OSW REPORT

THE NEVER-ENDING COLLAPSE
THE STATE OF THE UKRAINIAN OIL SECTOR

Wojciech Konończuk

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THESES

- The oil sector does not play a major role in the Ukrainian energy industry and has smaller economic and political significance than the gas, coal and nuclear sectors. The share of petroleum fuels in the Ukrainian energy balance is around 10% and has remained on a similar level over the past few years. The issues linked to the Ukrainian fuel sector are rarely given publicity in the mass media. Meanwhile, a comprehensive analysis reveals that there has been a painful and long-lasting downturn in this strategic branch of the economy. The situation is unlikely to improve significantly in the coming years. The state of the fuel sector is a good case study which lays bare the numerous weaknesses of the Ukrainian state.

- Petrol and diesel oil consumption in Ukraine has fallen by over 40% in the past decade to 8 million tonnes in 2016 (for comparison: this figure is approximately 22.5 million tonnes in Poland). What once was a powerful Ukrainian refining sector has been plunged in a deep crisis for years. Only one out of the six existing refineries is currently in operation, using only a small section of its production capacity. For years all the refining companies have suffered from underinvestment, have not been modernised and have been unable to produce fuels in the quantities and at the quality required by the market. Another problem that has remained unresolved for years is the supply of crude oil to be processed. As a result, Ukrainian refineries are the most outdated in Europe, and the oil processing output in Ukraine has reached a record-low level of around 2.5 million tonnes annually.

- The current situation in the Ukrainian oil sector is a consequence of the lack of state supervision. The government has failed to develop an effective strategy for developing this section of the economy and for combating the systemic corruption among the Ukrainian ruling class. This led to the privatisation concept adopted in the late 1990s failing and the sale of key refineries to Russian companies. Furthermore, subsequent Ukrainian governments accepted the situation in which the key state-owned oil producing (Ukrnafta, UkrGasVydobuvannya) or transporting companies (Ukrtransnafta) became *de facto* controlled by the oligarchs. Although this situation has improved over the past two years, Ukrnafta, Ukraine's largest oil producer, is still controlled by Privat Group which has led the company to the brink of bankruptcy, siphoning off billions of dollars from it over the past few years.

- The government lifted customs duty on fuel exports in 2005 as a consequence of the backwardness and ineffectiveness of the Ukrainian refineries but this only worsened their crisis condition. This decision, which is still binding, has caused an extensive influx of foreign petroleum products to the Ukrainian market. While the share of imported fuels in total consumption was under 10% a decade ago, its present level is 85%. Ukraine thus relies heavily on fuel supplies from other countries, mainly Belarus, Russia and Lithuania. Belarusian fuels have gained an especially strong position, winning half of the Ukrainian petrol and diesel oil market in 2016. Despite the emergence of the competitive import and retail fuel sale market (which has a positive influence on fuel prices) this long-term situation adversely affects the Ukrainian trade balance and energy security. Ukraine is the only European state of this size to rely so heavily on foreign fuel supplies.

- Fuel fraud on a massive scale and illegal imports are important factors affecting the situation in the Ukrainian fuel sector since they create the grey economy. The scale of this phenomenon is difficult to determine precisely, but the likely market share of illegal fuel in total consumption is up to 25%. The profitability of this kind of trade along with the fact that government representatives are its real patrons are the essential factors which have led to the present situation in the Ukrainian fuel sector. One consequence for the customers is the presence of low-quality fuel.

- The situation in the fuel sector has changed to a very small extent since the Ukrainian revolution of 2013/2014. The country has succeeded in curbing illegal fuel imports and eliminating from the market some of the firms engaged in this which were linked to the previous government elite. However, the main problems of the sector have remained unresolved—an effective management of the state-owned oil companies and a vision for the sector's comprehensive development are still missing, and the share of illegal fuel in total fuel sale is still high. The corruption level in this sector is still high because of its profitability. As a result, it may be concluded that the sector's degradation has continued after the Maidan revolution.

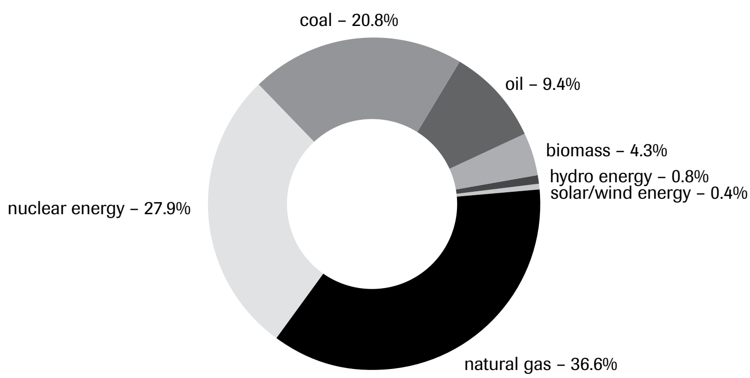
- Ukrainian refineries are unlikely to be modernised in the coming years given the huge costs of the investments required, since most of the installations would practically need to be built from scratch. Furthermore, some refineries are subject to ownership dispute (Odessa), while others (Lysychansk, controlled by Russia's Rosneft) are located next to the military front line in the Donbas. This means that the share of imported fuels in the Ukrainian market will remain at around 80–85%.

