exploration and production projects (the Yme, B8, B4 and B6 fields).

Any identified risks at the Group are managed via the Enterprise Risk Management (ERM) system, which has been continually refined. As part of the system:

- risks are identified and evaluated, with performance figures and possible deviations planned and forecast in the context of a volatile and uncertain environment,
- business decisions are made on an informed basis, taking into account the risks involved,
- and the Group's risk profile is actively managed by mitigating risks to the achievement of its objectives and capturing opportunities.

All the LOTOS Group companies have in place an Enterprise Risk Management Policy accompanied by a detailed procedure.

9.1 Risk categories at the LOTOS Group

The LOTOS Group has classified risks into the following categories:

Main category	Subcategories	Description
Strategic risks	Megatrends Regulatory Strategic projects Geopolitical Technology Competence	Strategic risks are understood as the possibility of negative financial consequences from mistaken decisions, based on wrong assessment of the LOTOS Group's strategic development directions (megatrends and technology risk). They also include a risk of potential inability to fully achieve the Group's strategic objectives due to delayed delivery of strategic projects (risk in strategic projects). Another risk identified within this category is associated with a newly enacted or changing regulatory regime and geopolitical factors affecting the organisation's activities (regulatory, geopolitical risks). A significant risk area affecting the Group's operations and growth prospects in the long/strategic perspective is access to competent staff (competence risk).
Operational risks	HSE Exploration Production Refining Sales Services Logistics Procurement Financial operations IT Force majeure (e.g. natural disasters) Security risk	Operational risks are identified as part of ongoing processes carried out at the LOTOS Group, as factors with a potential impact on the achievement of the Group's operational objectives. Significant operational risks include categories related to safety and security of people, the environment and processes in general, as well as the availability and security of IT systems, which could affect the continuity of business, production/refining operations and customer service. Operational risks may relate both to processes carried out by the LOTOS Group's own staff, and by suppliers and subcontractors along the length of the supply chain.

Financial risks	Market Liquidity and financing Credit	Under financial risks, the LOTOS Group identifies market risk associated with the prices of petroleum commodities and products, prices of CO_2 emission allowances, currency exchange rates and interest rates. In addition, financial risks include the credit risk of trade partners and counterparties in financial contracts, liquidity risk, risk of constraints or changes in the terms of credit provision, and debt service risk.
Reputation and compliance risks	Legal Employees Investors Customers Social and environmental	Reputation risk relates to the perception of the LOTOS Group by its key stakeholders – customers, investors, employees and local communities. Compliance risk, on the other hand, involves risks of non-compliance with existing legal requirements (legal risks).

Below is a brief description of selected key risk categories, which, given their current levels, are included in the Group's risk map. A detailed list of these risk categories, along with their current assessment and mitigation methods, is shown in the table 28 on page 85 of this report.

9.1.1 Strategic risks

Risk from megatrends

At least since the beginning of the 21st century, wide-ranging efforts have been afoot (both globally and locally) to tackle climate change. They may affect the LOTOS Group's operations, financial performance and growth prospects. Such measures may have a direct impact on the Group's operations through a changed taxation regime or higher costs of its day-to-day operations and planned projects. Their impact may also be indirect through shifts in consumer behaviour or technology development. The LOTOS Group identifies the relevant opportunities and threats, aligning its activity with the evolving external environment driven by climate change in line with the adopted directions for the organisation's sustainable development and mutual interactions with its existing and future stakeholders.

The Group actively pursues the emerging development opportunities, including innovation projects related to the impacts of megatrends, new regulations and technology advances on the Oil & Gas sector and, by extension, on the energy market, e.g. with respect to electric mobility and alternative fuels.

Development of the LOTOS Group and its financial performance are correlated with the overall economic climate in Poland, including macroeconomic factors such as GDP growth, labour market conditions or industrial output. Any adverse economic trends may undercut domestic demand for fuel products, and consequently erode the LOTOS Group's financial performance. Nonetheless, the current economic growth forecasts for Poland and associated fuel demand are favourable.

Regulatory risk

Regulatory risk at the national and European level, associated closely with the megatrends described above, has strong relevance to the LOTOS Group's operations. Grupa LOTOS S.A. keeps monitoring the legal environment, to maintain compliance with any legislative changes as they occur. In specific cases, as part of a legislative dialogue, it proposes changes to legal regulations to ward off their potential adverse effects on the Group and the entire market. In 2019, Grupa LOTOS actively participated in the legislative process concerning the National Indicative Target (NIT), the National Reduction Target (NRT) and emergency stocks. The NIT-related regulatory risk in 2020 was successfully mitigated for the LOTOS Group. These issues remain a major focus of interest for Grupa LOTOS S.A., especially in terms of their impact on the strategy implementation in the coming years and in the long term until 2030.

Risk in strategic projects

In 2019, key risks for the LOTOS Group's current and long-term performance were risks involved in its strategic and business growth projects, such as EFRA (delayed coking project), development of the B8 field and development of the YME field on the Norwegian Shelf.

The EFRA Project, having successfully passed a production test in December 2019, is already delivering economic benefits. However, challenges for the coming years will include the effective continuation of exploration and production projects, potential further projects to increase the depth of crude oil refining and distillate yields, and projects to develop the service station chain. The expected benefits of such projects are a key element of the strategy adopted by the LOTOS Group.

By regularly monitoring the progress of, and risks related to, its strategic projects, the LOTOS Group is able to anticipate the situation and thus to implement measures designed to control risks or leverage opportunities. As part of project management, the Group applies portfolio management practices, directing capital flows to various projects at different stages of the delivery cycle, depending on the organisation's internal condition and external market environment.

Competence risk

Competence risk is related to the difficulty in attracting and/or retaining competent and experienced staff, necessary for the Group to attain its strategic objectives and pursue further development. Recent years have revealed a gradually worsening shortage of qualified workforce within specific areas of the Polish labour market, which has also affected the LOTOS Group.

9.1.2 Financial risks

Market risk: prices of petroleum commodities and products

Grupa LOTOS S.A.'s margins on sale of petroleum products are largely dependent on a spread between its selling prices and the prices of crude oil. Such prices may fluctuate widely driven by events beyond Grupa LOTOS S.A.'s control, such as changes in the supply and demand forces globally or regionally, geopolitical factors or shifts in market preferences. Movements in the prices of crude oil and other feedstock used in the refining business (including natural gas) and fluctuations in the prices of Grupa LOTOS S.A.'s petroleum products may not be correlated in time, which may be a reason behind significant volatility in the Group's refining margin.

Grupa LOTOS identifies the following risk factors related to the prices of petroleum commodities and products:

- volatility of the refining margin, measured as the difference between liquid indices of a reference petroleum product basket (e.g. aviation fuel, gasoline, diesel oil, fuel oil) and a liquid index of reference commodity (e.g. Urals crude),
- volatility of prices with respect to the commodity and product inventory volumes deviating from the required levels of emergency and work-in-process stocks,
- volatility of differentials between the reference indices and indices used in commercial contracts (e.g. Urals-Brent differential, i.e. the difference between different types of crude oil),
- use of non-standard pricing formulae in trade contracts.

Market risk: currency exchange rates

In its operations the LOTOS Group is exposed to currency risks related to:

- trading in petroleum commodities and products, and other goods,
- investment cash flows,
- cash flows from financing activities, including deposits and borrowings,
- measurement of derivatives indexed to or denominated in a currency other than the functional currency (PLN).

The Group has a structural long position in USD (which means it benefits from a rise in the USD/PLN exchange rate) as its cash inflows dependent on the USD exchange rate (mainly revenue from sale of petroleum products) are higher than the corresponding cash outflows (e.g. outflows on purchase of crude oil, credit facility repayments).

Under the EFRA Project, EUR/USD currency contracts were executed to hedge EUR-denominated capital expenditure against USD as the main financing currency.

Market risk: interest rates

Grupa LOTOS S.A. is exposed to the risk of changes in cash flows caused by interest rate movements as interest income and interest expense related to certain assets and liabilities accrue based on floating interest rates, including in particular investment credit facilities under the 10+ Programme and the EFRA Project, as well as the financing and refinancing credit facility where the amount of interest is computed by reference to the floating LIBOR USD rate.

Market risk: prices of carbon dioxide (CO_2) emission allowances

Grupa LOTOS participates in the European CO_2 emission trading scheme, purchasing allowances in the event of any differences between its actual CO_2 emissions and the amount allocated under the National Allocation Plan. The current trading period (Phase III) ends in 2020. At present, Grupa LOTOS holds surplus allowances, purchased in view of the prevailing market situation and the strategic nature of a deficit of allowances expected after 2020. The new allocation of allowances for 2021-2025 is due in 2021.

Financial risk: liquidity and financing

Liquidity risk is associated with ensuring that all liabilities are settled in a timely manner. Such risk may result from a mismatch between streams of receivables and payables or from inadequate sources of funding. Liquidity is managed across the LOTOS Group based on current liquidity forecasts.

Some investment projects undertaken by Grupa LOTOS S.A. and its subsidiaries (e.g. EFRA, B8, Yme), as well as their day-to-day operations, are partly financed with borrowed funds. Therefore, there is a risk that LOTOS Group companies may find it difficult to raise new debt or to raise it in the required amount or on acceptable terms. This may be caused by instability on financial and capital markets in Poland or abroad, more restrictive policies applied by financing institutions with respect to new agreements or interpretation and performance of existing agreements, any adverse economic developments in Poland or abroad, and non-performance or improper performance by LOTOS Group companies of their obligations under financing agreements. There is also a noticeable trend of limiting access to external financing for conventional fuel projects.

The ability to raise additional debt is also constrained by the LOTOS Group companies' obligations to service their existing debt. Currently, their economic performance, liquidity position and debt levels are satisfactory.

Financial risk: credit

In the course of its trading operations, the LOTOS Group sells products and services to other business entities on a deferred payment basis, which may give rise to the risk of default on the part of its trading partners (credit risk of trade partners).

In entering into financial contracts with financial institutions, due consideration is given to the risk that the counterparty may default on amounts owed to the Group on settlement of a given transaction (credit risk of financial counterparties).

For detailed information on financial risk and policies to manage that risk, see Note 27 on p. 73 to the consolidated financial statements for 2019.

9.1.3 Operational risks

Operational risks are identified as part of ongoing processes carried out at the LOTOS Group, as factors with a potential impact on the achievement of the Group's operational objectives. Operational risk factors are identified in the LOTOS Group's internal processes and in its environment, including the supply chain.

Exploration risk

Exploration projects undertaken by the LOTOS Group involve both the risk of drilling a well without a hydrocarbon flow, as well as the risk of inaccurate estimation of hydrocarbon resources and reserves discovered by drilling. It is possible that the presence of resources inferred from geological and seismic data is not confirmed after a well is drilled, and that the estimated resources are smaller than originally expected. There is also a risk that further drilling to appraise a deposit will result in a downward revision of resource estimates due to unfavourable changes in the reservoir properties. For this reason, analyses and decisions in exploration activities involve multiple stages, with different risk mitigation methods used along the way.

Production risk

Hydrocarbon production processes are often carried out in challenging conditions, mainly offshore. High pressure and increased corrosive effects compound the risk of failures of production equipment, such as downhole pumps, extraction equipment and transmission facilities, which in turn may negatively affect production volumes and financial performance.

Failure to achieve production targets may also result from declining well capacity rates (changes in reservoir pressure) and reservoir properties differing from those documented at the field development stage.

A production process involves the risk of an oil spill, fire or blowout, which may result in environmental contamination, risks to the health and lives of staff, reduction or discontinuation of production, as well as significant financial expenditure to remove the damage or pay the resulting fines. The risk is attributable to the quality of operation of the exploration and production infrastructure, application of inadequate technical and organisational solutions, as well as the level of awareness and skills possessed by staff and subcontractors.

Refining risk

One of the two key pillars of the LOTOS Group's operations is the processing of crude oil and refining of petroleum products. Its essential element is to ensure the safety of people, processes, infrastructure and the environment. A potential industrial accident taking place at the refinery could disrupt refining production and, in extreme cases, cause an explosion or deaths in the affected area. Any hydrocarbon leaks could contaminate land and surface water or, in the case of emergencies resulting in major emissions into the atmosphere, cause air pollution. All risks to process and human safety are managed with utmost care and measures are taken to minimise such risks.

One of the identified risks is associated with disruptions in crude oil supplies. As Grupa LOTOS S.A.'s own production assets do not fully cover its crude oil requirements, it must rely on crude oil purchased from other suppliers. Crude oil supplies are largely sourced from Russia. The continuity of crude oil supplies to the Group may be affected by the following main factors:

- technical failures, including failures of the pipeline system used to supply crude oil, terrorist attacks, acts of sabotage, riots, revolutions, war, natural disasters, adverse weather conditions, or other events of force majeure,
- uneven deliveries of crude oil resulting in a temporary decrease in work-in-process stocks, and consequently in the refinery's lower throughput volumes and failure
- to meet the oil quality requirements.

In 2019, oil deliveries from the Russian Federation via the Druzhba pipeline were halted, as reported by the Company in Current Reports No. 7/2019 and 16/2019. Thanks to the LOTOS refinery's convenient location near the sea coast and successful measures taken within the supply chain, the Company was not forced to shut down its refining units and customers did not suffer any adverse consequences of the oil contamination incident.

Risk related to purchase of products and services

The LOTOS Group identifies a risk from its relations with suppliers and subcontractors along the entire length of the supply chain. The market of suppliers of goods and services meeting the requisite quality standards has been shrinking visibly in recent years. This aspect is particularly relevant to the plant maintenance and overhaul policy, but also to the smooth execution of major development projects. The risk was especially pronounced during the EFRA Project implementation.

On the other hand, the risk of buying from unreliable suppliers involved in VAT 'carousel frauds' was significantly reduced in 2019 following the introduction of the split payment procedure and detailed checks of prospective trade partners by dedicated employees.

HSE risk

Risks to the occupational safety of the LOTOS Group's employees and contractors performing work on its premises are one of the key risk areas for the organisation. Because of the nature of the industry, accidents may occur at every stage of the Group's business operations and along its logistics chain. They may happen during oil production and refining processes, during transport of products by road or by rail, and while rig crews are being carried by helicopters.

These risk factors may stem from human errors or non-compliance with the applicable requirements and procedures, plant failures, emissions of harmful substances, natural disasters and other incidents likely to increase the risks to human health and lives. Building a culture of safety and effectively preventing occupational accidents is a priority objective for the management and employees of Grupa LOTOS S.A.

Security risk

The ever increasing use of IT resources and process automation aggravate the risks associated with cybercrime. As a business technologically opens up to the world, new opportunities arise to access its strictly protected valuable business assets, or to resources stored in telephone or computer memories. This may be a source of material losses. On the other hand, a cyberattack launched against operational control systems and interference with industrial processes may lead to major accidents and destruction.

This risk is therefore very closely monitored and mitigated by means of available security measures. Security risk also covers issues related to physical access by the Group's employees and contractors.

9.1.4 Reputation and compliance risk

Reputation risk relates to the perception of the LOTOS Group by its key stakeholders – customers, investors, employees and local communities. Its consequences may undermine social approval for the continuation and development of the Group's business, thereby affecting its long-term financial performance.

Legal risk

Legal risk relates to non-compliance or partial compliance with existing laws (by contrast, the regulatory risk discussed above applies to possible future regulations). The legal requirements impose a number of obligations on the Group, which have to be complied with by an operator engaged in licensed/regulated activities. In addition, given the scale of the Group's operations, it is under particular scrutiny by the supervision authorities, social stakeholders and supply chain participants.

Many of the Polish legal and tax regulations currently in force are not sufficiently precise or uniformly interpreted. As a result, their interpretation by LOTOS Group companies may differ from that adopted by courts or tax authorities.

Personnel risk

Existing and future employees are the LOTOS Group's key stakeholders. How they perceive and understand the LOTOS Group's activities is vital for the effectiveness of its operations and implemented changes. However, if its internal

communication is deficient, there is a risk that any changes planned by the Group will prompt employee protests or industrial action.

Social and environmental risks

Social risks are associated with the LOTOS Group's operations in terms of their impact on the environment and stakeholders. As a result of its production processes and infrastructure projects, the LOTOS Group has an impact on local communities, which entails a risk of social protests.

So far, its communication with stakeholders has significantly mitigated that risk.

The Group's processes from exploration, field development and hydrocarbon production, to crude oil refining, to product transport and logistics – all leave an environment footprint. The risk of an industrial accident/disruption in these processes could be a source of more severe environmental impacts. Incidents posing a risk of environmental contamination include leakages from tanker vessels carrying crude oil/petroleum products, oil platforms or refinery units.

Table 28. List of key risks at the LOTOS Group, including materiality levels and mitigation methods

Risk level:

1– low risk
2– moderate risk
3– significant risk

Trend relative to the previous report:

→ stable risk
↘ diminishing risk
↗ growing risk

Risk type	Level	Trend	Risk response
Risk from megatrends			
Fluctuating supply and demand trends on the fuel market	2	→	o Performing long-term trend analyses and updating strategy to mitigate adverse effects or seize new opportunities to gain a competitive advantage (e.g. in electric mobility) o Implementation of development projects to expand and diversify the existing asset portfolio o Implementation of development projects to improve the flexibility of production/refinery processing operations and energy efficiency o Implementation of innovation projects
Regulatory risk			
Adverse impact from amended legislation or failure to comply with new national or EU regulations (e.g. NIT, NRT)	2	→	o Development of a compliance management system by the Compliance Department o Monitoring new regulations and regulatory changes o Active participation in legislative dialogue led by the Regulator o Scenario analysis of potential impacts of regulations o Implementation of measures for adapting to planned or enacted regulatory changes
Risk in strategic projects			
Delayed delivery of strategic projects such as EFRA, B8, B4B6 and YME field development or hydrogen recovery unit (HRU)	3	→	o Comprehensive, step-by-step project planning o Careful selection of qualified contractors o Systematic risk review for each project o Monitoring of progress made on projects, forecasting of project parameters, and mitigation of emerging risks o Active project management, including close oversight and communication with contractors
Geopolitical risk			

Disrupted or delayed supplies of crude oil or other essential feedstocks	2	→	o Diversification of oil supplies o Maintaining adequate levels of work-in-process stocks o Production scheduling and procurement planning o Providing for relief measures in supply contracts in case a delivery route becomes unavailable
Competence risk			
Difficulties with recruitment of qualified staff and retention of competent and experienced employees	2	→	o Building an engaging work environment to enhance productivity o Creating space for development and innovation within the organisation o Building a good employer image inside and outside the organisation o Building a knowledge management system to enable effective knowledge sharing/transfer and develop staff competencies necessary to achieve near- and long-term business goals o Management staff development programme
Market risk			
Fluctuating prices of feedstock and petroleum products, fluctuating foreign exchange and interest rates. Risk posing both threats and opportunities to the LOTOS Group's operations	3	→	o Following the adopted feedstock and petroleum product price risk management policy and currency risk management policy o Monitoring market risk exposure on a daily basis o Selecting a trading strategy in line with policy objectives, current market situation and applicable risk limits
Liquidity and financing risk			
Mismanagement of working capital and constrained financing capacity	2	↘	o Assessing and forecasting the Group's cash flows and liquidity o Analysis of financing sources available to the Group o Diversification of financing sources. o Optimising liquidity and debt across the Group o Effective management of strategic project portfolio
Credit risk			
Insolvent trade partners or counterparties in financial contracts	2	→	o Monitoring of partners' ratings and financial standing o Setting trade credit limits and limits for counterparties in financial contracts in accordance with internal procedures o Employment of diverse financial tools to minimise risk
Exploration risk			
Incorrect estimation of resources, including incorrect estimation of hydrocarbon resources and reserves discovered by exploration wells; drilling of dry wells (without hydrocarbon flows)	2	→	o Conduct of numerous geological and reservoir engineering studies depending on the well (exploratory, appraisal, or appraisal and production well) o A number of decision points included in each project phase (initial phase, execution phase, well results analysis and reservoir evaluation, design phase) to minimise dry well risk o Applying international probability-of-success (PoS) standards
Production risk			
Risk of drilling or production failure, resulting in reduced availability of affected infrastructure	2	→	Implementing a range of measures to mitigate such risks as blowout, well failure, oil spill, fire, and collision at sea and to monitor their effective oversight, including: o Monitoring of process parameters o equipment performance tests o use of appropriate safety measures o compliance with applicable safety and operating procedures
Geological reservoir risk and downhole equipment-related risk	3	→	o Reservoir analysis (updating integrated static and dynamic models) o Assessing well and pump performance o Workover of production wells o Injection of chemicals (hydrate inhibitors) reducing the risk of downhole pump failures
Refining risk			

Failure of refinery processing units	2	→	○ Inspecting the technical condition of processing equipment and components in line with maintenance schedules ○ Risk-based inspections of infrastructure ○ Having equipment inspected by the Technical Inspection Office and Company Technical Inspection ○ Identifying Critical Equipment subject to special inspection rules ○ Carrying out annual Failure Prevention Plans and Maintenance/Overhaul Plans ○ Improving staff qualifications, including simulation-based training ○ Automatic control, alarm and shutdown systems
HSE risk			

Accidents along the entire production cycle and logistics chain (including road and rail accidents during product transport and aircraft accidents during rig crews transport)	2	→	○ Raising employees' awareness of and commitment to safety culture by taking various initiatives
			○ Health and safety risk assessment and process risk analysis
			○ Regular inspections of OHS compliance at the workplace
			○ Implementation of the annual Health and Safety Plan for the LOTOS Group
			○ In the area of air safety:
			  ○ high safety requirements for aircraft fleet – AOC and E12 certificates, IFR approval,
			  ○ ongoing monitoring of weather conditions and proper logistics of passenger transport by sea,
			  ○ supervision of the terms of contracts with carriers.

Security risk			
Destruction of critical infrastructure in an act of terrorism	2	→	○ Periodical drills to check security and communication systems ○ Implemented procedures in case of physical security or protection breaches ○ Participation in the Government Centre for Security's training ○ Communication with the Provincial Emergency Management Centre
External or internal interference with IT and OT systems (cyberattack) and failures	2	→	○ Implementation of the ISO 27001 system and Cybersecurity Act requirements ○ IT security audits ○ In-house procedures for system security management ○ Regular security tests on ICT infrastructure ○ Raising employees' awareness of cyber security issues (training, information, tests) ○ Support from ABW CERT ○ Establishment and development of a Security Operation Center (SOC)
Procurement risk			
Shrinking market of suppliers of goods and services meeting the requisite quality standards	2	↗	○ Supplier selection procedures ○ Rules for dealing with key suppliers ○ Maintaining good relations with suppliers based on transparent procedures
Buying from unreliable suppliers involved in VAT 'carousel frauds'	2	↘	○ Introduction of the split payment mechanism ○ Detailed checks of trade partners ○ Inclusion of relevant clauses in contracts with trade partners ○ Due diligence
Legal risk			
A deliberate act or omission which constitutes violation of the law or a breach of the LOTOS Group's internal regulations, committed to secure an unlawful gain or causing the Company to sustain undue losses (including corrupt practices).	2	→	○ Misconduct Risk Management Programme, which consists in the coordination of misconduct prevention and detection measures implemented in individual business processes, misconduct prevention education, identification and assessment of misconduct risks, as well as overall evaluation of the organisation's resilience to misconduct. ○ Ethical Conduct Programme, which is pursued through the Code of Ethics, the Ethics Officer and the Ethics Hotline, as well as training activities.

Violation of data protection laws	2	→	○ Establishment of internal data protection standards, including as part of the Security Policy, and data protection procedures ○ Audits, also by external auditors, to verify whether the organisation observes the applicable rules and how it is prepared to comply with the GDPR requirements ○ Raising employees' awareness (training, meetings)
Environmental risk			
Leakage from vessels carrying crude oil / products made by the LOTOS Group	2	→	○ Working with service providers that observe the performance standards set out in resolutions of the International Maritime Organization (IMO) and comply with the maritime security conventions ○ Including clauses on technical condition of ships in contracts with trading partners and providers of sea transport services ○ Working with shipowners that are members of the International Tanker Owners Pollution Federation Ltd. (ITOPF) and hold the required insurance certificates ○ Insurance coverage and membership in the International Oil Pollution Compensation Fund (IOPCF)
Oil spill on rig	2	→	○ Maintaining offshore equipment in good technical condition to minimise the risk of accidents on rigs ○ Taking steps to control the risk of formation fluid invasion at the stage of planning and conducting well drilling operations ○ Holding annual drills in oil spill control ○ Selecting the right anti-spill equipment ○ Insurance coverage
Periodical spikes in emissions from the refining process	1	→	○ Constantly monitoring the process and emission parameters ○ Maintaining high technical standards application of the best available techniques (BAT) requirements ○ Implementation of environmental management plans
Personnel risk			
Employees resisting changes introduced in the LOTOS Group	2	→	○ In the case of restructuring – open communication with employees, trade unions and works council about the planned changes ○ Communicating the restructuring plans to media ○ Opportunities for employees to gain new qualifications/ retrain ○ Offering support in the event of a change of workplace and relocation; financial assistance ○ Retraining and outplacement support ○ Ongoing monitoring of employee sentiment
Social risk			
Social protests against the Group's projects	2	→	○ Maintaining good relations with stakeholders. Holding meetings to inform stakeholders about the Group's projects ○ Open communication on the Group's current operations and projects ○ Maintaining good relations with industry, local, nationwide and foreign media ○ Working with the supervisory bodies and public authorities to prevent crises that may arise in the course of legislative procedures, whether Polish or EU.

