DEAR READERS,

for the tenth year in a row, we are pleased to be presenting the 'Oil Industry and Trade' Report elaborated by the experts from the Polish Organisation of Oil Industry and Trade (POPiHN), which reviews the situation in the liquid fuels sector and related areas in Poland. Traditionally, our Report presents key statistics on the liquid fuels sector in Poland, market analysis and the description of main problems of the industry, as well as selected issues in fuels and lubricating oils production and logistics. The fuel sector is of key importance to the Polish economy, ensuring the energy security of the country and providing employment for tens of thousands of people. Our sector generates about 20% of tax revenues.

All POPiHN members contributed to the elaboration of this study. The Report you are reading was compiled on the basis of data obtained from the POPiHN members by the employees of the Organization's office, as well as the information provided by the Ministry of Finance. This systematic data was analysed and interpreted accordingly against a background of market monitoring and observing the sector of independent business operators. In 2016, however, similarly to the previous years, it was particularly difficult to assess the overall market due to the estimated character of data for that part of the market which extends beyond POPiHN members.

For the first time in many years the data for the official liquid fuel market in Poland showed such dynamic increase. It is a result of decisive actions undertaken by the government and aimed at reducing crime in fuel trade, and in particular due to the implementation of the so-called fuel package. After its implementation there was a surge in the official fuel consumption in Poland. Obviously, it cannot be assumed that there was an actual increase in the market on such a scale, although, taking into consideration the factors encouraging a greater demand, the overall market did increase by a few percentage points. Some entities, previously operating on the grey market, decided to disclose their transactions, while the others withdrew from the market, giving way to legally operating businesses. The so-called energy package is currently being implemented; it is expected to increase the transparency of the market as well as the cooperation among the country's administrative bodies and, most importantly, to eliminate from the market a significant number of entities until now operating in the grey and black markets. Implementing the regulations within the system of monitoring of the road haulage should contribute to the further sealing of the market.

While summarising 2016, it is worth emphasizing that this was the fourth consecutive year in which the level of retail prices on filling stations was lower than in the previous year, thus contributing to the increase in purchasing petrol and diesel by drivers.

We recommend the 'Oil Industry and Trade 2016' Report and wish you a pleasant reading.

Leszek Wieciech
Chairman & Director General

Piotr Pyrich
Chairman of the Board of Directors

POPIHN MEMBERS

AMIC Polska Sp. z o.o.

BP Europa SE

CIRCLE K Polska Sp. z o.o.

Fuchs Oil Corporation (PL) Sp. z o. o.

Grupa LOTOS S.A.

OLPP Sp. z o. o.

PERN S.A.

PKN ORLEN S.A.

Shell Polska Sp. z o.o.

Slovnaft Polska S.A. – MOL Group

TanQuid Polska Sp. z o.o.

TOTAL Polska Sp. z o.o.

STRUCTURE OF THE ORGANIZATION

GENERAL MEETING

BOARD OF DIRECTORS

Supervisory body appointed by the General Meeting for a three-year term of office. Current term of office is May 2016 – May 2019
Piotr Pyrich – BP Europa SE
– Chairman of the Board of Directors
Piotr Dziwok – Shell Polska Sp. z o.o.
– Vice-Chairman of the Board of Directors
Krzysztof Starzec – Circle K Sp. z o.o.
Marcin Jastrzębski – Grupa LOTOS S.A.
Paweł Stańczyk – OLPP Sp. z o.o.
Sławomir Jędrzejczyk – PKN ORLEN S.A.
Igor Wasilewski – PERN S.A.
Tomasz Rybczak – Slovnaft Polska S.A. – MOL Group

MANAGEMENT BOARD

CHAIRMAN-DIRECTOR GENERAL – appointed by the Board of Directors for a three-year term of office.
Leszek Wieciech – Chairman-Director General
Current, second term of office is 1 January 2017-31 December 2019.

OFFICE

Krzysztof Romaniuk – Director of Fuels Market Analysis
Marcin Szponder – Director for Market Regulation
Joanna Lewandowska – Office Manager

THE REPORT USES THE FOLLOWING CONVERSION VALUES:
1 barrel of crude oil (1bbl) = 159 litres
1 ton of crude oil = 7,26 bbl

PRODUCT DENSITIES USED IN MASS TO VOLUME CONVERSIONS IN 1ST QUARTER OF 2016:
Petrol . . . . . 0,736 Mg/m^3
Diesel . . . . . 0,831 Mg/m^3
Light fuel oil . . . . . 0,830 Mg/m^3
LPG . . . . . 0,560 Mg/m^3

PRODUCT DENSITIES USED IN MASS TO VOLUME CONVERSIONS IN 2ND QUARTER OF 2016:
Petrol . . . . . 0,736 Mg/m^3
Diesel . . . . . 0,831 Mg/m^3
Light fuel oil . . . . . 0,828 Mg/m^3
LPG . . . . . 0,560 Mg/m^3

PRODUCT DENSITIES USED IN MASS TO VOLUME CONVERSIONS IN 3RD QUARTER OF 2016:
Petrol . . . . . 0,745 Mg/m^3
Diesel . . . . . 0,831 Mg/m^3
Light fuel oil . . . . . 0,830 Mg/m^3
LPG . . . . . 0,562 Mg/m^3

PRODUCT DENSITIES USED IN MASS TO VOLUME CONVERSIONS IN 4TH QUARTER OF 2016:
Petrol . . . . . 0,745 Mg/m^3
Diesel . . . . . 0,831 Mg/m^3
Light fuel oil . . . . . 0,830 Mg/m^3
LPG . . . . . 0,562 Mg/m^3

CONTENTS

Fot. PKN ORLEN

MAIN PROBLEMS OF THE FUEL SECTOR IN POLAND

❶ CRIME IN FUEL TRADE

Crime in fuel trade remains the fundamental problem of the industry. The phenomenon dubbed the black and grey economy, consisting of VAT frauds as well as the breach of regulations on excise tax, obligations related to compulsory stocks or achieving the National Biofuel Target, grew systematically between 2011 and 2015. Following the estimations of independent experts in 2015 the volume of fraud offences in fuel trade exceeded 10 bn PLN. Neither the activities undertaken by law enforcement authorities nor the changes to the legislation introduced in the years 2013-2015 limited the scope of this phenomenon.

In July 2016 key legal regulations were adopted: the so-called 'fuel package' and 'energy package', which contain a number of proposals submitted by law-abiding business operators. As a result of changes in the legislation as well as the intensification of activities undertaken by competent control authorities we could observe a reversal of the former upward tendency in the black and grey fuel markets. In the second half of 2016 there was a significant increase in the official fuel consumption, while the performance of the companies operating in compliance with the law improved significantly.

The weak link of the system continues to be the fact that systemic solutions related to the fuel sector (production, infrastructure, logistics, wholesale and retail trade as well as taxes and other charges) are to be found in various legal regulations, often inconsistent and containing divergent definitions. Furthermore, there is a lack of one authority that would comprehensively supervise the whole sector.

OUR POSITION

Taking into consideration the scale of the phenomenon, one can expect that the entities currently operating on the black and grey market will aim at creating new criminal mechanisms. In order to maintain the favourable trend it is indispensable to fully and reliably carry out tasks and responsibilities imposed by the so-called 'energy package' both on state administration authorities and business operators (exchange of information, update of trade concessions, transparency of the registers of the Energy Regulatory Office and the Trade Inspection of the Office for Competition and Consumer Protection, harsher penalties). That implies a necessity of increasingly active operations of inspection bodies and improving the efficiency of their actions, as well as proper analysis of the collected data.

Implementing the act on the system of monitoring of the road haulage should also improve law enforcement capacity. Nevertheless, we should be very cautious when implementing the law and its provisions in order to bring road transport to a standstill. It is also crucial to observe efficiency of the adopted solutions and their influence on the fuel oil market.

In order to achieve the assumed goal it is indispensable to thoroughly coordinate the activities undertaken by the individual institutions, fully digitalise collected data and registers and efficiently apply tools, especially the ones offered by the energy package.

Adopting a complex set of regulations, the so-called Petroleum Law, should enhance combating of the irregularities. One of the elements of such regulations should consist in establishing an office – a regulatory body which would supervise production, logistics and trade within the fuel market.

❷ TAX LAW REGULATIONS

Clear and stable tax law provisions, which take into consideration the unique nature of the sector, constitute the basis for its development and further investments. Adopting new instruments by the government, such as the Standard Audit File, as well as creating the National Tax Administration, confronts business operators with new challenges regarding the necessity to implement the above solutions.

OUR POSITION

Retail sales tax: in case of resuming works concerning this tax, we propose exempting the sales of fuels from the proposed tax, the abandonment of taxation of entire franchise chains, as well as the abandonment of increased tax rates on sales carried out on Saturdays, Sundays and public holidays.

Excise regulations: As regards creating the National Tax Administration, we believe it is necessary to further clarify the provisions regarding the official inspection and verification acts. We see the need for the adoption of regulations related to the electronic document delivery. We consider it to be fundamental to adopt regulations regarding the trade of the samples of excise goods for the purpose of technological trials and controls by inspection authorities. We are proposing to introduce an institution of a Reliable Taxpayer, following the example of an Authorised Economic Operator.

With reference to property tax, we propose:

a. including the definition of a building in the Act on Local Taxes and Fees without referring to building regulations,

b. standardisation of the process of issuing individual interpretations (so that a multi-branch business operator that has identical buildings throughout the country could request one interpretation that would be binding for the whole country instead of applying with many different petitions separately to each municipality,

c. introduction of a central database of tax rates that are binding in particular municipalities,

d. completing the process of elaborating a single standard declaration across the country.

Fuel surcharge: due to numerous doubts concerning interpretation we propose redefining a fuel surcharge as to its scope and rules for payment.

❸ CORRIDOR LAW FOR INVESTMENTS RELATED TO LONG DISTANCE TRANSMISSION PIPELINES

The main problem faced by transmission entrepreneurs who carry out linear investments regarded as public interest investment projects results from the inconsistencies of the applicable legal provisions. A single land owner can

effectively block the implementation of network investments for many years. The most significant obstacles include the so-called land title acquisition, both in terms of planning documents, i.e. Local Area Development Plans, and actual access to a specific real property.

Carrying out transmission investments based on the existing legislation encounters a number of obstacles resulting from the specific circumstances of these investments, which involve running the transmission line through the area of many communes and municipalities. To address the urgent needs of other transmission entrepreneurs, special interest acts were drafted, which significantly facilitate the implementation of key investments (the Act of 24 April 2009 on investment projects associated with the development of regasification terminal for liquefied natural gas in Świnoujście and the Act of 30 May 2014 amending the Act of 24 April 2009 on investment projects associated with the development of regasification terminal for liquefied natural gas in Świnoujście and the Law on Real Property Management, as well as the Act of 24 July 2015 on the preparation and implementation of strategic investment projects related to transmission networks).

OUR POSITION

An optimal scenario for the economy would mean the implementation of consistent rules, which could be adopted by all transmission enterprises, including those which transport crude oil and fuels. The work on such a comprehensive solution in the form of 'corridor law' had already been under way in Poland, yet it was abandoned. We propose that the work on this regulation (the act on transmission corridors) be resumed. The act would develop comprehensive solutions for linear facility investments, improve and accelerate the process of acquiring relevant decisions enabling building new technical infrastructure, the extension and modernization of the existing one, as well as create favourable conditions for the implementation of investments in the future.

❹ RENEWABLE FUELS AND FUEL QUALITY

The biofuel policy in Poland is a reflection of the EU regulations. The existing relevant decisions have resulted in additional costs and threats to the companies operating on the Polish market; these related e.g. to the issue of oxidation stability of B7 fuel. For the situation on the market, the levels of compulsory quarterly blending, which start to apply in 2018, will remain fundamental. The EU regulations related to the so-called ILUC directive reduce the use of first-generation biofuels to a 7% level by 2020. Furthermore, they oblige the member states to promote the so-called advanced biofuels. On the other hand, the proposed RED II Directive restricts the use of biocomponents/biofuels produced from food crops to the level not higher than 3.8% in 2030, while maintaining the existing restriction of 7% in 2020. Polish statutory regulations do not reflect the trends related to the implementation of renewable fuels, technological advances, as well as the direction of works being done by car engine producers.

Fot. BP

7%

The level of first-generation biofuels by 2020 set by the so-called ILUC-related EU regulations

OUR POSITION

In order to eliminate the B100 biofuel from the market, which is often used to carry out VAT-related frauds and avoid the necessity to fulfill the NBT, we propose reducing the National Biofuels Target to the level which is possible to meet with standardized fuels. We also call for the soonest possible implementation of the quarterly settlement of obligatory blending.

We believe that introducing the scheme of NBT settlement with the mass balance of biomethane, biohydrogen and co-hydrogenation is essential, and so is allowing the double settlement of biocomponents produced from materials listed in the Appendix IX part A and B of the 2015/1513/EC Directive without quantitative restrictions, except for the restriction of 1.7% for biocomponents/biofuels produced from materials listed in the Appendix IX B of the 2015/1513/EC Directive, provided in the relevant draft directive.

The amendment to the Act on biofuels, liquid biocomponents and the fuel quality monitoring system should consider the opinion of the industry and implement such cost-minimizing mechanisms like two-year NBT settlement period, trade in surpluses for achieving NBT, reducing penalties applied for not achieving NBT.

❺ OILS AND LUBRICANTS: INTRODUCING A UNIFORM 'ZERO' RATE OF EXCISE DUTY IN POLAND AND THROUGHOUT THE EU

For years, the oil industry has been pointing out that keeping excise duty on lubricating oils reduces the competitiveness of the sector, while prompting the development of the shadow economy in both retail and wholesale trade in lubricating oils. Excise tax interferes with the level playing field for domestic companies which trade in lubricants, increasing operating costs for legally operating entrepreneurs and leading to their lower competitiveness and higher prices of products. Moreover, if excise tax and all related additional costs are not present in other EU countries, then its application in Poland effectively gives rise to additional and unwarranted restrictions on businesses operating in the country, and on end-users of these products.

To date, the Ministry of Finance has taken the view that the precondition for the elimination of the effective tax rate is tightening the control over lubricant oil sales, mainly in the context of tax frauds in fuel trade (point of contact 'lubricating oils – diesel oil'), and in recent years it has consequently been taking specific actions, such as the Polish-Lithuanian initiative for including lubricant oils in the EMCS in the whole EU. One element of this approach was including lubricant oils in the 'energy package', and consequently in the Act on monitoring the road transportation of goods (SENT). Currently, following the EC's rejection of the Italian initiative of including oils in the EMCS in whole Europe, the question comes: what next? The information provided indicates that strong support for including oils in EMCS is still being shown by Germany, and none of the neighbouring countries opposed to that. Simultaneously, the 'EMCS overlay' method, tested in Poland and proved to be successful, allows a bottom-up (state after state) building a group of countries participating in the EMCS. In fact, such a group does not constitute an EU EMCS, so it can work locally, only between specific countries, without the necessity to ask the countries opposing EMCS, i.e. France, Spain, Belgium and the United Kingdom for consent, or to wait for 'Brexit'.

OUR POSITION

We believe that including oils in the EMCS across the EU would significantly tighten the control over the trade in these products. Introducing a uniform rate (preferably 'zero') of excise duty on lubricating oils in the EU or abolishing the excise duty on oils in Poland would considerably facilitate the trade in these products, reduce the financial burden carried by entrepreneurs and, to a certain degree, scale down the grey zone in the lubricating oil and fuel trade. A favourable compromise solution could mean setting a uniform, effective tax rate for all oils (without increasing the total burden carried by each company). Currently, even though the EMCS proves to be effective in controlling the trade in oils within the area of Poland, it is enough to move products abroad (either in fact or 'on paper') to evade this control. In this respect, including oils in the neighbouring countries in the 'regional EMCS' could reduce the problem of 'transit', tighten the control over the lubricating oil trade and enable a constructive discussion on the introduction of 'zero rate' excise duty on lubricating oils in Poland.

Fot. OLPP

2.6%

Margins in retail trade of petrol and diesel over the past 5 years

❻ RETAIL SALES ON FILLING STATIONS

Trade on Sundays:

1. We express our concern about the proposal of introducing restrictions on the functioning of filling stations referring to sales conducted in retail shops operating at the stations, depending on the station's size, and included in the citizens' bill on limiting trade on Sundays.

2. Building a filling station is associated with a making multi-million investment, preceded by expensive analyses and preparations. In the recent years Poland has seen a development of a network of state-of-the-art filling stations, which are the envy of the whole Europe. To this must be added very high tenancy payments in the case of Motorway Service Areas (MSAs, PL: MOP), built on the basis of tenders for the operation of MSAs at motorways and express ways organized by GDDKiA (General Directorate for National Roads and Motorways). These payments practically consume profits made on the sales of fuels, and the business's profitability is mainly ensured by the sales of non-fuel products. Filling stations, thus, provide a comprehensive service to the road users – apart from filling the tank, drivers and passengers use toilets, recreational

spaces, purchase meals in restaurants and fast food bars, shops etc. The same functions are fulfilled by stations localized along main traffic routes, where they are often the only places offering free-access amenities, including toilets and running water. The implementation of the regulations provided in the bill may cause difficulties in filling the tank in some areas of the country. Another consequence may be moving the traffic from motorways to local roads, which would thwart the efforts made for many years by local authorities in order to decrease the transit traffic and improve the safety of citizens. Closing large stations, operating in Motorway Service Areas at motorways, express ways and other main traffic arteries will impede the international road transit, and, in consequence, result in moving this traffic to alternative transport corridors outside our country. This will also have negative consequences for marine ports. The sales of various goods and services offered at filling stations usually takes place when buying petrol. According to the analyses, on Sundays the sales of petrol represent 85% of filling stations' turnover, and the sales of the remaining goods make up for only 15%. Purchases made at filling stations are not treated as an alternative to shopping at regular stores, but rather as a necessity during a journey, i.e. shopping done on the course of the journey and related to it, in terms of both the range and quantity of the purchased products. Retail shops at filling stations sell such exploitation products like engine oils, screen washers, car light bulbs etc. The possibility to buy these products has a positive influence on the road safety. It should also be highlighted that the restrictions on opening shops on Sundays which are in place in the other EU member states, do not apply to filling stations. For example, in Hungary, during the period of Sunday trading ban, filling stations were fully exempt from it.

3. Sales of alcohol

In the wake of significant margin fluctuations many filling stations are able to continue their operations thanks to the sale of non-fuel goods and services. We should bear in mind that fuel price is largely influenced by taxes and other burdens; on average, in 2016 they represented 57% of the EU95 petrol price, 54% of the diesel price and 45% of the autogas price.

Market research conducted in 2013 showed that just slightly over 3% of spirits are purchased by the customers at filling stations, which is a downtrend compared to 2012. For beer it is less than 4%, which is also less than in the comparable period of 2012. Moreover, it is the filling stations which, due to the existing surveillance systems, provide the best possible enforcement of regulations prohibiting the sale of alcohol to minors and drunk persons. The experience of countries which have imposed a full or partial prohibition on the sale of alcohol on filling stations (the Netherlands, Belgium) shows that there is no correlation between the availability of alcohol on filling stations and the number of drunk drivers.

Sales of over-the-counter medicines

We are very concerned with the plans of the Ministry of Health aiming at putting restrictions on the sales of OTC drugs in places other than pharmacies, including filling stations. At the stations only the basic painkillers, cold medicines, drugs for gastro-intestinal problems as well as for travel sickness are offered, i.e. medicines which are sought and purchased to provide ad hoc emergency relief. The impediments to the availability of the basic OTC medicines for the road users seeking a fast and safe solution to their health complaints will have a negative impact on road traffic safety. The possibility of purchase at the stations is used by drivers and passengers, as well as local residents, particularly in small localities and rural areas. The sales of OTC drugs in such places means the fulfillment of the patients' right to a possibly quick and simple access to medicines. This is particularly the case at night hours and on non-working days. The sales of OTC drugs represents an almost non-existent share of a station's turnover and does not have any vital influence on its finances. On the other hand, the distribution of this category of goods significantly supports the sales of small, independent stations which are often located in rural areas. The current model on non-pharmacy trade in OTC medicines has a long-established tradition in Poland. The level of OTC drug sales on filling stations has remained stable for many years, and the range has usually been limited to fewer than 30 products. The medicines which are sold at filling stations are delivered by pharmaceutical wholesale distributors and come as a minimum therapeutic dose, sold in packaging that is sufficient for 1–1.5 days of using the drug. It has been shown in practice that in case a larger amount or dose of OTC medicine is required, clients tend to go to pharmacies.

OUR POSITION

We expect that the prices on the fuel market will be shaped exclusively by the economic factors, and that the adopted regulations will not cause a further, baseless increase in the prices. We are against any actions which may cause

Fot. PKN ORLEN

a restriction to the range of goods and services offered at filling stations, e.g. by restricting the operations of filling stations and their shops on Sundays or limiting the sales of alcohol or drugs. The only measurable effect of imposing the proposed restrictions would be a further deterioration in the already difficult situation within the oil sector. Trading in goods other than fuels allows the filling stations to operate in their current number and market format. Restricting the available number of goods and services as well as limiting operating hours will bring an increase in the sites' operational costs along with a rise in fuel prices or a growth in the number of people who are out of work, at the same time creating a more difficult access for customers to certain products, especially in the late night hours and on public holidays. It will also impact travellers' security and limit transit. As regards implementing restrictions on the range of products and the sizes of OTC drug packages, we are of the opinion that any restrictions should be implemented in all channels of trade, including pharmacies, as incorrect medication usage or attempted suicide do not depend on the place where one purchases drugs. Furthermore, any changes regarding the sale of alcohol should apply to the whole distribution network, and not just filling stations. We propose that filling stations be fully exempt from any restrictions regarding trading on Sundays.

❼ EUROPEAN UNION REGULATIONS

The decision-making bodies of the European Union are currently debating the shape of energy-climate and transport policies. In this context the views expressed by certain groups, trying to enforce the elimination of fossil fuels, primarily crude oil, from the EU energy mix by introducing a substitute for petroleum-related engine fuels such as electric energy or biofuels, are worrying and give cause for concern. It is worth pointing out that current experience indicates that such attempts lead only to an increase in transport costs, without any positive impact on climate or natural environment (the case of biofuels). After years of imposing the European refining industry with unproportional burdens and thus deteriorating its competitiveness against non-EU opponents, in the European Commission voices have been raised, pointing out the necessity to change the existing policy. The above has resulted in establishing the dialogue with the sector within the 'Refining Roundtable'. The adopted solutions will have direct impact on the future of the refining industry in Europe. They should take into account that in the medium term oil will remain the main source of energy for transport. Poorly thought-out legal regulations, which do not take into account the interests of not just the refining sector, but also related sectors of the economy, could lead to the collapse of the sector and the relocation of production outside the EU. This would have disastrous consequences for the entire EU economy, as well as its energy security. It is also a classic example of the so-called carbon leakage.

OUR POSITION

We expect the administration to continue its dialogue with the sector representatives, including POPiHN and FuelsEurope, and take account of our voice in the position presented by the representatives of Poland on the EU forum. It is essential for Poland to be appropriately proactive on the 'Refining Roundtable' forum, which started its work within the European Commission in May 2012. The cooperation should include areas such as the competitiveness of the refining industry, the EU's climate policy and fuel price formation.

❽ FUEL LOGISTICS

The current legislation on technical conditions of technical inspection to be met by equipment for filling and emptying transportation tanks includes numerous inaccuracies and regulations which are difficult to comply with by business operators dealing with storage and transportation of fuels. It mainly applies to the use of emergency release couplings, bottom filling of railway cisterns, air-tight tank emptying systems, etc.

Another problem in that field are the restrictions for access to terminals caused by the existing network of road connections – both due to the decisions of local authorities, aimed at restricting heavy vehicle traffic, and the road categories alone. The industry is also facing the issue of eliminating from the market the dishonest drivers who have been caught in the act of theft.

57%

Tax and the like burdens of EU95 petrol, on average in 2016

Fot. FUCHS-OIL

OUR POSITION

It is necessary to implement changes to the regulations on the entry into service of vehicles with a load bearing capacity of 11.5 tonnes per axle. The above will enable smooth road-based logistics on Polish roads.

We propose a change to the regulations on sanctions imposed on dishonest drivers concerning the loss of driving license by returning to the regulations once included in the act on road transport (suspension or disqualification of drivers who have been finally convicted of fuel theft).

❾ THEFT INCIDENTS AT FILLING STATIONS

Fuel and other goods theft incidents cause material losses to filling stations' owners as well as pose threat to the safety of both staff and customers. The total value of stolen fuel can be estimated at over 20 mln PLN annually, whereas the number of such incidents amounted to approximately 100,000.

In the experts' opinion, an increase in the number of such acts is to a considerable degree caused by changes to the Article 19 of the Code of Administrative Offences, introduced in 2013 and raising the theft value threshold above which such an act is classified as crime from the present 250 PLN to ¼ of the minimum salary.

Particularly worrying is the observed increasing boldness of thieves along with the professionalization of their community, which finds expression in creating ever larger and better organized criminal groups, specialized in such practices.

With regard to the above, the sector has great expectations in the initiative of the Ministry of Justice, aiming at, through amendments to the Code of Administrative Offences and some other acts, lowering the financial threshold which qualifies a given offence as a criminal one, as well as enabling the police to maintain databases, which make it easier to identify persons who commit the so-called continuous offences, i.e. repeatedly committing fuel thefts at filling stations.

The draft elaborated by the Ministry of Justice changes the regulations according to which it is defined whether a committed theft is offence or crime. It is a significant difference as an offence carries a penalty of up to 30 days of arrest, whereas theft classified as crime – up to 5 years in prison.

This threshold is determined by the theft value, namely ¼ of the minimum salary, which currently makes 500 PLN. After introducing the changes it will be 400 PLN. Therefore every theft causing damage above this threshold will be severely punishable crime.

In addition, the proposed draft amendment introduces the principle that the threshold between offence and crime will be fixed (always at the level of 400 PLN), irrespective of the minimum salary or other variables.

In the current state of affairs, every rise in the minimum salary entailed the rise of the financial threshold, which determines whether a given theft should be classified as offence or crime.

Criminal activity was also enhanced by an insufficient flow of information on previous investigations regarding individual offenders who committed single thefts, therefore the Ministry of Justice proposed elaborating an electronic register of offences against property, persons suspected of committing such offences, as well as accused and penalised persons. Such a register will be used by the police, prosecutors and courts so that canny 'professional' thieves who commit petty thefts in various towns are not charged with single offences, but with aggregated crime.

OUR POSITION

POPiHN fully supports the initiative of the Ministry of Justice and is still waiting for changes to the existing regulations as well as an improvement to the effectiveness of actions of law enforcement authorities in reducing the number of such offences and crimes. In particular, together with other retailer associations, we believe it is necessary to:

a. Enable the Police to collect and process data on offenders (creating a register of offences) – introducing changes to the Paragraph 2a Article 20 of the Act on the Police);

b. Change the legal qualification of a series of thefts by classifying it as a continuous offence (Article 11 of the Polish Penal Code), as well as introduce changes to the definition of an 'audacious robbery' and enable the application of Article 38 of the Code of Administrative Offences (so-called recidivism);

c. Restore the original provision of the Article 208 of the 1967 Polish Penal Code, which penalizes particularly audacious robberies irrespective of their subject's value and apply this qualification to theft incidents on filling stations and in other retail points;

d. Introduce changes to the Act on Personal Data Protection allowing for maintaining databases and exchanging information between business owners on theft incidents;

Furthermore, we are planning to continue the dialogue with the Police in order to introduce a single form for reporting theft in a retail point, to be used across the whole country, preferably in the form of an electronic questionnaire or a file in editable format, possible to send via email; besides, it is also necessary to adopt less formalized procedures, including the possibility to report events directly after the notification of theft by the retail point (including filling stations) staff under a phone number other than 997 or 112, which would enable to shorten the timing of transmission of information.