- Russian fuel supplies via the product oil pipeline PrikarpatZapadTrans were launched in June 2016. Ukraine imported 0.85 million tonnes of Russian diesel oil via this channel in the following six months. A Russian firm gained control over this strategic enterprise in unusual circumstances in 2015 as a result of a Ukrainian court's decision. If the present level of supplies is maintained in the future, Russian diesel oil may gain around half of the market share of Ukraine's diesel oil. The scheme of imports from Russia suggests that this project is covered by the corruption-based patronage of one of the groups in the present Ukrainian government elite.

I. FUEL CONSUMPTION ON THE UKRAINIAN MARKET

The oil sector in Ukraine is less significant than the gas, coal and nuclear sectors which form the core of the Ukrainian energy sector. This is because petroleum products play a lesser role in the country's energy balance (9.4% in 2015[1]; for comparison, in Poland this figure is approximately 24%), and because the crude oil and fuel supply to Ukraine is not so much a political issue as is the case with natural gas. Throughout the twenty-five years of Ukraine's independence, Russian gas imports have been one of the key issues in Ukraine's foreign and domestic policy.

Chart 1. Ukraine's energy balance in 2015



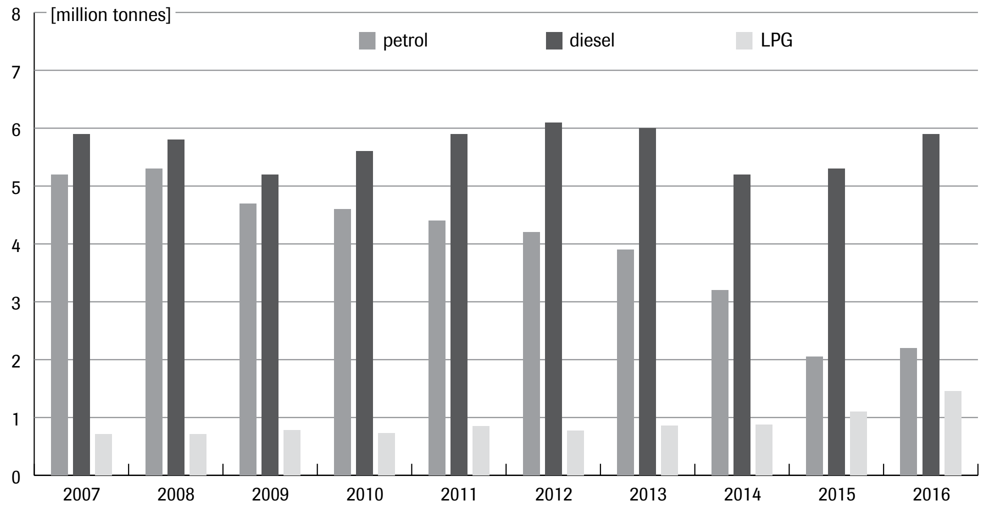
Data: Draft Energy Strategy of Ukraine to 2035 (December 2016)

Over the past few years, the consumption level of the two key fuels, i.e. petrol and diesel gas, in Ukraine usually reached 10–11 million tonnes annually. It was only from 2013 that demand for these products began to fall at a fast rate, reaching 8.1 million tonnes in 2016. While diesel oil consumption remained at a level of around 5.5–6 million tonnes, petrol consumption level fell from 5.3 million tonnes in 2008 to 2.2 million in 2016. As shown in the chart below, total petrol and diesel oil consumption fell by 27% in 2007–2016, and petrol consumption fell by as much as 58% in this period, while diesel oil consumption returned to a similar previous level after an initial fall [2].

1 Data for 2015. According to the draft Energy Strategy of Ukraine to 2035, the share of petroleum products in the energy balance has remained at a level of 10–11% over the past few years; http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245165746&cat_id=245165726
In the case of Poland, these are data from the Central Statistical Office (GUS) for 2015.

2 When quoting Ukrainian statistics concerning the oil sector, it is necessary to take into account the differences (approximately 10%) between the data published by the Ukrainian

Chart 2. Petrol, diesel oil and LPG consumption in Ukraine (million tonnes)



Data: State Statistics Service of Ukraine

A fall that large was brought about by a number of factors, the most important of which are:

– **the economic crisis** which has significantly undermined economic activity;

– **the loss of Crimea and the outbreak of war in the Donbas** which used to have a 10% share in total fuel consumption in Ukraine;

– **the fact that car owners are shifting from petrol to LPG** – LPG consumption has significantly increased over the past few years.