9.2 Risk management model

Mechanisms of the risk management model are embedded in the existing business processes. The model comprises three defence lines which are adjusted to the nature of particular activities and the possible impact of risks on the Group's performance.

1ST line of defence Business	► operational risk management ► development of operational procedures ► risk identification and assessment at the decision-making stage and periodic risk reviews in processes and projects
2ND line of defence Risk, Finance, Compliance	► defining risk management rules ► alignment of risk management with strategy ► defining and profiling risk exposure
3RD line of defence Internal audit	► independent assessment of the effectiveness and adequacy of risk management process in GKL

Source: Company

Structure of the enterprise risk management (ERM)

The ERM system focuses on key risks and forecasts their impact on the company's operations and performance, Thus facilitating the development of pre-emptive measures that may help mitigate risks or exploit opportunities. This key functionality of the system is currently being strengthened at the LOTOS Group.

Chart 3. **ERM system**

Source: Company

9.2.1 Risk management process

Management of threats at the corporate level is carried out as part of a process involving:

- Risk type identification – risks are identified in the context of (annual) strategic and operational objectives pursued,
- Risk analysis and assessment, by type – the assessment is carried out in two time horizons: annual and long-term. The assessment criteria include both financial and reputational consequences, aggregated as the impact on non-financial parameters, such as the image, environment, and people.
- Establishing a risk treatment plan – for each material risk type, an operational management procedure as well as controls and protection measures are defined. For TOP RISKS, relevant risk mitigation and opportunity exploitation measures are prepared, as well as response plans to be followed in case of materialisation of such risks.
- Implementation of risk mitigation and opportunities enhancement measures – performing tasks defined in risk treatment plans and monitoring their progress on an ongoing basis.

- Monitoring of risk indicators – for top risk categories, key risk indicators (KRIs) are defined, which allow risk exposure levels and risk materialisation probability to be monitored in accordance with relevant rules.
- Risk reviews – periodically (every six months), all identified risk types are reviewed and re-evaluated.
- Communication and reporting – standards for communicating and reporting the results of risk management are in place at every stage of the process. The Management and Supervisory Boards receive regular, quarterly reports on existing risks to the organisation and on the effectiveness of risk mitigation or exploitation measures.
- The effectiveness and adequacy of the ERM system are assessed and its future development directions are defined on an annual basis.

Chart 4. **Risk management process**

9.2.2 Risk oversight – ERM participants

Oversight level	Role
Supervisory Board	o monitors the effectiveness of the enterprise risk management
Management Board	o determines risk appetite in the context of the adopted strategy o takes key decisions regarding TOP RISKs, including resources and the ERM
Corporate Risk Committee	o provides opinions on and recommends measures applicable to TOP RISKs and the ERM, including risk appetite o monitors the performance of planned tasks o the Committee consists of representatives of key corporate functions
Risk Management Office	o coordinates and supports enterprise risk management measures taken by Risk Owners at the LOTOS Group o supports risk coordinators at LOTOS Group companies o collates information on risks to the organisation o assesses the Group's risk exposure o is responsible for coordinating and developing enterprise risk management

Risk owners	o manage individual risks, which includes defining risk treatment plans, monitoring risk levels, and overseeing risk mitigation and opportunities enhancement measures
Project teams/individuals	o identify new risks o implement risk mitigation or opportunities enhancement measures
Internal Audit Office	o identifies and evaluates risks to the LOTOS Group's operations o verifies relevant controls and examines their effectiveness o assesses the effectiveness of the enterprise risk management as part of the organisational maturity assessment

9.2.3 Active risk management as a strategic objective

The fast-changing environment and innovation-based growth of the LOTOS Group require seeking continuous improvement and ensuring highly active risk management.

Active risk and opportunity management has been included in the strategic objectives for 2017-2022 and is implemented through two strategic initiatives:

- Risk management to optimise value for stakeholders,
- Building a strong culture of open dialogue and early response to risk symptoms, with more effective risk appetite management in the long run.

2019 saw continued efforts to improve risk management based on the ERM system development directions set out in the previous year, including:

- involvement of all LOTOS Group companies in active risk management within the adopted risk appetite limits,
- refining of the risk exposure measurement method for constantly monitoring and estimating the impact of risks on the Group's performance,

ERM activities are focused on key business risks (TOP RISKS), in particular on forecasting their impact on the company's operations and performance, thus facilitating the development of pre-emptive measures that may help mitigate or exploit risks (opportunities) or their consequences. This key functionality of the ERM system is currently being enhanced at the LOTOS Group, with concurrent efforts to strengthen the culture of openness in risk and opportunity communication.

Enterprise risk management measures are implemented by the LOTOS Group with the support of the ERM Portal, an internal IT system which is continuously developed and improved.

10 Other information

10.1 Information on the auditor

Pursuant to a resolution of the Supervisory Board of Grupa LOTOS S.A. of March 11th 2018, Deloitte Audyt Sp. z o.o. sp.k. (formerly Deloitte Audyt Sp. z o.o.) has been appointed as the auditor of the Company's financial statements for 2018-2019.

Under the agreement executed with Grupa LOTOS S.A. on June 20th 2018 (including annexes), Deloitte Audyt Sp. z o.o. sp. k. (formerly Deloitte Audyt Sp. z o.o.) of Warsaw performed the following services:

- Review of the separate and consolidated financial statements for the first six months of 2018 and of 2019,
- Audit of the full-year separate and consolidated financial statements for 2018 and 2019.

Previously, Grupa LOTOS S.A. used the services of Deloitte Audyt Sp. z o.o. sp. k. (formerly Deloitte Audyt Sp. z o.o.) of Warsaw under an agreement with annexes executed on June 29th 2007, which mandated Deloitte Audyt Sp. z o.o. sp. k. (formerly: Deloitte Audyt Sp. z o.o.) to perform the following services:

- Review of the separate and consolidated financial statements for the first six months of 2007-2009,
- Audit of the full-year separate and consolidated financial statements for 2007-2009.

Table 29. **Total fees for audit, review and verification procedures performed by Deloitte Audyt sp. z o.o. sp. k. in 2019**
(PLNm)

	2019
Audit of full-year separate and consolidated financial statements of selected companies of the LOTOS Group, including: [1]	1.0
Grupa LOTOS S.A.	0.6
Assurance services, including:	0.3
Grupa LOTOS S.A.	0.3
Tax advisory services	-
Other services	0.0
Total	1.3

[1] Fees for the audit of accounts of selected LOTOS Group companies are paid under separate agreements between the auditor and each of the LOTOS Group companies.
Source: Company

Fees for the audit, assurance services, tax advisory services and other services for LOTOS Exploration and Production Norge AS and the AB LOTOS Geonafta Group due to, respectively, Deloitte AS and Deloitte Lietuva (companies of the Deloitte Group) for 2019 amounted to PLN 0.5m.

In 2018, total fees for the audit, review and verification procedures amounted to PLN 1.3m (Grupa LOTOS S.A.: PLN 0.9m), of which: for the audit of full-year separate and consolidated financial statements of selected companies of the LOTOS Group – PLN 1.0m (Grupa LOTOS S.A.: PLN 0.6m), for assurance services – PLN 0.3m (Grupa LOTOS S.A.: PLN 0.3m).

10.2 Significant agreements

In 2019, the Company and its Group companies entered into the following significant agreements:

- Letter of intent on potential financing of Polimery Police project
  On April 26th 2019, Grupa LOTOS S.A. signed a letter of intent with PDH Polska S.A. ("PDH"), Grupa Azoty S.A., and Grupa Azoty Zakłady Chemiczne Police S.A. as a starting point for negotiations of the Company's potential contribution to financing of the Polimery Police project to be executed by PDH, by subscribing for new shares in the PDH share capital and paying up to PLN 500m towards the PDH share capital.

  More details:
  - Current Report 9/2019

In the previous year, the Company signed three annexes to extend the letter of intent.

More details:

- Current Report 35/2019
- Current Report 38/2019
- Current Report 39/2019

- Annex to the EPC contract for a Delayed Coking Unit (DCU with auxiliary facilities) and Hydrogen Generation Unit (HGU)

  On May 31st 2019, LOTOS Asfalt Sp. z o.o. and Kinetics Technology S.p. A. signed an annex to the contract for the engineering design, procurement and construction of a Delayed Coking Unit (DCU with auxiliary facilities) and Hydrogen Generation Unit (HGU), as announced by the Company in Current Report No. 24/2015 of July 14th 2015. Pursuant to the annex, the Ready-For-Start-Up (RFSU) date for the last of the EFRA Project units (DCU with auxiliary facilities) was postponed until June 30th 2019.

  More details:

  - Current Report 13/2019

  Loan agreements signed to refinance credit facilities taken out to fund the 10+ Programme

  On July 2nd 2019, Grupa LOTOS S.A. and a bank syndicate comprising: ING Bank Śląski S.A., PEKAO S.A., PKO BP S.A., Sumitomo Mitsui Banking Corporation Bank EU AG, Intesa Sanpaolo S.p. A, Caixabank S.A., (Spółka Akcyjna), Industrial and Commercial Bank of China (Europe) S.A. and Erste Group Bank AG, signed new loan agreements to refinance credit facilities taken out to fund the 10+ Programme. The agreements provide for a term loan of USD 400m (approximately PLN 1.5bn at the mid rates quoted by the National Bank of Poland for July 2nd 2019) and a working capital loan of USD 100m (approximately PLN 376m at the mid rates quoted by the National Bank of Poland for July 2nd 2019) – as the base currency, with an option to be drawn in USD, EUR or PLN. The facilities must be repaid within five years of disbursement.

  More details:

  - Current Report 24/2019

  Memorandum of understanding between PKN ORLEN and the State Treasury (with Grupa LOTOS's participation) concerning PKN ORLEN's intended acquisition of Grupa LOTOS shares from the State Treasury

  On August 22nd 2019, a memorandum of understanding was signed between the State Treasury and PKN Orlen S.A., with the Company participating in the process, concerning a proposed transaction in which PKN Orlen S.A. would acquire Grupa LOTOS shares from the State Treasury, which in turn would result in PKN Orlen acquiring, directly or indirectly, control of Grupa LOTOS.

  More details:

  - Current Report 31/2019

- Initial term sheet concerning participation in financing of the Polimery Police project

  On December 13th 2019, the Company signed an initial term sheet with Grupa Azoty S.A., Grupa Azoty Zakłady Chemiczne Police S.A. and Grupa Azoty Polyolefins S.A. setting out the terms of an equity investment in and debt financing of the Polimery Police investment project. The initial term sheet is conditional, subject to approval from the Company's Supervisory Board and General Meeting, as well as satisfaction of certain other conditions precedent. It will provide a general framework for agreeing upon the target documentation with respect to participation in financing of the project. The initial term sheet provides for a commitment of PLN 300m in the form of an equity contribution and PLN 200m in the form of a subordinated loan. It will remain in effect until December 31st 2020.

  More details:

  - Current Report 41/2019

10.3 Disputes

10.3.1 Material court proceedings to which Grupa LOTOS S.A. is a party

Tax settlements

In 2015, the Company's VAT settlements for 2010 were subject to inspection by tax inspection authorities. On June 23rd 2015, the Company received a post-inspection report and challenged some of the findings contained in the report. On September 30th 2015, the Company received a decision issued by the Director of the Tax Audit Office in Bydgoszcz, in which the Tax Audit Office assessed the VAT amount payable by the Company for the period from January to December 2010, identifying VAT arrears of PLN 48.4m. The Company dismissed the allegations of the Director of the Tax Audit Office as entirely groundless and on October 14th 2015 filed an appeal with the Director of the Tax Chamber in Gdańsk. The Director of the Tax Chamber in Gdańsk upheld the decision of the Director of the Tax Audit Office in Bydgoszcz, whereas the complaint lodged by the Company with the Provincial Administrative Court on June 8th 2016 was dismissed. On August 25th 2016, the Company lodged a cassation complaint with the Supreme Administrative Court of Warsaw. On April 17th 2019, the Supreme Administrative Court dismissed the Company's complaint against the ruling of the Provincial Administrative Court of Gdańsk.

Furthermore, as at December 31st 2019 the Company recognised a provision for tax risk related to other VAT inspections carried out (see Note 25.1 to the consolidated financial statements for 2019).

10.3.2 Court proceedings instigated by or against companies of the LOTOS Group

Agreement to which LOTOS Exploration and Production Norge AS is a party

LOTOS Exploration and Production Norge AS ("LOTOS E&P Norge AS") was a party to proceedings held before an arbitration court in Norway in connection with claims filed by Single Buoy Moorings Inc. ("SBM"), the supplier of the MOPU (Mobile Offshore Production Unit) for operation of the YME field, against Talisman Energy Norge AS, the operator of the YME field ("Talisman", "Operator") and the other YME licence holders. The share of SBM's claims attributable to LOTOS E&P Norge AS was 20%.

In 2013, Talisman Energy Norge AS ("Talisman", the then operator of the YME field) and Single Buoy Moorings Inc. ("SBM", owner of the MOPU) announced that an agreement was reached to terminate all existing contracts and agreements executed by the parties in connection with the YME project and remove the defective MOPU from the YME field.

SBM paid USD 470m to the consortium members, and Talisman Energy, on behalf of the licence holders, agreed make the necessary preparations and remove the platform from the field. Under the agreement, SBM was responsible for towing the MOPU to the port and its scrapping, whereas following completion of certain works, the ownership of elements of the YME field in situ subsea infrastructure delivered by SBM should be transferred to the consortium members, who would be required to perform site restoration (and disassembly) activities related to the subsea infrastructure. Each of the parties will cover the costs of its scope of decommissioning work as set out in the agreement.

In accordance with the agreement made with SBM, the balance of the Group's share in the amount due to the consortium members under the agreement (USD 81.8m) was transferred to the YME project escrow account, to be gradually released to finance the removal of the MOPU and related infrastructure from the field, in accordance with the agreement.

On August 22nd 2016, the YME project partners completed evacuation of the defective MOPU from the field. In Q1 2017, the caisson (element of the subsea infrastructure) was inspected. As a result of the inspection it was found that the caisson can stand without additional support until 2019 (provided that it is inspected on a semi-annual basis and its condition remains unimpaired).

On August 11th 2017, SBM Offshore confirmed the conclusion of an agreement with a majority of MOPU insurers to settle insurance claims relating to the faulty execution of the MOPU. On September 10th 2018, SBM announced that the insurance claim concerning the YME project was fully and finally settled. The gross amount received by SBM as insurance compensation was USD 390m. The share of LOTOS E&P Norge AS (net of the cost of legal services and other expenses) was expected at USD 30.7m. In 2018, the Group recognised its share in the compensation under Other income, in the amount of PLN 118.3m.

On March 5th 2019, LOTOS E&P Norge AS received cash of USD 31.1m as the final settlement of insurance claims.

In the twelve months ended December 31st 2019, there were no material settlements under court or other proceedings, save for those presented above.

10.4 Material events subsequent to the reporting date

10.4.1 Appointment of Mr Paweł Jan Majewski as President of the Management Board of Grupa LOTOS S.A.

Following the completion of a recruitment procedure for the position of President of the Management Board of Grupa LOTOS S.A., on January 30th 2020 the Supervisory Board appointed Paweł Jan Majewski as President of the Management Board of the 10th joint term of office, with effect from February 3rd 2020.

Paweł Jan Majewski holds a Master's degree in law from the Jagiellonian University of Kraków and is a graduate of the Executive Master of Business Administration (MBA) programme offered jointly by London-based Apsley Business School and Warsaw Management University.

He began his professional career in 2002 as an in-house lawyer with KGZ S.A. and later worked in the same capacity at Żywiec Trade Sp. z o.o. and Capital Projects Sp. z o.o. to eventually head the Legal Department of Intacto Centrum Windykacji Sp. z o.o.

He is a highly experienced manager, having held managerial positions at various companies, including PETROLOT Sp. z o.o. (currently renamed ORLEN Aviation Sp. z o.o.) and PGNiG TERMIKA S.A., where he headed the Variable Margin and Production Management Division.

He further honed his managerial skills as Member of the Management Board of DO & CO POLAND Sp. z o.o., Vice President of the Management Board of HUTA STALOWA WOLA S.A., and President of the Management Board of AIRPORT CLEANING SERVICE Sp. z o.o. He also served as Chairperson of the Supervisory Board of LOTNICZY CATERING SERVICE Sp. z o.o. and sat on the Supervisory Boards of JELCZ Sp. z o.o. and ZEM ŁABĘDY Sp. z o.o. as their member.

10.4.2 UOKiK's decision concerning Polimery Police project

On January 22nd 2020, Grupa LOTOS S.A. was notified of a decision issued by the President of the Polish Office of Competition and Consumer Protection (UOKiK) clearing the proposed concentration whereby Grupa Azoty S.A., Hyundai Engineering Co., Ltd., Korea Overseas Infrastructure & Urban Development Corporation and the Company are to establish a joint venture operating under the name of Grupa Azoty Polyolefins S.A.

The clearance satisfies one of the conditions precedent under the MoU forming the initial term-sheet with respect to Grupa LOTOS S.A.'s equity investment in and provision of debt financing for the 'Polimery Police' project (see Current Report No. 41/2019 of December 13th 2019).

10.5 Grupa LOTOS S.A. on the capital market

10.5.1 Grupa LOTOS share price

Thanks to the year-end growth, the main index of the Warsaw Stock Exchange (WIG) was 0.3% higher on the last trading day of 2019 (December 30th) than at the end of 2018. Small caps were the best performers – sWIG80 gained 13.9%, while the blue-chip index WIG20 lost 5.6%. Sector indices which recorded considerable gains were: WIG–IT (up 42.3%), WIG–telecom (up 40.9%) and WIG–real estate (up 28.7%). At the same time, WIG–oil&gas, WIG–energy and WIG–chemicals saw the sharpest declines – down 18.9%, 18.6% and 10.3%, respectively.

Grupa LOTOS S.A. shares have been listed on the Warsaw Stock Exchange since June 30th 2005. As at the end of 2019, its shares were included in the following indices:

Return indices[17]	o WIG – comprises all stocks traded on the WSE Main Market which satisfy the basic eligibility criteria o WIG-OIL&GAS – comprises WIG index companies operating in the fuels sector o WIG Poland – comprises only shares of Polish companies included in the WIG index o RESPECT Index – comprises socially responsible companies included in the WIG index o WIG ESG – calculated since September 3rd 2019; comprises socially responsible companies included in the WIG index. As at July 31st 2019, the company's social responsibility performance was highly rated – its ESG (environmental, social and governance) score was 0.7 and the KDP (Code of Best Practice) score was 1.00.[18]
Price indices[19]	o WIG 20 – calculated based on the value of the 20 largest and most liquid stocks traded on the WSE Main Market o WIG 30 – calculated based on the value of the 30 largest and most liquid stocks traded on the WSE Main Market o mWIG40 – calculated based on the value of the 40 largest and most liquid stocks traded on the WSE Main Market
Foreign indices	o MSCI Poland Index – comprises more than 20 key companies listed on the WSE o CECE index – established by the Vienna Stock Exchange, comprises stocks from Poland, the Czech Republic and Hungary

[17]Return index – calculated to reflect the prices of constituent stocks as well as dividend and rights income.
[18] Source: https://www.gpw.pl/pub/GPW/files/PDF/komunikaty_indeksowe/Portfel_WIG-ESG_2019_08_23.pdf
[19]*Price index – calculated to reflect only the prices of constituent stocks, excluding dividend income.*

- FTSE Russell Index – established by the London Stock Exchange, comprises stocks from developed countries
- FTSE4Good Index – designed to measure the performance of companies demonstrating strong environmental, social and governance (ESG) practices

In 2019, the price of Grupa LOTOS S.A. shares at the closing of trading sessions on the WSE ranged between PLN 71.12 (May 14th) and PLN 99.46 (November 4th). On the last trading day of 2019, it was PLN 83.58, down 5.6% year on year.

On December 31st 2019, the market value of Grupa LOTOS S.A. was PLN 15,451.7m, while the book value was PLN 10,358.9m. The P/BV ratio was 1.49.

Figure 47. Grupa LOTOS share price performance in 2018 and 2019 (Dec 29 2017 = 100%)

Source: In-house analysis based on WSE data.

Table 30. Grupa LOTOS shares – key figures

	2016	2017	2018	2019
Free float shares		184,873,362		
Low	24.1	37	51.28	71.12
High	40.4	68.85	89.62	99.46
Close	38.25	57.7	88.5	83.58
Rate of return at end of period (%)	44	50.3	48	-5.6
Trading value (PLNm)	22	51	10	26.6
Average trading volume per session	292,032	372,519	299,578	303,114
Company valuation				
Capitalisation (PLNbn)	7.1	10.7	16.4	15.5
EV (PLNbn)	13.4	13.2	18.7	18.4
Valuation of shares				
Earnings per share (PLN)	5.5	9	8.6	6.2
P/E (x)	6.9	6.4	10.3	15.4
EV/EBITDA (x)	4.58	4.3	5.0	6.4

Source: Company

10.5.2 Investor relations

At Grupa LOTOS, day-to-day contact with investors is the responsibility of the Investor Relations Office. In 2019, Company representatives participated in 13 international and national investor conferences and held a number of meetings with investors and equity analysts (a total of 200 meetings). Questions related to the listing of Grupa LOTOS shares in the continuous trading system of the WSE may be sent to ir@grupalotos.pl or asked byphone, at contact numbers given on inwestor.lotos.pl.

10.5.3 Recommendations

In 2019, 17 investment firms (including brokerage houses and investment banks) issued recommendations on Grupa LOTOS S.A. shares.

Based in Poland	Based abroad
DM Banku Handlowego (Citi)	HSBC
DM mBanku	Erste Bank
BM Santander (formerly BZ WBK)	Raiffeisen Centrobank
DM BOŚ	Societe Generale
DM PKO BP	Wood & Company
DM BDM	Haitong Bank
Ipopema Securities	Reneissance Capital
DM Trigon	
DM Pekao	
Pekao Investment Banking	

In 2019, the Infostrefa service posted eighteen recommendations on Grupa LOTOS shares,[20] Including eight buy, two accumulate, one hold and seven sell recommendations (six of which were issued by DM mBank).

Institution	Date	Recommendation	Price target
Ipopema Securities S.A.	Dec 9 2019	sell	PLN 70.00
DM BOŚ	Dec 8 2019	buy	PLN 108.00
DM mBanku	Dec 5 2019	reduce	PLN 77.80
DM BOŚ	Sep 26 2019	buy	PLN 107.00
Renaissance Capital	Sep 9 2019	buy	PLN 117.00
DM Trigon	Aug 26 2019	buy	PLN 93.70
DM mBanku	Aug 2 2019	sell	PLN 72.31
DM BDM	Jul 31 2019	accumulate	PLN 93.70
DM mBanku	Jun 3 2019	sell	PLN 65.95
HSBC Bank	May 17 2019	hold	PLN 77.00
Wood&Company	May 16 2019	buy	PLN 100.10
Erste Securities	Apr 23 2019	accumulate	PLN 101.00
DM mBanku	Apr 2 2019	sell	PLN 65.41
DM BOŚ	Mar 26 2019	buy	PLN 107.60
Raiffeisen	Mar 25 2019	buy	PLN 102.00
DM mBanku	Mar 5 2019	sell	PLN 65.18
DM mBanku	Feb 4 2019	sell	PLN 65.36
DM BOŚ	Jan 7 2019	buy	PLN 105.40

Source: Company

10.5.4 Dividend policy

As a public company, Grupa LOTOS S.A. paid its first dividend from the 2006 profit. Between 2007 and 2015, the Company did not pay any dividends. Since 2016, Grupa LOTOS S.A. has again been sharing its profits with shareholders.

In the Grupa LOTOS strategy for 2017–2022, the Management Board declared that the Company's objective would be to gain and maintain a dividend capacity.