PROCESSING OF CRUDE OIL

In 2016 Polish refineries processed 3% less crude oil than in the year 2015. Total refining amounted to 25.8 mln tonnes, i.e. 700,000 tonnes less than in the previous year. Crude oil was relatively cheaper than in the previous year, which allowed to achieve good margins on refining and petrochemical production. A small decrease in total amount of processed crude oil resulted from periodical maintenance standstills carried out in PKN ORLEN. The second half of 2016 was better by about 1.2 mln tonnes in terms of production equipment utilisation, which was largely influenced by domestic demand for liquid fuels caused by reducing the shadow economy. In the second half of 2016 13.5 mln tonnes of crude oil were processed, compared to 12.3 mln tonnes in the first half of the year.

Processing of crude oil in PKN ORLEN amounted to 15.4 mln tonnes, and in Grupa LOTOS to almost 10.4 mln tonnes.

The east remained the dominant direction for oil supplies to Polish refineries, as in previous years, yet at the same time there was a greater diversification of supply sources by purchasing more crude oil from the Middle East. The share of REBCO crude oil in supply decreased from 88% in 2015 to 81% in 2016. It remained the main type of crude oil purchased for Polish refineries, and among its advantages over the competitors were long-term contracts, attractive price, technological adjustment of refineries and utilisation of long-distance pipelines, which are the optimum mode of transportation of crude oil. On the other hand, more and more crude oil is being brought from the Arab countries such as Saudi Arabia and Iraq. Crude oil from domestic supplies (Petrobaltic, PGNiG) was also used for processing. Crude oil other than REBCO in the structure of supplies of PKN ORLEN constituted 12% (7 percentage points more than in the previous year), whereas for Grupa LOTOS it was around 25% of supplies (slightly more than the year before).

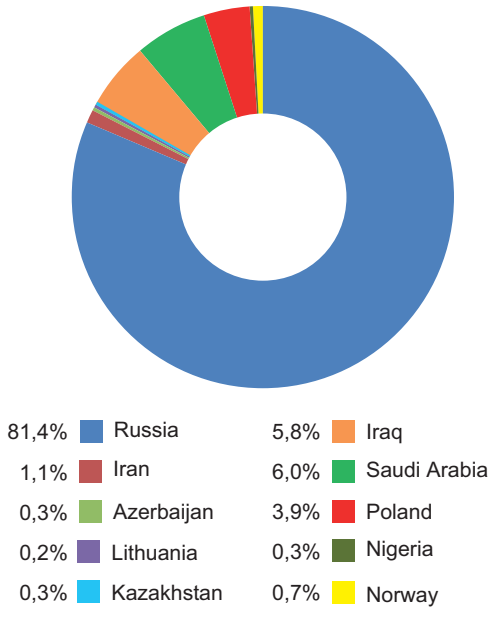
The structure of crude oil supplies to domestic refineries is presented in Fig. 2. It continues to show the dominance of REBCO, observed in the past and probably for a long time in the future, even though Polish refineries, in the event of crisis or when benefiting from favourable purchase conditions, can process other types of crude oil, imported by Port Północny in Gdańsk. In 2016 about 21 mln tonnes of REBCO crude oil were brought to Poland (which is about 4 mln tonnes less than in 2015), out of which about 19 mln tonnes (i.e. about 4 mln tonnes less) were transported via the pipeline 'Przyjaźń', owned by Przedsiębiorstwo Eksploatacji Rurociągów Naftowych SA (PERN SA). The remaining part was brought to Polish refineries via the port facilities of Naftoport in Gdańsk, and in case of domestic production via rail transport.

FIG. 1 PROCESSING OF CRUDE OIL – DATA FOR 2015 AND 2016 in mln tonnes
Source: POPiHN's own data

Description	2015	2016	Reference 2015=100
OVERALL	**26,5**	**25,8**	**97**

Fot. PERN

FIG. 2 SHARE OF CRUDE OIL SUPPLIES TO DOMESTIC REFINERIES IN 2016 [%]
Source: POPiHN's own data



PRODUCTION OF LIQUID FUELS

Liquid fuel production in 2016 (Fig. 3) of petrol (P), diesel (D), liquefied petroleum gas LPG, JET aviation fuel, light fuel oil (LFO) and heavy fuel oil (HFO) amounted to 25.1 mln m³. The above means that in terms of products coming from Polish refineries and blending fuels, around 2% less liquid fuel products entered the market than in 2015. The decrease in total liquid fuel production, when compared to the previous year, equalled around 400,000 m³.

Compared to the previous year, higher volumes of production were achieved in case of petrol, LPG, JET aviation fuel and light fuel oil. Worse outturn was recorded for diesel and heavy fuel oil. Production outcome is consistent with domestic market demand trends. It also reflects the influence of the grey and black economy on the production outcome of domestic entities. A reduction in the production of diesel was compensated by producing other light products such as light fuel oil and JET aviation fuel. A growth in demand for petrol and liquefied petroleum gas (LPG) contributed to the increased refining production. It is worth noting that the domestic production in the second half of 2016 was higher than in the first half of the year, which was caused by more interest in legal fuels, following the entry into force of the regulations of the 'fuel package'. Limiting the production of heavy fuel oil resulted from processing less crude oil in the refining units and increasing the degree of crude oil processing in the production facilities of white fuels. The refineries took advantage of good economic situation for fuels, observed both in the country and in Europe, maximizing the production of those fuel types that generated greater benefits on the domestic market. Products unable to be allocated in Poland were exported with good profits. Overall liquid fuel production was influenced by a decrease in diesel production, owing to a still considerable – especially in the first half of the year – grey and black zone, offering products at underselling margins. Hadn't it been for this fact, the production would have probably been better and it would have been possible to allocate even more fuels, coming from Polish producers, on the domestic market. In Poland the demand for light fuel oil continues to shrink, even though it has to be emphasized that fighting against the grey zone as well as weather conditions in 2016 led to more interest in the domestic product, which was then reflected in the increase in production. A rebound in petrol market was reflected in an increasing domestic production and there are hopes that this trend will continue in the coming years. Significant amounts of domestic refinery production of petrol and diesel, aimed at the Polish market, were blended with biofuels, as the necessity to reach National Biofuels Target (NBT) forced such measures. In Poland fuel blending with the use of biofuels, as well as other additives, is treated as production. Such an approach slightly increases the production pool when compared to the production in refineries alone. The use of biofuels negatively influences the economic results of fuel producers due to the fact that biofuels are significantly more expensive than traditional fuels. In 2016 the obligatory additional measures to reach the NBT were somehow improved by freezing of the NBT thresholds and a possibility of applying adequate reduction factors while settling the fulfilment of goals.

Fot. GRUPA LOTOS

FIG. 3 COMPARISON OF LIQUID FUELS PRODUCTION IN 2016 AND 2015 in thousand m³
Source: POPiHN's own data

Description	2015	2016	Reference 2015=100
Petrols	5 609	5 645	101
Diesel	14 367	13 958	97
LPG	612	718	117
JET aviation fuel	1 345	1 451	108
Light fuel oil	543	629	116
Heavy fuel oil	3 068	2 714	88
OVERALL	25 544	25 115	98

25.1 mln m³

Liquid fuel production in 2016

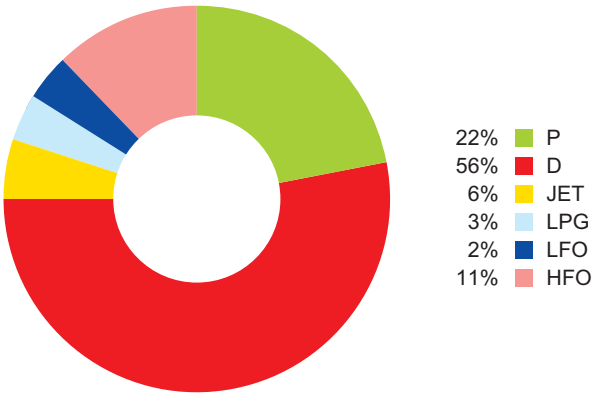
Production of diesel, which is the main product of national refineries, decreased by 0.4 mln m³ (by 3%), yet at the same time there was an increase in the production of light fuel oil by 86,000 m³ and JET aviation fuel by 106,000 m³. A similar decrease as in diesel was recorded in case of heavy fuel oil (354,000 m³).

The structure of fuel production in 2016 is presented in Fig. 4.

In overall production no major changes were recorded and diesel continued to be a dominant product in domestic refineries. Its share in overall production remained at the level of 56%, just as the share of petrols remained steady at 22%. There was a slight increase of JET aviation fuel share (by 1 percentage point), and also there was a 1 percentage point decline in the share of heavy fuel oil.

As noted above, the production of liquid fuels also includes the process of blending standard fuels with biofuels and additives. In 2016 the minimum level of biofuels introduced onto the market (National Biofuels Target), which companies that produce fuels and import them were obliged to fulfil, remained at the same level as for 2015 and amounted to 7.1% energy value. That in turn, resulted in the need of adding alcohol and FAME to the majority of petrol and diesel introduced onto the Polish market. Additionally, in order to meet the requirements of the act it was also necessary to sell a sufficient amount of B100 fuel because simply adding biofuels to standard fuels was not enough to fulfil the NBT. In order to facilitate the fulfilment of NBT, besides freezing it to the level of the year 2015, the interested parties were given the opportunity to apply reduction factors on the level of 0.85 of the NBT, on the condition of using biofuels originating from the EU and EFTA countries. Unfortunately, not having amended the Act from 2014 on Biocomponents and Biofuels resulted in 2016 in the impossibility of using biofuels (and especially the advanced ones) in higher proportion in standard fuels. Preliminary market information shows that POPiHN members achieved the imposed NBT. It is estimated that in 2016 around 320,000 m³ of ethanol and around 700,000 m³ of methyl esters were added to fuels. These amounts are very similar to the ones from 2015. Sales of B100 fuel are estimated at about 730,000 m³ (definite figures will be known until the end of March 2016), which means that sales volume of B100 doubled in comparison to the previous year, even though, which is worth noting, this type of fuel was practically unavailable in retail trade. Its vast majority was sent outside Poland.

FIG. 4 BREAKDOWN OF LIQUID FUELS PRODUCTION IN 2016 [%]
Source: POPiHN's own data



Fot. SLOVNAFT – MOL GROUP

IMPORTS OF LIQUID FUELS

(SUM OF ACTUAL IMPORTS AND INTRA-COMMUNITY ACQUISITIONS)

According to preliminary estimates, officially registered imports of liquid fuels in 2016 amounted to slightly over 9 mln m³. When compared to 2015, it was 2,3 mln³ more, i.e. 34%. It was another year of increases, as in 2015, when compared to the previous year, the imports and intra-Community acquisitions grew by 9%. Such a significant growth in the officially registered imports was achieved primarily through increasing the measures aimed at limiting the grey and black market. Due to the so-called 'fuel package' the majority of products brought into the country came under stricter control of customs and fiscal authorities. Consequently, the data relating to diesel was updated. A significant increase was also recorded in the imports of LPG. The imports of petrol decreased. Such growth dynamics in the acquisitions from abroad confirms that, as it was predicted, both grey and black market had a role to play in the sales of these products. When compared to the previous year, less JET aviation fuel and light fuel oil was brought into the country. For years LPG had constituted the biggest share in the imports to Poland before it was left behind diesel in 2016. Just as in previous years, total imports of petrol, diesel, LPG and light fuel oil, carried out by the so-called independent operators (companies other than POPiHN members) were higher than the imports of the biggest market players. It is worth noting, however, that at the end of the year big oil companies were the ones to import more petrol and fuel for Diesel engines than independent operators. Supplies carried out by independent operators significantly exceeded the market deliveries supplied by domestic and foreign companies operating on the Polish market. Nevertheless, throughout 2016, for the first time in years, foreign purchases carried out by the biggest operators on the Polish market were higher than the overall growth of supplementary imports. A considerable number of fuel consumers transferred their source of provisions from the informal market to legally operating suppliers. Limiting the scope of the grey zone did not, however, eradicate this unhealthy phenomenon completely and the criminals are still looking for the loopholes in the law. Diesel continues to be the main fuel type in case of which the frauds are performed. Limiting the scale of frauds was enhanced

FIG. 5 BREAKDOWN OF LIQUID FUELS IMPORTS IN 2016 [%]
Source: POPiHN's own data

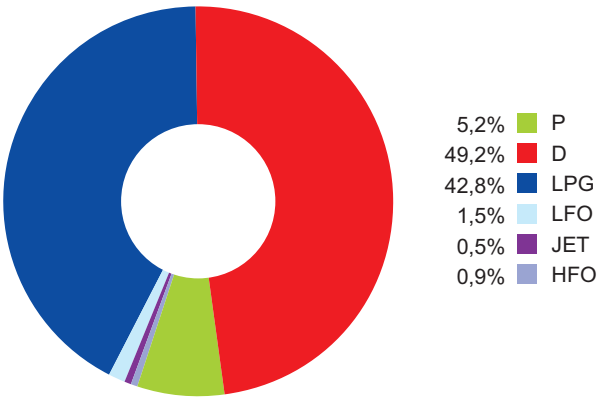


FIG. 7 SOURCES OF PETROL IMPORTS [%]
Source: Ministry of Finance and POPiHN's own data

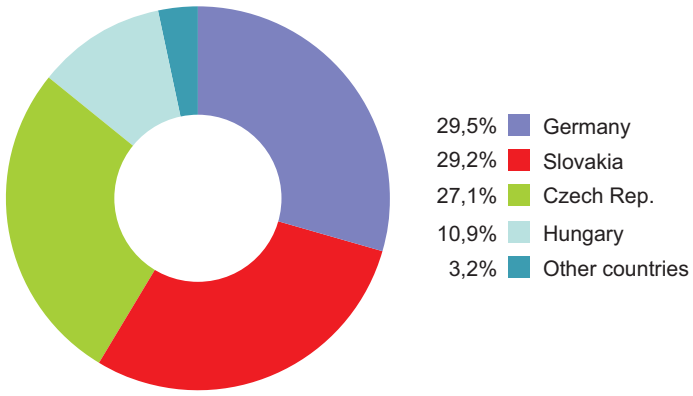


FIG. 6 COMPARISON OF IMPORTS AND ACQUISITIONS OF LIQUID FUELS IN 2016 AND 2015
Source: Ministry of Finance and POPiHN's own data

Description	2015 in thousand m³	2016 in thousand m³	Reference 2015=100
Petrols	533	471	88
Diesel	2 318	4 472	193
LPG	3 651	3 884	106
Light fuel oil	178	132	74
JET aviation fuel	65	44	68
Heavy fuel oil	15	78	520
Overall liquid fuels	6 760	9 081	134

9 mln m³

Official import of liquid fuels in 2016

by the improvements in the efficiency of the activities undertaken by inspection authorities, which enforced the law in a more coordinated manner. Increased imports of motor fuels is a continuation of the trend initiated in 2014 and at the same time it is evidence confirming that effective and permanent controls of imported fuel result in legalising imports.

In 2016 the increase in the imports of diesel equalled over 2 mln m³, petrol decreased by 63,000 m³ and LPG by over 200,000 m³. However, there was a 26% decline in the imports of light fuel oil, which means that in terms of volume almost 50,000 m³ less was imported into the country. This difference was compensated by an increase in the domestic production. Increased domestic production resulted in a 32% decline in JET aviation fuel imports. Domestic demand for heavy fuel oil, domestic production of which slightly decreased, was compensated by a fivefold growth in imports.

The increase in the officially registered imports of liquid fuels in relation to 2015 equalled almost 2.5 mln m³, which was almost five times more than the increase observed in 2015 over 2014.

In the structure of supplies from abroad in 2016 for another year in a row the imports of diesel grew in importance (its share increased by 16 percentage points), whereas petrol and LPG lost in significance (their shares decreased 3 and 12 percentage points, respectively). The share of light fuel oil decreased by 1 percentage point.

Official data show that in case of the market for 4 basic liquid fuels (petrol, diesel, LPG and light fuel oil) POPiHN members registered higher imports that in the previous year, and so did the independent operators in the so-called supplementary imports. POPiHN members' imports increased by 86%, while the independent operators' imports grew 24%. In terms of volume, however, the independent operators were the ones to bring almost three times more fuels into the country than the big oil companies. This time diesel constituted the biggest share in imports as over 0.5 mln m³ more of it was brought into Poland,

86%

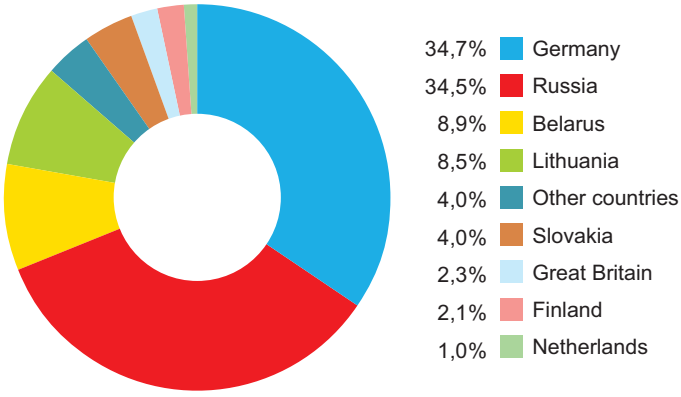
Increase in POPiHN members' imports of four basic liquid fuels (motor petrol, diesel, LPG and light fuel oil)

coming ahead of the previous market leader in the group of imported products, i.e. LPG. In the group of described fuels big oil companies imported around 2 mln m³, which was about 1 mln m³ fuel more that in the previous year. Independent operators increased their purchases abroad by approximately 1.5 mln m³, bringing into the country almost 7 mln m³ fuel from the described product group.

Sources of imports of petrol are shown in Fig. 7. The largest amounts of fuel for spark- ignition engines were imported to Poland from Germany. In the previous year the biggest volume of this type of fuel was brought in from Slovakia, which in 2016 ranked second on the list of sources of supply. The remaining significant source countries were the Czech Republic and Hungary. Imports from other countries were fragmented and constituted only 3% of supplies.

Officially registered imports of diesel showed a larger variety of source countries than in the case of petrol. Most of this fuel was brought in from Germany, although, when compared to the previous year, purchases from Russia grew in significance as in 2016 it provided almost the same amounts of the product as our western neighbour. Belarus, Lithuania, Slovakia, Great Britain and Finland were also important source countries for companies buying fuel for Diesel engines. Around 43% of the product was imported from beyond our eastern border, i.e. the territory of the non-EU countries. It is a twofold volume when compared to 2015. Altogether, the east, including the EU countries, provided around 53% of the whole diesel imports, which was 15 percentage points more than in the previous year.

FIG. 8 SOURCES OF DIESEL IMPORTS [%]
Source: Ministry of Finance and POPiHN's own data



Fot. TANQUID

EXPORTS

OF LIQUID FUELS (SUM OF ACTUAL EXPORTS AND INTRA-COMMUNITY SUPPLIES)

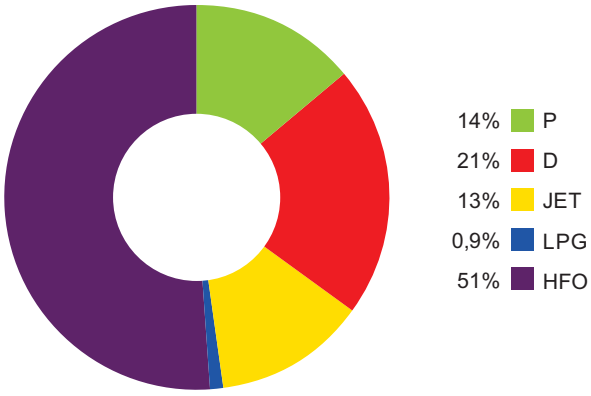
(Fig. 9 and 10) in 2016 amounted to 5 mln m³, which, compared to 2015, was 20% less. The decrease in foreign deliveries of liquid fuels equalled 1.2 mln m³, whereas in 2015 there was an increase by 650,000 m³ in relation to 2014. A reverse trend has been very visible, mainly caused by tightening of imports under the provisions of the 'fuel package' and intensified actions carried out by control authorities. Some market operators went back to supplying themselves from legally operating entrepreneurs, thus more fuel produced in Poland was allocated in the country. Such actions also influenced the structure of products sent abroad. Once again heavy fuel oil was the dominant product, whereas, when compared with the previous year, its share was comparable to the share of motor fuels.

Even though in the previous years the official market for motor fuels witnessed a growth, allocating products from domestic refineries was hindered by the black and grey markets. The situation reversed in the second half of 2016 after introducing new legal solutions within the 'fuel package'. The largest decreases in percentage and volume of exports were recorded for diesel and petrol. Exports of our traditional export product, namely JET aviation fuel, grew, and so did exports of liquefied petroleum gas LPG. Less heavy fuel oil was exported, which was the consequence of lowering the domestic production of this fuel type. Exports of diesel and petrol decreased by 40% and 34%, respectively. The above means that around 700,000 m³ less diesel and around 350,000 m³ less petrol was allocated abroad. Exports of JET aviation fuel grew by 50,000 m³. In 2016 allocating crude oil products in the country was more profitable for producers, at the same time generating measurable benefits for the state revenue. Even though the external demand for liquid fuels also increased, due to significant accumulation of products in the form of ready to use reserves in the European market, it was more profitable to sell fuel in Poland than to offer it on the foreign markets. Heavy fuel oil remained the largest export product in the sector. Its share in exports again amounted to over 50%, while it decreased to 45% in 2015.

The export deliveries of JET aviation fuel shown in Fig. 9 are the ones carried out directly by domestic producers to recipients outside Poland. Nevertheless, a significant amount of this fuel production goes to domestic intermediaries, which provide airport deliveries to domestic and international carriers. The volume of these deliveries in 2015 amounted to 854,000 m³, which was almost 80,000 m³ more than in the previous year. Additionally, while providing supplies for the domestic market, around 40,000 m³ of imported product was used, i.e. about 20,000 m³ less than in 2015.

In 2016 the level of the so-called re-export of liquefied petroleum gas LPG not only was maintained, but it was even increased by 100,000 m³. We have been facing this phenomenon for a few years now and we can assume that, to a certain extent, the informal market takes advantage of this activity. It consists in providing foreign recipients with LPG, which was previously imported or purchased within intra-Community acquisitions to Poland. In 2014 this volume equalled about 280,000 m³. In 2015 it was slightly more, i.e. 320,000 m³, while in 2016 it exceeded 400,000 m³.

FIG. 10 BREAKDOWN OF LIQUID FUELS EXPORTS IN 2016 [%]
Source: POPiHN's own data



The structure of total exports of liquid fuels from Poland shows an increase in heavy fuel oil by 6 percentage points, a decrease in petrol by 3 percentage points and a decrease in diesel by 7 percentage points. The share of JET aviation fuel increased by 3 percentage points and reached 13%.

The main destinations of exports and intra-Community supplies for petrol were the same as in the previous year, namely the Netherlands (48%), Sweden (22%) and Ukraine (11%). Diesel was delivered mainly to the Czech Republic (63%), Ukraine (12%) and Slovakia (8%). The largest volumes of heavy fuel oil were supplied to the Netherlands and Sweden, with the latter being (except for the Czech Republic) the biggest recipient of JET aviation fuel.

FIG. 9 STRUCTURE OF EXPORTS AND SUPPLIES IN 2015 AND 2016 in thousand m³
Source: POPiHN's own data *) direct exports without re-exporting

Description	2015	2016	Reference 2015=100
Petrols	1 036	683	66
Diesel	1 729	1 037	60
JET aviation fuel	603	651	108
LPG*)	33	47	142
Heavy fuel oil	2 821	2 575	91
OVERALL	6 222	4 993	80

DOMESTIC CONSUMPTION OF LIQUID FUELS IN 2016

Table 11 presents a preliminary comparison of the officially registered domestic consumption of liquid fuels in 2016 when compared to the official domestic consumption of liquid fuels in 2015. Final data, taking into account final calculations elaborated by the Customs Service of the Ministry of Finance on imports and intra-Community supplies, will be available in the second half of 2017. Therefore the results presented for 2016 should be treated as estimates, yet very close to final data.

The introduction of the 'fuel package' and 'energy package' in 2016 as well as intensified actions of tax and customs services resulted in a significant increase in the official liquid fuel market in Poland in the second half of the year. The above confirmed the estimates of POPiHN and other market analysts as to the fact that a substantial part of the market was under the influence of grey and black economy. With the current situation it is difficult to evaluate whether there was a real overall growth of the market or whether this was just the result of the legalisation of transactions until then invisible to the official statistics, yet the growth was recorded indeed, having been influenced by positive economic results witnessed by the Polish economy and favourable fuel prices (from the point of view of drivers), especially in the first half of the year. According to the statistics, an increased official demand was recorded for all liquid fuels, excluding heavy fuel oil. What was the most satisfying for law-abiding market operators was a substantial increase in the official demand for diesel. Good results (with prospects for further growth) were recorded in petrol market, which, for the second consecutive year, witnessed an intensive growth. For all types of motor fuels (petrol, diesel and autogas) the market grew by 13% when compared to 2015, whereas the overall liquid fuel market grew by 12%. Within this group the biggest increase was recorded in the diesel market, even though it continued to struggle with intensive competition in the form of grey and black market. The consumption was poor only in case of heavy fuel oil, the main reason for which was quite mild weather and substituting this energy carrier by gas fuels and biomass. A noticeable increase in the official demand for diesel resulted from the introduction of long-awaited changes in legislation, as well as more coordinated actions carried out by control services and the police. Unfortunately, criminals can quickly adapt to the new market reality and if the law is neither properly enforced nor updated, the situation can immediately go back to the condition from before the last year's 'revolution'. Good petrol sales volumes result from, apart from limiting the scope of the grey market, an increased

FIG. 11 ESTIMATED DOMESTIC LIQUID FUEL CONSUMPTION IN 2016 IN COMPARISON TO THAT OF 2015.
Source: Ministry of Finance and POPiHN's own data

Description		2015		2016		Reference
		in thousand m³	share in consumption %	in thousand m³	share in consumption %	2015=100
Petrols	Consumption	5 042		5 447		108
	of which total imports	533	11	471	9	88
Diesel	Consumption	14 886		17 182		115
	of which total imports	2 318	16	4 472	26	193
LPG	Consumption	4 278		4 609		108
	of which total imports	3 651	85	3 884	84	106
Total for 3 fuel types	Consumption	24 206		27 238		113
	of which total imports	6 502	27	8 827	32	136
JET aviation fuel	Consumption	789		874		111
	wof which total imports	65	8	44	5	68
Light fuel oil	Consumption	879		881		100
	of which total imports	178	20	132	15	74
Heavy fuel oil	Consumption	192		189		98
	of which total imports	15	8	78	41	520
OVERALL	Consumption	26 066		29 182		112
	of which total imports	6 760	26	9 081	31	134

interest in vehicles with spark engines, also shown by customers whose funds have been strengthened by the 500+ programme. Sales volumes were also improved by the LPG market. In case of this fuel type the officially registered demand grew by about 8%. Such increase was calculated on the basis of the assumption of no large-scale re-export. Re-export, according to inspection authorities, was to some extent fictitious, while the goods stayed within the country. If, however, we took re-export into account, then the domestic LPG market would record a smaller growth, namely by around 6%. To sum up, we can conclude that in 2016 on the Polish liquid fuels market there has been an increase in official demand for all most important products, among which diesel witnessed the biggest increase in terms of percentage and volume. Domestic demand for liquid fuels was fully satisfied and there were no recorded instances of market disruption. Adequate quantity of fuel necessary to supplement the domestic production was imported.

