

Future challenges and global forecasts

Production

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 regulations imposing the obligation to maintain stocks of crude oil and selected petroleum products.

Economists forecast crude oil prices to remain in the range of USD 40–70/bbl.

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.

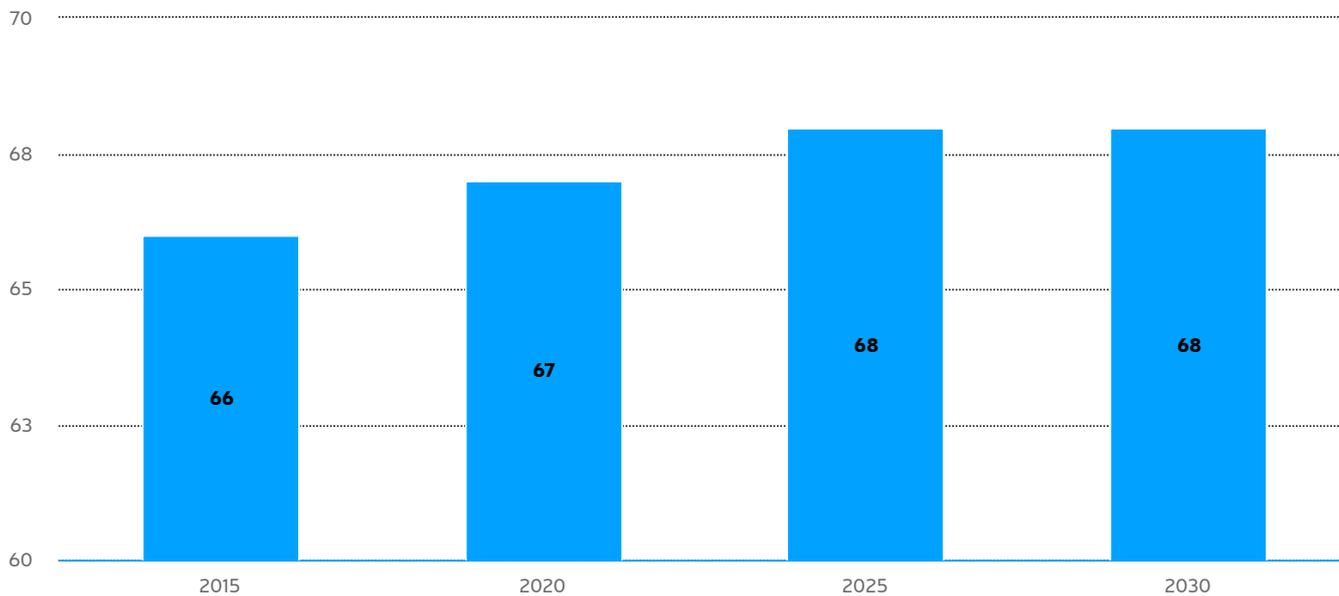
Refining

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, an energy market agency, global demand for refining products should continue to grow.

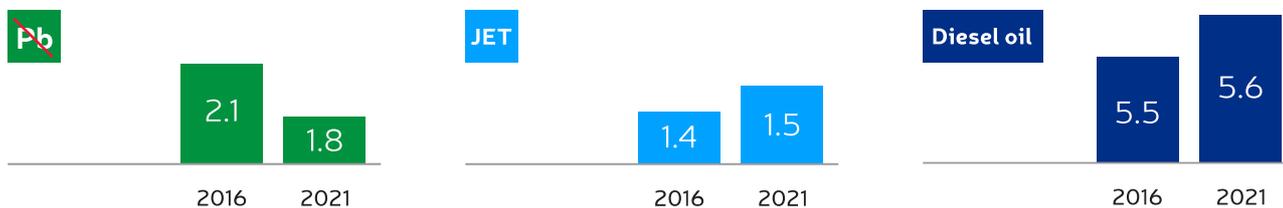
Continued growth of CEE economies can generate further increase in fuel consumption and its ultimate convergence with consumption levels in Western Europe.

From fuel producers' perspective, it is the CEE market that offers more potential as it will be growing 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.



**EUROPE: FORECAST DEMAND FOR KEY PRODUCTS AND INTERNATIONAL BALANCE
(MBOE/D) NET IMPORTS**



PB (UNLEADED)

- 13% drop in demand
- Gasoline exports up to 1.4 mboe/d

JET

- 10% increase in demand
- imports of aviation fuel and kerosene up to 0.5 mboe/d

DIESEL OIL

- 3% increase in demand
- imports of diesel oil and light fuel oil up to 1.0 mboe/d

Source: LOTOS Group Strategy 2017–2022

The efforts to tackle the grey market in Poland, undertaken as part of the fuel package by both the government and oil companies, have reduced its size, additionally contributing to an increase in registered demand for diesel oil.

IMO 2020 regulations and desulfurized bunker fuel

The International Maritime Organization (IMO) has been tightening the sulphur content standards for bunker fuel for many years. On January 1st 2020, further regulations will enter into force, under which the currently permitted 3.5% content will be reduced to 0.5% and, in emission control areas (including Europe), to 0.1%.

The EFRA Project is, in part, Grupa LOTOS S.A.'s response to the IMO regulations. It includes the construction of a coking unit to produce and sell fuels meeting the new standards.

Predictions and forecasts for the refining sector

Macroeconomic factors will continue to have a significant impact on the situation in the sector. One of the key threats to oil refining in Europe will be growing competition from refineries in the Middle East and Russia. The Mediterranean can be expected to become the main market for these refineries. This will change the fuel supply-demand balance across Europe.

New opportunities will come with the implementation the IMO regulations in 2020, which may translate into higher demand for middle distillates. This could boost margins on middle distillates and reduce margins on heavy fractions. A growth in consumption of gasoline by retail customers is likely to be driven by attractive retail prices, resulting from low and stable prices of the product and the raw material.

We also expect that European oil companies will shut down small and obsolete refineries in an effort to optimise their assets.

 More on oil market challenges – The Directors' Report on the operations of Grupa LOTOS S.A. and the LOTOS Group in 2018 (Page 24)