[20] Source: http://infostrefa.com/infostrefa/pl/wiadomosci/rekomendacje/1?company=276

Table 31. Dividend from Grupa LOTOS S.A. for 2012-2018

	2016	2017	2018
Net profit of Grupa LOTOS S.A. (PLNm)	1,160.8	1,419.5	1,333.9
Pre-tax dividend (PLN)	184,873,362	184,873,362	554,620,086
% of profit allocated to dividend	15.9	13.0	41.6
Dividend per share (PLN)	1	1	3
Share price at year end (PLN)	38.25	57.70	88.50
Dividend yield (%)[21]	2.6	1.7	3.4
Dividend record date[22]	Sep 12 2017	Sep 12 2018	Sep 12 2019
Dividend payment date[23]	Sep 29 2017	Sep 28 2018	Sep 27 2019

[21] Dividend yield – dividend per share to price per share at year end.
[22] Dividend record date – the date on which the list of shareholders entitled to receive dividend for a given financial year is determined.
[23] Dividend payment date – the date on which dividend is paid to the shareholders.

11 Corporate governance

11.1 Corporate governance standards and scope of application

Since its shares were publicly floated in June 2005, Grupa LOTOS has adhered to most of the recommendations contained in the Best Practices for Public Companies. Since 2016, the Company has been bound by the corporate governance standards set out in the Code of Best Practice for WSE Listed Companies, which was approved by the WSE Supervisory Board's Resolution No. 26/1413/2015 of October 13th 2015.

The corporate governance code is publicly available on the website of the Warsaw Stock Exchange at: www.gpw.pl/dobre-praktyki

Scope of non-compliance by Grupa LOTOS S.A. with the corporate governance standards in 2019.

Principle	Grupa LOTOS S.A. comment
I. Disclosure policy and investor communication	
I.Z.1. A company should operate a corporate website and publish on it, in a legible form and in a separate section, in addition to information required under the legislation:	
I.Z.1.16. Information about the planned transmission of a general meeting not later than seven days before the date of the general meeting: not applied.	The Company has never broadcast any of its General Meetings, but may do so in the future.
I.Z.1.20. An audio or video recording of a general meeting: not applied.	The Company has never made audio or video recordings of its General Meeting. In the Company's opinion, the form of documentation of its General Meetings has ensured transparency and protection of shareholder rights. Moreover, the information on resolutions passed by the Company is disclosed in current reports and published on the www.lotos.pl website. The Company does not rule out documenting the proceedings of its General Meeting in the form of audio or video recordings in the future.
IV. General meeting and shareholder relations	
IV.Z.2. If justified by the structure of shareholders, companies should ensure publicly available real-time broadcasts of general meetings: Not applied.	The Company enables its Shareholders to attend General Meetings in person or by proxy. Additionally, General Meetings are held at the Company's registered office in Gdańsk, which facilitates attendance by Shareholders or their proxies. The Company complies with the disclosure requirements imposed by legal regulations and promptly, within 24 hours of the close of a General Meeting, issues current reports with information on resolutions passed, ballot results and objections raised, and also publishes such information on its corporate website. Furthermore, the Company publishes questions posed by, and answers given to, Shareholders during General Meetings. In the Company's opinion, these measures are sufficient to ensure Shareholders' participation in General Meetings.

11.2 Internal control and financial reporting risk management systems

The Management Board of Grupa LOTOS S.A. is responsible for the internal control function and its effective application in the financial reporting process.

Financial statements are prepared, approved and released to the public in line with an internal procedure, whereunder oversight of the financial reporting process lies within the remit of the Head of the Finance and Accounting Centre's Office, Chief Accountant. Responsibility for preparing the consolidated and separate financial statements lies with the Financial Reporting Office of Grupa LOTOS S.A.

The consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRSs), based on the financial statements of Grupa LOTOS S.A. and the entities controlled by Grupa LOTOS S.A.

Consolidated financial statements include adjustments which are absent from the accounting books of the Group's entities applying accounting standards other than IFRSs, and which have been introduced to ensure consistency of the entities' financial information with the IFRSs.

In order to ensure accounting uniformity, the accounting policies effective at the Company were implemented across the LOTOS Group companies for application in preparing their consolidation packages.

11.3 Shares and shareholders of Grupa LOTOS S.A.

As at December 31st 2019 and the date on which this report was authorised for issue, the share capital of Grupa LOTOS S.A. was PLN 184,873,362 and was divided into 184,873,362 shares, with a par value of PLN 1 per share, including:

- 78,700,000 Series A ordinary bearer shares,
- 35,000,000 Series B ordinary bearer shares,
- 16,173,362 Series C ordinary bearer shares,
- 55,000,000 Series D ordinary bearer shares.

In 2019, the Company's share capital did not change.

All Grupa LOTOS S.A. shares are ordinary bearer shares. The Company's Articles of Association do not impose any restrictions on the transferability of its shares.

To the best of the Company's knowledge, in 2019 neither the Company, nor entities of its group or persons acting on their behalf, understood as members of the management or supervisory personnel, held or bought back any Company shares, or took any steps to buy back Company shares in that period.

The Articles of Association do not provide for any special rights of Management Board Members to decide on the issue or buy-back of shares.

Grupa LOTOS S.A. does not operate an employee stock option schemes and therefore does not have any control systems for employee stock option plans.

As at December 31st 2019 and the date on which this report was released for issue, the list of shareholders holding, directly or indirectly through subsidiaries, 5% or more of total voting rights at the General Meeting of Grupa LOTOS S.A. was as follows:

	Number of shares/Number of voting rights at the General Meeting	Ownership interest and share in total voting rights at the General Meeting (%)
State Treasury	98,329,515	53.19
Other	86,543,847	46.81
Total	184,873,362	100.00

Grupa LOTOS S.A. has not issued any securities conferring special control powers.

Special rights of the State Treasury and their exercise at companies Limitations on exercise of voting rights at the General Meeting of Grupa LOTOS S.A.

One share in Grupa LOTOS S.A. confers the right to one vote at its General Meeting. However, pursuant to the Company's Articles of Association, the voting rights of Company shareholders are limited so that none of them can exercise more than 10% of total voting rights at the Company as at the day on which the General Meeting is held, with the proviso that for the purpose of determining the obligations of buyers of major shareholdings provided for in the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies of July 29th 2005, and the Act on Insurance Activity of May 22nd 2003, such limitation of voting rights is deemed non-existent.

The above limitation does not apply to:

- shareholders who as at the date of the General Meeting's resolution imposing the limitation on voting rights are holders of shares conferring more than 10% of total voting rights at the Company;
- shareholders acting in concert with the shareholders referred to above under agreements concerning joint exercise of voting rights.

For the purpose of limiting the voting rights referred to above, the voting rights of shareholders bound by a parent-subsidiary relationship are aggregated in the following manner:

a shareholder is any person, including a parent and a subsidiary of such person, directly or indirectly entitled to exercise voting rights at the General Meeting under any legal title, including persons who do not hold shares in the Company, in particular usufructuaries, pledgees, holders of rights under depositary receipts, as defined in the Act on Trading

in Financial Instruments of July 29th 2005, as well as persons entitled to participate in the General Meeting despite having disposed of their shareholdings after the record date.

A parent or a subsidiary is any person which:

- meets the relevant criteria set forth in Art. 4.1.4) of the Commercial Companies Code, or
- is a parent, a subsidiary or both a parent and a subsidiary within the meaning of the Act on Competition and Consumer Protection of February 16th 2007, or
- is a parent, ultimate parent, subsidiary, lower-tier subsidiary, jointly-controlled entity or both a parent (including an ultimate parent) and a subsidiary (including a lower-tier subsidiary and a jointly-controlled entity) within the meaning of the Accounting Act of September 29th 1994, or
- exerts (in the case of a parent) or is subject to (in the case of a subsidiary) decisive influence within the meaning of the Act on the Transparency of Financial Relations between State Authorities and State-Controlled Enterprises, as well as on Financial Transparency of certain Entrepreneurs, of September 22nd 2006, or
- whose voting rights conferred by Company shares held directly or indirectly are aggregated with voting rights of other person or persons pursuant to the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies of July 29th 2005, in connection with the holding, disposal or acquisition of major shareholdings in the Company.

Shareholders whose voting rights are aggregated or reduced pursuant to the rules described above, are jointly referred to as a Grouping. The aggregation of voting rights shall consist in adding up all voting rights held by individual shareholders comprising a Grouping. The reduction of voting rights involves decreasing the total number of voting rights at the General Meeting held by shareholders comprising a Grouping.

The reduction of voting rights shall be made as follows:

- the number of voting rights of the shareholder holding the highest number of voting rights in the Company from among all the shareholders comprising a Grouping is reduced by the number of voting rights in excess of 10% of the total number of voting rights in the Company held by all the shareholders in the Grouping;
- if, despite the reduction referred to above, the total voting rights held by the shareholders comprising the Grouping exceeds 10% of total voting rights at the Company on the date the General Meeting, the number of voting rights held by the other shareholders in the Grouping is further reduced. Such further reduction shall be made in a sequence established based on the number of voting rights held by individual shareholders comprising the Grouping (from the highest to the lowest). The number of voting rights of the Grouping shall be further reduced until the number of voting rights held by shareholders comprising the Grouping does not exceed 10% of the total vote at the Company;
- if the sequence for the purpose of the reduction of voting rights cannot be established because one or more shareholders hold the same number of voting rights, the voting rights of shareholders holding the same number of voting rights are reduced proportionally, with fractional numbers rounded down to the whole number of shares. To the extent not provided for above, the rules specified in the preceding items apply accordingly; in any case, a shareholder whose voting rights have been limited retains the right to exercise at least one vote;
- the limitation of voting rights also applies to shareholders absent from the General Meeting.

In order to determine the basis for aggregation or reduction of voting rights, each of the Company's shareholders, the Management Board, the Supervisory Board, and individual members of these bodies, as well as the Chairperson of the General Meeting, may request that a Company shareholder subject to the limitation of voting rights disclose whether it is a parent or a subsidiary of any other Company shareholder within the meaning of the Company's Articles of Association. The authority referred to in the previous sentence also includes the right to request a Company shareholder to disclose the number of voting rights held individually or jointly with other shareholders with respect to which it is a parent or a subsidiary within the meaning of the Company's Articles of Association. A person who fails to perform or improperly performs the above disclosure obligation may exercise its voting rights from a single share only, until the disclosure obligation is duly fulfilled, and any attempts to exercise its voting rights from the remaining shares are ineffective.

When in doubt, the provisions on the restriction of voting rights shall be interpreted in accordance with Art. 65.2 of the Civil Code.

The limitation of voting rights expires once the shareholding of a Company shareholder who as at the date of the General Meeting's resolution imposing the limitation of voting rights held shares conferring more than 10% of total voting rights at the Company falls below 5% of the Company's share capital.

Subject to the relevant provisions of the Commercial Companies Code, a material change in the Company's business profile may be introduced without a buyout of Company shares held by the shareholders who do not agree to such change.

To the best of the Company's knowledge, as at March 9th 2020 the Management and Supervisory Board Members did not hold any shares in Grupa LOTOS S.A. or any shares in Grupa LOTOS S.A.'s related companies.

On February 27th 2018, the State Treasury (Grupa LOTOS S.A.'s main shareholder) and PKN ORLEN S.A. signed a letter of intent concerning PKN ORLEN S.A.'s acquisition of control over Grupa LOTOS S.A., understood as PKN ORLEN S.A.'s direct or indirect acquisition of at least 53% of Grupa LOTOS S.A.'s share capital. The transaction is subject to a number of conditions precedent, including receipt of relevant corporate approvals and antitrust clearance. In 2019, PKN Orlen continued to assemble the required documents for submission to the European Commission, as a result of which it would be able to obtain clearance of the transaction and determine its details, especially the remedies that would prevent the creation of a monopoly on the Polish market.

11.4 Rules governing amendments to the Company's Articles of Association

An amendment to the Articles of Association requires that a relevant resolution be passed by the General Meeting by an absolute majority of votes, save for amendments to Article 10.1 of the Articles of Association, which require that four-fifths of votes be cast in favour of the amending resolution and at least half of the Company's share capital be represented at the General Meeting.

After the General Meeting passes a resolution on amending the Company's Articles of Association, the Management Board of Grupa LOTOS S.A. notifies the registry court of the amendments. The amendments come into force upon their registration by the court.

A consolidated text of the Articles of Association incorporating the amendments is then produced by the Supervisory Board, provided that the Supervisory Board receives relevant authorisation from the General Meeting.

On June 28th 2019, the General Meeting passed resolution No. 26 to amend the Articles of Association of Grupa LOTOS S.A. The amendments concerned:

- powers of the General Meeting to approve to any subscription for, acquisition or disposal of shares in another company, and any disposal or acquisition of non-current assets;
- powers of the Supervisory Board to give its opinions on financial statements submitted to the General Meeting, and to approve any disposal of non-current assets or execution of contracts;
- responsibilities of the Management Board concerning the reporting obligations;
- rules governing disposal of non-current assets by the Company;

and were recorded in the National Court Register on August 1st 2019.

11.5 General Meeting

The powers and proceedings of the General Meeting (GM) of Grupa LOTOS S.A. are defined in detail in the Company's → Articles of Association (consolidated text of August 1st 2019) and the → Rules of Procedure for the General Meeting (consolidated text of August 26th 2009).

Powers of the General Meeting shall include in particular:

- Review and approval of the Company's full-year financial statements, Directors' Report on the Company's operations, the Group's consolidated financial statements, and Directors' Report on the Group's operations, for the previous financial year;
- Grant of discharge to Members of the Management Board and Supervisory Board in respect of their duties;
- Decision on the allocation of profit or coverage of loss, as well as application of funds and accounts created from profit, subject to any specific provisions which may require different application of such funds;
- Appointment and removal of Supervisory Board Members;
- Increase in or reduction of the Company's share capital;
- Decisions concerning claims for redress of any damage caused upon formation of the Company or when managing or supervising the Company;
- Sale or lease of, or creation of limited property rights in, the Company's business or its organised part;
- Approval of acquisition of real property, right of perpetual usufruct of or interest in real property, with a value exceeding PLN 5,000,000, as determined based on appraiser valuation; as well as approval of disposal of real property, right of perpetual usufruct of or interest in real property, with a value exceeding PLN 200,000, as determined based on appraiser valuation;
- Approval of encumbrance or disposal of shares in LOTOS Petrobaltic S.A. or Przedsiębiorstwo Przeładunku Paliw Płynnych Naftoport Sp. z o.o.;
- Approval of disposal of shares in another company if the market value of such shares exceeds:
  - PLN 100,000,000; or
  - 10% of total assets within the meaning of the Accounting Act of September 29th 1994, as determined based on the most recent approved financial statements;

- Subject to Art. 9.7, approval of disposal of non-current assets within the meaning of the Accounting Act of September 29th 1994 (Dz.U. of 2019, items 351), classified as intangible assets, property, plant and equipment or long-term investments, including contribution thereof to a company or cooperative, if the market value of such assets exceeds 5% of total assets within the meaning of the Accounting Act of September 29th 1994, determined based on the most recent approved financial statements, as well as granting to another

entity the right to use such assets for a period longer than 180 days in a calendar year, under a legal transaction, if the market value of the subject matter of such legal transaction exceeds 5% of total assets, with the proviso that in the event of granting the right to use under:
  - a lease, rental or other contract for granting rights to use an asset to a third party against consideration – the market value of the asset shall be understood as the amount of consideration for:
    - one year – if the right to use the asset was granted under an agreement concluded for an indefinite term,
    - The entire term of the agreement – if the right to use the asset is granted under an agreement concluded for a definite term;
  - Commodate or other agreements for granting to another entity the right to use an asset free of charge – the market value of the asset involved in the legal transaction shall be the amount of consideration which would have been payable to the Company if a lease or rental agreement had been concluded, for:
    - One year – if the right to use the asset is granted under an agreement concluded for an indefinite term;
    - The entire term of the agreement – if the right to use the asset was granted under an agreement concluded for a definite term;
- Subject to Art. 9.8, approval of acquisition of non-current assets within the meaning of the Accounting Act of September 29th 1994, where the value of such assets exceeds:
  - PLN 100,000,000; or
  - 5% of total assets within the meaning of the Accounting Act of September 29th 1994, as determined based on the most recent approved financial statements;
- Approval of a purchase of or subscription for shares in another company where the value of such shares exceeds:
  - PLN 100,000,000; or
  - 10% of total assets within the meaning of the Accounting Act of September 29th 1994, as determined based on the most recent approved financial statements.
- Amendment to the Company's Articles of Association;
- Creation and release of special accounts, including capital reserves;
- Decision on cancellation of Company shares and buy-back of shares for cancellation, and definition of terms for share cancellation;
- Issue of notes and bonds;
- Dissolution, liquidation or transformation of the Company, or its merger with another entity;
- Issue of subscription warrants;
- Approval of buy-back of Company shares (own shares) and creation of a pledge over Company shares in the case specified in Art. 362.1.2 of the Commercial Companies Code;
- Approval of the implementation of incentive schemes;
- Approval of payment of interim dividend if the Supervisory Board has not approved it;
- Determination of rules of remuneration for Members of the Management and Supervisory Boards.

Unless the Commercial Companies Code or these Articles of Association provide otherwise, resolutions of the General Meeting shall be passed by an absolute majority of votes. Resolutions concerning the following matters may be adopted by a majority of at least four-fifths of the votes, provided that at least half of the Company's share capital is represented at the General Meeting:

- Dissolution of the Company;
- Relocation of the Company's registered office abroad;
- Change of the Company's business profile in a way that would limit its operations in the area of manufacture, processing and sale of refined petroleum products;
- Sale or lease of, or creation of limited property rights in, the Company's business or its organised part whose activities include manufacture, processing and sale of refined petroleum products;
- Merger with another company;
- Demerger of the Company;
- Creation of preference rights attached to shares;
- Establishment of a European company (societas Europaea), transformation into such company or joining such company;
- Amendments to the relevant section of the Articles of Association.

Both documents are available in the → Corporate Governance section of the Company's website.

General Meetings are held at the Company's registered office and are convened by the Management Board of Grupa LOTOS S.A., as provided for in the Articles of Association or in the Commercial Companies Code, by publishing an announcement on the Company's website and in the manner determined for publication of current reports, in accordance with the provisions of the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading and Public Companies. In 2019, the Annual General Meeting (AGM) was held on June 28th.

Extraordinary General Meetings (EGM) may be convened by the Management Board on its own initiative, by the Supervisory Board (if the Supervisory Board deems it appropriate), or by shareholders representing at least half of the Company's share capital or at least half of total voting rights at the Company.

A shareholder or shareholders representing at least 1/20 of the Company's share capital may request that an EGM be convened and that certain items be placed on its agenda. If an EGM is not convened within two weeks of the submission of such a request to the Management Board, the Registry Court may authorise the requesting shareholders to convene an Extraordinary General Meeting.

A request to convene a General Meeting and put particular items on its agenda, made by parties entitled to do so, should be presented with grounds. A shareholder or shareholders representing at least 1/20 of the Company's share capital may, before a GM, submit to the Company draft resolutions for items which have been or are to be placed on the agenda of the General Meeting.

Only persons who are the Company shareholders sixteen days prior to the date of a General Meeting (i.e. on the date of registration of participation in the GM) are entitled to participate in the General Meeting. Holders of rights under registered shares or provisional certificates (świadectwa tymczasowe) as well as pledgees and usufructuaries holding voting rights are entitled to participate in the General Meeting, provided that they are entered in the Share Register on the registration date. A Shareholder may participate in a General Meeting and exercise voting rights in person or by proxy. The proxy is obliged to disclose to the shareholder any circumstances leading to any actual or potential conflict of interest and may vote exclusively in line with the voting instructions issued by the appointing shareholder.

Any matter to be discussed at a General Meeting is subject to prior consideration by the Supervisory Board. No resolution may be passed on matters not included in the agenda of the General Meeting, unless the Company's entire share capital is represented at the GM and no objections to the adoption of such resolution are raised by any of the persons participating in the GM, with the exception of motions to convene an Extraordinary General Meeting and procedural motions. Resolutions of a General Meeting are adopted by an absolute majority of votes, unless the Articles of Association or Commercial Companies Code provide otherwise. Resolutions and proceedings of a General Meeting are recorded by a notary public. The minutes of the GM are signed by the Chairman of the GM and the notary public.

11.6. Supervisory Board activity

11.6.1. Appointment and removal of Supervisory Board Members

In accordance with Grupa LOTOS S.A.'s Articles of Association and the Rules of Procedure for the General Meeting, the Supervisory Board may comprise five to nine members, appointed for a joint three-year term of office by the General Meeting in a secret ballot, by an absolute majority of votes, from an unlimited number of candidates. The number of Supervisory Board Members is determined by the Company's Articles of Association and the General Meeting.

The Supervisory Board elected by block voting shall consist of five members. The Chairperson of the Supervisory Board is appointed by the General Meeting, while the Deputy Chairperson and the Secretary are elected by the Supervisory Board from among its other members. Any or all Supervisory Board Members may be removed from office at any time prior to the expiry of their term of office. Notwithstanding the foregoing, as long as the State Treasury remains a shareholder in the Company, the entity authorised to exercise voting rights attached to the shares held by the State Treasury shall have the right to appoint one Member of the Supervisory Board by way of a written statement to that effect.

The Supervisory Board of Grupa LOTOS S.A. exercises ongoing supervision of the Company's business, across all areas of its operations. It performs its duties collectively, but may set up ad hoc or standing committees to supervise specific areas of the Company's activities or investigate specific issues. Standing committees of the Supervisory Board: the Audit Committee, Strategy and Development Committee, and Organisation and Management Committee.

11.6.2. Composition

As at December 31st 2018, the composition of the Company's Supervisory Board was as follows:

	Position held	On the Supervisory Board of the 10th term of office since:
Beata Kozłowska-Chyła	Chairwoman	June 14th 2017
Piotr Ciach	Deputy Chairman	June 14th 2017
Katarzyna Lewandowska	Secretary	June 14th 2017
Dariusz Figura	Member	June 14th 2017
Mariusz Golecki	Member	June 14th 2017
Adam Lewandowski	Member	June 14th 2017
Agnieszka Szklarczyk-Mierzwa	Member	June 14th 2017
Grzegorz Rybicki	Member	June 28th 2018

On October 11th 2019, Mariusz Golecki tendered his resignation from the Company's Supervisory Board, effective immediately.

As at December 31st 2019 and the date on which this report was released for issue, the composition of the Company's Supervisory Board was as follows:

	Position held	On the Supervisory Board of the 10th term of office since:
Beata Kozłowska-Chyła	Chairwoman	June 14th 2017
Piotr Ciach	Deputy Chairman	June 14th 2017
Katarzyna Lewandowska	Secretary	June 14th 2017
Dariusz Figura	Member	June 14th 2017
Adam Lewandowski	Member	June 14th 2017
Agnieszka Szklarczyk-Mierzwa	Member	June 14th 2017
Grzegorz Rybicki	Member	June 28th 2018

11.6.3. Powers and responsibilities

The Supervisory Board of Grupa LOTOS S.A. operates on the basis of the Company's Articles of Association (consolidated text of August 1st 2019) and the Rules of Procedure for the Supervisory Board of Grupa LOTOS S.A.

The Supervisory Board shall exercise ongoing supervision of the Company's business, across all areas of its operations. The powers and responsibilities of the Supervisory Board shall include in particular:

- Appointment and dismissal of Members of the Company's Management Board following a recruitment procedure;
- Suspension, for a good reason, of any or all Management Board Members from their duties, as well as delegation of its Member(s) to temporarily stand in for Management Board Members who are unable to perform their duties;
- Approval of the rules of procedure for the Management Board;
- Selection and appointment of the auditor to audit the Company's and the Group's financial statements, in compliance with the provisions of the Accounting Act;
- Assessment of the Company's financial statements in terms of their consistency with the accounting records and documents, as well as with facts; assessment of the Directors' Report on the Company's operations

and the Management Board's recommendations as to the allocation of profit or coverage of loss, and submission of written reports on the findings of such assessments to the General Meeting;
- Giving opinions on any matters to be submitted for consideration by a General Meeting, whether annual or extraordinary;
- Grant of approval to Members of the Management Board to serve, and receive remuneration for serving, on supervisory or management bodies of other entities;
- Approval of the implementation of an investment project and to the assumption of related liabilities if these involve expenditure or charges exceeding the equivalent of a half of the Company's share capital;
- Definition of the scope and required level of detail for annual budgets and long-term strategies, as well as dates for their submission by the Management Board;
- Approval of strategies for Grupa LOTOS S.A. and the LOTOS Group;
- Giving opinions on annual budgets;
- Giving opinions on reports on entertainment expenses, legal costs, marketing costs, public relations and social communication expenses, and management consultancy fees, and reports on best practices defined by the Prime Minister on the basis of the Act on State Property Management, for companies in which the State Treasury is a shareholder;
- Representation of the Company in agreements or contracts, and in any disputes, with Management Board Members;
- Adoption of the rules for management of special accounts;
- Approval of the rules and plan of sponsorship activities and assessment of the results of such activities;
- Approval of the rules of procedure for the Supervisory Board committees;
- Making decisions concerning appointment of external experts, as required by the Supervisory Board or its committees;
- determination of the dividend payment date in the circumstances described in Art. 7.3 of the Company's Articles of Association.