Apart from the existence of the grey and black diesel market, the official consumption of fuels for diesel engines grew by 15% in relation to 2015. The share of official imports in the diesel market supplies reached the level of 26%, i.e. grew by 10 percentage points in relation to the previous year's. Simultaneously, the official supplementary imports (of companies other than domestic and foreign ones operating on the Polish market) grew by 67%, which was probably significantly affected by the legislative changes and control services' actions, which obliged several importers to register their foreign purchases. The growth dynamics of supplementary imports was much higher than the growth of market supplies carried out by POPiHN members (+10%). It is, however, worth mentioning that the imports carried out by big companies recorded an almost threefold growth compared to the 12 months of 2015 and in the end amounted to almost half the supplementary imports.

2016 was the second consecutive year in which the demand for petrol increased significantly. The interest in purchasing this fuel type grew by 8% in relation to the previous year. In case of petrol the level of retail prices and the size of vehicle fleet are main factors that determine the volume of purchases. Such was the case in 2016, when the fleet grew in size, whereas petrol prices were on average lower throughout the year than in the previous year. As a rule lower petrol prices discourage drivers from substituting this fuel type by autogas in cars with dual supply system. Last year the demand for autogas grew slower than it did in case of petrol. Polish drivers used 5.5mln m^3 of petrol out of wich almost 470,000 m^3 came from imports. It was 9% of the total petrol market share, i.e. chich was 2 percentage points less then 2015.

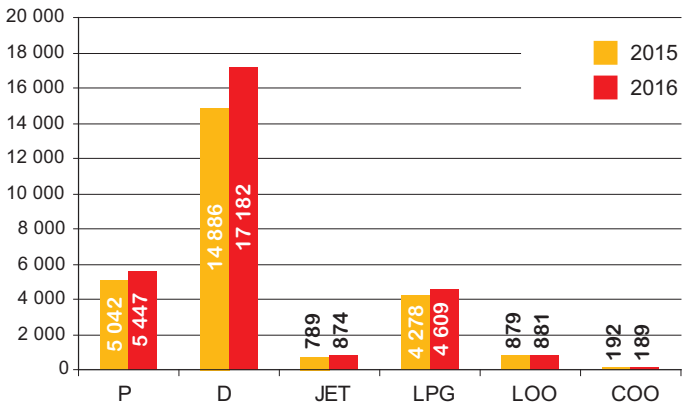
The consumption of LPG (without taking re-export into account) in the described year was about 8% higher than in the previous year. The price relation: autogas - EU95 petrol for most part of the year remained at the level which did not clearly discourage from purchasing autogas. Estimated results for the whole year show an increase in LPG consumption by approximately 330,000 m^3. The volume or re-exported LPG (which could influence the total domestic consumption) increased by about 92,000 m^3 and foreign deliveries (in the form of re-export) amounted to over 411,000 m^3. Similarly to 2015, about 84% of the domestic market was still supplied with fuel from abroad.

The demand for light fuel oil in 2016 was identical to the previous year's. The domestic consumption of this fuel type equalled approximately 880,000 m^3 and at the same time 2016 was a fourth consecutive year in which the domestic demand for this product was estimated at a level below 1 mln m^3. Most of the demand for this fuel type (85%) was met by supplies from domestic production. In 2016 the official supplementary imports decreased by 45,000 m^3 and amounted to 132,000 m^3.

The demand for JET aviation fuel continued to grow and in 2016 its consumption reached almost 900,000 m^3, growing by 85,000 m^3 when compared to 2015. The market growth, with increasing the domestic production, was satisfied by decreasing the imports by 32%.

Domestic consumption of heavy fuel oil slightly declined, this time by 2%, and the trend of lowering the demand below the threshold of 200,000 m^3 seems to be a steady one. This type of fuel is produced in Polish refineries in the amounts significantly exceeding the domestic demand and therefore for years the surplus has been sent abroad in large quantities.

FIG. 12 DOMESTIC CONSUMPTION OF LIQUID FUELS IN 2016 AND 2015 [in thousand m^3]
Source: POPiHN's own data



Fot. AMIC POLSKA

Total official domestic consumption of the 6 types of liquid fuels exceeded 29 mln m^3 and was higher by 3.1 mln m^3 than the one in 2015. The official increase of the market amounted to 12%, within which the imports grew by 34%, and its share in the overall market was estimated at 31%. The above means that official imports of liquid fuels supplied to the Polish market recorded a 2.3 mln m^3 increase over the previous year. Foreign fuel supplies were 5 percentage points higher than in 2015, and in terms of volume the overall imports of liquid fuels amounted to 9.1 mln m^3.

The structure of fuel consumption in Poland has been presented in Fig. 13.

In relation to 2015 there has not been much change in the breakdown of consumption of liquid fuels. We should bear in mind an increase (by 2 percentage point) of the importance of diesel alongside a decline in the market share of LPG. The consumption of diesel continues to prevail and its share equals 59%.

The main source for supplying the domestic market with liquid fuel supplies are the Polish refineries, for which it is more profitable to sell the product in the country than to export it. The profitability of domestic sales is determined by economic, trade and logistics factors. Surpluses of products unable to be allocated in the country are shipped abroad. Had it not been for the black and grey economy on the domestic market, it would be possible to allocate even more quantities of fuel produced in Poland or brought to the country in a legal way, paying adequate taxes and realizing obligations imposed on fuel companies in terms of NBT or mandatory reserves. This is how big international companies operating in Poland, private operators, as well as big domestic companies bring their foreign purchases (as supplementary imports) onto the domestic market in situations of increased market demand. It is worth noting that in 2016 the share of independent companies in the overall official market grew by 3 percentage points to the level of 25%. To a large extent it can be accounted for by more efficient ways of combating the irregularities on the fuel market.

29 mln m^3

Overall official domestic consumption of 6 types of liquid fuels

The effects of implementing new legal solutions and actions undertaken by control authorities can be seen when we summarize foreign exchange carried out within the sector. In 2016 the dominance of fuel imports, understood in broad terms, over exports was almost twofold, whereas in the previous year it amounted to approximately 500,000 m^3. The situation is slowly coming back to the condition observed before 2013, when fuel imports significantly exceeded exports. Reducing fuel exports by 20% in relation to the previous year results from organizing the domestic market and thus being able to allocate domestic products within the country. The trend reversal in 2016 was mainly influenced by an increase in supplementary diesel imports.

Traditionally, export volumes dominated foreign deliveries of heavy fuel oil, a significant part of which is supplied to the markets beyond Europe, while the target market for white fuels is usually the European one. Legally operating companies in Poland managed to regain a part of domestic diesel fuel market, until recently occupied by the grey and black economies. The above may suggest that in the coming years current proportions between exports and imports should be maintained. This would be profitable both for Polish refineries and at the same time the state fiscal authority. International trading balance, as in previous years, will be shaped by diesel and LPG imports on one hand and heavy fuel oil, petrol and JET fuel exports on the other.

FIG. 13 BREAKDOWN OF LIQUID FUELS CONSUMPTION IN 2016 [%]
Source: POPiHN's own data

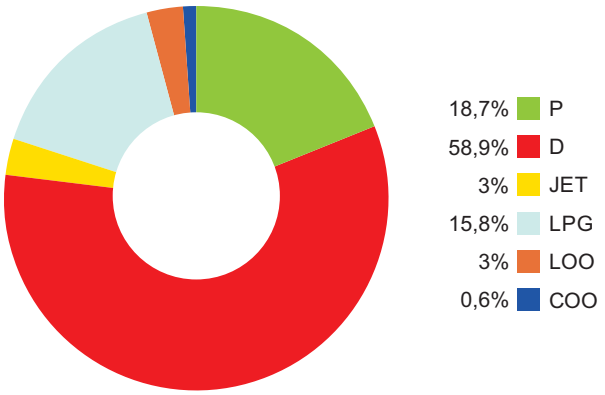


FIG. 14 BALANCE OF INTERNATIONAL TRADE IN LIQUID FUELS IN 2016 in thousand m^3
Source: Ministry of Finance and POPiHN's own data
*) – trade of domestic producers

1	Imports + Purchases 2	Exports + Supplies 3	Difference (2-3) 4
Petrols	471	683	(-212)
Diesel	4 472	1 037	3 435
LPG	3 884	47 *)	3 837
JET aviation fuel	44	651 *)	(-607)
Light fuel oil	132		132
Heavy fuel oil	78	2 575	(-2 497)
OVERALL	9 081	4 993	4 088

RETAIL MARKET

Retail sales of fuels are carried out by a network of filling stations, which, according to the data gathered by POPiHN and referring to publicly available sites which sell at least two types of fuel (P, D), at the end of 2016 comprised 6,803 outlets. This number of filling stations is bigger than at the end of 2015 by approximately 200 stations. The number of stations presented by us increased due to new investments, but also due to having identified a bigger number of stations about which POPiHN either did not know or was not sure whether they continued their operations. In Poland we still do not have the official database comprising information on current fuel infrastructure. Therefore the given number of stations continues to be approximate.

Taking the above into consideration, one should assume that new investments carried out by oil companies, supermarkets and main independent operators have led to the increase in the number of places where we could fill up, do basic shopping or rest during our journey. There were no significant shifts in the market shares of individual operators' groups when compared to 2015. The share of domestic companies in the overall number of stations equals about 33%, whereas international companies' share is 22%. The independent stations constitute 43% of the market. The networks of the biggest independent operators, forming sales networks or trade associations under one logo, are becoming more and more visible on the market, often on the scale of the whole country. Some private operators, so far non-attached, in order to find a more efficient form of activity, are often trying to find their place by switching to corporate logos of large companies or the logo of other franchisor. A large part of the operators who own better locations are trying to survive in business by themselves. There are also those who are either unable to handle a difficult economic situation or look for quick financial return and thus resort to selling fuel coming from the informal and illegal market.

In 2016 PKN ORLEN was the market leader in filling stations. The BP network continued to be in the number two position, whereas, for the third year in a row, Grupa LOTOS occupied the third place. National oil companies continued to operate under four brands: ORLEN and BLISKA in case of PKN and LOTOS and OPTIMA in case of Grupa LOTOS. The economic network of Grupa LOTOS is systematically growing, while the network of BLISKA, which belongs to a different domestic oil company, continues to shrink. The above results from a different approach towards gaining customers and the efficiency of filling stations' operations. It is estimated that throughout 2016 domestic companies had a 33% share in the overall filling stations market in Poland. The share of international oil companies operating in Poland grew to about 22%. This segment systematically continues to increase the number of outlets operating under the logos of companies that are recognized worldwide. TOTAL company, on the Polish market since 2015, increased its network by 6 stations and at the end of the year the company owned 16 filling stations. Franchising agreement continued to be the main tool in attracting new stations to the network, yet there were also outlets built from the scratch. Within the latter ones the oil companies are on the leading position, however, a number of sites owned by hypermarkets and the independent operators have been built as well.

Fot. SHELL

The value of retail market for fuel sales in Poland in 2016 was estimated at about 90 bn PLN, whereas its volume at over 24 bn litres of fuels (petrol, diesel and autogas). State budget revenue from taxation (VAT, excise duty, fuel surcharge) from retail sales of fuels amounted to around 49 bn PLN.

FIG. 15 NUMBER OF STATIONS OF RETAIL OPERATORS IN 2014-2016
Source: POPiHN's own data

Filling stations network	2014 31.12.2014	2015 31.12.2015	2016 31.12.2016
DOMESTIC COMPANIES	2 209	2 225	2 253
FOREIGN COMPANIES	1 404	1 447	1 467
INDEPENDENT CHAINS (operating under a common brand)	743	818	900
OTHER INDEPENDENT OPERATORS (approx.)	1 957	1 932	2 000
SHOPS	171	179	183
TOTAL (approx.)	6 486	6 601	6 803

In 2016 there was an increase in the number of stations operating under domestic companies' brands, whereas new outlets started operating both within PKN ORLEN and Grupa LOTOS. The market leader built new stations, acquired some under franchising agreements, closed the unprofitable ones and modernised others, at the same time rebranding BLISKA logo to the one of ORLEN. LOTOS continued to expand its network, mostly by acquiring new stations under franchising agreements to OPTIMA network. TOTAL acquired new outlets exclusively thanks to franchising agreements. STATOIL also announced the change of logo, as it is currently operating as Circle K and Amic Polska, which had already bought Lukoil's Polish stations.

The network of stations operating along Polish motorways is developing slowly. In 2016 it grew by as few as 3 Motorway Service Areas (MSAs, PL: MOP), 2 of which belong to Grupa LOTOS and 1 to PKN ORLEN. Several MSAs are currently under construction, and the GDDKiA launched a few dozens of calls for tender for new outlets alongside motorways and express ways. New filling stations in those places are changing the geography of purchasing fuels by drivers travelling across Poland. Today it is no longer necessary to drive away off the motorway in order to fill up. Therefore stations that until recently were a natural backup of those motorways are becoming unnecessary. Nonetheless, the stations from the economic segment, located mainly in smaller towns or on the outskirts of bigger cities, are growing in popularity. Expected price increases can emphasize their significance. There was a slight increase in the number of self-serviced stations, operating without staff assistance and offering only fuel.

FIG. 16 FILLING STATIONS IN POLAND AT THE END OF 2016
Source: POPiHN's own data

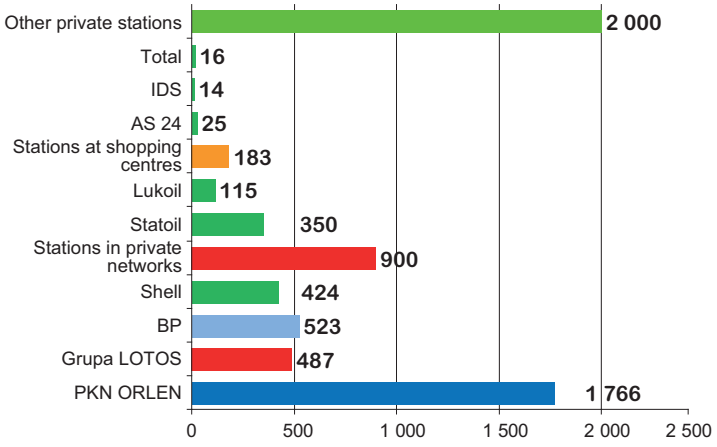
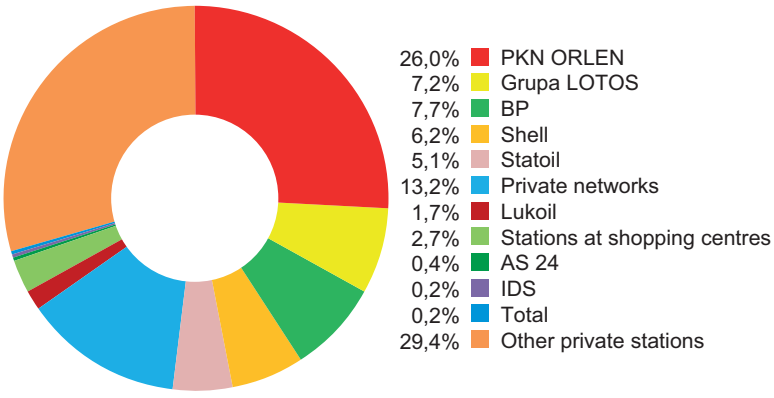


FIG. 17 BREAKDOWN OF FILLING STATIONS MARKET AT THE END OF 2016 [%]
Source: POPiHN's own data



In 2016 PKN ORLEN increased the size of its filling stations network by 17 outlets, ending the year with 1,766 outlets. This result was achieved through restructuring the network, as well as thanks to constructing new outlets and acquisitions consisting of franchising. The number of stations operating under the BLISKA logo was reduced by 51, so currently there are 108 outlets. The change resulted from closing down some outlets and rebranding the other part to the PKN ORLEN corporate logo. The company opened 1 new station located on a motorway and at the end of the year it managed 36 such outlets, thus remaining the domestic leader also in this category of filling stations.

Grupa LOTOS expanded its network by 11 sites and closed the year with 487 filling stations. 205 stations operated under the logo of LOTOS OPTIMA, i.e. 11 more than in the previous year. The company constructed 2 new stations at MSAs along motorways and is currently offering the services of 20 stations to drivers who use motorways. The policy of expanding the networks based on investing in economic class stations is being carried out in line with the provisions contained in the company's business strategy. Currently the company is number three on the filling stations market and number two in terms of the number of owned stations located on motorways.

International oil companies operating on the Polish market also developed their networks. The vice-leader in the market, the company BP, owned 523 filling stations at the end of 2016, increasing the number of owned stations by 22 (in 2015 BP opened 21 outlets). Shell Polska closed the year with 2 stations less, compared to the previous year. The company owns 424 stations, 14 out of which operate in the self-service format. Statoil changed the name to Circle K, yet its rebranding will start not earlier than in April 2017. The company owned 350 stations in 2016, i.e. 5 less than in the previous year. Amic Polska took over the network of Lukoil's stations, but it did not increase the number of filling stations. After closing one of the stations at the end of December, the new owner had 115 outlets. In 2015, after a long break, TOTAL resumed its activities on the Polish market, constructing a new network based on franchising mechanism. At the end of the year 16 filling stations operated under the company's logo.

Independent operators present on the Polish market did not let the grass grow under their feet as well. Switching to the POPiHN nomenclature, this group of operators expanded the number of their outlets to 900. The most active ones were: Anwim with the Moya brand, Huzar, Slovnaft Partner in cooperation with Hungarian MOL and the Pieprzyk group. The market estimates point out that the number of stations managed by this group of operators grew by about 80 outlets. Together with the growth of the number of associated stations it is becoming more and more attractive for the remaining independent operators

to participate in such undertakings. The logos of some of these companies are already present all over the country, while others are very visible on local markets. If we look at fuel stations market as a whole, this group is in the number two position in terms of the number of organised outlets which carry out retail fuel sales and is becoming more and more real competition for the filling stations owned by oil companies.

The number of filling stations within shopping centres in 2016 increased by only 4 outlets and amounted to 179. The increase was achieved thanks to launching new filling stations of the Intermarché network, which systematically invests in this type of activity. The remaining networks did not carry out new investments. Due to high turnover volumes the role of stations located beside supermarkets within the overall retail fuel market increases on a larger scale than its share in fuel stations market. High sales volumes are performed with a minimum margin, which makes these stations attractive pricewise to the buyers.

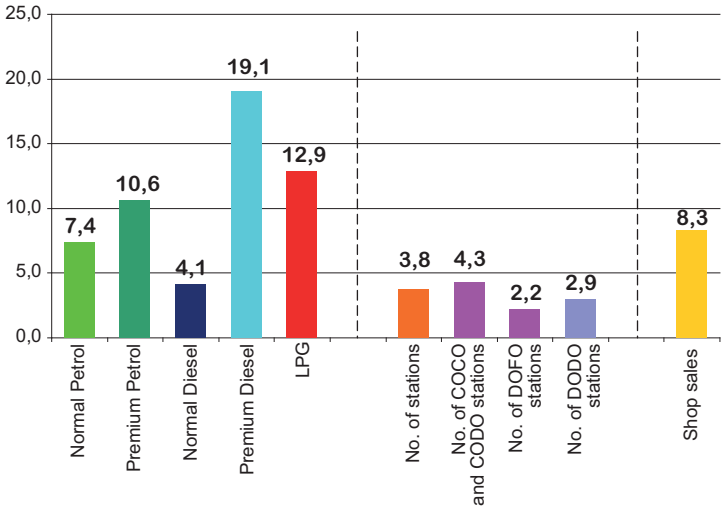
Due to the lack of a reliable domestic filling stations database it is still difficult to clearly define how many independent stations actually operate in Poland. Furthermore, this segment of the market is undergoing current transformations. Information available to POPiHN shows that at the end of 2016 there were about 2,000 stations operating as completely independent or grouped into small local networks comprising not more than 10 sites. The stations that were taken into consideration were the publicly available ones offering at least 2 fuel types (P and D). Unfortunately, some of these sites, as well as the ones on which there is no information relating to their functioning, remained beyond any control by relevant authorities and were often taken advantage of by the entities operating on the informal and illegal liquid fuel markets.

The regulations implemented in 2016 under the energy package should allow to create in 2017 an official, reliable fuel platform, within which it would finally be clear what type of infrastructure is used to provide the Poles with fuels, how many filling stations there are and how they operate. Creating such a platform would improve the competitiveness of individual operators, facilitate the functioning of pertinent control authorities, eliminate a significant part of informal and illegal market and ensure good quality of fuels sold to the drivers.

RETAIL MARKET OF LIQUID FUELS FROM THE POINT OF VIEW OF POPIHN MEMBERS

This section of the report, as in previous years, is devoted to the description of phenomena taking place on domestic market for retail sale of liquid fuels. The market analysis is carried out on the basis of reliable data obtained from POPiHN members that run over 3,700 filling stations in Poland. Due to the lack of a reliable official database on the fuel infrastructure in Poland it is still difficult, based on the given data, to estimate the real number of fuel selling outlets. Recently published registers of the Trade Inspection Authority, pursuant to legal regulations of the energy law, require completions and adjustments. POPiHN's estimates relating to independent filling stations are elaborated on the basis of the availability of general data with the indication that the given number of independent stations refers to the outlets that are publicly available and sell at least 2 types of fuels (P, D). On this assumption, the Organisation estimates that in Poland there are around 6,800 filling stations. The above analysis is thus performed on the basis of data gathered from a sample comprising 55% of the market. Independent operators own about 43% of the fuel market in Poland, but it is still practically impossible to obtain any information on the market data of these operators and we can only present the estimates based on the difference between the overall retail fuel market data and POPiHN members' ones. The stations operating under the logo of POPiHN members perform around 69% of overall retail sales of fuels and 54% of diesel. Such shares allow to present the trends and changes occurring on the market for retail sale of fuels, non-fuel operations carried out at the station shops, fast food outlets as well as basic vehicle maintenance. The standards and requirements set and implemented at the stations of the biggest market operators serve as a model to be followed by the remaining fuel companies operating within the country.

FIG. 18 CHANGES IN RETAIL SALES OF FUELS, IN NUMBER OF FILLING STATIONS AND IN SALES AT STATION SHOPS IN 2016 COMPARED TO 2015 [%]
Source: POPiHN's own data



The main changes in the retail sales market for fuels in POPiHN members' station networks and their operations are shown in Fig. 18. Similarly to the previous year, there are no negative indicators in each of the analysed categories and we can say that each of the categories witnessed at least a twofold increase compared to the previous year. There was an increase in standard fuel sales, as well as, even more dynamically, more premium fuels were sold. Growth rates regarded petrol, diesel and autogas. A further fact is an increase in the number of stations operating within POPiHN members' brands, which grew in every ownership category. The biggest growth was recorded in COCO+CODO category, i.e. filling stations owned by fuel companies. The DODO formula continues to function, yet it is slowly being substituted by DOFO arrangements, in which the provisions

of franchising agreements constitute the basis of economic activity. The consolidation of the filling stations market is increasing and has the form of taking over independent stations by the biggest market operators, including the biggest independent networks. In 2016 stores located at filling stations recorded an increase in non-fuel sales, which was also influenced by the development of fast food outlets operations. The number of shops at filling stations increased, the product range expanded, and besides there were numerous promotional offers. The offer of the filling stations was also enriched by simple maintenance services such as vehicle washing or cleaning car interiors. At the same time care was taken to offer more complex services such as offering internet access, enabling money transactions (ATM, mobile payment, cash withdrawal at tillpoints, insurances), the possibility of refuelling compressed natural gas (CNG) or charging electric cars. Filling stations are becoming places, where, apart from filling up, one can also carry on with basic day-to-day activities.

Even though premium fuels are sold almost exclusively by the stations owned by oil companies, some independent networks are more and more willing to enter this market by offering their own higher quality types of fuel. 2016 was another year in which sales of this type of fuel grew, which was influenced by fuel prices lower than in the previous year. The demand for premium fuels, which are always more expensive than the regular ones, usually grows alongside falling fuel prices, and its share in the whole petrol market operated by POPiHN members remains on the level of 11%. The market share for premium diesel amounted to 16% in the overall retail market for this type of fuel and it was 1 percentage point more than in the previous year. An upward trend in this case has been sustained since 2012. In the overall retail petrol market in Poland the share of premium type amounted to around 8%, whereas for diesel it was about 8.5%. Drivers increasingly appreciate exploitation aspects, which relate to purchasing better quality fuels, and whenever the prices allow them to do so, they buy them in bigger amounts. In case of high compression engine fuel, wintertime is significant as this is when premium fuel share increases.

Retail sales of regular EU95 petrol were higher and it was a continuation of the previous year's trend, as well as a herald of further growth in the coming years. Compared to the previous year, more regular diesel B7 was sold at filling stations owned by oil companies, but also at the remaining ones. Altogether filling stations owned by POPiHN members recorded a 6% increase in petrol sales and a 4% increase in diesel. In case of petrol an upward trend was caused by favourable prices of this type of fuel, as well as a slowdown in dieselisation of passenger car fleets and stabilizing the number of cars with alternative autogas instalation. Had it not been for high activity (especially in the first half of the year) within the informal and illegal markets, it would have probably been possible to achieve even better sales volumes of regular fuels.

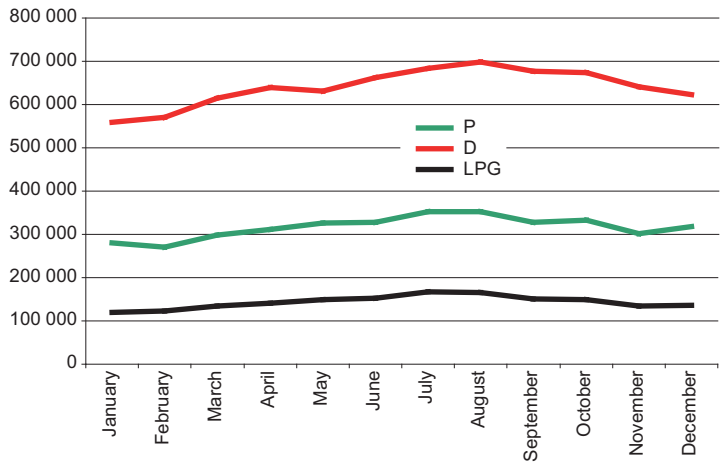
In 2016 POPiHN members expanded their networks mostly by building new own stations, later operating under the formula of COCO or CODO, yet the franchising agreement formula was also widely used to gain new independent stations in good locations. This method of network expansion was also used by the biggest networks of affiliated independent stations, yet it is worth noting that in such cases of changing the logo the dependence of the franchisee on the franchisor was slightly smaller than in case of agreements with oil companies.

In 2016 there was an increase in the number of shops at filling stations, as well as in their sales volumes. The increase in the value of sales was over 8%, with prices at similar levels as in 2015. The growth was influenced by extending the shop offer to small refreshment points and additional services, as well as an increase in domestic tourism in relation to previous years.

Fig. 19 presents monthly retail sales at POPiHN members' filling stations. We can observe a clear seasonal nature of fuel sales, which tends to repeat in consecutive years. Similar graphs can be elaborated for independent stations, but in case of such stations the falls in sales are usually more marked in periods of weaker sales carried out by oil companies, whereas the growth periods are smaller in periods when oil companies sell more fuels. The shape of the official sales curves was impacted, particularly in case of diesel, by the activities in the informal and illegal markets, which allocated part of its sales on the market by cooperating with some independent stations, or even taking them over.

Compared to the previous year, POPiHN members' filling stations operating under the COCO+CODO formula recorded an increase in motor fuel sales. The increase also affected the stations operating under the DOFO formula, whereas in case of the DODO arrangements there were smaller sales volumes in case of petrol. Autogas continued to sell well, i.e. by more than 7%, at all types of filling stations. Overall increase in petrol sales equalled almost 6%, whereas in diesel around 4%. In case of stations mentioned above petrol and autogas sales are closely correlated with fuel prices, and in case of diesel also with economic conditions. In 2016 the economy witnessed an about 2.8% of growth, and in the first quarters it was even more, which should have been reflected by the results

FIG. 19 SALES OF MOTOR FUELS AT POPIHN MEMBERS' STATIONS IN 2016 [m^3]
Source: POPiHN's own data



at diesel dispensers. However, the grey and black market effectively 'poached' a part of customers from legally operating stations. That, among other reasons, is why the stations under DODO formula recorded weak sales volumes, as, due to their locations, they most often had to compete against cheap, illegal fuel.

In 2016 margin levels obtained from fuel sales were not sufficient to enable filling stations to maintain themselves. It was, therefore, of significant importance to run a station shop with a wide range of products, yet in order to attract drivers to visit it, it was essential to include information on favourable regular fuel prices and a wide range of higher-level fuels on the station's price boards. The quality and range of fuels, as well as extensive and attractive loyalty programmes are, in case of filling stations, the best method used by station operators to attract customers. In 2016 these elements worked in combination with favourable fuel prices, which resulted in more fill-ups and, thus, more drivers shopping at the stores belonging to the stations.

Changes in fuel sales at the stations owned by POPiHN member companies between individual months of 2015 are presented in the diagram in Fig. 20.

Sales volumes witnessed changes throughout the whole year, yet all the time they remained at levels above zero. The most visible downsize trend in sales volumes, recorded in consecutive months, took place for LPG. No such sharp fluctuations were recorded for other fuel types.

For the year as a whole, the average growth rate of fuel sales at stations owned by POPiHN member companies was 4.8%, whereas diesel sales showed an increase of 3.7%, petrol - a growth of 6%, and autogas - an increase of 6.9%. Analysis of sales growth data of POPiHN members and results of total official fuel consumption in the country shows increases in sales at stations owned by independent companies. Better sales results were also recorded in the whole non-outlet segment (transport depots and companies, construction sector, railways, local governments), which is an area usually supplied with fuels from the informal market.

The implementation of fuel package resulted in significantly higher sales volumes in the II half of the year compared to the first two quarters. Thus, if we compare the second half of 2016 to the first one, petrol sales grew by 9%, diesel by 8.8% and LPG by 10.6%.

The growth rate of overall fuel sales was accompanied by increases in premium fuel sales. For the above-mentioned reasons the increase of premium petrol sales for the whole year was 7% and for premium diesel it was 9.9%. The above means that significantly more premium fuels were sold than in the year 2015.

While observing current price levels and trends on the market of new and second-hand cars, it may be assumed with high probability that also in consecutive statistical periods there will be further sales records of enhanced fuels. Low price levels or further drops in prices can only strengthen this process. A significant element influencing our choices will also be the biofuels content in regular and premium fuels. As a rule, the latter contain less biofuels, which favours exploitation, especially in vehicles used less frequently and in wintertime. Drivers already learnt that in order to maintain the engine in a proper condition they should use premium fuels at least from time to time.

FIG. 20 CHANGES IN RETAIL SALES AT FILLING STATIONS IN 2016 [month/month as %]
Source: POPiHN's own data

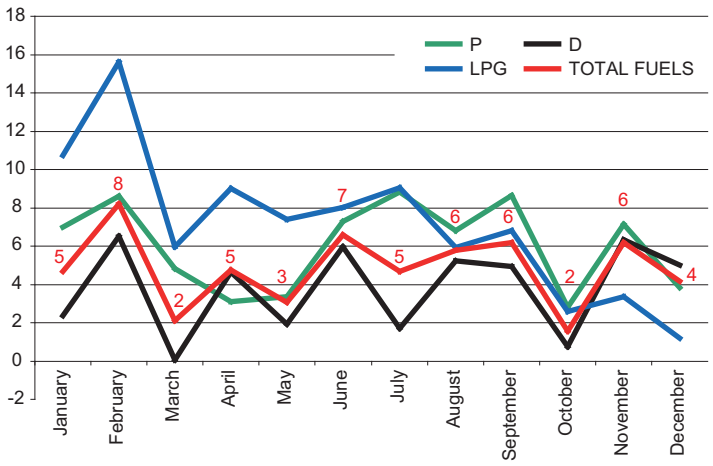
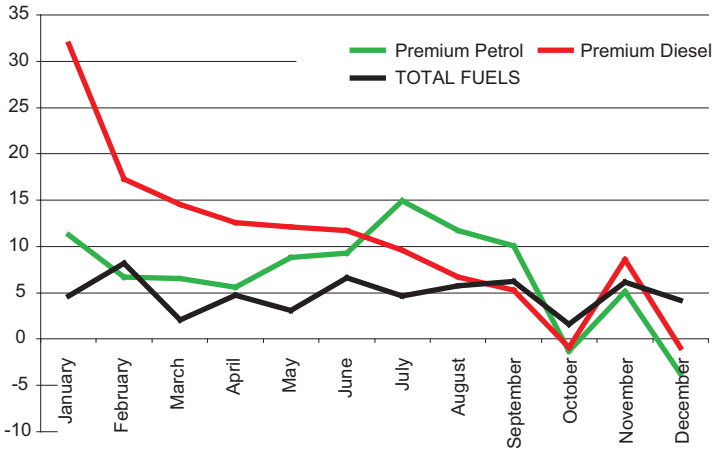


FIG. 21 CHANGES IN PREMIUM FUEL SALES AT FILLING STATIONS IN 2016 [month/month as %]
Source: POPiHN's own data



In such a way our environment will also benefit, as we eliminate harmful impact on increasing smog levels, especially in big cities.

In 2016 the overall number of filling stations in the country, localized by POPiHN, equalled about 6,800, which was around 3% more than in 2015. The increase was a result of carrying out new investment projects, opening some of the stations after their modernization, but also revealing a certain number of stations whose functioning was not known of in the past. The number of filling stations owned by POPiHN member companies increased by almost 4% and equalled 3,720, which means that the biggest operators on the market acquired 95 filling stations for their networks. The number of oil companies' own stations grew by 4.3%, the number of stations operating under franchising formulas grew by 2.2%, and the number of stations under DODO arrangements grew by 2.9%.

Fot. CIRCLE K

FIG. 22 MARKET OF SHOPS AT FILLING STATIONS OF POPIHN MEMBERS IN 2016 [%]
Source: POPiHN's own data

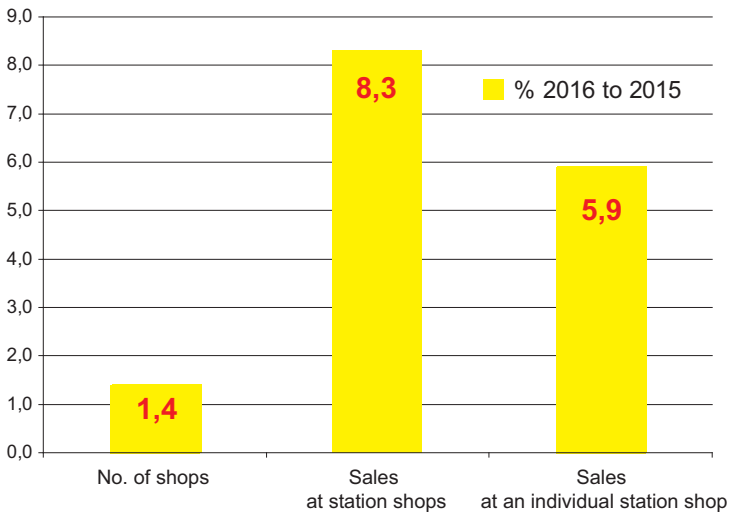
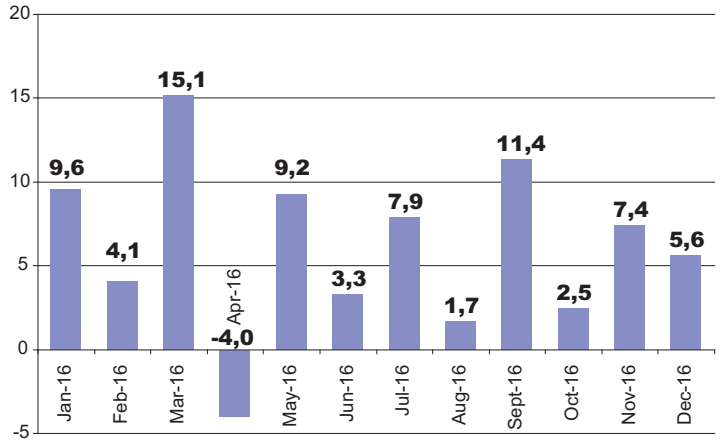


FIG. 23 CHANGE IN VALUE OF SALES IN SHOPS OF POPIHN MEMBERS IN INDIVIDUAL MONTHS OF 2016 COMPARED TO 2015 [%]
Source: POPiHN's own data



Alongside the development of networks and investing in new outlets as well as modernizing the existing ones, we observed a growth in the number of stores located at filling stations. At the end of 2016 the total number of stores located at POPiHN members' stations operating under the formula COCO+CODO was 2,568 (30 more than in 2015), out of which 2,514 stores (39 more than in the previous year) were engaged in commercial activities. The growth in the number of stores was accompanied by increasing turnovers in those stores. In relation to 2015 the increase in turnover at stations operating only under the formula COCO+CODO (2,514 sites) equalled 8.3% and reached the level of over 4.3 bn PLN. The turnover of a single shop grew by 5.9%.

Similarly to the previous years, sales margins from direct fuel sales in 2016 remained at a level not sufficient to maintain the station, thus a station store was a significant element of its functioning. It was in a station store where non-fuel goods were sold and where fast food outlets were opened on an increasingly larger scale. Thanks to the sector's activities as well as the actions undertaken by other organizations gathering entities involved in trade until now it has been possible to neutralize the attempts of eliminating from station stores the sales of alcohol, tobacco and basic OTC drugs. Non-fuel goods, on the one hand, help to maintain a filling station, while on the other hand they are a source of most needed goods in locations where pharmacies or grocery shops do not operate on Sundays. Unfortunately, there are ongoing legislative works aiming at worsening filling stations' functioning, and even prohibiting them from operating on Sundays. Such actions would be against the basic needs of people travelling within the country and in transit and could significantly deteriorate the safety on Polish roads.

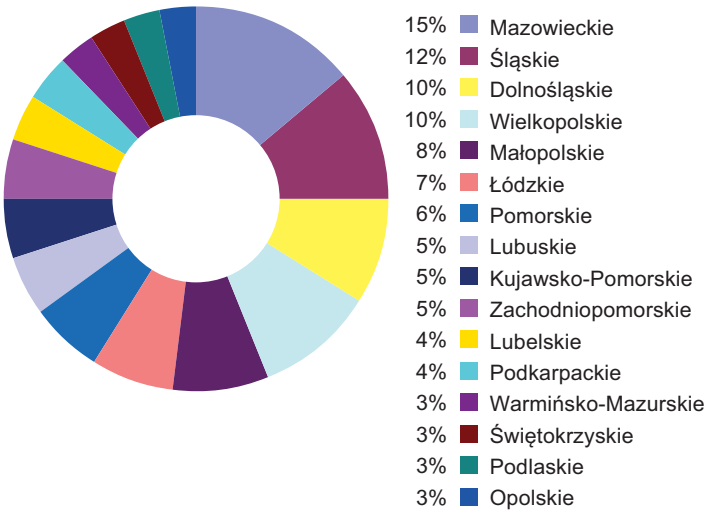
Graph in Fig. 23 shows sales in stores located at filling stations between individual months in comparison with the same months in 2015. The shops' sales volumes only in April 2016 were lower than in the compared months of the previous year, while the remaining months showed better results than the year before. We can notice a slight correspondence between greater sales volumes and lower fuel prices in individual months. Similarly as in previous years, sales increased mainly in periods of public holiday

travels, long weekends and summer holidays. Due to the sales margins situation in Polish reality a store customer is very often more important than a customer at a fuel dispenser. It was specifically at the store where the filling station's profit was generated, indispensable to maintain the site and its employees.

The results of the comparison of geographical distribution of fuel sales in Poland, based on data submitted by POPiHN members, show that in relation to 2015 there were no major changes. The only actual change consists in a decline of 1 percentage point in case of fuel consumption share in Silesia and an increase of the same amount of the share of the Podkarpackie province. The province with the greatest demand for vehicle fuels is still Mazowieckie, whereas the smallest can be observed in the Opolskie province. Sales in 5 provinces account for the overall sales volumes in the remaining ones.

The graph shows total sales of fuels, diesel and autogas. Separate sales of each of these fuel types present minor discrepancies from the presented graph, however, they are so small that the general scheme is assumed to fully display the retail sales trends in Poland. The ratio of sales carried out by POPiHN members in the biggest province (Mazowieckie) to the smallest one (Opolskie) in terms of demand was 6:1.

FIG. 24 DISTRIBUTION OF RETAIL SALES OF FUELS BY POPIHN MEMBERS IN POLAND IN 2016 [%]
Source: POPiHN's own data



DEMAND FORECAST FOR THE POLISH MARKET UP TO 2025

The liquid fuel demand scenarios, elaborated by POPiHN for the coming years, take into account the latest trends on the liquid fuels market observed both in Poland and around the world. The time frame of these scenarios extends until 2025, which should increase the probability of reaching forecast result, taking into account the current situation on the Polish oil market and estimated final results for 2016. In the previous year fuel demand in Poland significantly exceeded the forecast presented the year before as the baseline market scenario. Market growth had been, indeed, predicted, yet new legal solutions, implemented in the second half of the year, resulted in a much more significant increase in fuel consumption than the one predicted in the baseline variant. Limiting the informal and illegal market operating mainly in the diesel segment, increasing the demand for petrol and lower, when compared to the previous year, fuel prices (especially in the first half of the year) were main elements thanks to which it was possible to allocate more fuel on the market than it had been predicted in the base scenarios. Thus the market shifted more significantly towards last year's optimistic scenario, and in the end it was significantly better that predicted. New scenarios have been elaborated with the participation of POPiHN members, taking into account current transformations in the domestic and international oil markets. The baseline and optimistic scenarios assumed that there would be further increase of efficiency in combating the irregularities on the Polish market and that stable prices of crude oil and finished products would be maintained on international markets. New pool of European Union aid funds to be used in domestic economy, which will be available starting from mid-2017, has also been included. It was also assumed that there would be increases in domestic infrastructure investments, that social subsidies in the form of 500+ programme would be maintained and that domestic tourism in holiday periods would continue to be an efficient alternative to foreign travels.

The baseline scenario assumes that the Polish economy will continue to grow at a rate of 3% annually. The remaining variants are based on the values below and above this level. Besides, it is estimated that the efficiency in combating the shadow economy in the coming years will improve and that the favourable price ratio between crude oil and fuels on international markets will be maintained. The range of fluctuations in the USD-PLN exchange rate has been estimated as not exceeding 10% of the level of 4.05 PLN, observed at the end of 2016.

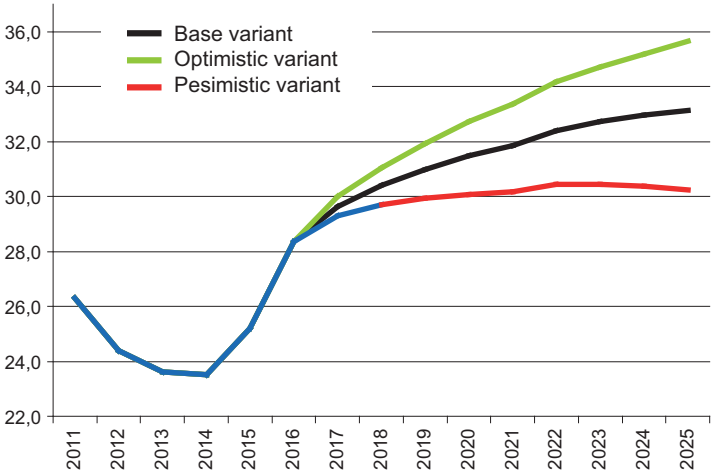
33 mln m³

Official domestic market demand for liquid fuels in 2025

The base variant assumes that currently observed average oil prices can last for a longer period, with the prices ranging from 45 a 60 USD/bbl. Crude oil prices should remain on such levels for approximately 2-3 years, and then there is likely to be a systematic increase up to the level of approximately 70 USD/bbl annually. The baseline scenario assumes a stable situation in the international crude oil market (agreements limiting the extraction and on the other hand extraction from shale deposits), with a slight overproduction of oil for refinery production, which should guarantee an expected price level. On a domestic market there are plans to intensify actions aimed at reducing the grey and black market through more efficient controls and consequently enforcing the new law. Such assumptions allow us to expect that 2017 will be another year with big increases in liquid fuel consumption, and that this trend will be maintained in the coming years, yet at a slower pace. The growth effect should be achieved through increases in official demand for diesel and petrol. After years of Diesel engine fuel domination, petrols are back to the game on the passenger transportation market. Increasing the efficiency of petrol engines and flattening the difference between EU95 petrol and autogas will result in lowering the demand for autogas. A downward demand trend for light fuel oil shall continue, being slightly braked by new environmental protection norms which take into account combating smog. In this variant, the official domestic market demand for liquid fuels in 2025 is currently being estimated at approximately 33 mln m^3.

The optimistic scenario assumes, apart from the same assumptions as for the baseline variant, lowering the level of crude oil and fuels quotations by approximately 20% in relation to the data presented above, a reduction of VAT announced for 2018 and maintaining a trend, observed in 2016, towards a significant increase in domestic vehicle transportation fleet (the individual, group and transport one). In this scenario the domestic market demand for liquid fuels in 2025 is estimated at over 35 mln m^3.

FIG. 25 SCENARIO FOR LIQUID FUELS DEMAND IN 2016-2025 (in mln m^3)
Source: POPiHN's own data



Fot. BP

The pessimistic scenario assumes a lower prospect for growth of the Polish economy on the level below 2%, a significant decline in the Polish zloty's (PLN) purchasing power or destabilisation of the international situation and substantial increases in the prices of crude oil. This scenario is a likely one in case of a failure while combating the grey zone.

While observing the current liquid fuels market situation in Poland, we can, without major concern assume that the baseline scenario seems to be the one most likely to unfold in the coming years. Nonetheless, we need to remember that oil sector is extremely sensitive to even the smallest fluctuations in geopolitical or economic situation in any part of the world, and especially among the biggest oil producers. The effectiveness in fighting against the grey and black market in the coming years continues to be a big unknown for the Polish market. The first effects of the functioning of the new legislation are satisfactory. Nevertheless, we should bear in mind that this market segment is constantly looking for the possibilities to circumnavigate the law, at the same time having at its disposal significant financial resources. In the Polish economy, however, there is still space for substantial increases in the official demand for fuel. At the same time the interest in petrol is back, which should impact the increase of demand. The future of fuel market also raises numerous questions, such as using electric energy in transport, the scope for using other alternative fuels, limiting car traffic in large agglomerations or implementing car sharing schemes on a wider scale. The above continue to be a distant prospect, yet, as we can see on the example of electric cars, this is a quickly forthcoming future. In the perspective created by this scenario fuel production sector has nothing to fear as traditional fuels will continue to be the most important energy carrier used in transport, yet the future will force these companies to look for new areas to generate profits. Furthermore, this process has already started.

MOTOR FUEL PRICES

Similarly to the previous year's report, POPiHN correctly predicted the direction of average yearly changes of petrol and diesel prices in 2016. According to the expectations, these prices were lower than in 2015, yet the scale of reductions was lower than when comparing 2015 and 2014. Drivers could, for the same amount of money, purchase more fuel for their cars, which was reflected in fuel consumption results on the Polish market. A litre of 95-octane petrol was 0.27 PLN cheaper on average per year and a litre of diesel was 0.36 PLN cheaper. This was a fourth year in a row with falling prices of fuel. Autogas was also cheaper on average per year and the decrease in its price equalled 0.16 PLN/l.

The retail price of 95-octane petrol was exceeding the price of diesel for the whole year. The average annual price difference between the two types of fuel was 0.22 PLN, which means that it was 0.09 PLN more than the same difference in 2015. In the first two months of 2016 we witnessed a continuation in the price falls, which was also a trend in the end of 2015. Since the beginning of March until practically the end of the year we could observe just increases in retail prices. The difference between the lowest 95-octane petrol price in February 2016 and in the end of the year equaled 0.84 PLN/l. A similar situation was observed for diesel, where this difference was 0.99 PLN/l. The price levels of both fuel types at the end of the year were identical with those recorded in July 2015. Relatively cheap fuels encouraged people to buy more, even in case of drivers who always fill up for the same amount of money, and therefore, for the second time in a row, bigger sales of petrol were recorded that in the previous year. Fuel prices growing throughout the year and the necessity to compete with goods from the grey and black market did not allow filling stations operators to earn better margins than in the previous year, and they were even at significantly lower levels, especially in case of diesel. Therefore, in order to keep the petrol stations afloat, a support in form of non-fuel revenues was necessary.

Price fluctuations at Polish filling stations were influenced by the situation on international markets and the ratio of the PLN purchasing power against the USD. Unfortunately, this ratio weakened by 5%, which further weakened downward price adjustments. In 2016 crude oil prices reached the average annual level of 43.69 USD/bbl, which was 17% below the 2015 level. The lowest quotations of crude oil price amounted to 25.69 USD/bbl at the end of January 2016. Throughout the year there was a constant increase in crude oil price and at the end of the year it stood at the maximum of 54.95 USD/bbl in the end of December. There were, as always, a number of reasons accounting for such fluctuations and they took place at different times of the year, yet the most important ones were the ambitions of OPEC countries to reduce the volume of crude oil produced by them. An agreement was finally reached at the end of the year with the entry into force scheduled for the beginning of 2017, yet this information had resulted in the increases already in 2016. There was a constant real surplus of crude oil on the market, and oil and fuel tanks, filled up to the top, acted as brakes to any attempts to drive up crude oil price. On the other hand, the lifting of economic sanctions against Iran did not result in, according to some crude oil analysts' forecasts, the significant price falls, as relatively cheap crude oil did not encourage American oilmen from the shale sector to undertaking new investments, and, just reversely, some installations were out of operation, waiting for the improvement of economic situation or the new technologies allowing the reduction of extraction costs. Phenomena similar to the ones observed for oil were recorded for fuels traded on the international commodity stock exchanges. It can, however, be said that crude oil influenced the trends on fuel markets. Increase in demand for transport fuels, which usually forced the increase in prices, this time, through driving down average crude oil prices, did not lead to the increase in the prices of those fuels. On the Polish market net wholesale prices, without changes in taxes, were shaped by the changes in stock market quotations of fuels and the changes in the PLN-USD exchange rate. The price reductions turned out beneficial for individual drivers and transport companies, but at the same time the state's budget recorded declining VAT revenues on every litre of fuel. The compensation for fiscal revenues had the form of bigger official sales volumes after eliminating parts of the grey and black fuel market segment.

The fuel prices on the Polish market are shaped by producers and traders on the basis of the so-called import parity, the main components of which are commodity market prices of fuels and the PLN exchange rate against the US dollar. The changes in the import parity, caused by significant price changes of fuels, determined the direction of changes in wholesale and, consequently, retail prices.

Brent crude oil prices, which determine prices for the European market, are shown in Figure 26.

In 2016 the big game of world powers producing crude oil aimed at getting the maximum market share brought on a significant reduction in fuel prices worldwide. It was possible to stop the dynamic evolution of American shale sector, yet at the expense of significant income losses

FIG. 26 PRICES FOR BRENT CRUDE AND THE USD EXCHANGE RATE IN 2016
Source: e-petrol.pl, POPiHN's own data

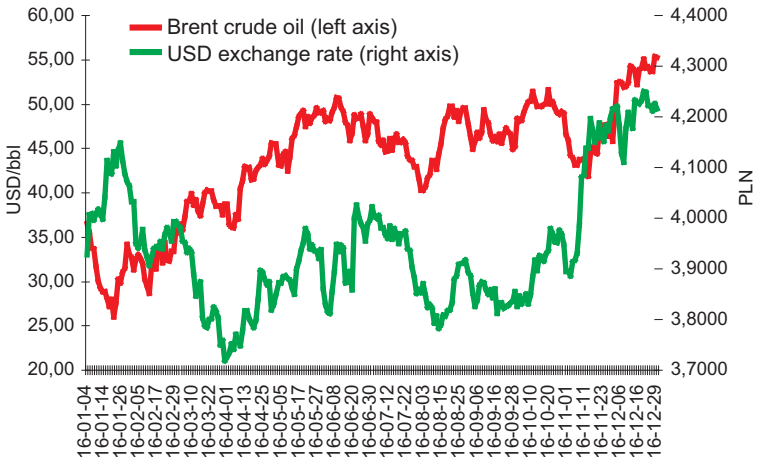


FIG. 27 COMPARISON OF ANNUAL AVERAGE PRICES FOR CRUDE OIL, LIQUID FUELS AND THE USD EXCHANGE RATE IN 2015 AND 2016
Source: Prices from e-petrol.pl for Brent crude FOB Sullom VOE, for fuels CIF NWE ARA

Description	2015		2016		Reference 2016 to 2015
	Value	Units	Value	Units	2015=100
1	2	3	4	5	6
Prices for Brent crude	52,47	USD/bbl	43,69	USD/bbl	83
Prices for Premium petrol 10 ppm S	574,1	USD/tone	474,4	USD/tone	83
Prices for diesel 10 ppm S	509,8	USD/tone	405,4	USD/tone	80
USD exchange rate	3,7718	PLN	3,9459	PLN	105

FIG. 28 FLUCTUATIONS IN BRENT CRUDE PRICES AND IN THE EXCHANGE RATE OF THE USD IN 2016 COMPARED WITH 2015 AVERAGES [%]
Source: POPiHN and e-petrol.pl

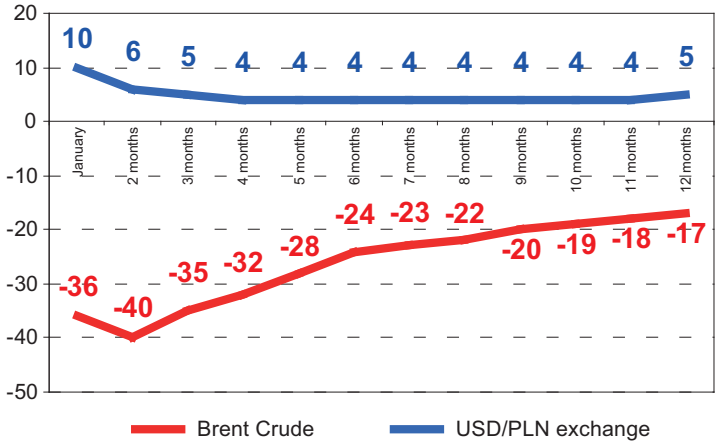
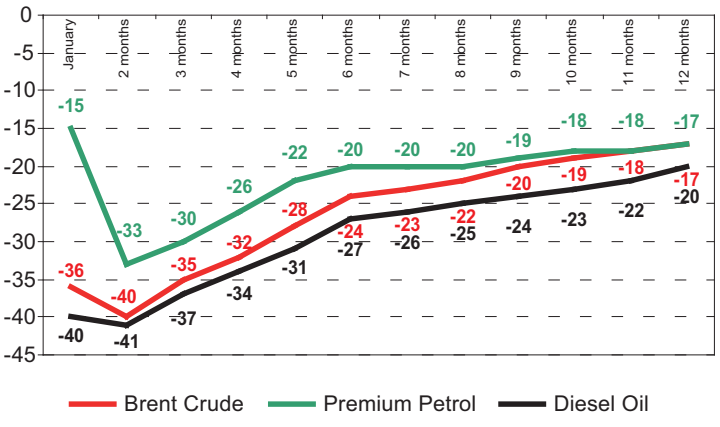


FIG. 29 FLUCTUATIONS IN CRUDE OIL AND FUEL QUOTATIONS IN 2016 COMPARED WITH 2015 AVERAGES [%]
Source: POPiHN and e-petrol.pl



in petroleum countries' budgets. Some examples were Saudi Arabia and Russia, but the fight was most spectacularly reflected in Venezuela, sinking in a crisis. 2016 was marked by activities aimed at raising crude oil quotations. The attempts to conclude an agreement on restricting production limits were successful only at the end of the year, yet the very announcements resulted in periodical growths in quotations. Restrictions on shale oil extraction in the US, caused by low extraction profitability at prices below 50 USD/bbl, favoured the above phenomenon. In the end, due to all the above, Brent crude oil quotations crossed the level of 50 USD/bbl at the end of the year, also thanks to additional economic impulse that had been generated by, among others, low energy costs, which forced the increase in the refining material. On the market there is still a surplus of crude oil and fuels, but if it is possible to maintain in force the introduced production restrictions, there is a chance that the quotations remain steady in between 50 to 60 USD/bbl in the quarters coming in the nearest future. A part of this stabilisation will also be the extraction installations in the US shale fields, which will be launched in big numbers if the quotations exceed this upper limit. The above is good news for drivers as it guarantees maintaining the prices on current levels in the long term.