The following committees operate within the Supervisory Board of Grupa LOTOS S.A.

- Audit Committee,
- Strategy and Development Committee, and
- Organisation and Management Committee.

Audit Committee

The Audit Committee of the Supervisory Board of Grupa LOTOS S.A. is a statutory organisational unit of the Company's Supervisory Board with a supporting and advising role.

The obligation to establish the Audit Committee is imposed by the Act on Qualified Auditors and Their Self-Government, Entities Qualified to Audit Financial Statements and Public Supervision of May 7th 2009 (Dz.U. of 2016, item 1948, as amended).

As Polish law requires that audit committees be established at entities supervised by the Polish Financial Supervision Authority, the Office of the Polish Financial Supervision Authority has prepared a code of best practice for audit committees. The code was prepared based on international standards, press articles, guidelines from international organisations, as well as knowledge and experience of audit firms and internal auditors. The purpose of the recommendations was to provide Audit Committee Members with a tool that may contribute to a more effective performance by committee members by providing guidance on how the committee should operate, and identify areas that require special attention of the supervisory board considering the statutory tasks and responsibilities imposed on the audit committee.

Acting as an analytical and controlling body and giving the Supervisory Board material recommendations, the Audit Committee perform its activities pursuant to the Rules of Procedure for the Supervisory Board and the Rules of Procedure for the Audit Committee.

The main tasks of the Audit Committee include the provision of ongoing advice to the Supervisory Board on proper implementation of the budget reporting, financial reporting and internal control standards at the Company, as well as collaboration with the Company's auditors, including in particular:

- monitoring of the financial reporting process,
- monitoring of the effectiveness of the Company's internal control, internal audit and risk management systems,
- monitoring of financial auditing procedures, including monitoring of the audit of full-year and consolidated financial statements,
- monitoring of the work and reports of the independent qualified auditor, including monitoring of the independence of the auditor and the audit firm, including active participation in selecting the audit firm,
- analysing selected economic events relevant to the Company's operations,

- ongoing reporting of any material issues related to the Audit Committee's operations to the Supervisory Board,
- monitoring of the implementation by the Management Board of any proposals and recommendations submitted by the Audit Committee,
- assessing the auditor's independence and giving consent to the provision of permitted non-audit services by the auditor,
- developing a policy for the audit firm selection and a policy for the provision of permitted non-audit services by the audit firm, and defining a procedure for the audit firm selection,
- giving recommendations to the Supervisory Board regarding the appointment of auditors or audit firms,
- providing recommendations to ensure reliability of the financial reporting process,
- approving proposals from the Company or its related entity to assign permitted non-audit services to the audit firm selected to audit the financial statements.

The Audit Committee, appointed by the Supervisory Board from among its Members, consists of three to five Members.

Following the resignation by Mr Mariusz Gołecki from the Company's Supervisory Board, as at December 31st 2019 the Audit Committee consisted of:

- Dariusz Figura – Chairman,
- Katarzyna Lewandowska – Member,
- Piotr Ciach – Member,
- Adam Lewandowski – Member,
- Grzegorz Rybicki – Member.

According to the representations received by the Company, the following persons meet the independence criteria:

- Dariusz Figura,
- Adam Lewandowski,
- Grzegorz Rybicki.

The following persons have accounting or financial auditing knowledge and skills:

- Dariusz Figura – has completed MBA studies, has served as Vice President – Chief Financial Officer of a joint-stock company, and has been involved in annual audits of financial statements of a joint-stock company,
- Katarzyna Lewandowska – holds a university degree in economics, a graduate of the Warsaw School of Economics,
- Adam Lewandowski – 10 years of service within the fuel and energy industry (PGNiG and its Group companies) and experience gained serving on the supervisory boards of fuel and energy companies,
- Grzegorz Rybicki – has had professional contact with accounting and financial reporting through the provision of legal services to companies and skills acquired while serving on supervisory boards.

The following persons have the knowledge and skills specific to the fuel industry:

- Dariusz Figura – knowledge and skills gained while serving on the Supervisory Board of Grupa LOTOS S.A.
- Katarzyna Lewandowska – knowledge and skills gained while serving on the Supervisory Board of Grupa LOTOS S.A.
- Adam Lewandowski – knowledge and skills gained over 10 years of work within the fuel and energy industry (PGNiG and the Group companies) and experience gained serving on the supervisory boards of fuel and energy companies.
- Piotr Ciach – knowledge and skills gained while working at the Energy Ministry's Department responsible for supervision of fuel companies such as PKN Orlen S.A., Grupa LOTOS S.A., PGNiG S.A., and Enea S.A.
- Grzegorz Rybicki – knowledge and skills gained while serving on the Supervisory Board of Grupa LOTOS S.A.

From January 1st to December 31st 2019, the Audit Committee held 11 meetings.

Strategy and Development Committee

The Strategy and Development Committee of the Grupa LOTOS Supervisory Board is a standing collective body operating within the Supervisory Board with an advisory and opinion-forming role. Its duties are discharged by presenting to the Supervisory Board proposals, recommendations, opinions and reports, based on the Rules of Procedure for the Supervisory Board and the Rules of Procedure for the Strategy and Development Committee.

The main tasks of the Strategy and Development Committee include presenting to the Supervisory Board opinions and recommendations on planned investment projects with a material effect on the Company's assets, including in particular:

- giving opinions on the Company's and the Group's long-term development strategies,
- assessing the effect of proposed and actual investment projects on the Company's assets,
- monitoring the implementation of investment projects,
- assessing any actions, agreements, and other documents related to steps taken to acquire, sell, encumber or otherwise dispose of the Company's material assets,

- giving opinions on all strategic documents submitted to the Supervisory Board by the Management Board.

The Strategy and Development Committee, appointed by the Supervisory Board from among its Members, consists of three to five Members. The Committee is chaired by the Chairperson of the Supervisory Board.

Following the resignation of Mariusz Golecki from the Supervisory Board, the composition of the Strategy and Development Committee changed. Accordingly, as at December 31st 2019 and the issue date of this report, its composition was as follows:

- Beata Kozłowska-Chyła – Chairwoman,
- Piotr Ciach – Member,
- Dariusz Figura – Member,
- Adam Lewandowski – Member,
- Agnieszka Szklarczyk-Mierzwa – Member.

Organisation and Management Committee

The Organisation and Management Committee is a standing advisory and opinion-forming body operating collectively within the Supervisory Board.

Discharging its duties by providing the Supervisory Board with material resolutions, proposals, recommendations, opinions and reports, the Organisation and Management Committee operates on the basis of the Rules of Procedure for the Supervisory Board and the Rules of Procedure for the Organisation and Management Committee of the Supervisory Board of Grupa LOTOS S.A.

The main tasks of the Organisation and Management Committee include the provision of ongoing advice to the Supervisory Board on the Company's management structure, including organisational solutions, remuneration scheme and choice of personnel, to enable the Company to achieve its strategic objectives, and in particular:

- developing detailed rules for recruitment procedures to appoint Members of the Management Board,
- performing the recruitment procedures to appoint Members of the Management Board (except for activities reserved for the Supervisory Board),
- recommending the terms of employment for Members of the Management Board,
- assessing the performance of Members of the Management Board, including satisfaction of criteria for awarding variable remuneration components,
- periodically reviewing and assessing the Company's remuneration system,
- assessing the HR management system in place at the Company.

Members of the Organisation and Management Committee, including its Chairperson, are appointed by the Supervisory Board from among its Members. The Committee consists of three to five Members.

In 2019, the composition of the Organisation and Management Committee did not change and was as follows:

- Beata Kozłowska-Chyła – Chairwoman,
- Katarzyna Lewandowska – Member,
- Grzegorz Rybicki – Member,
- Adam Lewandowski – Member,
- Agnieszka Szklarczyk-Mierzwa – Member.

11.7. Management Board activity

11.7.1. Appointment and removal of Management Board Members

The composition of the Management Board and the manner of appointing Management Board Members shall be defined by the Company's Articles of Association, the Supervisory Board's resolutions and laws of general application.

The Management Board shall consist of three to seven Members, including the President and Vice Presidents of the Management Board. The President, Vice Presidents and other Members of the Management Board are appointed by the Supervisory Board following a recruitment and selection procedure carried out pursuant to the Regulation of the Polish Council of Ministers of March 18th 2003 on qualification procedures for Members of management boards of certain commercial-law companies (Dz. U. No. 55, item 476), taking into consideration 'The Best Practices to be Followed in the Selection of Candidates to Governing Bodies of Companies of Key Importance to the State Treasury', defined by the Minister of State Treasury.

Members of the Management Board should also meet the requirements laid down in the Act on State Property Management of December 16th 2016 (Dz.U. of 2016, No. 2259). Management Board Members are appointed for a joint term of three years.

The President, Vice Presidents and other Members of the Management Board, as well as the entire Management Board, may at any time be removed from office or suspended from duties for a good reason by the Supervisory Board.

Each Member's mandate expires no later than on the date of the General Meeting which approves the financial statements for the previous full financial year.

Supervisory Board resolutions to appoint or remove any or all Members of the Management Board require that at least two thirds of Supervisory Board Members are present and participate in the vote. A Management Board Member's mandate shall also expire upon their resignation from office. The current 10th joint term of office of the Management Board commenced on May 22nd 2018 and will expire in 2021.

11.7.2. Composition

As at December 31st 2018, the Management Board of Grupa LOTOS consisted of:

- Mateusz Aleksander Bonca – President of the Management Board,
- Patryk Demski – Vice President of the Management Board, Chief Investment and Innovation Officer,
- Jarosław Kawula – Vice President of the Management Board, Chief Refining and Marketing Officer,
- Robert Sobków – Vice President of the Management Board, Chief Financial Officer,
- Jarosław Wittstock – Vice President of the Management Board, Corporate Affairs.

On July 11th 2019, the Supervisory Board removed Vice Presidents Robert Sobków and Patryk Demski from the Management Board of Grupa LOTOS S.A.

Following a recruitment procedure, on July 24th 2019 the Supervisory Board resolved to appoint Marian Krzemiński as Vice President, Chief Investment and Innovation Officer, and Zofia Paryła as Vice President, Chief Financial Officer, to the Management Board of Grupa LOTOS S.A. of the 10th joint term of office, with effect from July 25th 2019.

On December 6th 2019, the Company's Supervisory Board, acting pursuant to Art. 368.4 of the Commercial Companies Code and Art. 13.2.1 in conjunction with Art. 14.4 and Art. 14.5 of the Company's Articles of Association, removed Mateusz Aleksander Bonca from the Grupa LOTOS Management Board of the 10th joint term of office, with effect from December 6th 2019. At the same time, the Supervisory Board appointed Jarosław Adam Wittstock as acting President of the Management Board.

As at December 31st 2019, the composition of the Grupa LOTOS Management Board was as follows:

- Jarosław Wittstock– acting President, Vice President of the Management Board, Corporate Affairs
- Jarosław Kawula – Vice President of the Management Board, Chief Refining and Marketing Officer
- Marian Krzemiński – Vice President of the Management Board, Chief Investment and Innovation Officer
- Zofia Paryła – Vice President of the Management Board, Chief Financial Officer

Following the completion of a recruitment procedure for the position of President of the Management Board of Grupa LOTOS S.A. of the 10th joint term of office, on January 30th 2020 the Supervisory Board appointed Paweł Jan Majewski as President of the Management Board of the 10th joint term of office, with effect from February 3rd 2020.

As at the issue date of this report, the Management Board of Grupa LOTOS S.A. consisted of:

- Paweł Jan Majewski– President of the Management Board
- Jarosław Kawula – Vice President of the Management Board, Chief Refining and Marketing Officer
- Marian Krzemiński – Vice President of the Management Board, Chief Investment and Innovation Officer
- Zofia Paryła – Vice President of the Management Board, Chief Financial Officer
- Jarosław Wittstock – Vice President of the Management Board, Corporate Affairs.

11.7.3. Powers and responsibilities

The following matters require resolutions by the Management Board:

- adoption or amendment of the Rules of Procedure for the Management Board,
- adoption or amendment of the Organisational Rules for the Company, including the Company's organisational structure,
- adoption of any rules, regulations and policies which are required for the Company by law,
- granting of powers of proxy (which requires unanimous vote by all Management Board Members),
- adoption of the Company's annual budget,
- adoption of the strategy for the LOTOS Group,
- adoption of the Company's financial statements for the previous financial year, prepared in accordance with the International Financial Reporting Standards, along with the Directors' Report on the Company's operations in the previous financial year (not later than within three months of the reporting date),
- adoption of the consolidated financial statements for the previous financial year, prepared in accordance with the International Financial Reporting Standards, along with the Directors' Report on the LOTOS Group's operations in the previous financial year (not later than within three months of the reporting date),
- convening of annual and extraordinary General Meetings on the Management Board's own initiative or at the request of a shareholder or shareholders representing at least one-twentieth of the share capital, as well as in other cases provided for in the Commercial Companies Code (in due time),
- determining a General Meeting's agenda,

- approval of any equity or capital investments that will result in incurring obligations, or divestments, if such investments or divestments are expected to give rise to expenditures, charges or disposals exceeding PLN 500,000 (VAT exclusive) in total,
- approval of any agreements resulting from the transactions referred to in the preceding item that cause the Company to incur obligations exceeding PLN 5,000,000 (VAT exclusive), and approval of any other acts (annexes, agreements, etc.) that increase the Company's obligations under an obligation relationship above the stated amount or, in the case of a contract involving periodic performance, if the value of performance over its entire term exceeds PLN 5,000,000 (VAT exclusive),
- execution of debt relief agreements or other agreements having a similar effect,
- execution of donation agreements or other agreements having a similar effect,
- execution (or amendment) of any agreement for the provision of legal services, marketing services, public relations and social communication services, or management consultancy services, if the total fees for the services to be provided under such agreement exceed PLN 500,000 (VAT exclusive) per year or if the maximum amount of remuneration has not been specified,
- undertaking by the Company of one or a series of related legal transactions, other than those referred to in the preceding items, which result in incurring an obligation or making a disposal for an amount exceeding PLN 5,000,000 (VAT exclusive) under an obligation relationship, and, in the case of an indefinite-term contract involving periodic performance, if the value of performance over four years exceeds the stated amount, except for:
    - contracts entered into by the Company based on framework agreements defining a cap on the Company's total liabilities, approved by resolutions of the Management Board,
    - agreements entered into with companies of the Grupa LOTOS Group,
    - purchase and sale of:
        - crude oil,
        - fuels and other petroleum products/intermediates/goods,
        - natural gas,
        - electricity,
        - biocomponents and fuel components,
        - maritime transport services,
    - as well as any related agreements on ancillary, support, transaction quality and quantity control, handling and storage services (primary and secondary logistics services),
    - contracts for the sale of:
        - scrap and waste,
        - storage services (ticketing services),
        - contracts in financial transactions:
        - foreign exchange contracts (spot, forward, swap),
        - commodity swap contracts,
        - CO_2 emission allowances futures,
        - and other transactions hedging against changes in petroleum product prices, foreign exchange rates, and interest rates,
        - negotiated deposits,

    unless the applicable laws, provisions of the Company's Articles of Association or the Company's internal regulations adopted by the Management Board provide otherwise,

- approval of the procedure to be launched and a contract to be signed for the purchase of goods or services with a value exceeding PLN 5,000,000 (VAT exclusive) from a specified contractor, in conformity with the procedure for the purchase of goods and services applied by the Company, except for contracts signed with other LOTOS Group companies, with the proviso that the total value of the obligation, if specified, shall be used for determining the value of the contract, and in the case of indefinite-term contracts involving periodic performance – if the value of performance over four years exceeds the stated amount,
- approval of amendments to an agreement, where the initial agreement required the Management Board's approval in the form of a resolution, except for indexation agreements based on previously agreed indexation rates,
- exercise of the Company's voting rights at General Meetings of its subsidiaries with regard to:
    - share capital increase or reduction,
    - mergers with other companies or company transformations,
    - sale or lease of the company's business and/or its encumbrance with usufruct rights,
- formation of companies under commercial law and foreign companies,
- acquisition and disposal of shares and interests in companies,
- acquisition and disposal of shares, except where the shares are acquired or disposed of in public trading in securities, unless such acquisition or disposal results in gaining or losing the status of the parent,
- acquisition or disposal of property, perpetual usufruct rights or an interest in property,
- establishment and joining of partnerships, organisations or ventures which involve unlimited liability enforceable against the Company's assets,

- any matters which require the Supervisory Board's or General Meeting's resolution,
- matters falling outside the scope of day-to-day management of the business,
- matters which have been objected to by at least one of the Management Board Members,
- any matters to be decided by way of a Management Board resolution at the request of the President or any other Member of the Management Board.

Any matters not listed above are managed by the individual Management Board Members in accordance with the provisions laid down below, or by persons to whom the Management Board or its Members have entrusted such matters based on a power of attorney or through a designated scope of duties.

Subject to the sentence below, ordinary matters of the Company, not requiring a Management Board resolution, are carried out by the President independently and by individual Management Board Members in line with the division of powers and responsibilities defined under the Organisational Rules of Grupa LOTOS S.A.

In special circumstances, including a given Management Board Member's prolonged absence (due to sickness or other reasons), the President of the Management Board may delegate a matter to another Management Board Member or may decide to deal with the matter personally, contrary to the division of powers and responsibilities. The President of the Management Board's decision in this respect must be made in writing and contain a statement of reasons.

Any disputes between Members of the Management Board relating to the division of powers and responsibilities are resolved by the President of the Management Board.

Any matters not reserved for individual Members of the Management Board in accordance with are conducted and supervised by the President of the Management Board or by a person designated by the President.

Rules of procedure for the Management Board, including procedures for convening meetings, passing and archiving resolutions, as well as the powers and duties of individual Board Members, are set forth in → Rules of Procedure for the Management Board of Grupa LOTOS S.A.

In 2019, the Grupa LOTOS Management Board held a total of 52 meetings and passed 537 resolutions, including 212 resolutions passed in accordance with the procedure set out in Section 21.7/8 of the Rules of Procedure for the Management Board.

11.8. Auditor selection policy

On October 10th 2017, the Supervisory Board of Grupa LOTOS S.A. approved the Policy for the selection of an audit firm to audit financial statements of Grupa LOTOS S.A. and the LOTOS Group companies.

Key provisions of the Policy:

- Pursuant to the Articles of Association of Grupa LOTOS S.A., the Supervisory Board selects an audit firm or extends the agreement with the existing audit firm.
- The selection or extension is made on the basis of the Audit Committee's recommendation. The Audit Committee's recommendation is based on an assessment of the bids submitted by audit firms in the selection procedure, or based on the grounds for extending the agreement with the audit firm.
- The selection of an audit firm or extension of the agreement with the existing audit firm is made in compliance with the laws in force at the time of selection or extension.
- In selecting an audit firm, the Company applies the supervisory body's guidelines concerning the rules and procedures for selection of qualified auditors to audit financial statements of companies in which the State Treasury holds equity interests.
- Audit firms with small market shares may also submit their bids in the selection procedure.
- The selection procedure should not exclude an audit firm which has obtained less than 15% of its total audit remuneration from public-interest entities in a given EU country in the preceding calendar year, and which is included in the list of audit firms published by the Polish Audit Oversight Commission on its website.
- It is prohibited to introduce any contractual clauses that would require the Supervisory Board to select an audit firm from among a specific category or list of audit firms. Such clauses are invalid by law.
- In order to ensure the highest consistency, and thus reliability of the consolidated financial statements, while taking into account the optimisation of the Group's audit costs, it is deemed reasonable and advisable that the financial statements of the Group's key companies be audited by the audit firm/a member of the network of the audit firm selected to audit the financial statements of Grupa LOTOS S.A. (the leading audit firm).
- The Supervisory Board's resolution to appoint an audit firm or extend an agreement with the existing audit firm is a recommendation for the supervisory boards of companies covered by the audit firm selection procedure.
- While selecting an audit firm to audit their own financial statements, the other LOTOS Group companies apply the rules set out in the Policy.
- The Supervisory Board – while making the final selection, and the Audit Committee – while preparing its recommendation act in line with the following guidelines concerning the audit firm:
  - compliance with formal requirements;

  - the auditor's independence and impartiality, including in the context of agreements already signed by the audit firm/member of the audit firm's network with the LOTOS Group companies;
  - position in the audit services market;
  - the price for the audit taking into consideration the workload (quoted as an aggregate amount and separately for each Group company covered by the audit firm selection procedure);
  - knowledge of the industry and the Group companies;
  - experience in the audit of listed companies applying IAS/IFRS;
  - audit schedule;
  - composition of the team appointed to audit the parent and the Group companies covered by the audit firm selection procedure; i) draft audit engagement agreement.
- Tender documentation contains transparent and non-discriminatory selection criteria to be used in the evaluation of bids.
- The Supervisory Board is guided by the principle of audit firm and lead auditor rotation, as described in the procedure for selecting an audit firm to audit financial statements.
- Agreements with audit firms are made for at least two and not more than five years.

11.9. Diversity policy

Diversity, cooperation and openness are the values which form an integral part of Grupa LOTOS S.A.'s business activities, as well as the hiring and promotion policy.

In 2019, the Company pursued the principles of diversity management and a policy of equal treatment with due respect for a diversified, multi-cultural society and with particular focus on equal treatment irrespective of gender, age, disability, health, race, nationality, ethnic origin, religion, religious denomination, irreligiousness, political beliefs, trade union membership, gender identity, family status, lifestyle etc.

In 2019, the diversity policy pursued by Grupa LOTOS helped better leverage the potential of the Group workforce, their diverse skills, experience and talents in the atmosphere of mutual respect and cooperation (using the experience of employees aged 50+ in induction training of new employees, or for shadowing and mentoring in refining production), while minimising the risk of loss of valuable employees.

The Company implemented the principles of equal treatment and diversity management at the workplace, starting from recruitment (as a member of the Coalition for Friendly Recruitment), through access to training and promotion, remuneration, work-life balance (as confirmed by the Top-Quality HR certificate issued by the Polish Human Resources Management Association (PSZK) and B*iznes Magazyn*'s Economy Zones - Responsible Employer - HR Leader 2019 certificate), protection against workplace bullying and discrimination (during the induction training for newly hired employees and generally available e-learning training).

The Company's approach to diversity is presented in the Code of Ethics, compliance with which was declared by all new hires. Aspects related to the Ethical Conduct Programme were also covered by the annual employee assessment.

In 2009, Grupa LOTOS signed up to the 10 UN Global Compact Principles committing, inter alia, to the principles of diversity.

Non-financial statement of Grupa LOTOS S.A. and the LOTOS Group

12 Non-financial statement of Grupa LOTOS S.A. and the LOTOS Group

12.1 Key non-financial performance indicators

Key non-financial performance indicators are monitored on a consolidated basis only (at the Group level).

Table 32. Key non-financial performance indicators

	Unit	2018	2019	Yoy change	Target
Management					
Dividend-paying capacity	yes	yes	yes	unchanged	yes
LTIF	LTIF	4	3.4	-15%	< 3
Operations					
Daily oil production	kboe/d	20	21	+5%	30-50 thousand boe/d
2P reserves	boe	89.8	81.3	-9%	60m
Oil throughput	million tonnes	10.8	10.7	-0.9%	10.5
Number of service stations	service station	495	506	+2.2%	550
Natural environment					
Greenhouse gas emissions (Scopes 1+2) per tonne of crude oil processed	Mg CO_2e/Mg	0,214	0,205	-4.2%	↓
Primary energy consumption per tonne of product	MJ/t	3,830	4,044	+5.6%	↓
Personnel					
Lost Time Injury Frequency Rate (accidents per 1,000 employees)	n/a	9.25	7.93	-14.3%	0
Average assessment of employee competencies in the PEES system	Average [0-7]	4.22	5.1	+21.4%	> 5
Social					
NPS (net promoter score) – survey based on feedback from Navigator customers	NPS	positive	positive	increase	positive trend

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Table 33. Financial highlights (PLNm)

	2018	2019	Yoy change
LOTOS Group			
Revenue	30,122	29,493	-2.1%
Adjusted LIFO-based EBITDA	3,099	2,861	-7.7%
Profit/(loss) before tax	2,723	1,692	-37.8%
Net profit	1,587	1,153	-27.4%
Grupa LOTOS			
Revenue	26,737	26,313	-1.6%
Adjusted LIFO-based EBITDA	1,436	1,167	-18.7%
Profit/(loss) before tax	1,581	955	-39.6%
Net profit	1,334	834	-37.5%

12.2 About the LOTOS Group

The LOTOS Group is one of the largest business players in the Polish market and the second largest fuel producer in Poland. We operate in the crude oil and natural gas production and processing business and sell quality petroleum products. We also provide highly specialised logistics and maintenance services.

The Company's activities are underpinned by sustainable development. The Grupa LOTOS refinery in Gdańsk is one of the newest and most advanced refineries in Europe in terms of technology and environmental protection. Our offering is being expanded to include alternative fuels, such as hydrogen and LNG, and we are an active player in electromobility, steadily consolidating our position as a leader of innovation in this segment.

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The LOTOS Group comprises: Grupa LOTOS S.A., production, trading and service subsidiaries, and a corporate foundation. The parent Grupa LOTOS S.A. is a joint-stock company 53.19% owned by the State Treasury as the majority shareholder. Grupa LOTOS shares have been listed in the WIG 20 index on the Warsaw Stock Exchange since 2005. Grupa LOTOS S.A.'s headquarters are located at ul. Elbląska 135 in Gdańsk, Poland.

12.2.1 Business model

/102-1/102-4/

The LOTOS Group's operations are split into two segments:

- Exploration & Production – acquisition and production of crude oil and natural gas, and the related auxiliary, transport and maintenance activities;
- Refining & Marketing – petroleum processing and manufacture of refined petroleum products, wholesale and retail sale of petroleum products and the related auxiliary, transport and maintenance activities.

Exploration & Production segment

We are the only group engaged in hydrocarbon production within Poland's Exclusive Economic Zone of the Baltic Sea. As regards our foreign operations, we produce hydrocarbons on the Norwegian Continental Shelf and in Lithuania.

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The average daily production volume of crude oil and natural gas of the LOTOS Group in 2019 was 20.7 thousand boe, of which:

- Norway 75%
- Poland 22%
- Lithuania 3%

The oil and gas reserves of the LOTOS Group at the end of 2019 totalled 81.3 mboe, with 65.2% of crude oil and 16.1% of natural gas. The Group's 2P reserves by country:

- Norway 59%
- Poland 38%
- Lithuania 3%

Refining & Marketing segment

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In 2019, the refinery operated by Grupa LOTOS S.A. processed 10.7m tonnes of crude oil, of which 73.1% was Urals crude. Our oil refining products are sold in Poland and abroad, through wholesale and retail channels (the latter being our own service station chain). As at the end of 2019, the LOTOS retail chain comprised 506 outlets (11 more compared with the end of 2018).

The LOTOS Group's trading activities in 2018 were carried out by Grupa LOTOS S.A. and its subsidiaries: LOTOS Paliwa, LOTOS Oil, LOTOS Asfalt, and LOTOS-Air BP.

12.2.2 Value chain

/102-9/ /102-10/

Our operations are based on a segment management model in which a full value chain is built: from upstream production to downstream sale of finished products.

We create value at each stage of our business, always giving due consideration to the concept of sustainable development and operating in line with the energy security policy. We deliberately manage our impact on the environment, people and the economy to make it increasingly positive, contributing to the Company's value growth and benefiting our stakeholders.

The following processes make up the LOTOS Group's operations:

- Oil and gas exploration and production. The LOTOS Group has exploration and production operations in three countries: Poland, Lithuania and Norway (the largest player in the region). The major proportion of its production and 2P reserves are in Norway. The Group has strong drilling and production capabilities, but it also collaborates with experienced players that enjoy a global reach. The LOTOS Group is currently pursuing major oil and gas development projects that will position it in the European upstream sector for the coming years.
- Crude oil refining The refinery owned by the LOTOS Group in Gdańsk is one of the newest and most advanced plants of its type in Europe, Boasting a nameplate throughput capacity of approximately 10.5m tonnes of crude oil per year, it is conveniently located near a marine handling terminal, which gives us a significant competitive advantage in access to feedstock and sales channels compared with other refineries operating in the region. The refinery also benefits from a unique combination of supply channels by land from Russia via the PERN pipeline network. Access to two supply channels allows the LOTOS Group to diversify its feedstock supplies and to respond flexibly to volatile prices of petroleum products and various crude types. Russia's Urals crude accounts for the largest share of the refinery's crude slate (over 70%). The balance is imported from other sources, including Saudi crude and crude produced by LOTOS Group companies. At the Grupa LOTOS refinery, crude oil is refined into the following key products: fuels (unleaded gasoline, diesel oil, light diesel oil), heavy fuel oil, aviation fuel, and bitumens. The new technologies deployed at the plant help convert 95% of a barrel of oil into pure fuel, with the heavy residue (5% of an oil barrel) processed into bitumen. The refinery's Nelson Complexity Index is the highest in Poland and one of the highest in Europe.

Distribution and sales. Products made at our refinery in Gdańsk are placed on the domestic retail market, exclusively via our own service station chain. Customers for the Group's products in the wholesale market include international companies, the Material Reserves Agency, the Military Property Agency, domestic wholesalers, and independent operators. 506 LOTOS-branded service stations operated in Poland as at the end of 2019. The Group also had 20 Motor Service Areas along the A1, A2, A4 and A6 motorways as well as the S3 and S7 expressways. It has established a business relationship with an external partner for corporate franchise of Subway restaurants, with 35 Subway outlets operated at LOTOS service stations at the end of 2019. The LOTOS Group delivers its products to customers via different channels, including rail through its subsidiary LOTOS Kolej. Besides moving the LOTOS Group's products, the subsidiary LOTOS Paliwa provides other transport services, including transport of dangerous goods. For instance, the company has a contract with the Polish Armed Forces for the transport of F-34 aviation fuel. For the purposes of its fuel distribution operations, the Group uses a modern fuel depot for road tankers in Czechowice-Dziedzice, as well as fuel depots in Poznań, Piotrków Trybunalski and Rypin. The LOTOS Group markets its products in 80 countries besides Poland.

In the process of creating value, the Group places a strong focus on efficient management of its financial, production, intellectual, human, social and environmental capitals and the opportunities present in each segment of its operations.

Prudent management and expansion of the Financial Capital allow us to invest in the Group's non-financial resources, which generate further profits over time. For many years now, the organisation has consistently invested in improving production and refining processes, employee development and building a culture of innovation within the organisation, as well as creating innovative products. It is constantly working on solutions designed to reduce its environmental footprint. It also seeks to make a positive social impact through charitable and sponsorship initiatives.

12.2.3 Market situation and outlook

/102-15/

The LOTOS Group is an active participant of the fuel market, affecting it through its operations and responding to changes that occur on the market. Therefore, when planning strategic development directions, LOTOS takes into account forecasts and megatrends which affect its business.

The key drivers of oil and gas prices are changes in the world's population as well as global and regional changes in supply and demand forces.

Oil prices are also affected by:

- macroeconomic situation;
- global and regional economic conditions;
- trading activities of market participants;
- weather conditions and natural disasters;
- availability and cost of construction or use of transport and processing infrastructure;
- price and availability of, and government subsidies for, alternative energy sources and new technologies;
- the US dollar exchange rate.

Last year, the United States exerted immense pressure on the global economy. It was also the world's largest oil producer, exporting on average 3m barrels of crude oil a day, with WTI oil cheaper on average by USD 7.31/bbl than Brent crude, produced in the North Sea.

The macro environment was significantly impacted by a decision made by OPEC and non-OPEC countries, including Russia and Kazakhstan, on December 6th 2019 to cut oil output by 1.2 mbd.

Crude demand fell again in 2019 on lower international trade volumes (driven chiefly by the US-China trade war and Brexit). Crude oil prices spiked occasionally in response to developments in the Middle East (instability caused by new US sanctions imposed on Iran, attacks on oil installations in Saudi Arabia), the OPEC and non-OPEC countries' policy of cutting production as a consequence of falling demand, and growing production in non-OPEC countries (including US, Brazil, Canada). The 2019 average price of crude oil was USD 64.2/bbl, down USD 7.1/bbl year on year.

The period of subdued oil prices provided an incentive for significant optimisation in the E&P industry. The costs of drilling and offshore services, direct production costs and new field development costs were reduced. Standardised technical solutions, technological advancement, and improvement of contracting and procurement of products and offshore services helped to reduce average operating expenses by more than 40% relative to 2013.

The profitability of the LOTOS Group's production operations is affected by numerous legal regulations, including the Polish Geological and Mining Law, EU regulations, and international conventions, such as those on environmental protection. In the near future, the following will be of key importance:

- planned amendments to tax regulations applicable to hydrocarbon production;
- continued tightening of environmental protection regulations;
- increase in mandatory collateral relating to the risk of environmental damage;
- amendments to the regulations pertaining to emergency stocks of crude oil and certain petroleum products.

Under such conditions, both innovative technologies and innovative cooperation models should be implemented in order for the LOTOS Group to remain profitable and attractive to investors.

The profitability of refining is directly affected by fluctuations in crude oil and natural gas prices, as well as the amount and structure of demand for and supply of petroleum products. According to JBC Energy, global demand for refining products should continue to grow.

Continued growth of CEE economies can generate further increase in fuel consumption and its ultimate convergence with consumption levels in Western Europe. From fuel producers' perspective, it is the CEE market that offers more potential given its predicted growth in the coming years. In the opinion of the LOTOS Group, demand for petroleum products, in particular diesel oil and aviation fuel, should grow noticeably also in Poland.

12.2.4 Growth strategy

/102-14/ /102-15/

Stability and sustainable growth are the cornerstone of the LOTOS Group strategy for 2017–2022. By growing its business, the LOTOS Group seeks to position itself as a vertically integrated producer of high quality fuels and chemical products, provider of specialised logistics and maintenance support, and leader in implementing innovation within its core business.

The strategy sets out five main strategic objectives:

- effective use of production licences, further technological optimisation of the refinery, launch of new products and alternative fuels, and commitment to quality;
- consistent and repeatable reduction of operating expenses and optimisation of margins along the value chain;
- readiness to develop and embrace innovation based on dedicated funding, an advanced model of cooperation with research institutions and creative engagement of employees;
- flexible response to risks, perceived also as potential business opportunities;
- commitment to fostering and developing talent within the organisation, improving overall safety and security (across OHS, infrastructure, and IT), and raising the standards of corporate social responsibility.

The LOTOS Group is currently implementing the second stage of its strategy, in which it is developing a new investment programme based on the best growth projects, effective development of the E&P asset portfolio, further expansion of the service station chain and implementation of innovative projects building the LOTOS Group's future value.

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The body responsible for implementing the strategy is the Grupa LOTOS Management Board.

12.2.5 Corporate governance

LOTOS Group structure at December 31st 2019

/102-18/ /102-45/

1) State Treasury – 0.01% 2) Limited partner, 3) General partner
4) CalEnergy Resources Poland Sp. z o.o. – 50%
5) CalEnergy Resources Poland Sp. z o.o. – Limited partner
6) BP Europa SE – 50%
7) Odin Energi A/S – 50%
8) company in the process of merger (a merger plan approved on December 19th 2017)

Companies classified as joint ventures; they are not part of the LOTOS Group
Grupa LOTOS S.A. owns an 8.97% equity interest in P.P.P.P. Naftoport Sp. z o. o. (a company of the PERN Group of Płock)
Source: Company

Shares and shareholding structure

/102-18/ /102-19/ /102-24/

The powers and responsibilities of the General Meeting cover a range of matters as laid down in the Articles of Association of Grupa LOTOS. All matters are first presented for consideration by the Supervisory Board. The Rules of Procedure for Grupa LOTOS S.A. General Meetings specify the procedures for convening and cancelling General Meetings, the proceedings of the Meetings, holding elections to the Supervisory Board, as well as the rules of attendance and voting at General Meetings.

Supervisory Board

/102-18/ /102-22/ /102-28/ /405-1/

The Supervisory Board exercises ongoing supervision of the Company's business, across all areas of its operations. It has the power to delegate its members to perform specific functions and to establish standing or ad hoc committees as collective bodies operating within the Supervisory Board responsible for providing advice and forming opinions. Its duties are discharged by presenting to the Supervisory Board proposals, recommendations, opinions and reports, based on the Rules of Procedure for the Supervisory Board and the rules of procedure for the committees. Grupa LOTOS has three standing committees: the Audit Committee, Strategy and Development Committee, and Organisation and Management Committee.

In accordance with the applicable laws, the Supervisory Board selects an auditor and recommends it to the key companies of the Group to audit their financial statements.

Composition of the Grupa LOTOS Supervisory Board as at December 31st 2019:

- Beata Kozłowska-Chyła – Chairwoman

- Piotr Ciach – Deputy Chairman
- Katarzyna Lewandowska – Secretary
- Agnieszka Szklarczyk-Mierzwa – Member
- Dariusz Figura – Member
- Adam Lewandowski – Member
- Grzegorz Rybicki – Member

Composition of the Supervisory Board by age and gender

	Number of persons	Percentage
Under 30 years	0	0%
30–50 years	5	71%
Over 50 years	2	29%
Women	3	43%
Men	4	57%
Total	7	100%

Source: Company

Management Board

/102-18/ /102-20/ /102-22/ /102-23/ /405-1/

The Management Board represents Grupa LOTOS S.A. before third parties and manages all its corporate affairs. Individual Members of the Management Board perform duties in line with the division of powers and responsibilities resulting from their operational functions within the Company. Each Member of the Management Board is also authorised to represent the Company in all judicial and non-judicial business relating to the Company's operations, excluding matters reserved for the General Meeting or Supervisory Board under the Commercial Companies Code or the Company's Articles of Association, as well as matters falling outside the scope of ordinary management of the business where they require the Management Board's prior resolution and matters within the powers of another member of the Management Board.

Pursuant to Supervisory Board Resolution No. 136/X/2018 of September 10th 2018, the composition of the Management Board of the 10th joint term of office is as follows:

1) President of the Management Board
2) Vice President of the Management Board, Chief Financial Officer
3) Vice President of the Management Board, Chief Refining and Marketing Officer
4) Vice President of the Management Board, Chief Investment and Innovation Officer
5) Vice President of the Management Board, Corporate Affairs

Composition of the Grupa LOTOS Management Board as at December 31st 2019:

- Jarosław Wittstock – acting President, Vice President of the Management Board, Corporate Affairs,
- Jarosław Kawula – Vice President of the Management Board, Chief Refining and Marketing Officer
- Marian Krzemiński – Vice President of the Management Board, Chief Investment and Innovation Officer
- Zofia Paryła – Vice President of the Management Board, Chief Financial Officer

As at March 12th 2020, the Management Board of Grupa LOTOS S.A. consisted of:

- Paweł Jan Majewski– President of the Management Board,
- Jarosław Kawula – Vice President of the Management Board, Chief Refining and Marketing Officer
- Marian Krzemiński – Vice President of the Management Board, Chief Investment and Innovation Officer
- Zofia Paryła – Vice President of the Management Board, Chief Financial Officer
- Jarosław Wittstock – Vice President of the Management Board, Corporate Affairs

Management Board Members' remits

President of the Management Board	Vice President of the Management Board, Chief Investment and Innovation Officer	Vice President of the Management Board, Chief Refining and Marketing Officer	Vice President of the Management Board, Chief Financial Officer	Vice President of the Management Board, Corporate Affairs
Strategy	Upstream support	Refining	Finance and accounting	Organisation building
Support for corporate bodies	EFRA Project	Technology	Financial management	Process management
Critical infrastructure	Innovation	Assets	Management control	SCM
Human resources	Investments	Refining efficiency	Reporting	IT
Physical security and protection		Domestic sales and purchases of products	Taxes	Compliance
Information security		Biofuel component purchases	Financial risks	Administration
Enterprise risk		Trading	Procurement	
Corporate supervision		Occupational health and safety		
Investor relations		Process and product safety		
Legal support		Environmental protection		
Internal audit		Technology development		
Internal control		Feedstock purchases		
Communication		Logistics		
Sponsorship and CSR				
Marketing				

Source: Company

Composition of the Management Board by age and gender

	Number of persons	Percentage
Under 30 years	0	0%
30–50 years	1	25%
Over 50 years	3	75%
Women	1	25%
Men	3	75%
Total	4	100%

Source: Company

12.2.6 Risk management

/102-30/

The LOTOS Group is socially responsible and follows the principles of sustainable development. As part of its corporate risk management, it identifies risks in its business and undertakes measures to eliminate those related to the personnel, social matters, respect for human rights and the environment, and works to counteract corruption.

The LOTOS Group has implemented an Enterprise Risk Management (ERM) system to boost the effective implementation of its business strategies and processes. The above measures have been implemented as part of the Enterprise Risk Management Policy.

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Mechanisms of the risk management model are embedded in the existing business processes. The model comprises three lines of defence, adjusted to the nature of particular activities and the possible impact of risks on the Group's performance.

1ST line of defence Business	► operational risk management ► development of operational procedures ► risk identification and assessment at the decision-making stage and periodic risk reviews in processes and projects
2ND line of defence Risk, Finance, Compliance	► defining risk management rules ► alignment of risk management with strategy ► defining and profiling risk exposure
3RD line of defence Internal audit	► independent assessment of the effectiveness and adequacy of risk management process in GKL

Source: Company

Structure of the enterprise risk management (ERM)

The ERM system focuses on key risks and forecasts their impact on the company's operations and performance, thus facilitating the development of pre-emptive measures that may help mitigate or exploit risks or their consequences. This key functionality of the system is currently being strengthened at the LOTOS Group.

Risk management process

Management of opportunities and threats at the corporate level is carried out as part of a process involving:

- risk identification – risks are identified in the context of (annual) strategic and operational objectives pursued;
- risk analysis and assessment – the assessment is carried out in two time horizons: annual and long-term. The assessment criteria include both financial and reputational consequences, aggregated as the impact on non-financial parameters, such as the image, environment, and people;
- establishing a risk treatment plan – for each material risk, an operational management procedure as well as controls and protection measures are defined. For TOP RISKS, detailed risk management charts are prepared, which cover relevant risk mitigation and exploitation measures, as well as response plans to be followed in case of materialisation of such risks;
- implementation of risk mitigation and opportunities tapping measures – performing tasks defined in risk treatment plans and monitoring their progress on an ongoing basis;
- monitoring of risk indicators – for TOP RISKS, key risk indicators (KRIs) are defined, which allow risk exposure levels and risk materialisation probability to be monitored in accordance with relevant rules;
- risk reviews – periodically (every six months), all identified risks are reviewed and re-assessed;
- communication and reporting – standards for communicating and reporting the results of risk management are in place at every stage of the process; The Management and Supervisory Boards receive regular, quarterly reports on existing risks to the organisation and on the effectiveness of risk mitigation or exploitation measures;
- the effectiveness and adequacy of the ERM are assessed and its future development directions are defined on an annual basis.

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The table below lists selected risks inherent in Grupa LOTOS S.A.'s operations that are of relevance to the stated areas of non-financial activities.

Risk	Risk response
Society	
Social protests against the Group's projects and day-to-day operations	o Maintaining good relations with stakeholders. Holding meetings to inform stakeholders about the Group's projects o Open communication on the Group's current operations and projects o Maintaining good relations with industry, local, nationwide and foreign media o Working with the supervisory bodies and public authorities to prevent crises that may arise in the course of legislative procedures, whether Polish or EU o Supporting local communities through various CSR programmes/projects
Violation of data protection laws	o Establishment of internal data protection standards, including as part of the Security Policy, and data protection procedures o Audits, also by external auditors, to verify whether the organisation observes the applicable rules and how it is prepared to comply with the GDPR requirements o Raising employees' awareness (training, meetings)
Natural environment	
Pollution and mandatory remediation in the event of failure of refinery units	o Inspecting the technical condition of processing equipment and components in line with maintenance schedules o Risk-based inspections of infrastructure o Identifying Critical Equipment subject to special inspection rules o Carrying out annual Failure Prevention Plans and Maintenance/Overhaul Plans o Insurance coverage against losses or lost benefits in case of failure of refinery units
Periodical spikes in emissions from the refining process	o Constantly monitoring the process and emission parameters o Maintaining high technical standards Compliance with BAT requirements o Implementation of environmental management plans
Leakage from vessels carrying crude oil/petroleum products made by the LOTOS Group	o Working with service providers that observe the performance standards set out in resolutions of the International Maritime Organization (IMO) and comply with the maritime security conventions o Including clauses on technical condition of ships in contracts with trading partners and providers of sea transport services o Working with shipowners that are members of the International Tanker Owners Pollution Federation Ltd. (ITOPF) and hold the required insurance certificates o Insurance coverage and membership in the International Oil Pollution Compensation Fund (IOPCF)
Oil spill on rig	o Maintaining offshore equipment in good technical condition to minimise the risk of accidents on rigs o Taking steps to control the risk of formation fluid invasion at the stage of planning and conducting well drilling operations o Holding annual drills in oil spill control o Selecting the right anti-spill equipment o Maintaining oil spill insurance coverage
Failure to comply with legal requirements/environmental permits at the Group	o Ongoing monitoring of compliance with the requirements set out in relevant decisions (including air emissions, waste generation, water withdrawal, wastewater discharge) o Supervision of compliance and regulatory changes by the Compliance Department
Environmental damage caused by the Group's suppliers/trade partners	o Careful selection and screening of prospective trade partners o Contractual clauses requiring trade partners to act in line with the principle of sustainable development and to take measures to mitigate their environmental impacts o Trade partner audits carried out by the Group o Ongoing supervision of subcontractors' work

Human rights	
Violation of rights of LOTOS Group employees	○ Knowledge and application of laws and internal regulations governing the employment relationship (the Work Rules, Collective Bargaining Agreement, etc.) ○ Operation of bodies supporting employees' rights (the Employee Council, Employee Representation Officer, Trade Unions, etc.) ○ Maintaining dialogue with employees and conducting employee satisfaction surveys
Non-compliance with ethical standards in business	• Operation of the Code of Ethics and Ethics Officer • Implementation of a workplace bullying, harassment and discrimination prevention policy at the Group • Ethics awareness training for employees • Conducting audits and inspections
Violation of human rights by the Group's trade partners /subcontractors	○ Careful selection and screening of prospective trade partners ○ Contractual clauses trade partners to respect human rights, particularly with regard to employment ○ Trade partner audits carried out by the Group
Anti-corruption	
Internal misconduct understood as a deliberate act or omission which constitutes violation of the law or a breach of the LOTOS Group's internal regulations, committed to secure an unlawful gain or causing the Company to sustain undue losses (including corrupt practices).	○ Misconduct Risk Management Programme, which consists in the coordination of misconduct prevention and detection measures implemented in individual business processes, misconduct prevention education, identification and assessment of misconduct risks, as well as overall evaluation of the organisation's resilience to misconduct. ○ Ethical Conduct Programme, which is pursued through the Code of Ethics, the Ethics Officer and the Ethics Hotline, as well as training activities. ○ The Group's gift policy ○ Conducting audits and inspections
Third-party misconduct – attempted bribery by trade partners	○ Ethics and anti-corruption clauses applied during the trade partners selection process and in contracts ○ Trade partner checks
Buying from unreliable suppliers involved in VAT 'carousel frauds'	○ Introduction of the split payment mechanism ○ Detailed trade partner checks ○ Inclusion of relevant clauses in contracts with trade partners ○ Due diligence ○ Conducting audits and inspections
Employees	
Difficulties with recruitment of qualified staff and retention of competent and experienced employees	○ Building a knowledge management system to enable effective knowledge sharing/transfer and develop staff competencies necessary to achieve near- and long-term business goals ○ Management staff development programme ○ Building an engaging work environment to enhance productivity ○ Creating space for development and innovation within the organisation ○ Building a good employer image inside and outside the organisation
Employees resisting changes introduced in the LOTOS Group	○ In the case of restructuring – open communication with employees, trade unions and works council about the planned changes ○ Communicating the restructuring plans to media ○ Opportunities for employees to gain new qualifications/ retrain ○ Offering support in the event of a change of workplace and relocation; financial assistance ○ Offering retraining and outplacement support ○ Ongoing monitoring of employee sentiment
Employee or subcontractor accidents – relevant to the entire production cycle and logistics chain (including road and rail accidents during	○ Raising employees' and trade partners' awareness of and commitment to safety culture ○ Dangerous work training and permitting system ○ Regular inspections of OHS compliance at the workplace ○ Implementation of the annual Health and Safety Plan for the LOTOS Group ○ In the area of air safety:

product transport and aircraft accidents during rig crews transport)	o high safety requirements for aircraft fleet – AOC and E12 certificates, IFR approval o Ongoing monitoring of weather conditions and proper logistics of passenger transport by sea o supervision of the terms of contracts with carriers.