Economic results, presented by domestic producers, prove that these operators took advantage of the previous year to raise their value. Polish drivers benefitted as well. Unfortunately, the possibility of bigger reductions of retail prices was limited by the scale of fiscalism which regulates fuel sales in Poland. Currently taxes constitute over 50% of fuel price. Therefore wholesale prices in Polish refineries were lowered on a smaller scale than it could result from the reductions in quotations, amounting to 6% for motor fuels and 7% for diesel.

Factors affecting domestic wholesale and retail prices (prices of crude oil, prices of main fuels and the dollar exchange rate) were as follows in 2016 (Fig. 27).

The interdependence of crude oil prices and the USD exchange rate in the Polish market is shown in Fig. 28. Such changes had to result in price increases in the second half of the year.

Comparison of trends for crude oil and fuels is presented in Fig. 29.

The upward trend was practically visible from the beginning of the year, and even despite the fact that the year closed with negative results, the changes in the dynamics of falls were very significant, both for crude oil and fuels. Diesel recorded greater changes in quotations than motor petrol. Both fuel types were strongly related to crude oil quotations, despite growths in demand for motor fuels in most developed and developing countries.

The situation observed on the international markets was transferred to the Polish market as a result of changes in the so-called import parity, which was influenced by changes in global prices of fuels, PLN-USD exchange rate and the tax burdens that prevail on the domestic market. In 2016 global prices decreased on average, but at the same time there was a decline in the PLN purchasing power against the USD. Tax burdens remained at an unchanged level. Changes in annual ex-refinery prices for Polish oil companies are shown in tables 30 and 31.

The decreases of the average net prices of 95-octane petrol in case of Polish producers, directly related to the stock market quotations, were lower than the decreases of these quotations, which was mainly caused by a decline in Polish zloty's purchasing power.

Comparisons of diesel prices in the Polish refinery market are given in Figure 31.

Similarly as in the case of petrol the reduction in net domestic diesel fuel prices did not overlap with the degree of falls on international markets.

The wholesale prices shape the retail prices and therefore the changes in the latter ones in 2016 were almost identical with the adjustments of prices in domestic refineries. In 2015 the difference between 95-octane petrol and diesel prices

Fot. OLPP

FIG. 30 COMPARISON OF ANNUAL AVERAGE WHOLESALE PRICES OF FUELS AT DOMESTIC FUEL PRODUCERS

Source: PKN ORLEN SA, Grupa LOTOS SA, POPiHN

Description	2015		2016		Reference 2016 to 2015
	Value	Units	Value	Units	2015=100
1	2	3	4	5	6
EU95 petrol gross (without VAT)	3 609	PLN/1000 l	3 399	PLN/1000 l	94
Excise	1 540	PLN/1000 l	1 540	PLN/1000 l	100
Fuel surcharge	129	PLN/1000 l	129	PLN/1000 l	100
EU95 petrol net	1 940	PLN/1000 l	1 730	PLN/1000 l	89

FIG. 31 COMPARISON OF ANNUAL AVERAGE WHOLESALE PRICES OF DIESEL AT DOMESTIC FUEL PRODUCERS

Source: POPiHN's own data based on data of PKN ORLEN SA and Grupa LOTOS SA

Description	2015		2016		Reference 2016 to 2015
	Value	Units	Value	Units	2015=100
1	2	3	4	5	6
Diesel with 0.001 S gross (without VAT)	3 502	PLN/1000 l	3 266	PLN/1000 l	93
Excise Diesel with S 0,001%	1 171	PLN/1000 l	1 171	PLN/1000 l	100
Fuel surcharge	288	PLN/1000 l	288	PLN/1000 l	100
Diesel with S 0,001% net	2 043	PLN/1000 l	1 807	PLN/1000 l	88

FIG. 32 COMPARISON OF MOTOR FUELS' RETAIL PRICES

Source: POPiHN's own data on the basis of data from e-petrol.pl, WNP

Description	2015		2016		Reference 2016 to 2015
	Value	Units	Value	Units	2015=100
1	2	3	4	5	6
Average retail price of EU95	4,61	PLN/litr	4,34	PLN/litr	94
Average retail price of ON	4,48	PLN/litr	4,12	PLN/litr	92
Average retail price of autogas	1,96	PLN/litr	1,80	PLN/litr	92

was 0.13 PLN/l in favour of diesel. In 2016 this price difference grew: diesel was 0.22 PLN/l (on average in the year) cheaper than the 95-octane petrol. The above was a consolidation of the previous year's trend, and, furthermore, the difference grew. This is confirmed by a systematic comeback of the automotive market to petrol engines vehicles and a gradual reduction in the dieselization of the commercial vehicles market. In the past, when such vehicles were the dominant ones in passenger transport, diesel was much cheaper than the basic fuel type.

A comparison of the retail prices of EU95 petrol, autogas and diesel in the years 2015-2016 is shown in the table (Fig. 32).

The margins on fuel sales in 2016 were even lower, compared to the previous year, which resulted in the fact that keeping a filling station afloat required, to a large extend, non-fuel sales and offering various additional services. Throughout the year the margins were diversely shaped, yet (on average in a year) petrol sales had better volumes than diesel. The price relations 95-octane petrol/autogas, which are significant for drivers whose vehicles are equipped with a dual fuel supply system, remained on a similar level as in 2015. The autogas to 95-octane petrol price ratio was on average almost 42% all year round, yet there were periods when it stood at only 36%. Such relations did not encourage shifting from autogas towards petrol. The price trends of individual fuels on the domestic market are shown by the graphs in Fig. 33 and 34.

FIG. 33 RETAIL PRICES OF EU95, DIESEL, LPG AND LFO IN 2006-2016 [PLN/1000 l]
Source: POPiHN's own data on the basis of data from e-petrol.pl, WNP

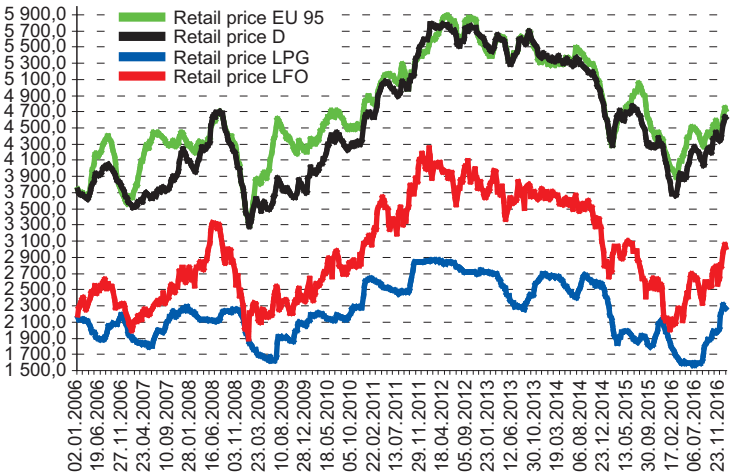
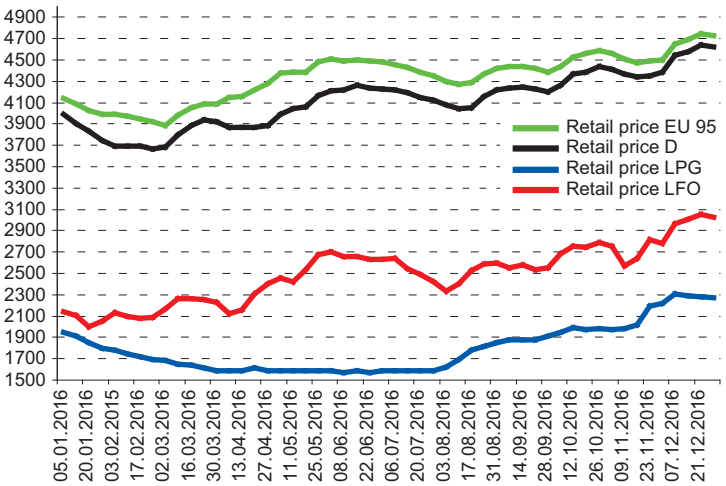


FIG. 34 RETAIL PRICES OF EU95, DIESEL, LPG AND LFO IN 2016 [PLN/1000 l]
Source: POPiHN's own data on the basis of the data from e-petrol.pl, WNP and ARE



The permanent downtrend in fuel prices which started in 2012 continued in 2016, yet at the beginning of March there was a shift in the trend and the prices started to accelerate upwards, with petrol peaking at some stations at 5PLN/l at the end of the year, and sometimes even exceeding this level. Nevertheless, even such levels did not result in the annual average being higher than the previous year's one. The changes in the way of shaping the market, undertaken by the countries producing crude oil, led to a situation of significant price increases and, taking into account current market interdependence, it is possible that the prices will remain on such levels in the first months of 2017. Is 2017 going to be first in many years in which average annual prices will be higher than the previous year's ones? It seems likely, however, on condition that consequent limitations in crude oil production be maintained on a global scale. Otherwise the prices at filling stations can fall. The graph 35 shows the relations between quotations on the international commodity stock exchanges and retail prices of fuels in Poland.

The estimates of fuel retail operators show that a sales margin (on fuel sales only) essential for keeping a filling station in operation should equal at least 0.25-0.35 PLN/l, depending on the site location. In 2016, similarly to the year before, few retail sites managed to reach that level. The above was also influenced by the functioning of the grey and black market, which had to be competed against pricewise. Without the non-fuel revenues filling stations would not be able to operate without incurring losses. It is worth bearing in mind as there are constant initiatives aiming at limiting the product offer at filling stations, withdrawing such goods as OTC drugs or alcoholic beverages. Limiting the sales area is also being considered, as well as closing the stations on non-working days. Such activities can eventually result in a significant reduction in the number of places where drivers will be able to fill up their tanks.

Drivers have already got used to the fact that during the year various regions of the country, sometimes even within the same city and at the stations of the same operator, see significant fuel price differentials. Prices were mainly affected by station location and its standard. Price differences at the end of the year were as much as 0.50 PLN per litre, and in case of stations located on motorways it was even more. The factors determining the level of retail prices in various parts of the country remained unchanged. They were the level of demand and the scale of competition between different operators, as well as the comprehensiveness of offered services. The accessibility of fuel from the grey or black market in a given region also influenced price levels.

In 2016 there was a high seasonal price range between different regions of the country, as well as alongside main communication routes. Statistically, the most expensive provinces in the country are: Mazowieckie, Małopolska, Podkarpackie and Zachodniopomorskie. During the summer and winter holidays prices were much more expensive along main transit routes and in the resorts. More Poles spending holidays in the country, and often benefitting from the 500+ programme, also influenced the price levels. On the other hand, so-called fuel tourists contribute to maintaining higher prices at the stations close to the borders with EU countries.

The factor which determines the domestic prices is the percentage of taxes included in the retail price. Figure 36 presents average tax burdens for motor fuels in 2016.

In 2016 there were no changes in the total amount of specific taxes on fuels (excise tax, fuel surcharge). The VAT did not change either, remaining at the level of 23% of net price increased by specific taxes. On average throughout the year the tax burdens included in fuel prices declined in relation to 2015, which was mainly caused by a decrease in net fuel prices along with the 23% VAT. Ultimately, for both 95-octane petrol and diesel the total proportion of taxes included in the retail prices of these two types of fuel fell by 2% and 3% respectively, and in monetary terms by 52 PLN/1000 litres for EU95 petrol and 68 PLN/1000 litres for diesel, which was around 50% of the reduction recorded in 2015.

The lower retail prices of petrol and diesel fuels entailed a growth in the total taxation share in the end consumer price. That increase equalled 4% and 6%, respectively, for EU95 petrol and diesel. The excise tax and the fuel surcharge are specific taxes not related to the net price and therefore their share in the price increases alongside the decrease in the price. VAT is calculated as a percentage of the net price, excise tax and fuel surcharge included, so it is partly a tax on other tax burdens. On average, in 2016 taxes represented 57% of 95-octane petrol and 54% of diesel retail price. This was slightly more than in 2015.

The structure of annual average retail prices for EU95 petrol and diesel is presented in the charts in Fig. 37.

In terms of values, the price structure is the following in Fig. 38.

FIG. 35 CHANGES IN QUOTATIONS FOR FUELS AND IN RETAIL PRICES OF EU95 PETROL AND DIESEL IN POLAND IN 2016 COMPARED TO 2015 AVERAGE PRICES [%]
Source: POPiHN, epetrol.pl

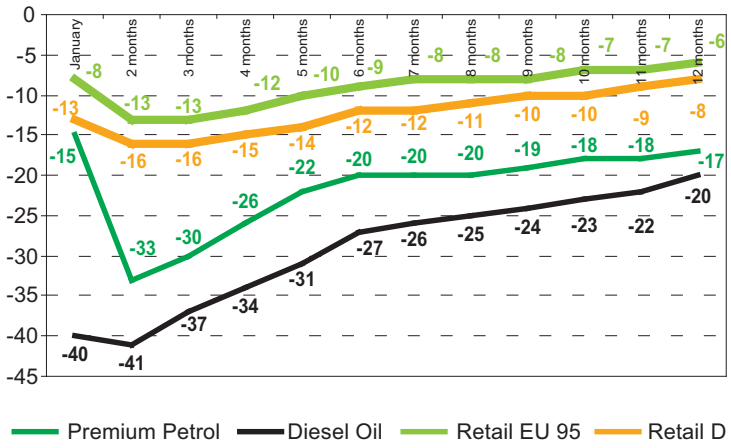
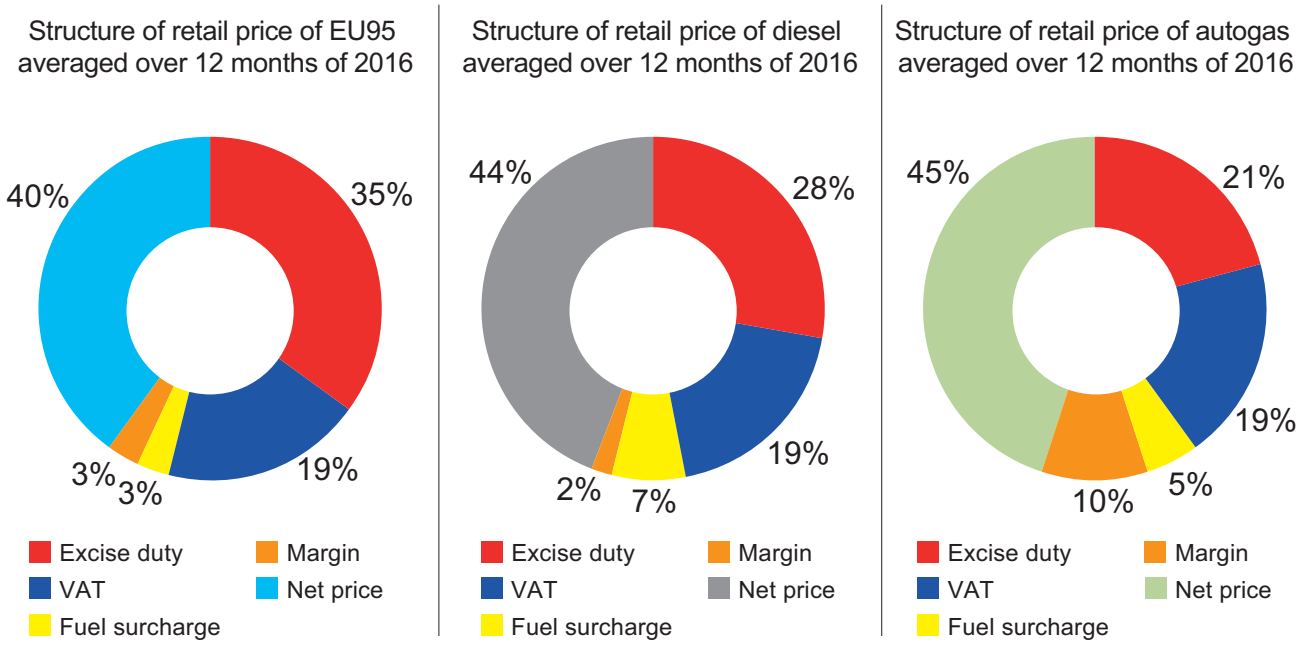


FIG. 36 COMPARISON OF TAX BURDENS ON MOTOR FUELS IN 2015 AND 2016
Source: POPiHN's own data

Description	2015		2016		Reference 2016 to 2015
	Value	Units	Value	Units	2015=100
1	2	3	4	5	6
Total taxes for EU95 (VAT+excise+fuel surcharge)	2 532	PLN/1000 l	2 480	PLN/1000 l	98
Total taxes for ON (VAT+excise+fuel surcharge)	2 297	PLN/1000 l	2 229	PLN/1000 l	97
% share of taxes in retail price of EU95	55	%	57	%	104
% share of taxes in retail price of ON	51	%	54	%	106

Fot. GRUPA LOTOS

FIG. 37 STRUCTURE OF RETAIL PRICE OF MOTOR FUELS IN 2016
Source: POPiHN's own calculations



The table in (Fig. 39) shows the comparison of prices of motor fuels in the European Union with domestic prices at the end of December 2016.

Fuel prices in Poland (calculated in euro) were practically among the lowest in the European Union. Such was the case in the previous years with both petrol and diesel. At the end of 2016 domestic retail prices of EU95 petrol were 17% lower and those for diesel 12% lower than the average prices for the whole European market. Compared to December 2015, this is 2 percentage points less for EU95 petrol and 1 percentage point less for diesel.

Fot. TOTAL

FIG. 38 STRUCTURE OF RETAIL FUEL PRICES IN 2015 AND 2016 (IN PLN/L)
Source: POPiHN's own calculations

	Eurosuper 95 Petrol						Diesel						Autogas					
	Retail price	Excise tax	VAT	Fuel sercharge	Margin	Net price	Retail price	Excise tax	VAT	Fuel sercharge	Margin	Net price	Retail price	Excise tax	VAT	Fuel sercharge	Margin	Net price
Average 2015	4,61	1,54	0,86	0,13	0,14	1,94	4,48	1,17	0,84	0,29	0,14	2,04	1,96	0,38	0,37	0,09	0,22	0,91
Average 2016	4,34	1,54	0,81	0,13	0,13	1,73	4,12	1,17	0,77	0,29	0,08	1,81	1,80	0,38	0,34	0,09	0,18	0,82
% change	-5,9	0,0	-5,9	0,0	-6,9	-10,8	-8,0	-0,0	-8,0	0,0	-43,8	-11,3	-8,2	-0,0	-8,2	0,0	-18,3	-9,9

FIG. 39 AVERAGE RETAIL PRICES AND TAXES IN EU MEMBER STATES AND IN POLAND AT THE END OF DECEMBER 2016 IN EUR/1000 L
Source: Weekly Oil Bulletin EIA

	Eurosuper 95 Petrol						Diesel (EN 590)				
	Sale price	Price without taxes	Excise	VAT amount		Sale price	Price without taxes	Excise	VAT amount	VAT [%]
1	2	3	4	5	6	7	8	9	10	11
Austria	1 194,0	501,6	493,4	199,0	Austria	1 147,0	546,2	409,6	191,2	20
Belgium	1 355,3	496,9	623,2	235,2	Belgium	1 253,7	528,5	507,6	217,6	21
Bulgaria	1 030,9	496,1	363,0	171,8	Bulgaria	1 032,1	529,7	330,4	172,0	20
Croatia	1 284,2	516,4	511,0	256,8	Croatia	1 187,5	544,9	405,1	237,5	25
Cyprus	1 203,2	521,4	489,7	192,1	Cyprus	1 212,2	558,0	460,7	193,5	19
Czech. Rep.	1 129,7	458,5	475,1	196,1	Czech. Rep.	1 108,4	510,8	405,2	192,4	21
Denmark	1 517,2	595,8	618,0	303,4	Denmark	1 315,4	531,1	521,2	263,1	25
Estonia	1 116,0	507,2	422,8	186,0	Estonia	1 121,0	541,2	393,0	186,8	20
Finland	1 488,0	547,2	652,8	288,0	Finland	1 385,0	618,5	498,4	268,1	24
France	1 393,0	513,2	647,6	232,2	France	1 222,2	507,9	510,6	203,7	20
Greece	1 497,0	525,9	691,2	279,9	Greece	1 186,0	616,1	348,1	221,8	23
Spain	1 237,1	560,7	461,7	214,7	Spain	1 127,6	564,1	367,8	195,7	21
The Netherlands	1 564,0	512,3	780,3	271,4	The Netherlands	1 258,0	545,7	494,0	218,3	21
Ireland	1 349,0	489,0	607,7	252,3	Ireland	1 249,0	516,4	499,0	233,6	23
Lithuania	1 124,5	494,9	434,4	195,2	Lithuania	1 030,5	521,5	330,2	178,8	21
Luxemburg	1 175,0	542,2	462,1	170,7	Luxemburg	1 028,0	543,6	335,0	149,4	17
Latvia	1 151,9	508,6	443,4	199,9	Latvia	1 082,2	545,3	349,1	187,8	21
Malta	1 310,0	560,8	549,4	199,8	Malta	1 180,0	527,6	472,4	180,0	18
Germany	1 405,0	526,2	654,5	224,3	Germany	1 216,0	551,4	470,4	194,2	19
Portugal	1 463,0	538,3	651,1	273,6	Portugal	1 255,0	554,4	465,9	234,7	23
Romania	1 147,8	505,9	450,6	191,3	Romania	1 143,8	533,3	419,9	190,6	20
Slovakia	1 300,0	513,2	570,1	216,7	Slovakia	1 165,0	564,8	406,0	194,2	20
Slovenia	1 270,4	477,6	563,7	229,1	Slovenia	1 171,6	471,7	488,6	211,3	22
Sweden	1 490,8	531,4	661,2	298,2	Sweden	1 487,9	605,5	584,8	297,6	25
Hungary	1 187,1	525,9	408,8	252,4	Hungary	1 223,5	569,9	393,5	260,1	27
Great Britain	1 374,2	464,5	680,7	229,0	Great Britain	1 409,8	494,2	680,6	235,0	20
Italy	1 535,5	530,2	728,4	276,9	Italy	1 391,9	523,5	617,4	251,0	22
POLAND	**1 073,7**	**492,3**	**377,4**	**204,0**	**POLAND**	**1 053,3**	**523,4**	**329,8**	**200,1**	**23**
European average	**1 298,8**	**516,2**	**552,6**	**230,0**	**European average**	**1 201,6**	**542,5**	**446,2**	**212,9**	
Price in Poland against average European price	**83%**	**95%**	**68%**	**89%**	**Price in Poland against average European price**	**88%**	**96%**	**74%**	**94%**	

FIG. 40 RETAIL PRICES OF EU95 PETROL IN UE MEMBER STATES AND IN POLAND AT THE END OF DECEMBER 2016
Source: Weekly Oil Bulletin EIA

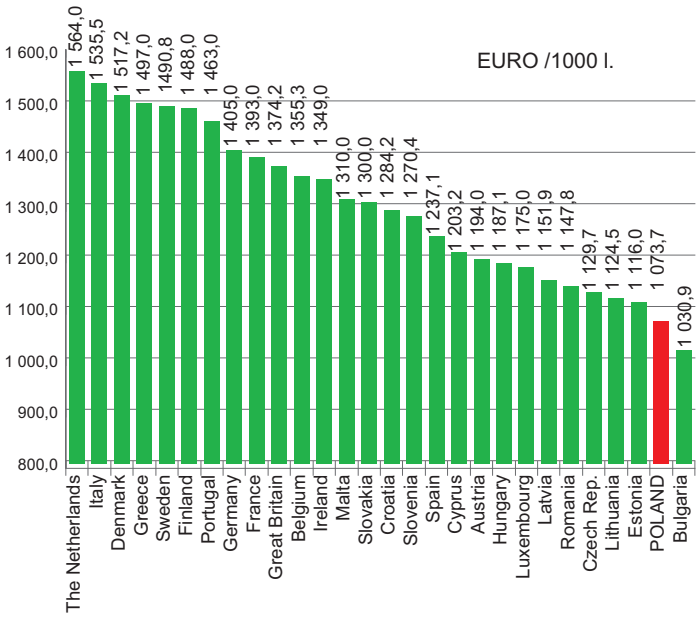
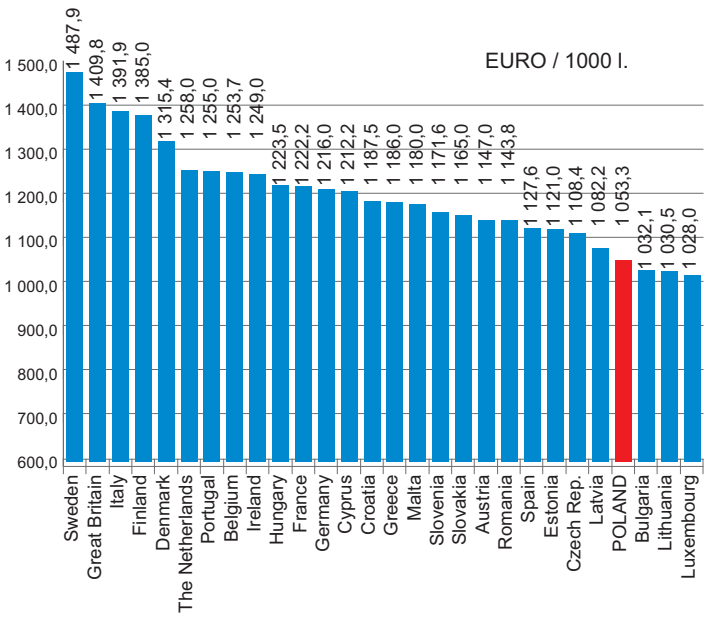


FIG. 41 RETAIL PRICES OF DIESEL IN UE MEMBER STATES AND IN POLAND AT THE END OF DECEMBER 2016
Source: Weekly Oil Bulletin EIA



NET PRICES IN ALL EU COUNTRIES ARE QUITE SIMILAR, WHEREAS DIFFERENCES IN RETAIL PRICES ARE MAINLY DUE TO THE AMOUNT OF TAX AND MARGIN IN INDIVIDUAL COUNTRIES.

FIG. 42 SHARE OF TAXES IN RETAIL PRICE OF EU95 PETROL IN EUROPEAN COUNTRIES AT THE END OF DECEMBER 2016
Source: POPiHN's own data

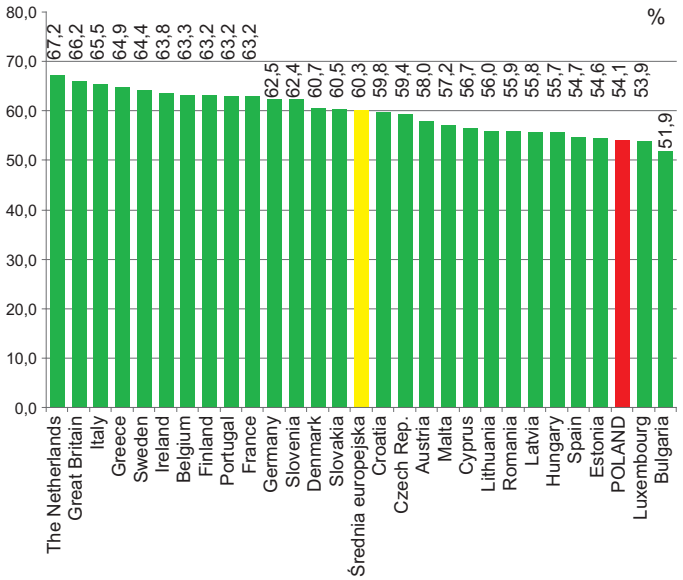
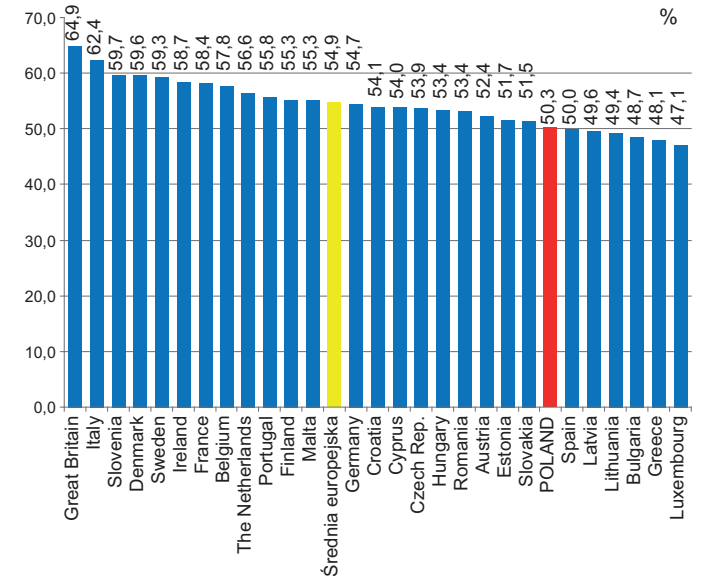


FIG. 43 SHARE OF TAXES IN RETAIL PRICE OF DIESEL IN EUROPEAN COUNTRIES AT THE END OF DECEMBER 2016
Source: POPiHN's own data



In December 2016 domestic net prices (excluding taxes and converted into euro) of EU95 petrol and diesel were lower than the average European prices by 5% and 4% respectively. Net prices in all European Union countries are quite similar, and the differences in retail prices are mainly caused by taxes applicable in different countries and levels of margins.

At the end of 2016 for EU95 petrol the difference between the highest and the lowest net price observed in EU countries was EUR 137 (which is EUR 66 less than in the previous year), whereas the difference between the highest and the lowest retail price was EUR 533 per 1000 litres (which is EUR 72 more than in the previous year). Thus there was a decrease in the net price spread, but at the same time the difference between the highest and the lowest retail prices was bigger. It means that in some countries it was possible to achieve slightly bigger margins on fuel sales than in the previous year. For diesel the difference between net prices equalled EUR 147 per 1000 litres, and the difference between retail prices was EUR 460 per 1000 litres. In this case the difference between net prices declined, and so did the difference between retail ones.

Poland is one of the European countries with the highest applicable rate of VAT for fuels, but due to low net prices the actually paid VAT is in the middle of the European rates. At the end of December the difference between the amount of VAT paid on EU95 petrol, compared to the EU average, was (-11%), which is 2 percentage points less than in the previous year. In the case of diesel this ratio was 6% lower than the EU average, which is 2 percentage points more than in the previous year. The amounts of excise tax paid (after conversion into euro, including fuel surcharge) respectively for EU95 petrol and diesel were 32% and 26% lower than the European averages.

In December 2016 in Europe EU95 petrol was the cheapest in Bulgaria and Poland. Diesel was cheaper (than in Poland) only in Bulgaria, Lithuania and Luxembourg. Therefore it was profitable to come to Poland from any EU country in order to fill up one's car completely. Stations located in the border areas, especially in the western and southern part of the country, as usual recorded good sales volumes and had slightly higher prices, and thus bigger margins. Traditionally fuels across Poland's eastern border, in non-EU member countries, were cheaper than in Poland, which in turn encouraged Polish drivers from those areas to fill up in Ukraine, Belarus or the Kaliningrad Region, yet the ease of shopping deteriorated since local border traffic was suspended.

We tend to complain about having to pay taxes, and complain even more when it comes to taxes, as these constitute over half of the retail price paid at the dispensers. As we can see in the graphs picturing tax share in fuel prices in different European countries, the Poles, when compared to other European nations, are burdened with slightly lower taxes. The difference between the highest and lowest share was 15 percentage points for EU95 petrol and 18 percentage points for diesel. The lowest share for both fuel types is represented by Luxembourg, i.e. a country with the lowest VAT for fuels, often called 'Europe's filling station'.

A comparison of the total tax burdens on fuels in the EU countries at the end of 2016 is presented in Fig. 42 and 43.

The possibility of cheaper refuelling in the past few years has been observed in the whole Europe. In Poland fuel prices were, obviously, when converted into euro, even lower than in most European countries. Fuel purchases acted like magnets, attracting our western and southern neighbours. By the way, some currency was kept for other purchases both at filling stations and in other places. Polish drivers who travel towards other directions than the eastern one always fill their tanks up to the top at the stations located at the borders, thus saving some euro for other purposes. Those who drive towards the East, i.e. to non-EU countries, usually have their tanks filled only with the amount of fuel sufficient to reach the nearest Ukrainian, Belarussian or Russian filling station.

0.533 EUR

Difference between the lowest and the highest retail price of EU95 petrol at the end of 2016 in European countries

Fot. PKN ORLEN

FIG. 44 TOTAL MARKET FOR LUBRICATING OILS IN 2016
Source: POPiHN's own data

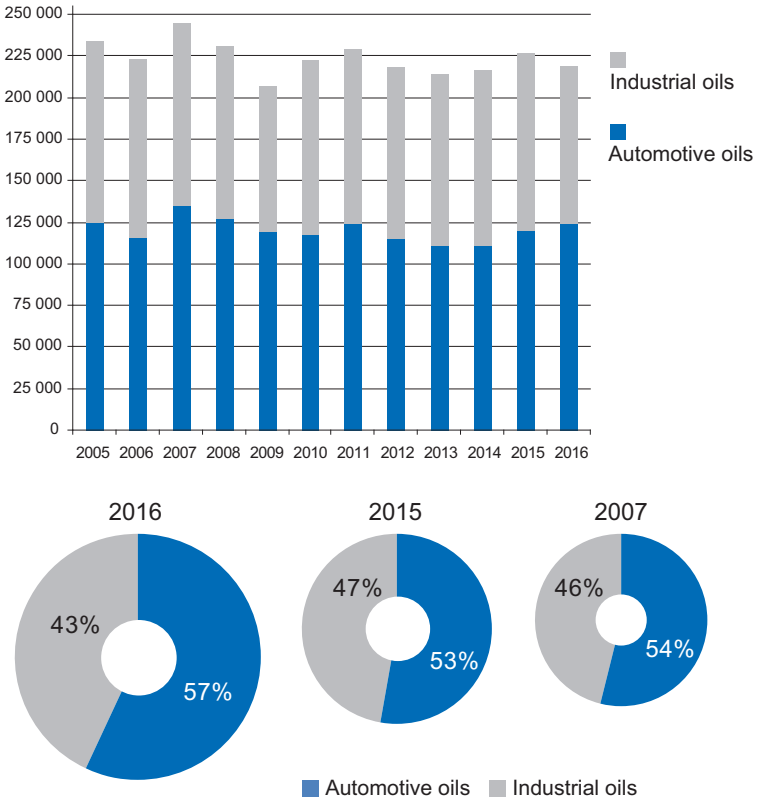
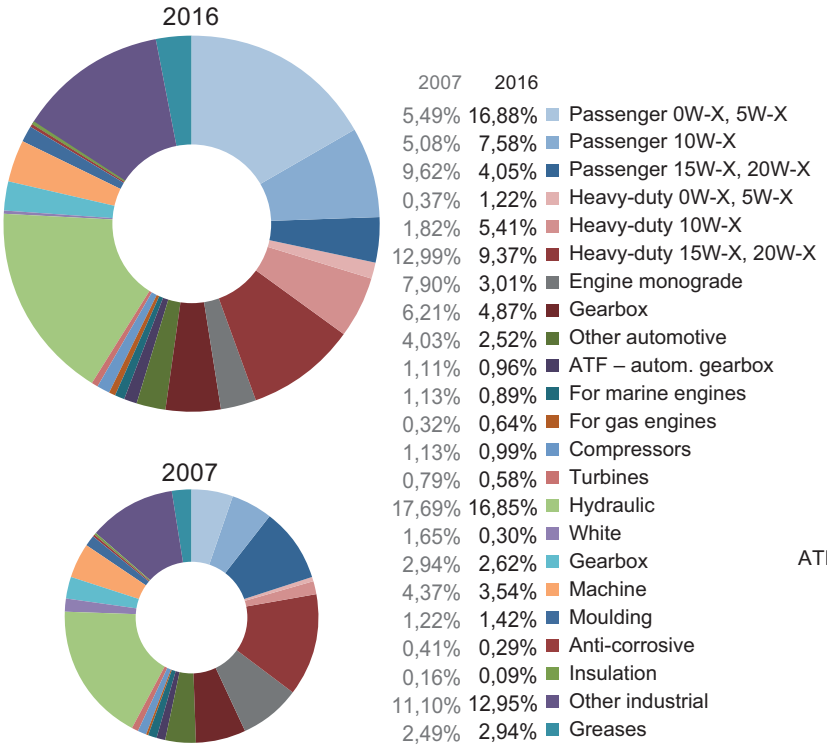
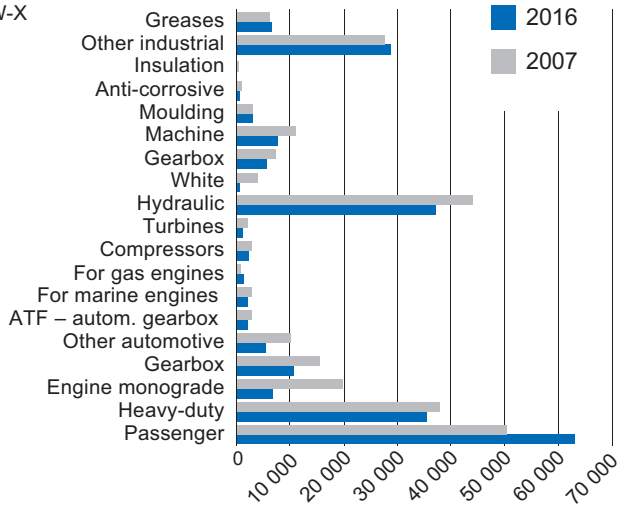


FIG. 45 COMPARISON OF THE STRUCTURE OF THE ENTIRE MARKET FOR LUBRICATING OILS IN 2016 AND 2007
Source: POPiHN's own data





LUBRICATING OILS MARKET

Lubricating oils market overall

In 2016 the Polish market of lubricating oils reached the level of 223,402 tonnes, which is a 1.58% y/y decrease compared with the previous year as well as a reverse of the trend after previously growing for two consecutive years.

According to POPiHN's estimates, the market remains stable. Nevertheless, in the previous year there were several surprises in individual segments. Besides, one record was beaten.

One of the surprises was a decline in the growth dynamics to the level of about 2.8% against 3.6% forecasts. The GDP dynamics below the level of 3% in Poland traditionally means switching from an upward trend in lubricating oils market to a downward one. In 2016 this rule was once again confirmed.

A relative stability in the market structure, maintained over the past 10 years, was recently accompanied by quite a significant increase in the automotive segment at the expense of the industrial one – from 53% in the previous year to the current 57%. A statistically slight predominance of the automotive segment over the industrial one has been practically maintained since POPiHN's monitoring activities were initiated, i.e. for 10 years now.

Major changes in the market structure are noticeable not that much year to year, but rather in a long-term perspective. From this perspective, above all, we can notice certain changes in the engine oils segment. The most significant change on the scale of the whole market is undoubtedly an increase in the share of passenger car engine oils. It is particularly worth pointing out that the share of synthetic oils for passenger cars grew on the scale of the whole market from 5.5% in 2007 to 16.85% in 2016. The above means that this group became the biggest one on the market, placing itself ahead of hydraulic oils for industry. Simultaneously, the

biggest decline was recorded for mineral oils for passenger cars, heavy-duty vehicles, as well as monograde oils (respectively: from 10 to 4%, from 13 to 9% and from 8 to 3%).

Unlike in the automotive segment, in the area of industrial oils application we have been observing a multiannual stabilization, typical of mature, fully formed markets, with a dominating share of hydraulic products (16.85%) and a diversified category of 'other industrial' (13%).

Engine oils for the automotive industry

With a decreasing dynamics of the country's GDP the overall market for oils for the automotive industry grew slightly better than it was expected, i.e. by 3.74%.

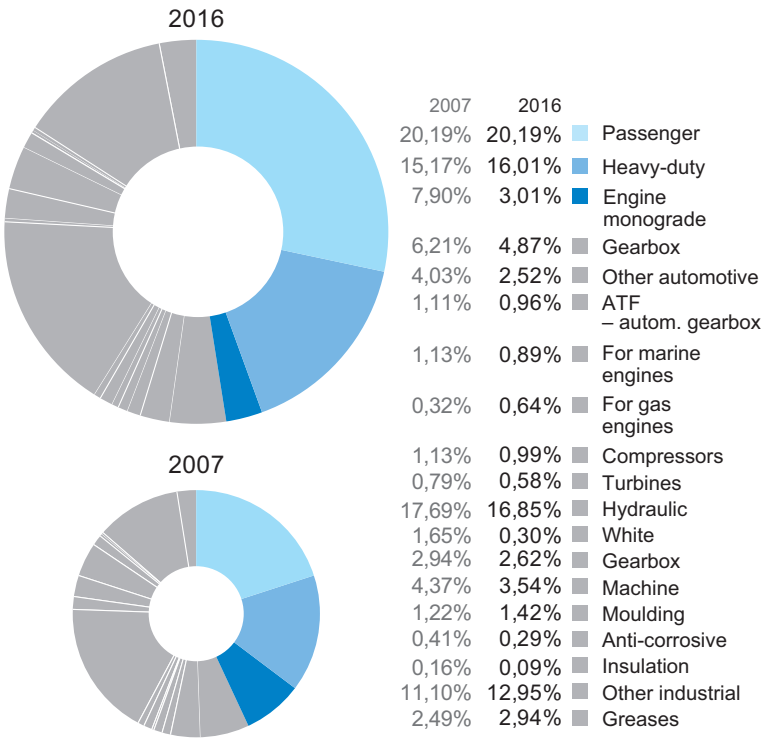
Approximately 47% of all lubricating oils sold in Poland are the oils for the automotive industry. Within this group engine oils account for around 80%, while the remaining 20% are gearbox oils, automated gearbox oils (ATF) and others.

In 2016 in Poland 104,714 tonnes of the above mentioned products were sold.

Until recently, this segment was in an apparent downtrend. However, for the past three years we have been observing quite a surprising reversal of this trend. There were numerous reasons pointing to the fact that the segment should continue to shrink: starting with the grey market (private and parallel imports of oils from the countries in which there is no excise tax), through a growing share of synthetic oils which need to be changed less frequently, up to a strong decrease in the use of monograde oils[1] and demographic trends observed in recent years (mass migration of 3 mln of potential vehicle users).

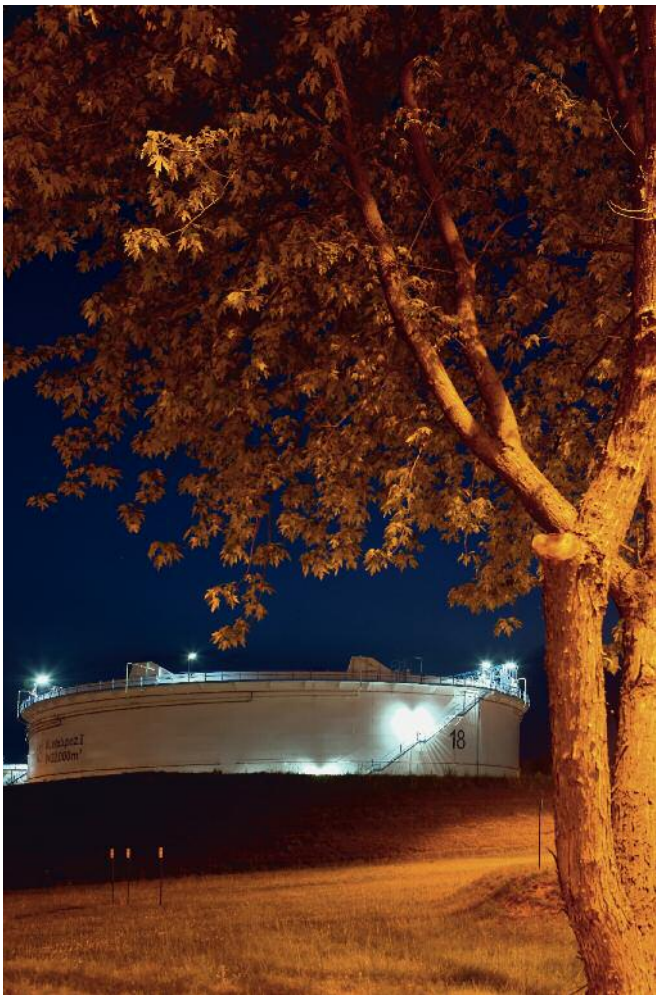
One of the reasons accounting for the aforementioned growth could be contributed to a combination of such factors as a growing production of cars in Poland (the so-called first filling of the engine), their surprisingly high sales volumes on domestic market, and last but not least, record-breaking imports of second-hand cars from abroad, the number of which in 2016 amounted to approximately 1 million. It is, nevertheless, difficult to say that the only reason underlying the shift in a downward trend is the growing number of vehicles in Poland, as practically since the moment of Poland joining the EU, i.e. 2004, the number of vehicles calculated per 1000 of the population in Poland is growing in a steady and significant way, therefore it is difficult to talk about a fundamental change. As it was stated in the previous report, the programme '500+' might have influenced a growing consumer demand. It might have caused counter-cyclical impact on the automotive sector, influencing a strong increase in consumer credits (500 PLN as a vehicle instalment). Nonetheless, in this case it is also worth pointing out the fact that the trend in engine oils consumption shifted towards the upward one as early as in 2015, i.e. long before the programme '500+' was implemented. Therefore it is not the only factor leading to a record-breaking growth.

FIG. 46 AUTOMOTIVE ENGINE OILS AGAINST THE OVERALL LUBRICATING OILS MARKET IN POLAND, POPIHN'S OWN STUDY
Source: POPiHN's own data



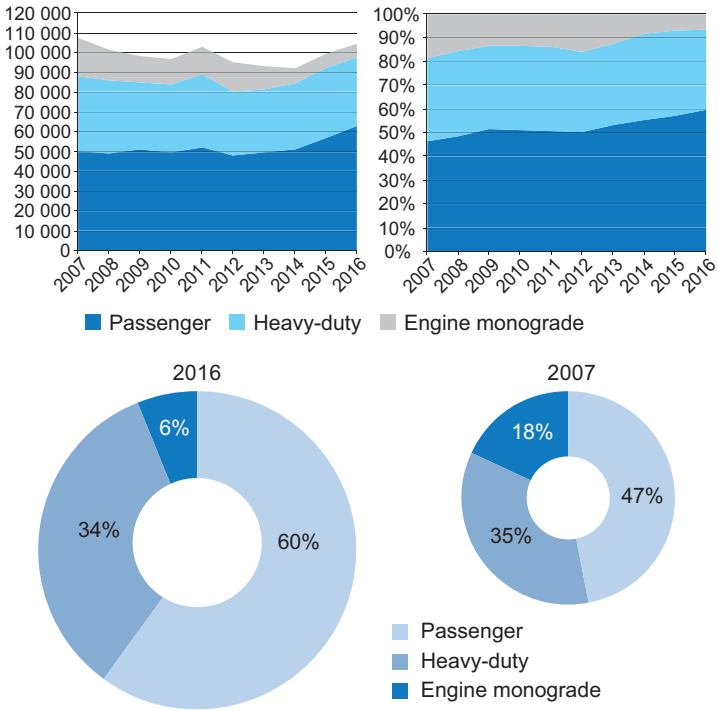
2007	2016	
20,19%	20,19%	Passenger
15,17%	16,01%	Heavy-duty
7,90%	3,01%	Engine monograde
6,21%	4,87%	Gearbox
4,03%	2,52%	Other automotive
1,11%	0,96%	ATF – autom. gearbox
1,13%	0,89%	For marine engines
0,32%	0,64%	For gas engines
1,13%	0,99%	Compressors
0,79%	0,58%	Turbines
17,69%	16,85%	Hydraulic
1,65%	0,30%	White
2,94%	2,62%	Gearbox
4,37%	3,54%	Machine
1,22%	1,42%	Moulding
0,41%	0,29%	Anti-corrosive
0,16%	0,09%	Insulation
11,10%	12,95%	Other industrial
2,49%	2,94%	Greases

Fot. PERN



[1] Another 3% decline in 2015

FIG. 47 CHANGES IN THE STRUCTURE OF THE AUTOMOTIVE ENGINE OILS SEGMENT AGAINST SALES IN ANNUAL TERMS
Source: POPiHN's own data



Whatever the reason, the market performs much better than it could be expected, taking into consideration the macroeconomic conditions. Nevertheless, the correlation of these two elements continues to be strong.

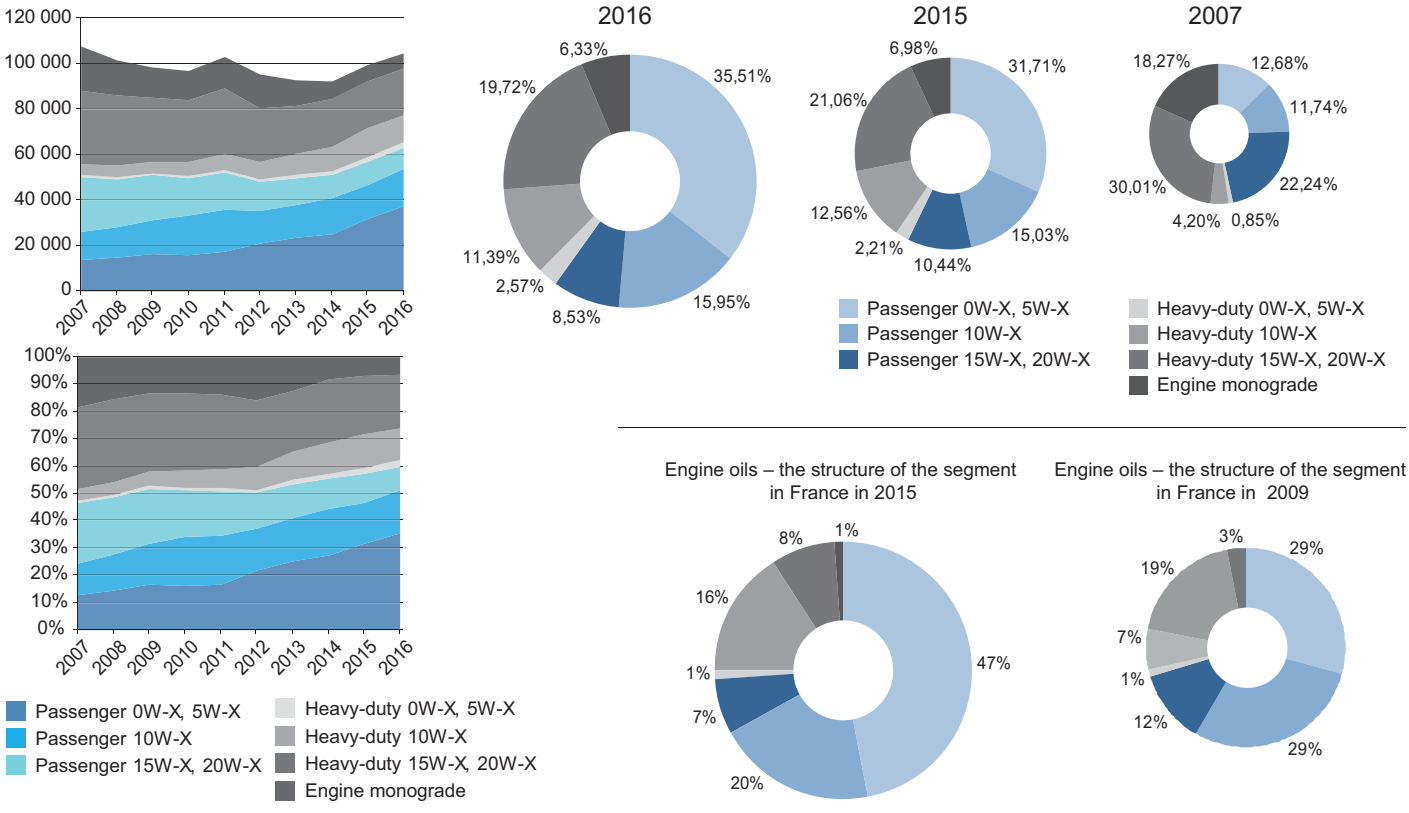
Within the automotive segment there has been a significant disparity.

While the market of heavy-duty engine oils, according to the '3% GDP rule' quoted in the introductory part, shrank (-1.06% year-on-year), the sales of engine oils for passenger cars grew by 10.45% up to 62,822 tonnes, exceeding last year's[2] sales records.