Source: Company

12.2.7 Ethics and values

Values and the Code of Ethics

/102-16/

The LOTOS Group's responsibility towards society and the natural environment manifests itself in carrying out production activities in a manner preventing degradation of natural and social capitals. The LOTOS Group feels responsible for its products towards the state, the market, our partners, customers and employees.

The Group conducts its business in compliance with ethical principles, respecting standards in all areas of its operations. We have adopted a system of values which is founded on respect for the needs of society and the natural environment.

The four primary values underlying the LOTOS Group's corporate social responsibility are:

- Transparency – the Group undertakes to comply with the most exacting environmental standards, remains committed to ethical and fair competition, and counteracts the abuse of human rights;
- Openness – the Group is open to changes, the world's needs and people's expectations;
- Innovativeness – the Group takes an innovative approach to solving social and environmental issues; by acting in accordance with the principles of sustainable development, the Group achieves business benefits and gains a competitive advantage on the market;
- Responsibility – the underlying principle of the Group's attitude towards mankind and its future, the environment, the home country and its international status.

To the LOTOS Group, sustainable development is an integral part of its business. The Group is aware of its community and environmental impacts. Therefore, as a socially responsible corporate citizen, it is guided by ethical values in conducting its business.

The organisation is strongly committed to compliance with international standards, such as ISO 26000, with respect to corporate governance, human rights, labour practices, the environment, fair operating practices, consumer issues, as well as community engagement and development.

The pillars of the LOTOS Group's strategic approach to sustainable development:

- social responsibility – creating value for the social environment;
- environmental responsibility – creating value for the natural environment;
- business responsibility – creating economic value.

In 2019, the LOTOS Group addressed the challenges defined by 17 Sustainable Development Goals (SDGs) until 2030, Vision of Sustainable Development for Business in Poland until 2050, and the ten Global Compact principles.

In line with the Vision of Sustainable Development for Business in Poland until 2050, the Group has undertaken to:

- base its efforts on broad cooperation, innovative thinking and education of its own employees and members of the public;
- conduct business activities relying on trust and dialogue;
- initiate cooperation with academic centres and schools to educate future employees;
- create conditions and opportunities conducive to employee development;
- promote and support the implementation of new technological solutions;
- develop infrastructure and implement investment projects based on dialogue and in accordance with the principles of sustainable development;
- take measures to reduce its environmental footprint;
- introduce solutions to reduce energy consumption, including through implementation of new technological solutions, process optimisation and education;
- engage in dialogue with the government and share experience in issues that are material to entrepreneurs and economy;
- raise ethical standards in business, including in relationships with all stakeholder groups.

Ethical Conduct Programme

/102-16/

The Ethical Conduct Programme, which is the cornerstone of our activities, enables effective and ethical management of the LOTOS Group's organisational culture. It builds value for our employees and external stakeholders.

The Ethical Conduct Programme comprises:

- code of Ethics;
- ethics Officer;
- channels for reporting breaches of the Code;
- employee education;
- easy communication.

The Code of Ethics defines the system of ethical values and standards of conduct our employees are expected to uphold in the workplace and in relations with key stakeholder groups. Breaches of the Code of Ethics are reported to and handled by the Ethics Officer, who oversees compliance with the LOTOS Group Code of Ethics.

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The Ethics Officer is available to each employee and trading partner of the LOTOS Group.

The following methods can be used to communicate with the Ethics Officer:

- a meeting in person at a time convenient to the employee, arranged in advance by phone;
- telephone conversation with or voicemail to the Ethics Officer (phone: +48 58 308 80 70);
- by email: liniaetyki@grupaLOTOS.pl;
- online report form available at www.LOTOS.pl.
- by traditional mail.

Grupa LOTOS S.A. operates in compliance with the Code of Best Practice for WSE Listed Companies. Compliance with the Code helps us build the Company's ethical culture, which is vital for our relations with the market environment and for building our market position.

Ethical supply chain

*/102-9/*The LOTOS Group's operations affect many social and environmental aspects, so it ensures that its supply chain, from upstream exploration of deposits through downstream production to sale of finished products and services, is sustainable.

The Group supports value building along the entire supply chain by:

- striving for efficient use of assets throughout the value chain;
- actively managing opportunities and risks;
- creating technological innovations to enhance competitiveness;
- improving processes to ensure the safety of people and the environment.

/407-1/ /408-1/ /409-1/

No risks of forced labour, child labour or violation of the right to freedom of association and collective bargaining in the supply chain were identified by the risk management system in 2019. These risks are analysed by the LOTOS Group based on available information and submitted reports, in accordance with the risk management policies in place.

Prevention of corruption, misconduct and conflicts of interest

/102-25/205-1/205-2/205-3/

The LOTOS Group operates a Misconduct Prevention Policy, aimed at enhancing the security of its business processes.

The risk of misconduct is mitigated through effective management. Should the risk materialise, an emergency plan is in place that ensures immediate mobilisation of resources to explain the situation, mitigate its adverse impacts, return to normal operations, and prevent recurrence.

Stakeholders can report any suspected irregularities and/or misconduct via specified open communication channels, including the Grupa LOTOS Internal Audit Office.

In the organisation, no misconduct is tolerated. The organisation has signed the United Nations Global Compact's Call to Action on Anti-Corruption, a global initiative where businesses join forces to fight corruption in all its forms. The Misconduct Prevention Policy and other internal anti-corruption regulations are known to all employees of the LOTOS Group companies. All new hires receive relevant training, including information on anti-corruption regulations and liability in case of non-compliance. Moreover, employees are repeatedly reminded of anti-corruption rules during their employment.

In 2019, the LOTOS Group made progress in the implementation of the Misconduct Prevention Programme and monitored solutions developed under the programme. A number of educational initiatives, including training and publications, were undertaken to enhance the organisation's resilience to misconduct and to raise the awareness and engagement of both management personnel and other employees.

The misconduct prevention and detection measures taken by the organisation are viewed as effective. These measures included:

- implementing the Misconduct Risk Management Programme based on the Misconduct Prevention Policy, which seeks to educate employees on risk identification, provide information on liability for corrupt behaviour and corruption offences, investigate cases of suspected misconduct and implement misconduct risk mitigation mechanisms;
- defining a Misconduct Risk Management Charter, managing and monitoring the risk of misconduct, and risk mitigation and contingency planning;
- incorporating CSR clauses (including an anti-corruption clause) in requests for proposals and contracts;
- setting up a Misconduct Risk Management Team within the Internal Audit Office;
- establishing a Trade Partner Vetting Department and an Internal Control Office within the LOTOS Group;
- requiring all LOTOS Group companies to screen their trading partners in accordance with a relevant procedure;
- delivering training on misconduct prevention at the LOTOS Group.

Misconduct prevention measures include the obligation for all Group companies to vet their trade partners in accordance with the procedure and to ensure compliance with the Misconduct Prevention Policy.

All the LOTOS Group companies were assessed for the risk of corruption in 2019.

Compliance

The LOTOS Group's Corporate Governance is a set of ethical standards and best practices followed by the Group in its operations. These standards help ensure a balance between the interests of all parties involved in the operation of the Group companies. They build the Group's value and strengthen its credibility in the eyes of shareholders, thus enhancing the Group's competitiveness on the market.

The objectives of corporate governance at the LOTOS Group are as follows:

- ensuring transparency of the LOTOS Group's operations as a listed company;
- increasing trust in relations with stakeholders;
- increasing openness and accessibility for investors;
- consistent shareholder value creation.

Grupa LOTOS S.A. reports all breaches of corporate governance principles, both incidental and long-term ones. Such information is published similarly to current reports, in two languages, on the Company's Investor Relations website.

Due diligence procedures

At the LOTOS Group, (depending on the scope of a given company's operations and needs) the following due diligence procedures are applied that are consistent with applicable standards, under certified management systems:

- Quality management, according to the PN–EN ISO 9001:2015 standard 'Quality management systems – Requirements'
- Environmental management, according to the PN–EN ISO 14001:2015 standard 'Environmental management systems – Requirements and guidelines for use'
- Health and safety management system, according to the PN–N–18001:2004 standard 'Health and safety at work management systems – Requirements'.

Other management systems or their components implemented at the LOTOS Group but not certified:

- Energy Management System (ISO 50001)
- Information Security Management System (ISO 27001)
- Internal Control System
- AQAP – NATO quality assurance requirements (AQAP 2110)
- Risk Management System (ISO 31000).

12.3 The environment

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The scale of the LOTOS Group's operations places great responsibility on the Group for its impact on the environment and local communities living in the vicinity of our refinery and plants. In order to properly manage this impact and mitigate related risks, the organisation has developed a set of environmental responsibility principles to be followed in its day-to-day operations.

The principles of 'environmental responsibility':

- minimising the Group's environmental impacts. In addition to fulfilling applicable legal requirements, the Group takes proactive measures in managing environmental issues;

- environmental protection approach extended to include trade and business partners. The Group takes responsibility for the environmental impact of the companies it works with. It only partners with entities that hold appropriate environmental permits and operate in compliance with the legal requirements on waste management and storage of hazardous substances;
- Compliance with environmental protection requirements in every aspect of operations, starting from the day-to-day operation of our production units and applying the most environment-friendly technological solutions to rational use of natural resources. Preventing pollution already on the plant premises by complying with the most stringent environmental standards.

Another important aspect of our pro-environmental initiatives is raising the environmental awareness of our employees. Through internal communication and training, employees are familiarised with environmental protection issues and their relevance in the context of the LOTOS Group's local and global operations. The idea behind such initiatives is also to encourage employees to apply their newly gained knowledge and environmental practice in private lives.

Environmental management areas

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Sustainable development is consistent with the LOTOS Group's strategy and mitigating its environmental impact is the Group's constant objective. The organisation strives to deliberately manage environmental issues by reducing the consumption of energy, raw materials and feedstocks, controlling and reducing gas emissions and wastewater generation, generating less waste and promoting biodiversity. As the LOTOS Group's operations affect various components of the ecosystem, the organisation monitors and analyses its environmental impact on an ongoing basis.

With every passing year, the Group has been increasingly effective in controlling air emissions, and in the Exploration & Production segment – in improving waste generation, water and wastewater management. Given its environmental aspect, energy management is equally important. The Group analyses energy consumption at each stage of the value chain and monitors the technical condition of its equipment, identifying and eliminating sources of energy losses. All these aspects are also considered when working on new investment projects.

The LOTOS Group takes care of its impact on local communities. It sealed some sections of its wastewater treatment plant in Gdańsk to reduce odour nuisance, developed a treated wastewater and steam condensate recirculation unit and a recovery system to convert released gases into fuel (instead of flaring them), none of which was required by any legal regulations. During the refinery upgrade, neighbouring towns and villages were connected to the gas distribution network.

In 2019, no fines or non-financial penalties were imposed on the LOTOS Group for non-compliance with any environmental laws or regulations.

12.3.1 Environmental risks

For environmental risks, see *Risk management* in Section 12.2.

12.3.2 Climate change

The LOTOS Group is a dynamically growing business which carries out research on new, more eco-friendly energy solutions.

The Group focuses on natural gas, whose low emission intensity makes it a widely used fuel at its plants. At the CHP plant it replaced fuel oil, becoming the main fuel in steam generation. It is also the main component of fuel gas at the refinery. Natural gas is used as feedstock for hydrogen generation (previous, LPG and naphtha were used to produce hydrogen, both more emission intensive than natural gas). Thanks to these changes, the Group is able to maintain carbon dioxide emissions at a stable, relatively low level.

Physical and transformation risks related to climate change

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The LOTOS Group is a listed company. Therefore, it maintains a compliance system ("Compliance System") which covers all its organisational units and subsidiaries. The Compliance System prevents and mitigates legal risks by ensuring compliance of the business with legal requirements.

The LOTOS Group analyses the potential impact of climate change megatrends by identifying opportunities and threats to its operations and growth prospects.

The key risks for the LOTOS Group arising from climate change are the regulatory risks related to meeting the required levels for the National Indicative Target (NIT) and the National Reduction Target (NRT) in 2020 (8.5% for NIT and 6% for NRT).

Ensuring that fuels for internal combustion engines contain the proper amount of biocomponents (achievement of the NIT) is extremely difficult and entails very high costs for the entire industry considering technological capabilities (fuel quality requirements) and market capabilities (limited market of suppliers).

A failure to meet the required NIT level may result in significant fines. This is why the LOTOS Group and other key industry representatives have entered into legislative dialogue with the Ministry of State Assets concerning the feasibility of meeting the legal requirements.

Similarly, meeting the National Reduction Target (reduction of life cycle greenhouse gas emissions) under the current regulatory regime is hindered by the necessity to incur high costs and, as in the case of the NIT, by a limited market of emission reduction mechanisms. The LOTOS Group analyses and uses all means of effectively reducing emissions and conducts a dialogue with the regulatory body on how to achieve the required NRT level.

Apart from the identified and addressed threats, the LOTOS Group also sees opportunities in climate change and macroeconomic trends, and is pursuing an growing number of projects consistent with the megatrends.

One such project is active entry into the electromobility market. Under the ongoing Blue Trail project, the first 12 electric vehicle charging points have been launched at LOTOS service stations on the route between the Tricity and Warsaw. More charging points are planned at express roads and motorways in the coming years. By the end of Q1 2020, a total of 38 new EV charging points are to be launched.

The year 2020 has seen further environmental restrictions come into force. The International Maritime Organisation (IMO) has introduced a new global limit on sulphur content in marine fuels, changing the current 3.5% to 0.5% m/m. Therefore, LOTOS has embarked on a project to increase the share of low-emission fuels through the use of LNG as marine fuel. Another response of the Group to the new regulations is the EFRA Project, which will help address the problem of heavy residue from crude oil processing. Heavy residue is currently being used for the production of asphalt, an important component in road construction, as well as high-sulfur heavy fuel oil, used primarily as marine fuel. It is a product with a negative margin, i.e., its price is lower than that of crude oil, while also being environmentally unfriendly. EFRA will make it possible to sell approximately 1.1m tonnes of excellent quality fuels, mainly diesel oil, produced from the heavy residue.

As part of its strategy, the LOTOS Group seeks to become a leader in new generation fuels. In order to implement these plans, in March 2019 the Group's representatives signed documents to launch joint research and development activity with the Gdańsk University of Technology (in 2018 similar documents were signed with the Warsaw University of Technology). The cooperation is to involve the development of prototypes of selected low-carbon transport and energy storage equipment.

Grupa LOTOS also actively engages in promoting the use of hydrogen. On its initiative, the Hydrogen Technologies and Clean Energy Technologies Cluster was established, with a mission to initiate efforts aimed at increasing the role of hydrogen technologies.

Grupa LOTOS intends to use its potential and experience in hydrogen generation and to promote hydrogen as a zero-emission fuel of the future. Our Pure H2 project involves the construction and launch of infrastructure for production and sales of ultra-high purity hydrogen (99.999%). The project also focuses on the use of hydrogen in other industries, such as energy, food, IT, etc.

In November 2019, Grupa LOTOS and Toyota Motor Poland signed a letter of intent to intensify work on development of technologies for the use of hydrogen in road transport. The cooperation is aimed at building hydrogen refuelling stations in Poland. Thanks to this, the hydrogen transport technology can have a real and practical application in Poland, with tangible benefits for motorists. The use of hydrogen as an alternative source of energy will contribute to tackling air pollution caused by emissions of exhaust gases from conventional vehicles, especially in urban areas.

Climate policy

The Company is considering the formulation of a sustainable development strategy for the LOTOS Group that would cover the increasingly pressing, especially for the fuel and energy industry, climate aspects. So far in its operations, the Group has focused on continuous improvement of energy efficiency. Thanks to these measures, and (primarily) following the introduction of natural gas at the refinery, the emission benchmark, i.e. CO_2/CWT, of Grupa LOTOS is on a par with 10% of Europe's best refineries.

Grupa LOTOS is also engaged in studies into implementation of various technologies related to renewable energy sources (RES). The Company is predominantly oriented toward projects that would support the National Indicative Target. It also deploys RES-based solutions at its service stations. In 2019, the service station at Łopuszańska street in Warsaw was reopened after upgrade. It is used for piloting various technological novelties, from store concepts, to electric vehicle charging stations and RES. Photovoltaic panels have been installed on the station building and roofing, which may produce an instantaneous power of approximately 17 kW in summer, helping achieve energy savings. Another element with environmental benefits is a hybrid lighting system powered by solar and wind energy. Finally, a rainwater recovery system is in place at the station, to reduce the consumption of utility water.

Conceptual work is also ongoing at Grupa LOTOS to produce hydrogen in the natural gas steam reforming process, but also to generate it from renewable resources. One option is to use biogas, which after purification produces biomethane with a composition close to natural gas. Biohydrogen obtained from biomethane (green hydrogen) could be used in the future as an independent hydrogen fuel or – embedded in liquid fuel molecules – as a component of traditional fuels. The project offers great potential with respect to achieving the EU's targets for the use of advanced

biofuel components/biofuels in Poland, because the feedstock would mainly be gas produced at biogas plants from agricultural or municipal waste. If the project is successful, Grupa LOTOS's annual demand for biomethane could reach up to 200 mcm, which would also provide a considerable boost to biogas plants in Poland, as they would gain a large, reliable customer buying biomethane all year round.

Projects to produce biohydrogen through electrolysis (blue hydrogen) using RES (power to gas) are also being discussed.

Management approach to climate change

The Grupa LOTOS Management Board is overseeing analytical work related to climate change issues. Both the Management and Supervisory Boards are involved in the operation of the risk management system, which is designed to identify and mitigate all risks relevant to the LOTOS Group's operations, including climate change risks and opportunities.

Greenhouse gas emissions

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Direct greenhouse gas emissions from the LOTOS Group's industrial units (including those not covered by the emissions trading scheme) are determined based on the methodology set out in Commission Implementing Regulation (EU) 2018/2066 of December 19th 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. The amount of fuel combusted or source stream processed is multiplied by relevant factors (net calorific value, emission factor or oxidation factor), resulting in total greenhouse gas emissions.

Indirect emissions are determined based on the amount of electricity and heat purchased outside the Group, multiplied by relevant emission factors published periodically by the National Centre for Emissions Balancing and Management (KOBiZE)

Table 33. Direct GHG emissions at the LOTOS Group (Scope 1)

[Mg CO_2e]	2017	2018	2019
Emissions associated with electricity generation	64,780	27,738	78,314
Emissions associated with heat generation	1,173,839	1,319,241	1,336,365
Emissions from cooling and steam generation systems	0	0	0.0
Emissions from physical and chemical processing	585,486	609,878	613,291
Hydrofluorocarbons (HFC) emissions	0	0	0.3
Emissions related to transport of materials, products and waste	0	0	0.0
Total direct greenhouse gas emissions	1,824,105	1,956,857	2,027,970

Table 34. Main processes responsible for direct GHG emissions at the LOTOS Group

[Mg CO_2e]	2017	2018	2019
Heat and electricity generation	337,748	355,265	351,531
Refining	1,481,571	1,631,027	1,639,214
Gas flaring at rigs	50,540	45,550	52,098
Total direct greenhouse gas emissions	1,869,859	2,031,843	2,042,844

* For Grupa LOTOS, Energobaltic, LOTOS Asfalt, RCEkoenergia, LOTOS Petrobaltic.

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Table 35. Indirect GHG emissions at the LOTOS Group (Scope 2)

	2017	2018	2019
Electricity purchased outside the Group [MWh]	672,320	704,780	716,127
Thermal energy purchased outside the Group [GJ]	9,446	6,248	5,225
Emissions from electricity purchased for the organisation's needs [Mg CO_2e]	541,945	547,681	553,566
Emissions from steam and cooling energy purchased for the organisation's needs [Mg CO_2e]	1,087	719	601
Total indirect greenhouse gas emissions	543,032	548,401	554,167

Table 36. Indirect GHG emissions at Grupa LOTOS (Scope 2)

[MG CO_2e]	2017	2018	2019
Electricity purchased outside the Company [MWh]	501,513	540,740	549,689
Thermal energy purchased outside the Company [GJ]	0	0	0
Emissions from electricity purchased for the organisation's needs [Mg CO_2e]	404,261	420,696	424,910
Emissions from steam and cooling energy purchased for the organisation's needs [Mg CO2e]	0	0	0
Total indirect greenhouse gas emissions	404,261	420,696	424,910

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Table 37. Emission intensity

	Unit	2018	2019
Grupa LOTOS			
Greenhouse gas emissions (Scopes 1+2) per tonne of crude oil processed	Mg CO_2e/Mg	0,214	0,205
Greenhouse gas emissions (Scopes 1+2) according to CWT methodology	kg CO_2e /CWT	26.8	26.8

Energy production and consumption

Energy production and consumption data is monitored only at the consolidated level, for the entire LOTOS Group.

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Table 38. Energy consumption within the organisation

MWh	2017	2018	2019	Yoy change
Non-renewable fuels	24,023,443	26,731,214	30,962,620	+15.8%
Renewable fuels	0	0	0	-
Energy purchased	1,769,883	1,965,492	2,084,941	+6.1%
Energy sold	163,544	209,541	408,613	+95.0%
Total	25,956,870	28,906,273	33,456,174	+15.7%

Table 39. Non-renewable sources

MWh	2018	2019	Yoy change
coal	341,186	327,272	-4.1%
natural gas	10,421,045	12,956,480	+24.3%
gasoil	419,281	424,339	+1.2%
fuel gas	11,944,740	12,363,429	+3.5%
tail, special, reservoir gas	3,530,341	4,309,791	+22.1%
heavy fuel oil	0	44,848	-
light fuel oil	49,539	495,385	+900.0%
marine oil	0	0	-
LPG	25,110	41,075	+63.6%
Total	26,731,242	30,962,619	+15.8%

Table 40. Energy purchased from other entities

MWh	2018	2019	Yoy change
electricity	1,930,924	2,022,341	+4.7%
thermal energy (including steam and cooling)	3,457	62,599	+1,710.8%
Total	1,934,381	2,084,941	+7.8%

Table 41. Energy sold to other entities

MWh	2018	2019	Yoy change
electricity	72,667	53,165	-26.8%
steam	77,044	228,855	+197.0%
heat (in water)	59,830	126,593	+111.6%
cooling	0	0	-
Total	209,540	408,613	+95.0%

Table 42. Energy intensity ratios

	Unit	2018	2019
Grupa LOTOS			
Primary energy consumption per tonne of crude oil processed	MJ/t	2,751	2,935
Primary energy consumption per tonne of product	MJ/t	3,830	4,044

12.3.3 Raw materials

Feedstock consumption is monitored only at the consolidated level, for the entire LOTOS Group.

Table 43. Feedstock used in production processes
Crude oil

[Mg]	2018	2019	Yoy change
REBCO	7,532,950	8,364,817	+11.0%
Oil from LPB offshore licence areas	201,434	191,405	-4.98%
Oil from PGNiG	275,752	215,469	-21.86%
LITHUANIAN crude	41,531	47,193	+13.63%
Other	1,574,408	1,853,550	+17.73%
Total	9,626,075	10,672,434	+10.9%

Table 44. Other feedstock used in refining operations

[Mg]	2018	2019	Yoy change
Demineralised water	332,046	270,869	-18.4%
FAME (fatty acid methyl ester)	256,559	280,094	+9.2%
gasoil	328,371	161,541	-50.8%
ETBE (ethyl tert-butyl ether)	11,536	11,355	-1.6%
ethanol	62,284	69,973	+12.3%
MTBE (methyl tert-butyl ether)	47,595	49,465	+3.9%
natural gas	425,928	368,168	-13.6%
additives	2,801	2,809	+0.3%
other	3,859	152,476	+3851.0%
Total	1,470,979	1,366,750	-7.1%

Table 45. Raw materials and feedstock used within the refinery

[Mg]	2018	2019	Yoy change
fuel gas	349,190	346,055	-0.9%
tail gas	481,433	381,669	-20.7%
fuel oil	951	10,794	1,035.0%
other	105,742	110,137	4.2%
Total	937,316	848,655	-9.5%

Consumption of final products

Table 46. Final products

[Mg]	2018	2019	Yoy change
gasolines (including reformates)	1,633,487	1,659,677	1.6%
kerosene	537,766	474,031	-11.9%
xylene	90,943	89,694	-1.4%
diesel oil	5,379,741	5,537,200	2.9%
gasoil	243,982	225,486	-7.6%
fuel oil	1,333,262	1,038,047	-22.1%
MGO fuel	78,636	69,087	-12.1%
Jet fuel	568,330	446,913	-21.4%
Bitumen components	773,448	775,676	0.3%
LPG	185,755	198,214	6.7%

base oils	255,612	252,385	-1.3%
slack waxes	50,079	46,732	-6.7%
Plasticisers	29,297	29,872	2.0%
sulfur	89,852	88,351	-1.7%
other, including: 2,509 tonnes of fuel gas sold to LOTOS Asfalt	32,185	252,064	683.2%
Total	11,282,376	11,183,428	-0.9%

12.3.4 Waste

Table 47. Hazardous and non-hazardous waste by disposal method

[Mg]	Hazardous waste		Non-hazardous waste	
	2018	2019	2018	2019
Reuse	0.0	**0.00**	0.0	**40.3**
Recycling (including organic recycling, e.g. composting)	921.3	**1,078.0**	1,274.5	**271.9**
Recovery (including energy recovery)	5,296.40	**4,329.0**	8,461.3	**9,236.8**
Incineration (or use as fuel)	1,255.2	**778.5**	8.3	**18.1**
Landfilling	0.0	**0.0**	109.4	**91.8**
Discharge to deep wells	0.0	**0.0**	0.0	**0.0**
On-site storage	0.0	**0.0**	0.0	**0.0**
Other	594.0	**178.2**	729.8	**649.6**
Total	8,066.9	**6,363.7**	10,583.3	**10,308.5**

12.3.5 Water and effluents

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Data on water use and effluents discharged is monitored at the consolidated level, i.e. for the entire LOTOS Group.

Table 48. Water withdrawal and use

m3	2017	2018	2019
Withdrawal of surface water (own intake points)	5,998,534	5,840,945	5,415,026
Withdrawal of groundwater (own intake points)	362,643	360,579	357,930
Ground and utilised rainwater	0	0	0
Water purchased from mains and local suppliers	378,981	417,441	407,910
Treated wastewater from other organisations	464	54,158	0
Total	6,740,622	6,673,123	6,180,866
Percentage of water reused or recycled (proportion of water reused or recycled to water withdrawn by the organisation)	25.6%	27.1%	n/a

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Table 49. Effluents by destination

m3	2018	2019
To groundwater	2,692	**0**
To surface water (lakes, rivers, etc.)	6,693,281	**7,361,691**
To public utilities outside the Group	320,655	**366,397**
Total	7,016,628	**7,728,088**

Table 50. Wastewater treated by the organisation, by treatment method

m3	2018	2019
Treated by the organisation	6,656,908	**7,447,200**
Treated by wastewater treatment plant	52,746	**3,886**
Total	6,653,119	**7,451,086**

12.3.6 Other air emissions (other than greenhouse gases)

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Data on other air emissions is monitored at the consolidated level, i.e. for the entire LOTOS Group.

Table 51. Other air emissions

Mg	2017	2018	2019
NO_x	936.3	981.1	**1,032.4**
SO_x	483.8	605.3	**865.2**
Persistent organic pollutants (POP)	0.0	0.0	**0.0**
Volatile organic compounds (VOC)	179.0	195.2	**125.4**
Hazardous air pollutants (HAP)	0.0	0.0	**0.0**
Particulate matter (PM)	90.5	79.4	**39.2**
Other standard air emission categories	342.3	357.1	**350.5**

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In 2019, emissions of ozone-depleting substances (ODS, HCFC) at the LOTOS Group reached 292.8 kg (excluding Geonafta and LUPS Groups) (2018: 333.7 kg).

12.3.7 Biodiversity

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In the vicinity of the Grupa LOTOS refinery, there is the 'Ptasi Raj' nature reserve, a Natura 2000 site 'Ostoja w Ujściu Wisły' (PLH220044). The refinery takes up an area of 235ha, while the area of the reserve is 1,015ha. The largest group of birds living in the reserve are various species of ducks (dabblers and divers), swans and greater white-fronted geese. The area is primarily a habitat for various species of seagulls, terns and wading birds (e.g. non-breeding dunlin), as well as cormorants, ducks, geese and swans. The Eurasian oystercatcher and plovers also nest in the reserve.

The licence areas held by LOTOS Petrobaltic, a specialised E&P operator, are located outside the Baltic Protected Areas and thus do not affect the Baltic Sea's biodiversity levels. One of the key tasks we face in our operations on the Baltic Sea is to deploy the best environmental solutions, with a view to fully preserving the region's biodiversity. LOTOS Petrobaltic is seeking to fully implement the already initiated measures under the Baltic Sea Action Plan, including the 'zero discharge' requirement for offshore platforms.

12.4 Employees

People have always been at the centre of LOTOS's business. Our stakeholders play a part in how we generate not only economic, but also social and environmental value. In decision making, we always take into account their benefit and seek to build good and lasting relations with them.

Our relations within the organisation, as well as relations with trade partners and customers are marked by particular care for safety and respect for dignity. This applies both to persons who represent LOTOS on everyday basis and those with whom our company interacts in its operations and communication activities.

We engage in a dialogue with both our social and market stakeholders. The form and frequency of the dialogue vary depending on the stakeholder group. We aspire to improve the quality of our relations and ensure mutual benefits. Our key efforts in this area include:

- regular surveys to gauge the level of satisfaction among our customers and trade partners;
- regular exchange of information with capital market participants through our Investor Relations site and road shows;
- maintaining contact with regulatory, inspection/audit and monitoring bodies on an as-needed basis;
- dialogue with employees during day-to-day work and through trade unions, and regular job satisfaction surveys.

12.4.1 Employee risks

For a discussion of employee risks, see *Risk management* in Section 12.2.

12.4.2 HR policy

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Employees are the pillar of the LOTOS Group. It firmly believes that highly qualified, motivated and committed employees are essential for the entire organisation, improving its efficiency and giving it a competitive advantage on the market. To attract the best candidates and retain existing staff, a HR policy has been formulated to govern various aspects of the recruitment and employee management processes.

Our new employees are included in the 'Good start for beginners' onboarding programme, helping them to learn about the Group's values and organisational culture under the supervision of experienced colleagues. The purpose is to facilitate their entry into the new work environment and integration with the team, as well as to reduce the stress involved in starting a new job.

The LOTOS Group employees are provided with a wide range of medical services. The Group takes care to protect their health and ensure safe and ergonomic conditions for their daily work.

High standards are also of paramount importance at the recruitment stage – transparent rules allow the Group to attract the best candidates (the LOTOS Group is a member of the Coalition for Friendly Recruitment).

Easy access to training and promotion opportunities, the possibility of reconciling professional duties with private and family life, as confirmed by the Top-Quality Human Resources Certificate issued by the Polish Human Resources Management Association (PSZK), as well as internal standards of protection against workplace bullying and discrimination increase loyalty towards the company, reduce staff turnover and minimise the risk of loss of valuable employees.

For years now, the LOTOS Group has been building an organisational culture that promotes innovation. Our employees have the opportunity to take part in the 'LOTOS Inspires' Innovation Support Programme, as part of which the 'Turn an Idea into Reality' competition is held allowing all employees to share their innovative ideas on how to enhance work efficiency. The purpose of the Programme is to develop products and services and to discover new business and organisational models.

12.4.3 Workforce structure

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Table 52. Workforce structure by various criteria

	2018		2019		Yoy change	
	Number	Percentage	Number	Percentage	Number	Percentage point
Grupa LOTOS						
By gender						
Women	485	32.1%	527	32.2%	8.7%	0.1%
Men	1,028	67.9%	1,112	67.8%	8.2%	-0.1%
By age						
Under 30 years	143	9.5%	198	12.1%	38.5%	2.6%
Between 30 and 50 years	977	64.6%	1,079	65.8%	10.4%	1.2%
Over 50 years	393	26.0%	362	22.1%	-7.9%	-3.9%
By job type						
Blue-collar jobs	495	32.7%	522	31.8%	5.5%	-0.9%
White-collar jobs	1,018	67.3%	1,117	68.2%	9.7%	0.9%
Total	1,513		1,639		8.3%	

LOTOS Group						
By gender						
Women	1,154	22.9%	1,230	22.9%	6.6%	0%
Men	3,891	77.1%	4,138	77.1%	6.4%	0%
By age						
Under 30 years	426	8.5%	616	11.5%	44.6%	3.0%
Between 30 and 50 years	2,999	59.4%	3,218	59.9%	7.3%	0.5%
Over 50 years	1,620	32.1%	1,534	28.6%	-5.31%	-3.5%
By job type						
Blue-collar jobs	2,380	47.2%	2,539	47.2%	6.7%	0.0%
White-collar jobs	2,665	52.8%	2,892	52.8%	8.5%	0.0%
Total	5,045		5,431		6.4%	

/401-1/

Table 53. New hires and departures

	2018	2019	Yoy change
New hires			
Grupa LOTOS	188	**246**	30.9%
LOTOS Group	686	**756**	10.2%
Departures			
Grupa LOTOS	115	**124**	7.8%
LOTOS Group	513	**466**	-9.2%

12.4.4 Occupational health and safety

/403-1/403-2/ /403-7/403-8/

Staff safety is a key priority for the LOTOS Group. For this reason, safety at work and health protection take precedence in the Group's business. Its key principle states that 'no job is too important or urgent that it cannot be done safely.' The Group attaches particular importance to maintaining high safety standards, minimising potential risks, and raising employee awareness of safe working culture.

To improve safety at work, we have formulated a set of golden OHS rules to be followed by the LOTOS Group employees, based on applicable laws and internal regulations. The rules were defined following an analysis of risks and hazards which occurred over the last decade. They aim to reduce the risk of accidents and incidents posing threat to employees' lives and health, set high occupational safety standards, and foster the right behaviour among employees.

In 2019, an OHS training entitled 'Know the golden rules of occupational safety for a LOTOS Group employee' was launched on the e-learning platform. It seeks to ensure that the Group employees are familiar with the main rules of occupational safety, which were formulated based, among other things, on analyses of accidents at work and hazardous situations recorded at the organisation over the last decade.

Golden rules of occupational safety for a LOTOS Group employee

GOLDEN RULES OF SAFETY FOR A LOTOS GROUP EMPLOYEE			
I work safely.	I react to threats.	I move around safely.	I drive carefully.
I keep things clean and tidy.	I apply protective equipment.	I only use tools which are in good repair.	I care for my health.

Source: Company

All Group employees regularly take part in training and educational campaigns which highlight potential risks at the workplace.

The key ones include:

- stress management training;
- initiatives aimed at promoting or ensuring:
  - healthy eating habits;
  - quitting smoking;
  - safety when handling heavy objects;
  - physical exercise and activity, office ergonomics;
  - organisation of work at the workstation;
  - safe use of chemicals;
  - noise protection.

/403-4/ /403-5/ /403-6/

In order to better familiarise the employees with occupational safety issues, each year 'OHS Days' are organised at the LOTOS Group refinery in Gdańsk. During the event, which has been held ten times, employees receive free medical examinations and consultations, attend healthcare workshops and participate in OHS competitions. The LOTOS Group is also regularly involved in a cycling campaign, encouraging its employees to increase their physical activity. In 2019, in addition to covering kilometres in running and cycling events organised for Gdańsk, the Group got engaged in a cycling campaign where it competed with other companies.

Over the previous year, we carried out a number of additional initiatives aimed at improving occupational safety and educating our employees in OHS matters. In 2019, we recapped the third edition of the 'I work safely – Grupa LOTOS' project, which brought a record-high number of ideas to improve work safety at the refinery. The project is addressed to employees of the LOTOS Group and contractor companies performing work for the refinery.

In 2019, a new project was launched to visualise occupational safety, covering information and motivation signs, infographics and floor markings at the entry gates, entrances, reception zones, staircases and indoor walls. The first stage involved the marking of staircases, location of manual fire-fighting equipment and AED defibrillators.

Other activities included:

- OHS reviews conducted by the management;
- tests of new protective clothing made of materials providing greater comfort than those currently in use (in terms of flexibility, summer thermal properties and style). The test results will be used to analyse whether it is reasonable to replace the currently used clothing with new, more comfortable and offering better protective features;
- e-learning OHS training for contractors, in five languages;
- 'Minute for Safety' – an initiative consisting in starting various meetings/training/briefings with the organiser; discussion of an OHS issue.

/403-9/

In 2019, 32 accidents took place at the LOTOS Group (of which 12 at Grupa LOTOS). All were classified as minor. Most of the accidents were related to transport (moving on foot, driving vehicles) or to the operation, repair and maintenance of machinery and equipment.

/403-10/

In 2019, there were no new reports of work-related ill health among Grupa LOTOS S.A.'s employees. Last year, a procedure initiated in 2017 by an employee's work-related ill health report was continued.

12.4.5 Diversity management

The LOTOS Group values diversity – it is an integral part of both our business activities as well as HR policy and employee promotion. Particular focus is placed on equal treatment irrespective of gender, age, disability, health, race, nationality, ethnic origin, religion, religious denomination, irreligiousness, political beliefs, trade union membership, gender identity, family status, lifestyle etc. Our diversity policy allows us to maximise employees' potential, making the best use of their experience and skills.

At the LOTOS Group we appreciate experience that comes with age, which is why employees aged 50 or more provide support to new hires as part of induction processes (shadowing and mentoring meetings), such relationships bringing numerous advantages and benefits to both parties.

Initiatives addressed to the disabled included those operated under the LOTOS Group Employee Volunteering Programme:

- 'Despite Everything' is a project to upgrade the premises of the Occupational Therapy Workshop of the Polish Association for Persons with Intellectual Disabilities;
- 'Closer to Culture' consists in arranging visits to the theatre for individuals with disabilities;
- 'Double LOTOS of Good' consists in arranging workshops and musical concerts involving people with disabilities;
- 'Different Yet the Same' consists in arranging educational workshops in schools and an inclusion event for children with the Down syndrome.

/406-1/

No suspected discrimination reports were received by the Ethics Officer in 2019.

12.4.6 Human rights in relations with employees

At the LOTOS Group, great importance is attached to ensuring that human rights are respected in relations between employers and employees. Our core corporate values are enshrined in the LOTOS Group Code of Ethics. In early 2019, the Grupa LOTOS Management Board resolved to strengthen protections for employee rights by adopting the Workplace Bullying, Harassment and Discrimination Prevention Policy, which contains provisions on how to identify unacceptable practices as well as mechanisms to be applied in case of misconduct that threatens values such as human dignity, social norms and mutual respect.

The Workplace Bullying, Harassment and Discrimination Prevention Policy requires that misconduct be reported to the Ethics Officer through one of the available communication channels specified in Section 12.2.7. The Company also plans to launch a training programme on identifying behaviours that may be indicative of bullying, harassment or discrimination.

12.4.7 Remuneration and employee benefits

/102-35/401-2/

The Company has a remuneration policy in place where:

- employees are paid according to the job type as well as the qualifications and competencies required to perform it;
- differentiating individual remuneration according to the level of output,
- achievement of the assumed objectives and targets,
- rewarding employees for outstanding professional achievements, generating considerable, unexpected added value for the Company.

In addition to the base pay, consistent with the assigned pay grade, a staff member is entitled to additional remuneration calculated and paid in accordance with the generally applicable labour law, i.e. for overtime and night work.

Employees may receive an individual annual bonus in accordance with the rules laid down in the Collective Bargaining Agreement and a special bonus for outstanding professional achievements. Once a year, a periodic payroll review is undertaken.

At the same time, Grupa LOTOS S.A. takes care of the professional development of its employees, offering individual training plans and providing talent with promotion and career paths.

Benefits available to employees include:

- medical and dental care plans and paid medical plans for members of their immediate family;
- unit-linked group life insurance with the premium paid by Grupa LOTOS for all employees (PLN 250);
- LOTOS Academy, training, development programmes, knowledge sharing culture, assistance with the cost of studies and language courses;
- option to purchase MultiSport and OK System cards, and price discounts at LOTOS service stations;

- company sports teams (volleyball, sailing, tennis, football, bowling and chess teams and LOTOS Running Team).

We periodically review our remuneration system based on pay reports from leading consultancies and Statistics Poland data. The job valuation exercise completed in 2019 allowed the Company to establish a new employee pay grade system. Covering all positions at the Company from senior management to operational roles, its findings were used to validate and develop a new pay scale. Since December 11th 2019, Grupa LOTOS S.A. has been bound by an updated Collective Bargaining Agreement.

/201-3/

Grupa LOTOS employees can accumulate additional pension savings from employer-funded contributions through a unit-linked group life insurance. The Company also provides an attractive package of social benefits, medical care and financial assistance to cover a part of holiday expenses for employees and their children. In 2019, Grupa LOTOS had also selected a financial institution with which agreements were concluded on the management and operation of Employee Capital Plans (PPK).

/102-38/102-39/

The ratio of the annual total remuneration of the LOTOS Group's highest-paid individual to the median annual total remuneration of all employees in 2019 was 7.6, down 5.5% year on year.

12.4.8 Development and education

/404-2/

Our training policy provides each employee with the opportunity to raise their competencies and consolidate their strengths. It helps to discover talent within the organisation and support experts. Well-selected training improves the LOTOS Group employees' satisfaction and engagement.

We run satisfaction surveys to best suit training subjects to the needs of our employees. Training programmes take into account each individual's and organisational unit's development plans, as well as the Group's development needs.

Our employees' achievements are summarised and discussed using the Periodic Employee Evaluation System (PEES).

In 2004, we launched LOTOS Academy, our training and development programme.

Leader of the Future Programme
Master Programme
LOTOS Group Succession Programme
Managers Academy
Management Skills Development Programme for Technical Personnel

Source: Company

/404-1/

Table 54. Average number of training hours per employee

	2018		2019		Yoy change	
	Number of training hours	Training hours per employee	Number of training hours	Training hours per employee	Number of training hours	Training hours per employee
Grupa LOTOS						
By gender						
Women	12,881	26.6	11,967	22.7	-7.10%	-14.66%
Men	24,663	24.0	27,589	24.8	+11.86%	+3.33%
Total	37,514	24.8	39,556	24.1	+5.44%	-2.82%
By job type						
Management	9,349	31.8	10,742	33.1	+14.90%	+4.09%
Other employees	28,165	23.1	28,814	21.9	+2.30%	-5.19%
Total	37,514	24.8	39,556	24.1	+5.44%	-2.82%
LOTOS Group						
By gender						
Women	25,085	21.7	25,817	21.0	+2.9%	-3.4%
Men	79,911	20.5	88,576	21.4	+10.8%	+4.2%
Total	104,996	20.8	114,393	21.3	+8.9%	+2.4%
By job type*						
Management	22,055	22.6	24,808	23.8	+12.5%	+5.3%
Other employees	82,910	20.6	89,105	20.8	+7.5%	+1.1%
Total	104,965	21.0	113,913	21.4	+8.5%	+2.0%

* AB LOTOS Geonafta data is not included.
Source: Company

/404-3/

The PEES is a valuable source of information on performance against professional and development goals, competency levels and training needs across the organisation.

Indicators used to measure the effectiveness of development initiatives at the Group:

- average rating of key competencies: 5.1
- average rating of managerial competencies: 5.0
- average rating of functional competencies: 5.1
- performance against development goals: 93.3%
- performance against professional goals: 98.2%

Rating scale:

- 1–3: significantly fails to meet expectations
- 4: partially meets expectations
- 5: fully meets expectations
- 6: exceeds expectations
- 7: significantly exceeds expectations

The average ratings of Grupa LOTOS employees' competencies are satisfactory, ranging between 5 and 5.9, which means that expectations associated with a given competency are fully met. The high performance against development goals, of over 90%, and the types of goals set, point to diversity of development opportunities offered to employees. The development options chosen go beyond the training context, facilitating transfer of competencies to the workplace. Also, the Company's employees are fully competent to perform their duties.

In 2019, 97.8% of all eligible employees of Grupa LOTOS S.A. were covered by the Periodic Employee Evaluation System (PEES).

12.4.9 Relations with trade unions

/102-36/ /102-37/ /102-41/ /402-1/ /407-1/

The Collective Bargaining Agreement covers 97% of the LOTOS Group employees.

At Grupa LOTOS S.A., the terms of remuneration for work and other benefits are set out in the Collective Bargaining Agreement of December 29th 2004. On April 20th 2005, the Agreement was given legal effect after it was registered by the Regional Labour Inspector. Originally, five trade unions were parties to the Agreement. Since December 2014, the number has been four trade unions. These are Branżowy Związek Zawodowy (Industry Trade Union), Międzyzakładowy Związek Zawodowy Obrony Pracowników w Grupie LOTOS S.A. (Inter-plant Workers Defence Trade Union of Grupa LOTOS S.A.), Związek Zawodowy Pracowników Ruchu Ciągłego Grupy LOTOS (Grupa LOTOS Plant Maintenance Workers' Trade Union), and Wolny Związek Zawodowy Pracowników Grupy LOTOS (Free Trade Union of Grupa LOTOS Employees). During its term, the Collective Bargaining Agreement was amended six times, the most recent amendment made as a result of Additional Protocol No. 6 having been agreed and registered. The Protocol came into force on December 11th 2019.

Following negotiations of the Collective Bargaining Agreement, the parties reached an agreement whereby employee benefits significantly exceed those prescribed by labour laws, including the Labour Code. This holds true particularly for retirement gratuity (Clause 18) and jubilee gratuity (Clause 21). Benefits in respect of workplace accidents were set above the levels prescribed by laws of general application. Additional Protocol No. 6 extended the scope of the Collective Bargaining Agreement and substantially amended the rules for awarding individual annual bonuses. New lists of jobs were established under the Protocol, with relevant grades assigned to each of them. The pay gap between management and ordinary employees has narrowed and the remuneration of many employees has risen as a result.

Other amendments made in December 2019 concerned the rules for calculating service periods in respect of work provided to other employers outside the Group, which are included in determining the entitlement to and the amount of jubilee gratuities. Due to their very nature, collective bargaining agreements need to be evaluated for effectiveness and interpreted jointly, which is done through dialogue, serving to implement the principle of employee participation laid down in Art. 182 of the Labour Code.

A dedicated employee at Grupa LOTOS S.A. is responsible for daily communication with trade unions and employee councils, which facilitates early identification of potential disputes. Notwithstanding its obligations under public law, Grupa LOTOS S.A. attaches great importance to consultative participation of employees, particularly trade unions, in managing the employee protection area.

Currently, there are nine trade unions at Grupa LOTOS S.A. and, although only four are parties to the Collective Bargaining Agreement, all of them actively participate in the social dialogue.

12.5 Society

The LOTOS Group considers corporate social responsibility as an element of its management and improvement processes. In the process of building lasting and positive relations with its stakeholders, Grupa LOTOS strives to effectively integrate its strategy and take steps designed to face social and environmental challenges. At Grupa LOTOS and the LOTOS Group, a uniform CSR policy is in place, focusing on goals within the following three areas:

- improving the quality of life (health, road safety, education);
- caring for the environment (ecology and environmental protection);
- advancing innovation.

The LOTOS Group supports social initiatives and projects. Our sponsorship activities focus on sports, culture and art, as well as social and environmental initiatives carried out primarily in the counties and provinces where our plants are located, as well as at places where we run our trading activities, including service stations.

Projects implemented by LOTOS Group companies in 2019:

- 24 sports sponsorship projects;
- 32 cultural sponsorship projects;
- 11 social and environmental sponsorship projects.

Sports sponsorship

In 2019, we carried out 24 sports sponsorship projects in the following areas:

- sponsorship of Poland's national football team (Polish Football Association), ski jumping and cross-country skiing teams (Polish Skiing Association), and sponsorship of Poland's largest cycling event (Tour de Pologne);
- sponsorship of men's and women's national tennis teams, youth team and national tennis championship in all age categories (Polish Tennis Association), and the status of main partner of Hubert Hurkacz, one of the most promising young tennis players in Poland;

- motor rallying – collaboration with the LOTOS Rally Team including Kajetan Kajetanowicz and Maciej Szczepaniak, who were runners-up in the WRC-2 World Rally Championship;
- sponsorship of the Pomeranian Hockey Club and involvement in speedway projects, including Polish Pairs Speedway Championship and TAURON Speedway Euro Championship;
- title sponsor of Poland's largest aviation event LOTOS Gdynia Aerobaltic Airshow;
- regional projects: LOTOS Gdańsk Summer Stadium, St Dominic Run, LOTOS Nord Cup and Bieszczady Mountain Racing;
- physical education of children and youth – we continued our involvement with sports projects with a social agenda, addressed to children and youth, focusing mainly on football ('Football Future with LOTOS') and winter sports ('In Search for the Champion's Successors'). We also extended our partnership with the Academic Sports Union as the Strategic Sponsor of the Academic National Team. In early 2019, the Company also joined the Olympic Rising Stars programme, supporting eight talented athletes in various Olympic disciplines.