The above means that the share of oils for passenger cars already reached 60% in the segment of engine oils, mostly at the expense of shrinking of the group of monograde oils to about 5%. On the other hand, the share of oils for heavy-duty vehicles has been quite stable for the past 10 years, amounting to approximately 34-35%.

Similar trends are being observed on the French market, significantly more advanced in terms of car fleet, which clearly shows that the trend observed in Poland will continue in the coming years, alongside the modernisation of the car fleet. What can it lead to? In case of France, the share of synthetic oils for passenger cars in 2015 reached almost ½ of the whole engine oils segment, whereas oils for passenger cars already constitute ¾ of the segment, while monograde oils are practically disappearing from that market.

FIG. 48 CHANGES IN THE AUTOMOTIVE ENGINE OILS SEGMENT AND COMPARISON OF STRUCTURES IN POLAND IN 2016, 2015 AND 2007; COMPARED AGAINST THE STRUCTURE OF THE SEGMENT IN FRANCE
Source: POPiHN's own data



[2] POPiHN's monitoring activities have been carried out since 2006, so the above sales record as regards the sales of engine oils for passenger cars applies to this period. So far the biggest sales volumes were recorded in 2015, when they amounted to 56,876 tonnes.

Passenger cars motor oils (PCMO)

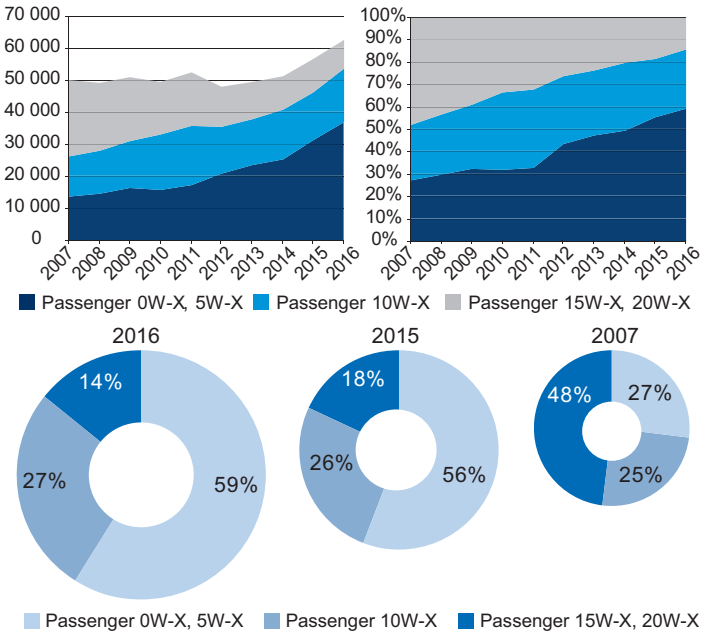
This segment's result, for the second consecutive year, grew over 10% (10.45%, to be exact) and it is this year's biggest surprise. It is, however, worth noting that it was achieved in much worse macroeconomic conditions than the expected ones. Consequently, this segment's share in the overall market of lubricating oils grew from 20.19% (50,275 tonnes) in 2007 to 28.52 in 2016. The achieved level of 62,822 tonnes also means that it has currently become the biggest segment of the lubricating oils market in Poland.

Such results were achieved mainly due to sales in one group, namely synthetic oils lowest in viscosity grade, which set its record at the level of 37,184.14 tonnes. Never before in Poland had so many highest quality goods been sold within a year. Thus this group's share in the segment of passenger cars motor oils already reached the record level of 59%.

The sales volume of synthetic oils has been continuously growing since POPiHN's monitoring activities were initiated, starting from 13,662 tonnes sold in 2007. The highest growth in sales of synthetic oils for passenger cars observed so far, namely by over 24% (from 25,330 to over 31,543 tonnes), was in 2015. In 2016 the growth equalled 17.88%, so the dynamics, nevertheless still very strong, seems to be slowly decreasing. At the same time, while observing the evolution in countries more developed than Poland, we can see, as for example in the case of France, that further modernisation of the car fleet entails the continuation of currently observed trends.

FIG. 49 PASSENGER CARS MOTOR OILS WITH REFERENCE TO VISCOSITY CATEGORIES (excluding monograde oils)

Source: POPiHN's own data



Heavy-duty engine oils (HDEO)

In 2016 sales volume of heavy-duty engine oils in Poland amounted to 35,262.36 tonnes, which is a minimum fall by 1.06 %, in line with the estimated fluctuations for the whole market, oscillating around the statistical error bounds of 3%. The result in this segment is very similar to the one achieved by the overall market of lubricating oils in Poland, and its analysis against the GDP shows that, in terms of market fluctuations, it is most probably the closest in line to reflect the economic situation, thus this segment's evolution best reflects the condition of the overall economy.

In this case there was a decrease after two years of growths. One of the main reasons accounting for the decline can be a downward trend in investment activity, especially in infrastructure investments, financed from the EU funds, which in previous years generated quite significant demand for using heavy-duty construction equipment.

The share of mineral engine oils (15W, 20W) in heavy-duty vehicles segment, which, for the first time in history, fell below 60% in 2015, continued to decrease, yet these changes were significantly less dynamic than in the passenger vehicles segment.

The process of replacing mineral oils by semi-synthetic oils is more dynamic in passenger vehicles than in heavy-duty ones. Nonetheless, also in the latter case it is a visible and continuous trend.

FIG. 50 HEAVY-DUTY ENGINE OILS WITH REFERENCE TO VISCOSITY CATEGORIES (EXCLUDING MONOGRADE OILS) AGAINST THE GDP GROWTH INDEX IN POLAND

Source: POPiHN's own data, GUS data

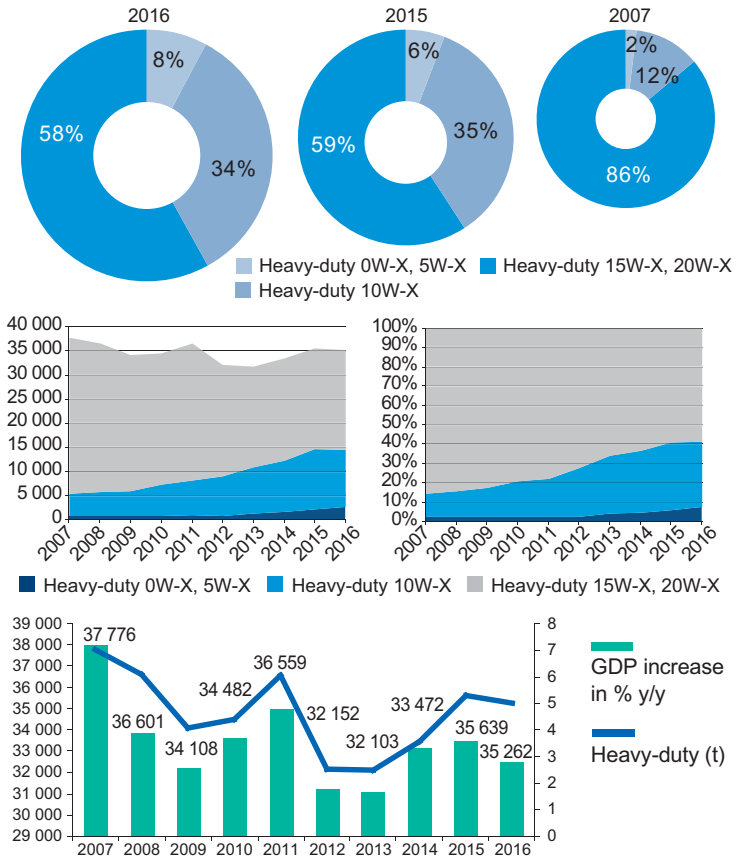
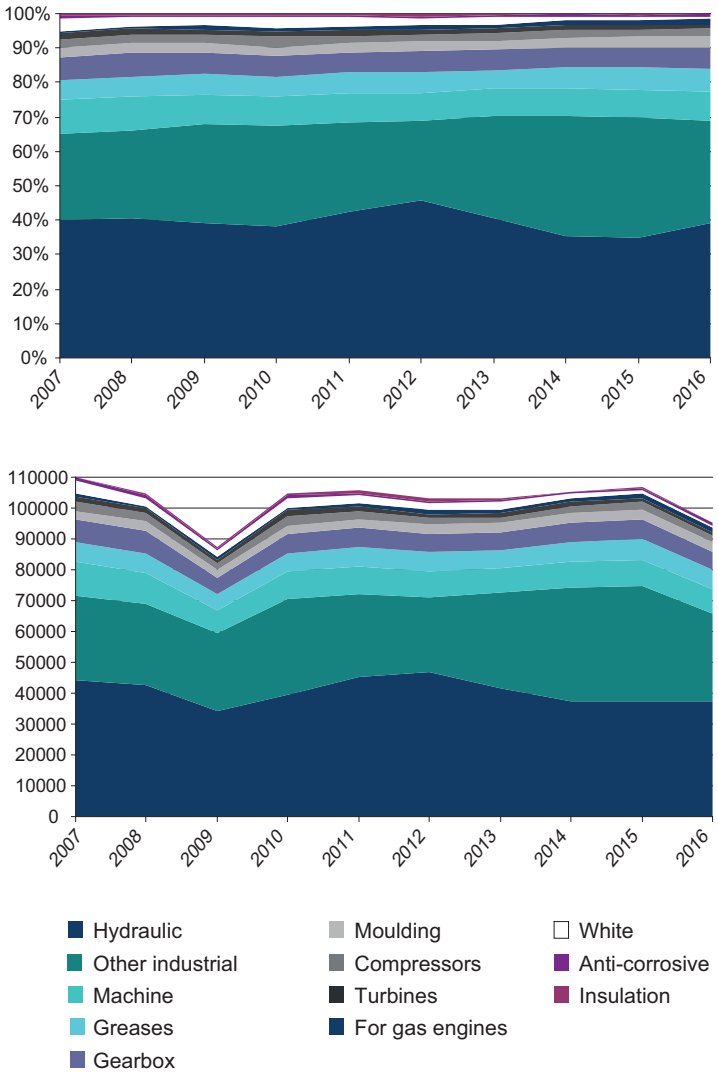


FIG. 51 CHANGES IN THE INDUSTRIAL OILS SEGMENT – EVOLUTION OF STRUCTURE
Source: POPiHN's own data



Oils for industry

The segment of oils for industry turned out to be very sensitive to the GDP decreases, in which the stabilization lasting for five previous years was interrupted. In the place of a stable trend we witnessed apparent declines, which in certain product categories reached as low as (-36%) yoy (white oils), or (-24,42%) yoy (isolation oils). Overall, the industrial segment shrank by 10.84% yoy and it was worse only in 2009, when the slump amounted to over 16% yoy. Also in terms of sales volumes (95,219 tonnes) the result was better only than the one recorded in the year of the crisis, i.e. 2009.

In case of this segment the situation seems to be simpler as it follows the fluctuations of the GDP in a clear way, including the '3% GDP rule'. This, however, does not thoroughly explain such a deep slump, especially after behaving in a stable way in 2012-2013, when the GDP fell significantly, reaching the level below 2%. It seems that the psychological factor might have appeared again, in the form of business operators' concerns related to, for example, a 5% decrease in investments or a threat of downgrading Poland's rating.

In terms of volume, among the biggest product groups in the industrial segment, the group of hydraulic oils shrank by 2.5%, while a varied group of 'other industrial' decreased by as much as 20% year-on-year.

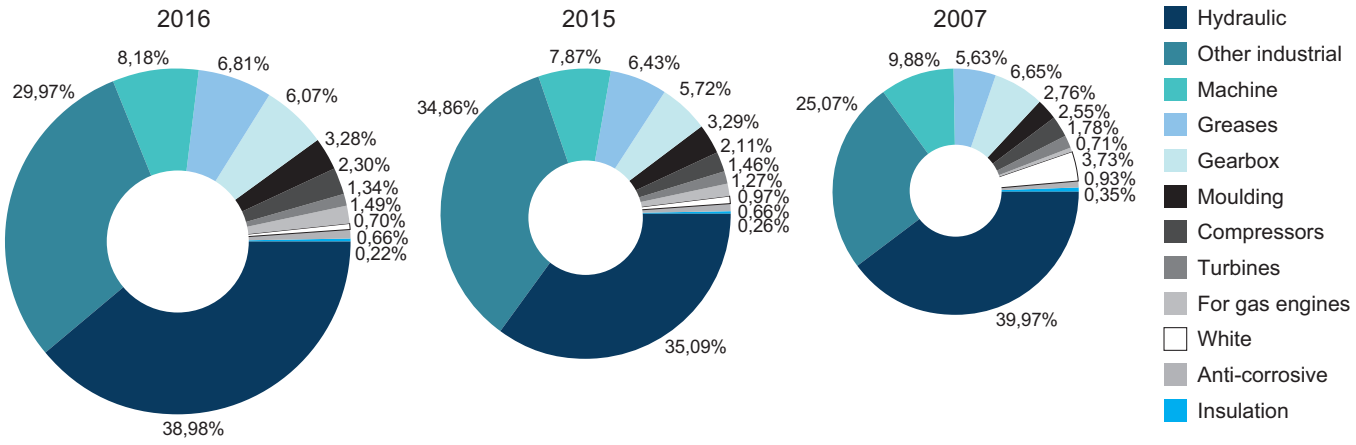
In the last nine to ten years, with regard to the structure of industrial oil sales, there have been no remarkable and steady changes comparable with those which took place in the case of motor oils in the automotive sector.

The Polish industry still predominantly uses hydraulic oils (a 39% share).

At the same time, their share in the overall market share decreased in the last few years, with the biggest decline recorded in 2013-2014, when this group shrank on average by 10%, which, in terms of volume, amounted to a decline of over 9,000 tonnes. Nevertheless, in 2016 their share increased, most probably as a result of quite a strong slump in the number of other categories.

More so, the second biggest group of industrial oils, namely 'other industrial oils', found itself in a completely opposite situation; this group's share in 2016 decreased

FIG. 52 INDUSTRIAL SEGMENT IN 2016: STRUCTURE WITH REFERENCE TO APPLICATION
Source: POPiHN's own data



by 5 percentage points. This category comprises widely diverse products, difficult to classify under other categories. Increasingly, these are highly specialised products designed for specific devices, as well as machine oils. This group until last year continued to experience growths, both in terms of volumes and share in the industrial segment. Currently, even despite the above decline, the share of this group in the whole industrial segment has reached 30% while in 2007 it was only its one-fourth part.

Both automotive and industrial segments do not reflect any considerable effects of even stronger market fluctuations upon their structures in a quarterly perspective. However, there are visible seasonal trends in consumption within the automotive segment, caused mainly by typical after-winter service in repair garages, which often includes a periodic change of oil.

Short-term forecast for lubricating oil market

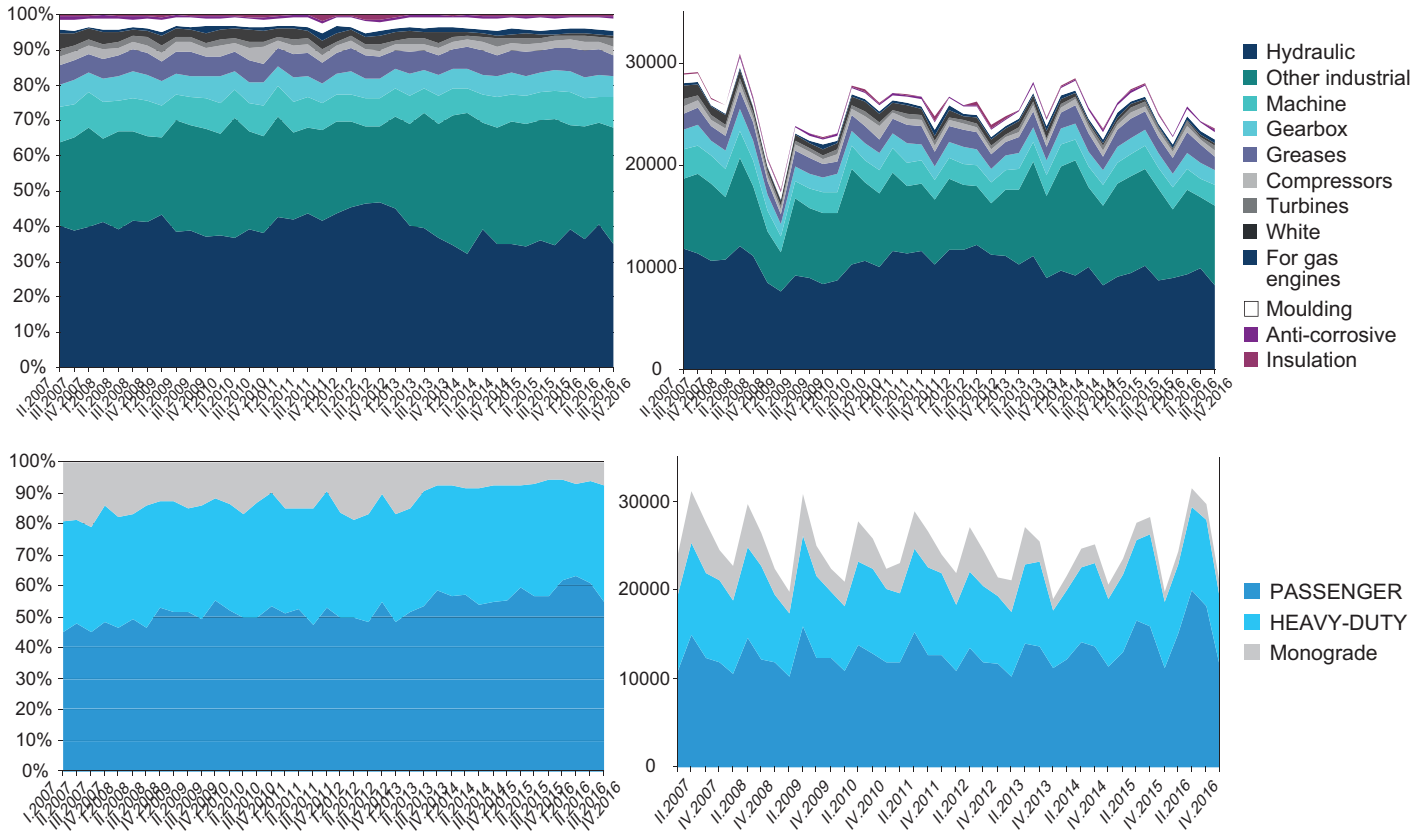
Ten years of continuous observation of the market provide a perspective which allows for a bolder formulation of opinions as to the place where it is now and in which direction it is going to follow. In the case of the automotive segment for passenger cars, the great importance is attached to the issues of technological changes and the condition within the automotive industry itself (both on the supply and demand side), whereas within the segment of heavy duty engine oils and support equipment the ultimate key factor is the general economic trend (expressed by the GDP indicator).

In the case of the industrial segment, two elements are crucial: apart from the general economic trend, also psychology plays a major role, as it may come out during of one-off events which can influence the expectations and decisions of persons responsible for production planning, inventory management, or purchase orders in large industrial facilities which are the main recipients of smear products for industry.

The industry's prospects should therefore be assessed mainly from the perspective of the evolution of the three aforementioned factors, although it is also important to notice the potential one-off events (so-called black swans), or the regulatory risk, whose common feature is that they can, but do not have to materialise.

1. Technological changes: for the coming years one should assume the continuation of the current trends, as proved, among others, by the example of France – increasingly more advanced (at least in the context of the Euro, WLTP and RDE standards, or equipping the cars with particulate filters) car fleet should have a particularly strong influence on the segment of engine oils for passenger vehicles, resulting in an increase in the proportion of the synthetic oils of the lowest viscosities and leading towards a simultaneous shrinking of the whole segment of engine oils (in terms of the tonnage of the marketed products), which results mainly from the extended drain intervals, and therefore a fall in demand. It is currently the key trend within the segment of engine oils for passenger vehicles.

FIG. 53 STRUCTURAL CHANGES IN THE INDUSTRIAL AND AUTOMOTIVE OILS SEGMENT IN TERMS OF QUARTERLY SALES
Source: POPiHN's own data



2. Consumer demand: a further increase in the number of vehicles in Poland should be expected, in terms of both absolute numbers and their density for 1000 citizens. The impact upon the dynamics of the abovementioned tendencies can result from the continuation of the 'Family 500 plus benefit scheme', as a part of the generated social transfers can be directed to the automotive industry (500 PLN as a car loan installment). Last year the beneficiaries of the scheme received a significant, compared to the scale of the Polish economy[3], amount of 17 billion PLN. Currently it is going to be around 22 billion PLN, so in 2017 the low base effect will still exist. In the absolute terms it can be reflected in further records established by the imports of second-hand cars from abroad, i.e. in another million of second-hand cars imported to Poland during 2017. In the area of oils for passenger vehicles it may mean the continuation of a temporary containment of a downward trend.

3. The demand from the automotive industry (the first factory fill): the car production in Poland has been on the increase for several years now. Even if its major part is earmarked for exports, the so-called first factory fill, made in the country of origin, may even account for over 10% of the total engine oil segment. The forecast assumes a temporary growth in demand for engine oils for the automotive sector, temporarily related to a higher consumer demand, which, however, is not going to halt a sustained downward trend in this segment in the long term. It seems that the demand generated by the automotive sector will contribute to a greater likelihood of such a scenario.

4. Economic trends in Poland and the Eurozone and the 'trap of average growth': comparing the evolution of the Polish GDP with the whole market for oils, it is clear that for both indicators subsequent business cycles become flattened, which means, among others, that the potential for significant growth rates is decreasing. Meanwhile, on the other hand, the reference base is on the rise, as the living standard in Poland expressed in GDP has increased by 25% since 2007 (the second highest result in Europe after Ireland). A slower and more constant growth within the range of 3-3.5% should have a stabilizing effect, mainly upon the segment of lubricants for the industry and heavy duty vehicles. Yet, at the same time, considering large discrepancies in development, and particularly the wealth of society, even compared to such countries like Italy or Spain, the GDP growth rate of 3% or less, under Polish conditions, will not drive significant growths on the lubricants market and cannot therefore be reported as satisfactory. The longer the stagnation within the Eurozone will last, particularly in Germany which accounts for over 27% of Polish exports, the more difficult the improvement of this situation will be in the coming years.

Among the assumptions of the short-term forecast for the market of lubricating oils in Poland for the coming years, the forecast of general economic trend expressed by the GDP indicator remains crucial. Hitherto, a stable economic growth of around 3.6% year-to-year has been presumed and a major question arises, if a slowdown in the growth dynamics recorded in 2016 was a one-off event, or may it also mean a more sustained decrease in the growth rate?

After considering the abovementioned factors and doubts it was presumed that the so-far GDP growth baseline of 3.6% will be lowered to 3.3%. Simultaneously, due to the lower reference base, resulting from a severe decline in the investment rate in 2016, which was deemed a one-off and temporary event, it is forecasted that the 2017 GDP growth rate in Poland will be slightly faster than the majority of current forecasts, as it is going to stand at 3.5%.

5. Investments and European Union funds: according to the calculations of the Ministry of Development, in recent years the EU funds were adding 1.2-1.5% of GDP on an annual average. The exception is the previous year, in which the contribution of transfers within the EU funding scheme to the GDP growth was a mere 0.5%. It translated into a considerable (around 5%) fall in fixed capital formation (investments), which, in turn, strongly affected primarily the condition of the industrial oil segment, as well oils for heavy duty vehicles and support equipment.

Yet in 2017, as the Ministry of Development assumes, a considerable increase in the absorption of EU funds is going to result in a GDP growth of at least 1 percentage point, therefore the investments should also experience a rebound. Simultaneously, taking into account a lower reference base from the previous year, it was assumed that in 2017 the economic trend would be significantly better than the year before, which would allow for a faster recovery, particularly in the industrial oil segment. However, this phenomenon will be seen only in 2017: in further years, when the effects of the low base become exhausted, it should bring a downturn in the dynamics of economic development and trends.

6. Grey zone: it must be considered that the grey market of lubricating oils is maintaining on a steady level of around 10%, affecting mainly the best quality and most expensive engine oils in the form of so-called private import (by individual drivers) and parallel import (by enterprises), which allows avoiding additional costs resulting from the excise duty tax.

The forecast for the coming years assumes that no further significant trade in lubricating oils is going to take place on the market because of that, so these 10% will not return to the official market.

7. Domestic regulations, particularly in the area of taxes charged on lubricating oils: increasingly more complex and numerous regulations can, by themselves, generate significant risks for the sector. A major warning came already in 2012, when regulations concerning tax warehouses and legalization of tanks (the Law on measures) entered the collision course, which almost led to a complete paralysis of the industry. It was probably unintended and caused by the fact that while creating legal provisions affecting a niche product represented by lubricating oils, one should also consider increasingly numerous and distant areas of regulations, which is not always fully successful and will be increasingly more difficult following the abrupt increase in the complexity of legal provisions, which we currently witness.

For years, the fight against the grey zone justified an exceptional, in the EU terms, decision to charge a significant proportion of lubricating oils with the effective excise duty tax rate (1180 PLN/1000 l), imposing the tax

[3] The planned state budget revenue for 2017 equals ca. 325 billion PLN.

warehouse regime, followed by EMCS, and currently the energy, fuel and transport (SENT) packages.

On the other hand, the provisions on product tariff tend to confuse 'lubricating oils' with 'lubricants'[4], which results in creating provisions impossible to implement, e.g. the obligation to collect and recycle used lubricants, which is feasible only to a minor degree due to their physical properties.

The above is compounded by fast rate of proceedings of acts and public consultations and also very often insufficient Impact Assessment. As a result people who decide on the final version of regulations do not have sufficient expertise (e.g. they do not distinguish between lubricating oils, base oils and greases), which can have significant repercussions for the sector.

Hence just now the recycling sector of waste oils alerts that, according to the proposals of new provisions of the fuel package, tens of thousands of service and repair workshops will have to register on the EPUES platform and be subject to the SENT system (in order to legally submit for recycling a few hundred litres of waste) as the sector cannot do it on their behalf.

Similar perturbations took place in 2003, when, due to an oversight, excise tax was set on used oils. As a result, in the whole country there were no collections of used oil. Service and repair workshops gave oil with no documents, and oil cans appeared at local waste containers and they were also found at sorting plants and landfill sites.

That situation was remedied by urgently exempting used oil from excise tax.

The POPiHN simulation assumes that in 2017 the threat from that side is not going to materialise to the extent which could result in a major imbalance on the market. However, it should be recognized that the current risk of generating potential problems caused by domestic regulations is growing by leaps and bounds.

8. The situation of the financial sector and the psychological factor: in 2009 the information on bankruptcy of one of the U.S. banks led to a global recession, deep economic downturn in Poland and the decline on the market for lubricating oils, reaching 30% year-on-year in the 1st quarter of 2009 in the case of industrial oils. Even though subsequent market behaviour showed that these events reflected more of a fear than lasting repercussions, for various reasons, until today the oil market as a whole has not reached the pre-crisis levels, not only in Poland, which withstood the recent turbulences relatively well, but in the majority of EU countries. Even if the risk of repeating a similar scenario seems to fade away, the potential sources on one-off events ('black swans') able to lead to significant market instabilities, can still be seen on the horizon. They are mainly related to the broadly defined financial sector and originate outside Poland:

a. the situation of the banking sector in Italy and Germany (the risk of bankruptcy of banks).

b. uncertainty around the future of the Eurozone related to the planned elections in Italy and France, as well as the risk of Greece's bankruptcy and its leaving the zone.

c. the consequences of interest rates increases in the USA, as well as in Europe and Poland after the longest period of ultra-low costs of credit in history[5].

d. the situation in China, including the risk of a severe economic slowdown ('hard landing') in consequence of bursting of the housing bubble. It is a crucial market due to the fact that it absorbs 25% of the exports from Germany, which in turn accounts for almost 28% of the Polish exports (represented mainly by machinery, appliances and transport equipment (37.6%) as well as various industrial products (13%)[6].

The simulation presented below assumes that in 2017 none of the threats mentioned above is going to materialise to the degree which could have a visible effect upon the Polish GDP level; yet, one should highlight the unpredictability of such events, which implies their observation and consideration among the factors potentially influencing the market.

9. Potential significant factors in the long term:

a. *further strenghtening of environmental regulations (including imposing a limit or a ban on using combustion engine vehicles in cities and towns):* may accelerate the rise of electric vehicles. Another interesting and already observed trend involves the growing importance of light truck segment. According to ACEA, in 2016 around 1.7 million new registrations of van vehicles were recorded across whole Europe, which means a year-on-year increase of 12%. This trend may be facilitated by a combination of factors including: further expansion of urban agglomerations along with growing online trade and strengthening of environmental regulations.

b. *electric vehicles, hydrogen powered vehicles:* may mean the marginalization of the segment of engine oils for the automotive industry. The effects of the above may be limited by the fact that combustion engines will most probably continue to dominate in long-distance transport (between cities) and heavy goods transportation.

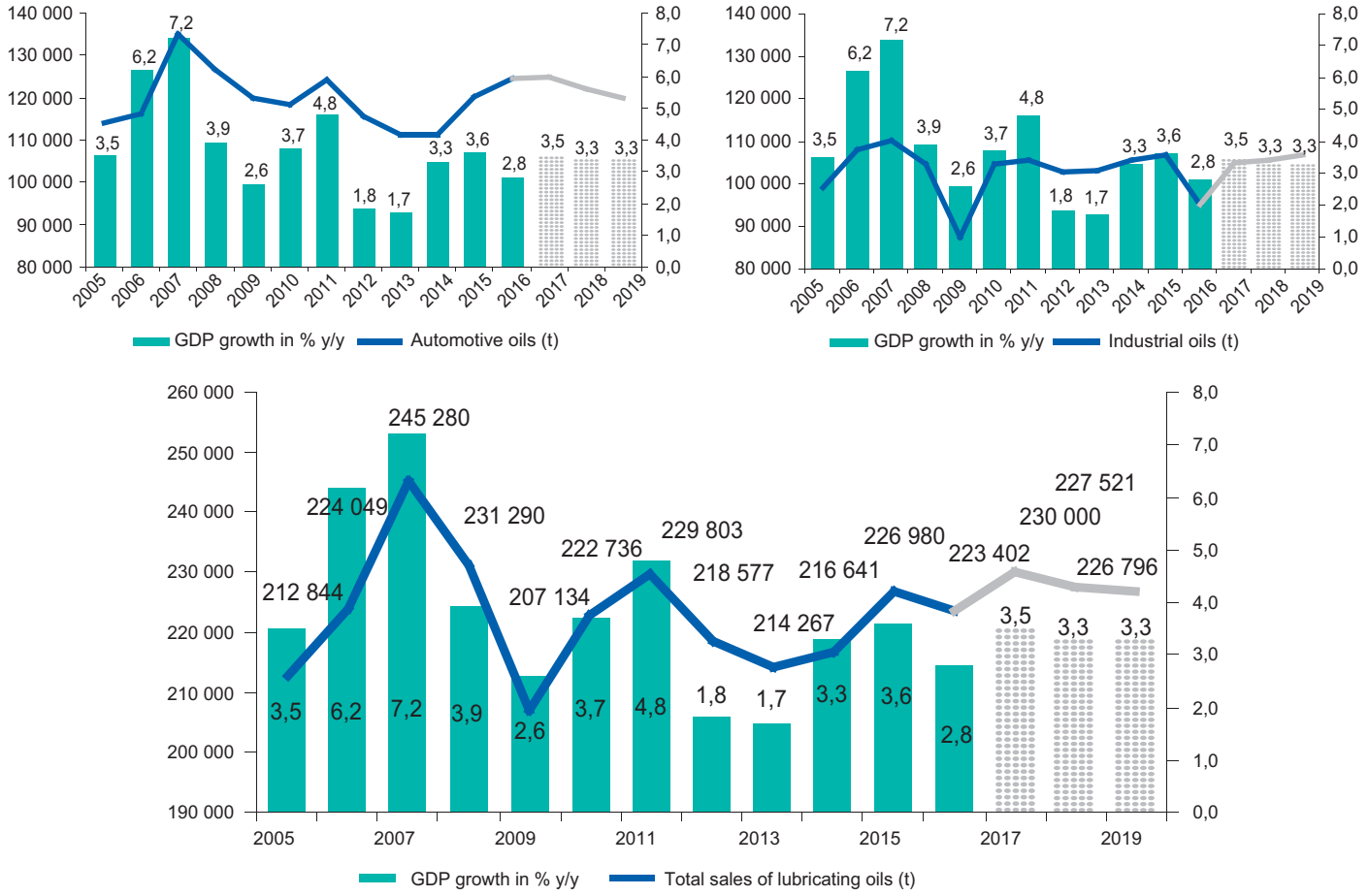
c. *hybrid vehicles:* may, to a minor degree, accelerate the fall in demand for engine oils for the automotive sector

d. *decreasing the emissions generated by a classical combustion engine:* due to a continuously large potential of emission reductions in these engines at a relatively low cost in comparison with alternative solutions, we can witness their further development, with new requirements being defined in relation to lubricating oils (higher oil working pressure caused by e.g. downsizing, using exhaust gas cleaning systems etc.).

e. *further increase in the proportion of first generation biocomponents in gas oil:* may give an impulse towards maintaining the demand for engine oils as a result of the 'oil dilution' phenomenon (the engine oil, at an accelerated rate, loses the properties which protect the engine from contaminants). These concerns were confirmed in May 2015 by the opinion of the Japan Automobile Manufacturers Association, or JAMA, which recognized that an increase of ester content exceeding 5% is not recommended for Japanese vehicles.

[4] The latest example is the Act of 27 May 2015 amending the Act on recycling of end-of-life vehicles and several other acts, Journal of Laws of 2015, item 933.
[5] Taking into account the quotations of future interest rate contracts (FRA of 12 February 2017), it is clear that within a two-year perspective the market players expect a ca. 0.75 – 1 point raise of the interest rates, source: Obserwator Finansowy, 21 February 2017.
[6] Source: CIA, The World Factbook, Poland, 2013

FIG. 54 OVERALL OIL MARKET, AUTOMOTIVE AND INDUSTRIAL OILS AGAINST THE GDP OF POLAND WITH FORECASTS
Sources: GUS, POPiHN's own data



f. *an increase in the content of newer generation biocomponents:* may give an impulse towards a drop in demand for engine oils in consequence of weakening of the 'oil dilution' phenomenon (accelerated use of oil).

g. *demography in Poland:* unfavourable demographic trends can contribute to the shrinking of car fleet (fewer drivers) and weakening of Poland's economic growth dynamics (fewer consumers), and therefore give an impulse towards a decline in the general demand for lubricant oils.

h. *national debt and the level of interest rates in Poland:* the report points out that a part of Poland's economic growth is generated at the cost of increasing domestic debt. If the level of indebtedness continuous to grow at the current rate, which is highly likely in the circumstances of ultra-low interest rates, the risk of repeating the scenario known from Greece, Spain, Portugal or Italy, should be deemed significant in the longer period of time. At present, the private debt of Polish companies and households reaches 51.1 percent of GDP, and the state public debt equals 52.8 percent of GDP. Yet, it should be referred to the relatively low society's affluence compared to the abovementioned countries. In the long term, excessive indebtedness can give an impulse towards a sustained fall in consumer demand and the GDP in Poland, and therefore permanently weaken the sales of lubricating oils.

i. *reindustrialization in Europe and Poland and further relocation of industrial production to Poland:* may cause an increase in demand for lubricating oils, not only for the industry (also car production plants). The 'Morawiecki's Plan' assumes that by 2020 2 trillion PLN will have been earmarked for development-oriented expenditures, whose aim, apart from an increase in innovativeness, is also reindustrialization. However, it is not known if the plan is going to be implemented in its presumed range.

j. *robotization and technological revolution:* may mean the emergence of completely new uses on the lubricating oil market; machines, which are replacing the human work to an increasingly greater extent, may require the use of lubricating oils. On the other hand, new sales channels for internet-related goods and services may appear (e.g. the use of telematics in cars, which could support a more frequent oil change, as its level will be monitored, e.g. during every single visit on a petrol station, which will raise the driver's awareness and create the need of purchasing oil).

k. *the tax revenues from the petroleum sector represent 25% of the state budget, and in many cases taxes account for 50% of the product price:* a crucial question can be asked, i.e. how the fall in revenues from the petroleum sector, which could result from crowding out classical liquid fuels and lubricating oils by electric vehicles, is going to be compensated? Is it going to be compensated by imposing a tax on robotic work? It seems that solving this issue may accelerate shrinking of the oil industry.

EXPLANATION OF TERMS

LUBRICATING OILS MARKET OVERALL In comparison to the previous years a change introduced in the report for 2015 consists in dividing 'overall market of lubricating oils' into only 2 segments: automotive and industrial. Unlike in previous years, the abovementioned amount will not include the third from the so-far presented categories, i.e. 'other not classified elsewhere' category. It results from the fact that a vital – and most probably strongly growing – part of products reported within this diversified group cannot be classified as 'lubricating oils' in the common understanding and/or technical meaning of this term. At the same time, in view of a significant growth of this group in recent years, its impact on the picture of the entire market would be too noticeable.

PASSENGER CAR MOTOR OILS (PCMO) – these are engine oils for passenger cars, motorcycles, and auxiliary vehicles and other equipment. This category does not include monograde oils (monograde).

HEAVY-DUTY ENGINE OILS (HDEO) – these are oils for heavy-duty vehicles and heavy-duty working machinery. This category does not include monograde oils (monograde).

OTHER OILS EXCLUDING GAS ENGINES – these are all other types of oils commonly used in the automotive industry and the ones not used in industry. The main groups of products in this category are: oils for marine engines, single season (monograde) engine oils, gear oils, automatic transmission fluids (ATF) and all other lubricating products for the automotive industry not elsewhere classified.

MINERAL OILS – in accordance with CN (Common Nomenclature), these are lubricating products in which the content by weight of mineral oil, or of oils obtained from bituminous minerals (but not as a basic constituent) is greater than or equal to 70%. In the automotive segment, most of such oils are used in the production of older type oils characterised by higher viscosities (mainly 15W and 20W oil groups). These products are obtained mainly from traditional base oils, obtained by refining crude oil, mainly base groups I, II and partly III.

NON-MINERAL OILS – these are other lubricating oils, which are defined under excise rules as lubricating preparations (including cooling and lubricating fluids, bolt and nut loosening preparations, rust and corrosion prevention preparations, lubricant-based moulding oils) with the exclusion of preparations containing, as basic constituents, 70% or more by weight of petroleum oils or oils obtained from bituminous minerals. In practice, is mainly concerns semi-synthetic oils (e.g. 10W SAE viscosity class engine oils) and synthetic oils (e.g. 0W and 5W SAE viscosity class engine oils). These products are mainly derived from synthetic bases (poly-alpha-olefins or PAO) or also from mineral base oils of the highest quality (Group III in API classification).

SAE (SOCIETY OF AUTOMOTIVE ENGINEERS) CLASSIFICATION – SAE classification divides oils based on operating parameters and distinguishes 11 classes of viscosity:

- 6 winter classes marked with a number and the letter W: 0W, 5W, 10W, 15W, 20W, 25W;
- 5 summer classes 20, 30, 40, 50, 60

For the purpose of this report, oils were divided into three groups (0W/5W, 10W and 15/20W) – a simplification which allows the structure of the market to be shown in terms of viscosity of lubricating oils used.

MONOGRADE – these are older-type oils intended for use in certain, relatively narrow, temperature ranges. This distinguishes them from more modern multigrade (multi-season) oils which can be used in more varied temperatures, making them suitable for use, for example, throughout the year. For the purpose of this report, monograde oils were treated as a separate group in relation to multigrade oils (groups 0W/5W, 10W and 15/20W) as well as a separate group in terms of application (relative to groups of oils for passenger and goods vehicles), even though they are used within those groups.

OTHER INDUSTRIAL OILS Within this group we can mention its main components, namely machine oils (used mainly to grease loaded elements of working machinery and industrial devices such as bearings, guides, gears etc.) and oils for chainsaws.

OILS FOR TWO-STROKE ENGINES In the POPiHN's methodology they are not classified as a separate category, but they are reported within two categories: 'other excluding gas engines' and 'monograde'.

MACROECONOMIC DATA – used in this report, unless otherwise specified, are based on information available at the website of the Central Statistical Office.

ABSOLUTE VALUES – absolute values given in this report include sales figures from six members of POPiHN: BP/Castrol, Fuchs Oil Corporation, LOTOS Oil, ORLEN Oil, Shell, and Total and were collected by the Organisation as part of the ongoing monitoring of the lubricating oils market. Starting from 2016, the number of reporting entities decreased from 7 to 6 due to Fuchs taking over Statoil (currently Circle K). All abovementioned companies were and are POPiHN members, therefore the market share of entities associated in POPiHN in the overall market in Poland has not changed, and reported market data have been fully continuous and adequate.

Starting from 2012, market data obtained from monitoring activities have been adjusted upwards, as a statistical correction, by 25% (for the automotive segment) and by 15% (for the industrial and other oils segment) to take into account the rest of the market which is outside the companies covered by monitoring. The Organisation's view is that this estimate reflects the current market share of companies which are not affiliated to POPiHN. It should be noted that for the period 2006-2011, the statistical adjustment of data was by 10%, equally for both segments of the market. The changes introduced in 2012 arise from a review of the estimate of the market volume 'outside POPiHN'.

DOUBLE REPORTING The methodology used for data collection and processing eliminates the problem of the so-called double reporting. POPiHN member companies only report sales 'outside' POPiHN (directly to the domestic market and to small independent producers, whose total market share has been estimated at around 10%), and therefore volume sales among POPiHN member companies are not reported.

ESTIMATED DATA For legal reasons related to European regulations on sensitive data, at the time of publication of this report, POPiHN did not possess data for the fourth quarter of 2015, as it is aggregated after over three months. For this reason, the data for the fourth quarter presented in this report were based on estimates prepared by the POPiHN office with the participation of member firms and on analyses of historical data and current market trends.

IMPORTS AND EXPORTS For the purpose of this report, in relation to lubricating oils, the above terms include both the Intra-Community Acquisition of Goods in the case of 'imports', and the Intra-Community Supply of Goods in the case of 'exports'.

THE LOGISTICS MARKET FOR CRUDE OIL AND LIQUID FUELS

Feedstock supply pipeline network

The PERN SA crude oil pipeline network consists of three sections: Eastern, Western and Pomeranian. The Eastern Section of the 'Przyjaźń' pipeline links the Depot in Adamowo, near the border with Belarus, with the Crude Oil Depot in Miszewko Strzałkowskie near Płock. The Eastern Section transports oil through the Miszewko Strzałkowskie Depot to PKN ORLEN SA and indirectly to other clients of the company: Grupa Lotos SA, German refineries and traders who transit Russian crude via Gdańsk. The Western Section connects the Miszewko Strzałkowskie Depot to German refineries TRM and PCK. The Pomeranian Section connects the Miszewko Strzałkowskie Depot with a Depot in Gdańsk. Russian crude flows along this route to a Gdańsk refinery, which belongs to Grupa LOTOS SA and for export via NAFTOPORT. The Pomeranian Section is reversible, allowing pumping in both directions (the reverse direction is used to pump crude oil other than Russian to PKN Orlen and, if it is necessary, to German refineries).

Eastern Section

The Eastern Section of the 'Przyjaźń' pipeline links the Adamowo Depot with the one in Miszewko Strzałkowskie using three conduits; route length: 233 km; nominal capacity after finishing the construction of the III conduit of the pipeline is: 56 million tonnes of crude oil per year.

Western Section

The Western Section of the main pipeline feeds crude to the German refineries TRM and PCK. This section of the 'Przyjaźń' pipeline links the Miszewko Strzałkowskie Depot with the PCK refinery in Schwedt and the MVL crude oil depot in Heinersdorf using two conduits of pipelines: the length of this route is about 416 km and its nominal capacity is 27 million tonnes of crude oil per year.

In the section between the Miszewko Strzałkowskie and the Żółwieniec depots, one conduit works in reversible mode allowing crude oil to be pumped in both directions: to Germany and Płock (from PMRiP Góra). PKN ORLEN SA owns the section connecting Żółwieniec with the Underground Oil and Fuel Storage Facility at Góra, owned by Inowrocławskie Kopalnie Soli (IKS Solino SA).

The Western Section links the PERN SA pipeline network with PGNiG SA's storage depots located in the towns of Wierzbno and Dębno. The company transports Polish crude extracted in the area of these two locations.

Pomeranian Section

The section works in reversible mode which enables pumping of crude in both directions. In conjunction with NAFTOPORT's infrastructure, this arrangement facilitates the export of crude oil transported over the 'Przyjaźń' pipeline, as well as the import of feedstock by sea routes and its further pumping through the pipeline system owned by the company. This section connects the Miszewko Strzałkowskie

Depot with the Gdańsk Depot through a single pipe, with the route length of 235 km and a nominal capacity of 27 million tonnes or 30 million tonnes of crude oil per year (respectively, in the northerly and southerly directions).

Product Pipelines
PERN SA dysponuje siecią rurociągów produktowych służących do transportu produktów naftowych (benzyn, oleju PERN SA has a network of product pipelines for transporting petroleum products (petrol, diesel and fuel oil) in three directions:

Płock – Nowa Wieś Wielka – Rejowiec
Length: approx. 208 km, nominal capacity: 2.1 million tonnes and 1.4 million tonnes of fuel per year (respectively, Płock – Nowa Wielka Wieś and Nowa Wielka Wieś - Rejowiec).

Płock – Mościska – Emilianów
Length: approx.163 km, nominal capacity: 1.15 million tonnes of fuel per year.

Płock – Koluszki – Boronów
Length: approx. 265 km, nominal capacity: 3.8 million tonnes and 1.0 million tonnes of fuel per year (respectively, Płock – Koluszki and Koluszki – Boronów).

Crude oil storage tanks
Crude oil storage tanks are an integral part of the PERN SA pipeline network. The company has four crude oil storage depots (including Oil Terminal in Gdańsk):

✓ Adamowo Depot (15 storage tanks of approx. 770,000 m³ total capacity);
✓ Miszewko Strzałkowskie Depot (29 storage tanks of approx. 1,464.000 m³ total capacity);
✓ Gdańsk Depot (18 storage tanks of approx. 900,000 m³ total capacity);
✓ Oil Terminal in Gdańsk (6 storage tanks of approx. 375,000 m³ total capacity).

Feedstock storage depots act as stabilisers in the flow of crude oil. In addition, the Company utilises storage capacity to provide a crude oil storage service.

The Company has tanks with capacities of 30,000, 32,000, 50,000, 62,500 and 100,000 m³. The 100,000 m³ capacity tanks are the largest of their kind in Poland.

Oil Terminal in Gdańsk
In 2016 PERN SA completed the Oil Terminal for loading and storing crude oil in the Gdańsk Port.

The Oil Terminal has an important role in the energy security of Poland and the region and it has been included on the list of EU Projects of Common Interest (PCI).

The Terminal's excellent location is an additional value of the investment: the neighbouring presence of Naftoport, the possibility of constructing a loading pier, the proximity of transmission, railway and road infrastructure.

Crude oil tanks completed in 2016 are just the first phase of the investment. In 2017 PERN SA is starting construction works on the second phase of the Terminal, increasing the depot's storage and trade capacity.

LIQUID FUELS STORAGE LOGISTICS

Operator Logistyczny Paliw Płynnych (OLPP, Eng. Liquid Fuels Logistics Operator), being a leader in fuel logistics sector in Poland, has modern infrastructure which meets all legal requirements for fuel depots, including the ones related to the environment, and, most importantly, satisfying the growing requirements of our clients.

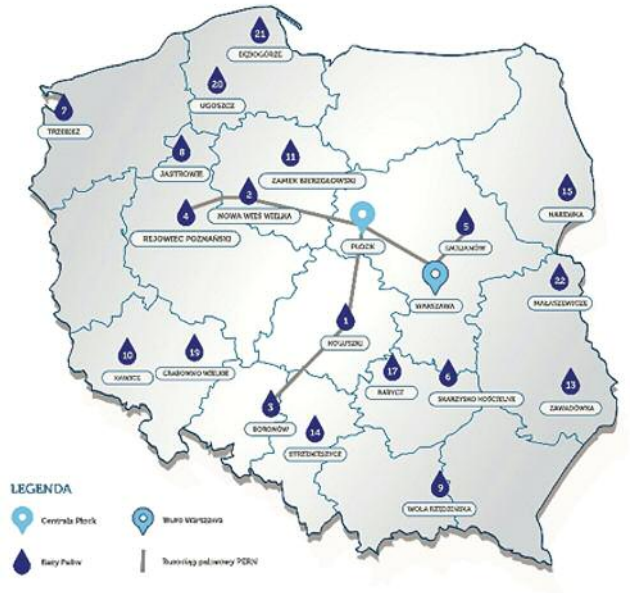
The Company owns a network of fuel depots, the total capacity of which is over 1.8 mln m³. OLPP stores petrol, diesel, light fuel oil, biofuels and aviation fuel intended for supplying the current market as well as maintaining the intervention fuel stocks. Storage tanks can store 32,000 m³.

The five largest depots, namely the ones in: Koluszki, Nowa Wieś Wielka, Boronów, Rejowiec, and Emilianów are connected by long-distance fuel pipelines with the refinery in Płock. The depots located at the eastern border of the country have terminals for handling fuel, gas and other petroleum products. The Fuel Depot in Dębogórze allows diesel to be exported and imported by sea through the Port of Gdynia.

Besides, the Company owns accredited petroleum product laboratories, which, apart from comprehensive supervision of the quality of fuel held and stored in OLPP's depots, also provide services to third parties. OLPP's laboratories use the most modern equipment meeting all the requirements and standards, which ensure the best possible tools for conducting quality controls of fuels in the course of trade.

OLPP is constantly looking for new solutions in order to meet customers' expectations. With a view to maintaining customer trust and market confidence, the Company has implemented, maintains and improves the Integrated Management System, compliant with the standards PN-EN ISO 9001, PN-EN ISO 14001:2005 and PN-N 18001:2004.

FIG. 55 OLPP FUEL DEPOTS



Capacity utilisation

OLPP has about a 50% share of liquid fuels storage market. Apart from providing services to fuel market operators, the Company plays an important role in the country's energy security. OLPP's tanks hold intervention stocks, including the ones for the state's Agencja Rezerw Materiałowych (Material Reserves Agency). The increase in fuel consumption in 2015, which directly translates into the obligation of volume of intervention stock stored in 2016, increased the capacity utilisation in OLPP. The legislative changes implemented in 2016 (the so-called fuel package) influenced the spike in fuel trade, which will result in an even greater need for storage capacity, also in OLLP.

Loading from OLPP's Fuel Depots

In 2016 the total volume of loadings in OLPP's Fuel Depots reached almost 11 mln m^3 and, after a few years of decline in loadings in OLPP's Fuel Depots due to changes in economic conditions, this was a second consecutive year of intensified utilisation of the OLPP infrastructure.

FIG. 56 UTILISATION OF CAPACITY IN OLPP'S FUEL DEPOTS (MONTHLY AVERAGE) [m^3]

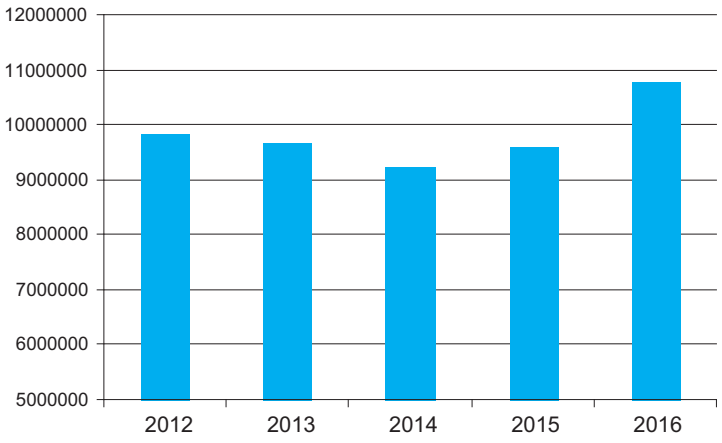
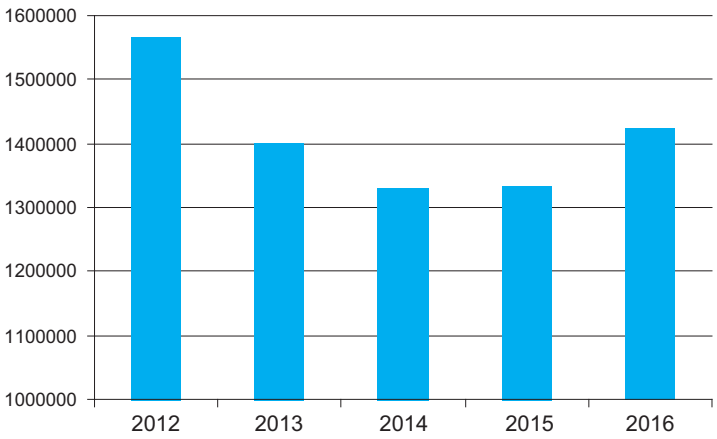


FIG. 57 LOADINGS IN OLPP'S FUEL DEPOTS [m^3]



1 August was the date of entry into force of the Act on ammending the act on the goods and services tax of 7 July 2016 (the so-called fuel package). Since the entry into force of new regulations OLPP has noted a substantial growth in fuel trade. Overall in 2016 the increase in loadings to road tankers amounted to several percentage points when compared to 2015.

Blending with biofuels

The biofuels blending service has a key role for business operators and is aimed at businesses bound with an obligation to achieve the National Biofuels Target (NBT), i.e. a minimum % share of biofuels and other renewable fuels in the total amount of fuel introduced into the market.

OLPP creates conditions that allow to achieve the National Biofuels Target by offering the service of blending esters with diesel, as well as bioethanol with petrol.

From the start of 2017, entered into force the provisions of the ammended act Energy Law, which introduce the obligation to achieve the National Biofuels Target through biofuels contained in liquid fuels (the so-called obligatory blending). Operator Logistyczny Paliw Płynnych Sp. z o.o. (OLPP), in order to respond to market needs and adjusting to the new regulations, is planning to expand the possibility of adding biofuels to liquid fuels in the Małaszewicze and Dębogórze Fuel Depots.

Stock ticket reserves

Stock ticket reserves service consists of creating and maintaining mandatory oil stocks on behalf of obliged entities. The clients using this service fulfil the obligation to maintain mandatory stocks without involving their own fuels (Art. 11 of Law of 16 February of 2007 on stocks of crude oil, petroleum products and natural gas, the principles of proceeding in circumstances of a threat to the fuel security of the State and disruption on the petroleum market, Dz. U. of 2014, item 1695).

The service is also aimed at LPG importers, who can maintain LPG stocks alternatively in unleaded petrol.

The service is expanding rapidly and in 2016 the volume offered by OLPP increased significantly.

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