Culture sponsorship

Key culture sponsorship initiatives undertaken by the LOTOS Group in 2019 included:

- cooperation on the following projects: LOTOS Siesta Festival, Atelier Theatre, Two Theatres Festival, Ladies Jazz Festival, and Shakespeare Festival;
- strategic partner of the Baltic Opera in Gdańsk;
- main sponsor of the films *Legions* and *Kult – the Movie;*
- events in the south of Poland: Bielska Zadymka Jazzowa LOTOS Jazz Festival, Jasło Days, Czechowice-Dziedzice Days, Autumn Theatre Days, International Festival of Carpathian Folklore, Summer with Jasło County Culture, and the Major Henryk Dobrzański 'Hubal' commemorative show jumping competition;
- other local events sponsored by the Group included Łeba International Kite Festival and Malbork Siege;
- in 2019, the Company was also involved in the Westerplatte Concert, Patriotic Concert, Bards of Freedom Concert and Heroes Gala.

LOTOS Foundation

/413-1/

Since 2015, the LOTOS Foundation has been in charge of the LOTOS Group's charity policy. The Foundation's mission encompasses a wide range of social activities that make a positive contribution to social and natural environment.

The LOTOS Foundation pursues social responsibility causes related to:

- health protection and promotion;
- environmental protection, animal protection, and protection of natural heritage, with particular focus on conservation of the environment and natural values of the Baltic Sea;
- science and education, development of technology and innovation;
- promotion of physical culture and sport, with particular focus on physical development of children and youth;
- culture and arts, including support for initiatives aimed at protecting cultural heritage, with particular focus on cultural initiatives of value to the Baltic Sea region;
- order and safety, with particular focus on public and road traffic safety;
- social welfare, especially fostering equal opportunities among children, youth, people with disabilities and underprivileged, with particular focus on employees of the LOTOS Group and their families;
- charitable activities;
- corporate social responsibility and sustainable development;
- sightseeing and leisure activities for children and youth;
- promotion and organisation of volunteer work;
- social and economic initiatives at local level, including promotion of inter-sector cooperation and development of entrepreneurship;
- preservation of national heritage and tradition, strengthening of national, civic and cultural awareness;
- activities supporting the development of local communities;
- support of rescue services and protection of people;
- assistance to victims of catastrophes, natural disasters, military conflicts and wars in Poland and abroad;
- securing technical facilities, devices and items of historical value connected with the oil and gas industry;
- dissemination and promotion of history of the oil and gas industry;
- creation of information- and experience-sharing platforms for individuals and institutions interested in the protection of apparatus, equipment and documents of the oil and gas industry;
- care for the cultural heritage, support of culture, protection of Poland's historical objects related to the oil and gas industry, especially in the Province of Gdańsk.

In 2019, the LOTOS Foundation received almost 900 requests for donations. Following reviews, 125 projects received funding totalling PLN 8m (around 33% more than in the previous year).

The principal criterion taken into account in the selection of projects was their potential to ensure equal opportunities. The largest share went to sports projects aimed at supporting the physical development of children and youth, such as sports trips, as well as support for sports clubs.

The second largest pool of funds was donated to initiatives promoting culture, arts and national heritage. The remainder was spent on social initiatives, health protection and promotion, science and education.

Financial support for medical treatment of our current and retired employees and their relatives was particularly important to us.

The donations granted in 2019 were consistent with the objectives provided for in LOTOS Foundation's Articles of Association.

12.5.1 Social risks

Social risks are listed in the *Risk management* subsection of Section 12.2.

12.5.2 External stakeholders

Guided by the sense of responsibility for its external impacts, Grupa LOTOS sets store by building strong relationships with society, its neighbours and local communities.

The Company engages in dialogue with its key stakeholders as an important tool for building stakeholder trust. By actively communicating with our social environment, we seek to mitigate risks associated with our day-to-day operations, while actively responding to the needs of our stakeholders. For instance, public consultation is held whenever an important project is to be launched at the refinery.

Particular attention is also given to projects promoting young people's development. Equal opportunities and counteracting social exclusion, particularly among children and youth, have long been in the centre of our attention. We feel responsible for children and young people living near our plants, with the LOTOS Foundation playing the most prominent role in this respect.

Participation in organisations and initiatives

/102-13/

Grupa LOTOS is a member of the following organisations:

- Polish Chamber of Chemical Industry (PIPC)
- Polish Organisation of Oil Industry and Trade (POPiHN)
- Fuels Europe (European Petroleum Refiners Association)
- Windsor Energy Group (WEG)
- Polish Committee of the World Energy Council (PKŚRE)
- ISP 3 Smart Specialisation Board of the Pomerania Region
- Hydrogen and clean carbon technologies cluster
- Polish Association of Stock Exchange Issuers
- Responsible Business Forum (FOB)
- Business & Science Poland (BSP) in Brussels
- Union of Entrepreneurs and Employers (ZPP)
- IAA Poland International Advertising Association
- Polish Association of Quality Management POLISOLAB
- ISO 14000 Polish Forum Club
- ISO 9000 Polish Forum
- Transfer Pricing Centre Association
- Polish HR Management Association (PSZK)
- Polish Liquid Fuels Association (LOTOS Paliwa)
- ATIEL (LOTOS Oil)
- European Lubricating Greases Institute (LOTOS Oil)
- Central East European & Caspian Scout Group (LOTOS Petrobaltic)

- Polish Association of Oil and Gas Industry Engineers and Technicians (LOTOS Petrobaltic)
- Association of Polish Offshore Industry Forum (LOTOS Petrobaltic)
- Norwegian Oil&Gas Association (LOTOS Exploration & Production Norge)
- Polish Asphalt Pavement Association (LOTOS Asfalt)
- National Chamber of Road-Building Industry (LOTOS Asfalt)
- Polish Research Laboratories Club POLLAB (LOTOS Lab)
- Railway Business Forum (LOTOS Kolej)
- Association of Independent Rail Carriers (LOTOS Kolej)
- Polish Chamber of Natural Gas Industry (LOTOS Serwis)
- Association of Polish Firefighters (LOTOS Straż)

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In 2019, Grupa LOTOS participated in the following initiatives:

- European Economic Congress in Katowice
- Polish Chemical Industry Congress
- 29th Economic Forum in Krynica
- European Refining Technology Conference (ERTC)
- National Energy Summit 2019
- Gdańsk Electricity Days
- National Economic Summit
- 9th European Small and Medium Enterprises Congress
- 4th Industrial Forum
- Development Vision Forum
- 30th International Science and Technology Conference Drilling-Oil-Gas AGH 2019
- 61. Welding Science and Technology Conference
- 8th International Scientific Conference on 'Business, Administration, Security': 'Economic and Legal Aspects of Economic Security Management'
- 4th National Scientific Conference on 'Energy Security Pillars and Prospects'
- 'Low Emission Transport Fund – Opportunities for Local Governments, Public Utilities, Mobility Operators and Investors' Conference
- "Energy Security and Regulation' Conference
- 20th Ex Zone Conference
- 'Time for Hydrogen! Clean Energy for Europe' Conference
- Workshop session of the 21st edition of the 'Safety of Industrial Processes' post-graduate programme
- 2nd Polish Conference on Hydrogen Energy and Technologies (PCHET 2019)
- 4th Interdisciplinary Academic Conference on Environmental Protection
- 22nd Gazterm 2019 Conference
- Impact'19
- 2nd Sports Market Congress
- 100th anniversary of the AGH University of Science and Technology
- 'Absolvent Talent Days' Fairs

12.5.3 Relations with local communities

/413-1/

For the LOTOS Group, corporate social responsibility is about making a business success the success of society as a whole. Therefore in our business activities we keep in mind the needs of our local communities and environmental challenges in the areas of our operations.

We believe the LOTOS value needs to be built with due regard paid to the needs and expectations of our external stakeholders. Therefore, we seek to contribute to developing lasting solutions to social and environmental issues relevant to our stakeholders.

Major outreach programmes implemented in 2019:

- Since 2004, Grupa LOTOS and the Polish Ski Association have been running the National Ski Jumping Development Programme 'In Search for the Champion's Successors', which provides support to sports clubs with ski jumping and Nordic combined sections. LOTOS Cup competitions are also organised as part of the programme.
- Under the 'Football Future with LOTOS' programme, young football players and coaches are able to hone their skills at the LG Football Academy and one of the 14 football clubs. Grupa LOTOS sponsors the purchase

of sports equipment, football camps and sports scholarships for the most promising players and for children from disadvantaged backgrounds.

- The 'LOTOS Safety Belt Champions' programme teaches car passengers about safety principles, correct fastening of safety belts, and installation of safety seats for children. Pupils in primary schools of Jasło and Czechowice Dziedzice were also given lessons on safety rules.
- 'Talent from Czechowice-Dziedzice, a Town of Fiery Enthusiasm' is a joint project of Grupa LOTOS and the Czechowice-Dziedzice Municipality targeted at primary school pupils interested in arts and humanities or science. The programme aims to encourage children to enhance their knowledge and develop project thinking.
- Since 2013, Grupa LOTOS has been a patron of the E(x)plory Programme, the largest initiative in Poland to support talented youth in the implementation of innovative research projects and promote their achievements internationally. The project brings together young people, prominent scholars, start-ups and experienced businesses, non-governmental organisations, media, Polish schools and the best universities, large cities and small towns. It seeks primarily to promote science among children and youth.
- Grupa LOTOS has operated the 'Headed for the Baltic' programme since 2009 together with partners: the Gdańsk University Development Foundation and the Hel Marine Station of the University's Institute of Oceanography. It is a set of initiatives to protect biodiversity of the Baltic Sea, including the porpoise, an endangered species also known as the Baltic dolphin. Strong focus is placed on environmental education and on raising the awareness of the presence of plastics and microplastics in the Baltic Sea.
- Projects implemented in Czechowice-Dziedzice, including the 'Inspiring Arboretum', run by youth from Jan Twardowski Public Middle School No. 1, 23rd Environmental March and 28th Independence Run.

Grupa LOTOS employees have repeatedly demonstrated that they have great hearts and are eager to help those in need. Since 2018, we have organised Christmas fairs selling hand-made items crafted during the Occupational Therapy Workshops organised by the Gdańsk Archdiocese Caritas. Proceeds are used to organise rest and rehabilitation for disabled participants of the Occupational Therapy Workshops.

In 2019, LOTOS Group employees prepared Christmas gifts for more than 90 children as part of an initiative of the Municipal Centre for Family Support in Gdańsk. Collections of warm clothes and winter footwear for the poor and needy, struggling financially and often homeless, were also held as part of the 'Monciak Soup' initiative.

As a manifestation of its commitment to corporate social responsibility, LOTOS Kolej hosts an annual Railway Technology Day event as part of the Children's Day celebrations, an initiative running since 2010 for company employees and local residents. Financially disadvantaged children are among those invited to participate in the event, which yearly attracts an audience of over 1,000, enjoying free attractions prepared by LOTOS Kolej. They can ride on modern locomotives and railway trolleys, while learning about safety in a railway area.

In 2019, a modern locomotive was loaned to haul holiday passenger trains with young railway fans on routes to Kołobrzeg and other destinations. Children with their caretakers could enjoy a free ride and participate in lectures on ecology and environmental protection. The project was organised in partnership with the Railway Enthusiasts Association to promote eco-friendly modes of transport.

In 2019, LOTOS Asfalt was a partner of the Baltic Science Festival organised by the Gdańsk University of Technology. Children and young people were eager to participate in competitions organised by LOTOS Asfalt employees, learning about the environmental aspects of bitumen technologies.

The regional initiatives of LOTOS Paliwa employees included Pre-schooler's Day (held at LOTOS service stations), the Noble Gift, and support campaign for the children's home in Chotomów. Such projects are often employee initiatives that receive wide support from LOTOS Group companies.

12.5.4 Human rights in the value chain

/414-1/

At any stage of the supply chain, there are people who create, transport or sell the product. The LOTOS Group respects human rights. Therefore, it cooperates only with legally operating companies, and pursues business activities in an environment where human rights are governed by a legal system in force. The LOTOS Group's trade partners are obliged to comply with the generally accepted system of values, respect their employees and their dignity. Observing these principles makes it possible to create an ethical supply chain.

The LOTOS Group seeks to ensure that all requests for proposals in the process of selecting a trade partner, and contracts concluded with both new and existing suppliers, contain CSR clauses regarding: OHS, rules and standards of conduct, ethics, absence of conflicts of interest, anti-corruption, environmental protection, respect for human rights, and social impacts. Inclusion of such clauses in contracts signed by the LOTOS Group companies is mandatory.

The LOTOS Group's CSR strategy in the supply chain has been developed based on the Corporate Human Rights Benchmark project methodology.

12.6 About the report

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/102-42/ /102-43/ /102-44/ /102-46/ /103-1/ /103-2/ /103-3/

The content of this year's report was drafted based on the same process as that preceding the issue of last year's Integrated Annual Report of the LOTOS Group. Furthermore, when preparing the individual parts of the content, we followed the four principles set out in the standard:

- the materiality of the information presented;
- including the LOTOS Group's stakeholders in the drafting process;
- demonstrating a broader sustainability context; and
- completeness of the content presented.

The key document analysed in the process was a report on a survey carried out among a selected group of over 200 LOTOS Group stakeholders and Grupa LOTOS fans on Facebook at the end of the first quarter of 2019. Participating in the online survey were representatives of the LOTOS Group Management, a team of dozens of employees representing key impact areas of the LOTOS Group across all companies and organisational units covered by reporting, and dozens of LOTOS's external stakeholders. Apart from evaluating the materiality of the proposed topics from their own perspective, our stakeholders submitted their own proposals of issues which they believed should be addressed in the report. Recognising the survey findings as valid and up-to-date, we carried out a process to identify and validate material aspects for this year's report.

/102-50/102-51/102-52/

This report contains information covering the period from January 1st to December 31st 2019. The previous non-financial statement of Grupa LOTOS and the LOTOS Group was issued on March 12th 2019. Grupa LOTOS prepares non-financial reports on an annual basis.

/102-48/102-49/102-54/

This non-financial statement has been prepared in accordance with the Accounting Act (Art. 49b and Art. 55.2b–2e). This report has been prepared in accordance with the GRI Standards: Core option. A change relative to previous years is the application in this report of environmental reporting guidelines of the Task Force on Climate-related Financial Disclosures (TCFD). No restatements of previous reports have been made in this report.

/102-56/

No external assurance was sought for this non-financial statement.

/102-53/

For more information on the economic, social and environmental aspects of the LOTOS Group's operations please visit the Grupa LOTOS website at www.lotos.pl and www.odpowiedzialny.lotos.pl

Letters should be sent to the Company's headquarters:

Grupa LOTOS S.A.

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at media@grupalotos.pl or by telephone at (+48 58) 308 72 29.

12.6.1 Materiality of non-financial information

/102-40/

LOTOS stakeholder map

Source: Company

/102-47/

The materiality matrix is based on findings of the stakeholder survey and materiality analysis

aspects	economic	environmental	social	
materiality	material	highly material		
LOTOS Group's financial performance in 2018	LOTOS business strategy and growth forecasts for the coming years	LOTOS Group's involvement in initiatives supporting economic growth in Poland	risk management in view of market developments and climate change	quantity and type of stocks and production of fuels obtained by LOTOS
LOTOS's environmental impact	alternative fuels	energy consumption	environmental impact of the LOTOS Group's supply chain	strategy towards climate change
impact on biodiversity and its protection	greenhouse gas emissions	effluent and waste management	water withdrawal and sources used in the business	materials used in the business
impact on biodiversity and its protection	greenhouse gas emissions	effluent and waste management	content of harmful substances in fuels	product and material reclamation policy
amount of fines	employment scale and policy	initiatives for local communities	preventing corruption	results of customer satisfaction surveys
ethics	occupational health and safety practices	staff training and education	diversity management and equal opportunity	preparedness for civil emergencies, including security procedures and resource integrity

health protection and customer safety	employee volunteering	LOTOS Foundation

Source: Company

12.6.2 Compliance of the report

Table 55. Compliance with the Accounting Act

Requirement under the Accounting Act	Section
Business model (Art. 49b.2.1)	12.2.1.
Key non-financial performance indicators (Art. 49b.2.2)	12.1
Non-financial policies and their effect (Art. 49b.2.3):	
- environmental	12.3.
- employee	12.4.2.
- social	12.5.
- human rights	12.2.7.
- anti-corruption	12.2.7.
Due diligence procedures (Art. 49b.2.4)	12.2.7.
Material non-financial risks and risk management (Art. 49b.2.5)	12.2.6.

Table 56. Compliance with TCFD recommendations

TCFD recommendation	Section
GOVERNANCE Describe the board's oversight of climate-related risk and opportunities	12.3.2.
Describe management's role in assessing and managing climate-related risks and opportunities	12.3.2.
STRATEGY Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	12.3.2.
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning	12.3.2.
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	this topic is not reported
RISK MANAGEMENT Describe the organisation's processes for identifying and assessing climate-related risks.	this topic is not reported
Describe the organisation's processes for managing climate-related risks.	this topic is not reported
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	this topic is not reported
METRICS AND TARGETS Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	12.3.2.
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	12.3.2. (Scopes 1 and 2)
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	this topic is not reported

/102-55/

Table 57. Compliance with GRI

Indicator category	Indicator	Description	Section	Additional information
GRI 102: General disclosures				
1. Organisational Profile	102-1	Name of the organisation	12.2.	
	102-2	Activities, brands, products, and services	12.2.1.	
	102-3	Location of headquarters	12.2.	
	102-4	Locations of operations	12.2.1.	
	102-5	Ownership and legal form	12.2.	
	102-6	Markets served	12.2.1.	
	102-7	Scale of the organisation	12.2.1.	
	102-8	Information on employees and other workers	12.4.3.	
	102-9	Supply chain	12.2.2., 12.2.7.	
	102-10	Significant changes to the organisation and its supply chain	12.2.2.	
	102-11	Precautionary principle or approach	12.2.6.	
	102-12	External initiatives	12.5.2.	
	102-13	Membership of associations	12.5.2.	
2. Strategy	102-14	Statement from senior decision-maker	12.2.4.	
	102-15	Key impacts, risks and opportunities	12.2.3., 12.2.4., 12.2.6.	
3. Ethics and integrity	102-16	Values, principles, standards, and norms of behaviour	12.2.7.	
	102-17	Mechanisms for advice and concerns about ethics	12.2.7.	
4. Governance	102-18	Governance structure	12.2.5.	
	102-19	Delegating authority	12.2.5.	
	102-20	Executive-level responsibility for ESG topics	12.2.5.	
	102-21	Consulting stakeholders on ESG topics	12.6.	
	102-22	Composition of the highest governance body and its committees	12.2.5.	
	102-23	Chair of the highest governance body	12.2.5.	
	102-24	Nominating and selecting the highest governance body	12.2.5.	
	102-25	Conflicts of interest	12.2.7.	
	102-26	Role of highest governance body in setting purpose, values, and strategy	12.2.4.	
	102-27	Collective knowledge of highest governance body	12.6.	
	102-28	Evaluating the highest governance body's performance	12.2.5.	
	102-29	Identifying and managing ES|G impacts	12.6.	
	102-30	Effectiveness of risk management processes	12.2.6.	
	102-31	Review of ESG topics	12.6.	
	102-32	Highest governance body's role in sustainability reporting	12.6.	
	102-33	Communicating critical concerns	12.6.	
	102-34	Nature and total number of critical concerns	12.6.	

	102-35	Remuneration policies	12.4.7.	
	102-36	Process for determining remuneration	12.4.9.	
	102-37	Stakeholders' involvement in remuneration	12.4.9.	
	102-38	Annual total compensation ratio (ratio of the annual total compensation for the organisation's highest-paid individual to the median annual total compensation for all employees)		12.4.7.
	102-39	Percentage increase in annual total compensation ratio (ratio of the percentage increase in annual total compensation for the organisation's highest-paid individual to the median percentage increase in annual total compensation for all employees)		12.4.7.
5. Stakeholder engagement	102-40	List of stakeholder groups	12.6.1.	
	102-41	Collective bargaining agreements	12.4.9.	
	102-42	Identifying stakeholders	12.6.	
	102-43	Approach to stakeholder engagement	12.6.	
	102-44	Key topics and concerns raised	12.6.	
6. Reporting practice	102-45	Entities included in the consolidated financial statements	12.2.5.	
	102-46	Defining report content and topic boundaries	12.6.	
	102-47	List of material topics	12.6.1.	
	102-48	Restatements of information	12.6.	
	102-49	Changes in reporting	12.6.	
	102-50	Reporting period	12.6.	
	102-51	Date of most recent report	12.6.	
	102-52	Reporting cycle	12.6.	
	102-53	Contact point for questions regarding the report	12.6.	
	102-54	Claims of reporting in accordance with the GRI Standards	12.6.	
	102-55	GRI content index	12.6.2.	
	102-56	External assurance	12.6.	
GRI 103: Management approach				
General requirements for reporting the management approach	103-1	Explanation of the material topic and its boundary	12.6.	
	103-2	The management approach and its components	12.6.	
	103-3	Evaluation of the management approach	12.6.	
GRI 201: Economic performance	201-1	Direct economic value generated and distributed	12.1.	
	201-2	Financial implications and other risks due to climate change	12.3.2.	
	201-3	Defined benefit plan obligations and other retirement plans	12.4.7.	
GRI 205: Anti-corruption	205-1	Operations assessed for risks related to corruption	12.2.7.	
	205-2	Communication and training about anti-corruption policies and procedures	12.2.7.	
	205-3	Confirmed incidents of corruption and actions taken	12.2.7.	
GRI 301: Raw materials	301-1	Materials used by weight or volume	12.3.3.	
GRI 302: Energy	302-1	Energy consumption within the organisation	12.3.2.	
	302-2	Energy consumption outside the organisation	12.3.2.	

	302-3	Energy intensity	12.3.2.
	302-4	Reduction of energy consumption	12.3.2.
	302-5	Reductions in energy requirements of products and services	12.3.2.
GRI 303: Water and effluents			
	303-4	Water discharge	12.3.5.
GRI 304: Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	12.3.7.
GRI 305: Emissions to air	305-1	Direct (Scope 1) GHG emissions	12.3.2.
	305-2	Energy indirect (Scope 2) GHG emissions	12.3.2.
	305-4	GHG emissions intensity	12.3.2.
	305-5	Reduction of GHG emissions	12.3.2.
	305-6	Emissions of ozone-depleting substances (ODS)	12.3.6.
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	12.3.6.
GRI 307: Environmental compliance	307-1	Non-compliance with environmental laws and regulations	12.3.
GRI 401: Employment	401-1	New employee hires and employee turnover	12.4.3.
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	12.4.7.
GRI 402: Labour/management relations	402-1	Minimum notice periods regarding operational changes	12.4.9.
GRI 403: Occupational health and safety			
1. Management approach	403-1	Occupational health and safety management system	12.4.4.
	403-2	Hazard identification, risk assessment, and incident investigation	12.4.4.
	403-3	Occupational health services	12.4.2.
	403-4	Worker participation, consultation, and communication on occupational health and safety	12.4.4.
	403-5	Worker training on occupational health and safety	12.4.4.
	403-6	Promotion of worker health	12.4.4.
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	12.4.4.
2.Specific disclosures	403-8	Workers covered by an occupational health and safety management system	12.4.4.
	403-9	Work-related injuries	12.4.4.
	403-10	Work-related ill health	12.4.4.
GRI 404: Training and education	404-1	Average hours of training per employee	12.4.8.
	404-2	Programs for upgrading employee skills and transition assistance programs	12.4.8.
	404-3	Percentage of employees receiving regular performance and career development reviews	12.4.8.
GRI 405: Diversity and equal opportunity	405-1	Diversity of governance bodies and employees	12.2.5., 12.4.3.
	405-2	Ratio of basic salary and remuneration of women to men	12.4.7.

GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	12.4.5.
GRI 407: Freedom of association and collective bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	12.2.7., 12.4.9.
GRI 408: Child labour	408-1	Operations and suppliers at significant risk for incidents of child labour	12.2.7.
GRI 409: Forced or compulsory labour	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	12.2.7.
GRI 413: Local communities	413-1	Operations with local community engagement, impact assessments, and development programmes	12.5., 12.5.3.
	413-2	Operations with significant actual and potential negative impacts on local communities	12.3.
GRI 414: Supplier social assessment	414-1	New suppliers that were screened using social criteria	12.5.4.

Signatures of members of the Grupa LOTOS S.A. Management Board

This report has been authorised for issue.

President of the Management Board

Paweł Jan Majewski

Vice President of the Management Board,
Chief Refining and Marketing Officer

Jarosław Kawula

Vice President of the Management Board,
Chief Investment and Innovation Officer

Marian Krzemiński

Vice President of the Management Board,
Chief Financial Officer

Zofia Paryła

Vice President of the Management Board, Corporate Affairs

Jarosław Wittstock