The rapid decrease in petrol demand visible in the structure of fuel demand is above all an effect of the increasing popularity of LPG, which is a much cheaper fuel (over the past two years the price of LPG was equivalent to 46% of the petrol price). This results in drivers shifting to the cheaper fuel on a massive scale[3]. As demand for LPG grew, the existing suppliers (mainly Russia and Belarus) were unable to supply the necessary quantities, and this brought about

Ministry for Energy and Coal Mining, the State Statistics Service, the State Fiscal Service, and the data from the agencies researching the fuel market. The differences result from the application of different methods of calculation, the fact that state institutions do not take into account Ukrtatnafta's output (it has not revealed statistical data to state institutions since 2014), and the grey economy.

3 С. Куюн, Осенние „цыплята" топливного рынка, *Zerkalo Nedeli*, 25 November 2016; http://gazeta.zn.ua/energy_market/osennie-cyplyata-toplivnogo-rynka-_.html

the need to import LPG from such exotic directions as Greece and Egypt. While in 2012 LPG had a 17% share in the structure of retail sales at Ukrainian filling stations, in 2016 its share rose to around 33%[4].

It was possible to slow down the fall in consumption of the main fuels in 2016. As Ukraine's GDP grew by 2% and industrial production by 2.4%, the demand for diesel oil increased by 9.1% and for petrol by 8.8%[5]. Another factor was the reduction of the grey economy's share in total fuel sales.

There is an upward tendency in LPG's popularity in Ukraine; its sales reached 1.46 million tonnes in 2016. The consumption of this fuel has increased by 90% over the past five years, and it grew by 33% in 2016 alone (when compared to the preceding year). Ukraine has thus become one of the world's top ten LPG consumers in the transport sector. LPG owes its popularity not only to its attractive price but also the low quality of petrol and diesel oil sold at Ukrainian filling stations.

4 А. Куюн, Заправленные и счастливые, Business.ua, 27 June 2016; http://www.business.ua/companies/zapravlennye_i_schastlivye-344802/

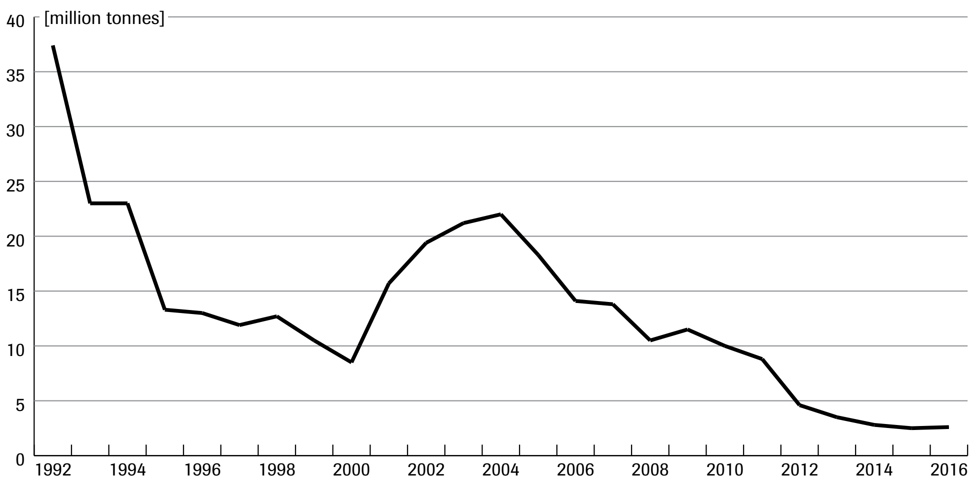
5 Data from the consulting agency A-95 http://ukrchem.dp.ua/2017/01/25/ukraina-balans-rynka-nefteproduktov-v-2016-godu.html According to data from the Ministry of Energy http://mpe.kmu.gov.ua/minugol/control/uk/publish/printable_article?art_id=245178477, diesel oil consumption grew by 1.7%, and petrol consumption fell by 9.2%.

II. THE FALL OF THE UKRAINIAN REFINERIES

There are six refineries in Ukraine. In the early 1990s, their total production capacity reached 51 million tonnes. The refineries have not been modernised for many years; they are technologically outdated and unable to produce high-quality fuel in the quantities demanded by the market. Four of the refineries (Odessa, Kherson and western Ukraine's Nadvirna and Drohobych) were built before World War II, and the remaining two (Kremenchuk and Lysychansk) in the 1960s and 1970s.

Oil refining output exceeded 37 million tonnes immediately after the collapse of the USSR and began to fall rapidly, down to 8.5 million tonnes in 2000. At that time the refineries were operating under market conditions and were not subsidised by the state (unlike with the gas market). Russia was the only source of oil imports, but the supplies were becoming increasingly irregular and were organised under short-term contracts. As a result, it became necessary to import petroleum products on a large scale.

Chart 3. Oil processing at Ukrainian refineries (million tonnes)



Data: State Statistics Service of Ukraine, Ministry of Energy and Coal Mining

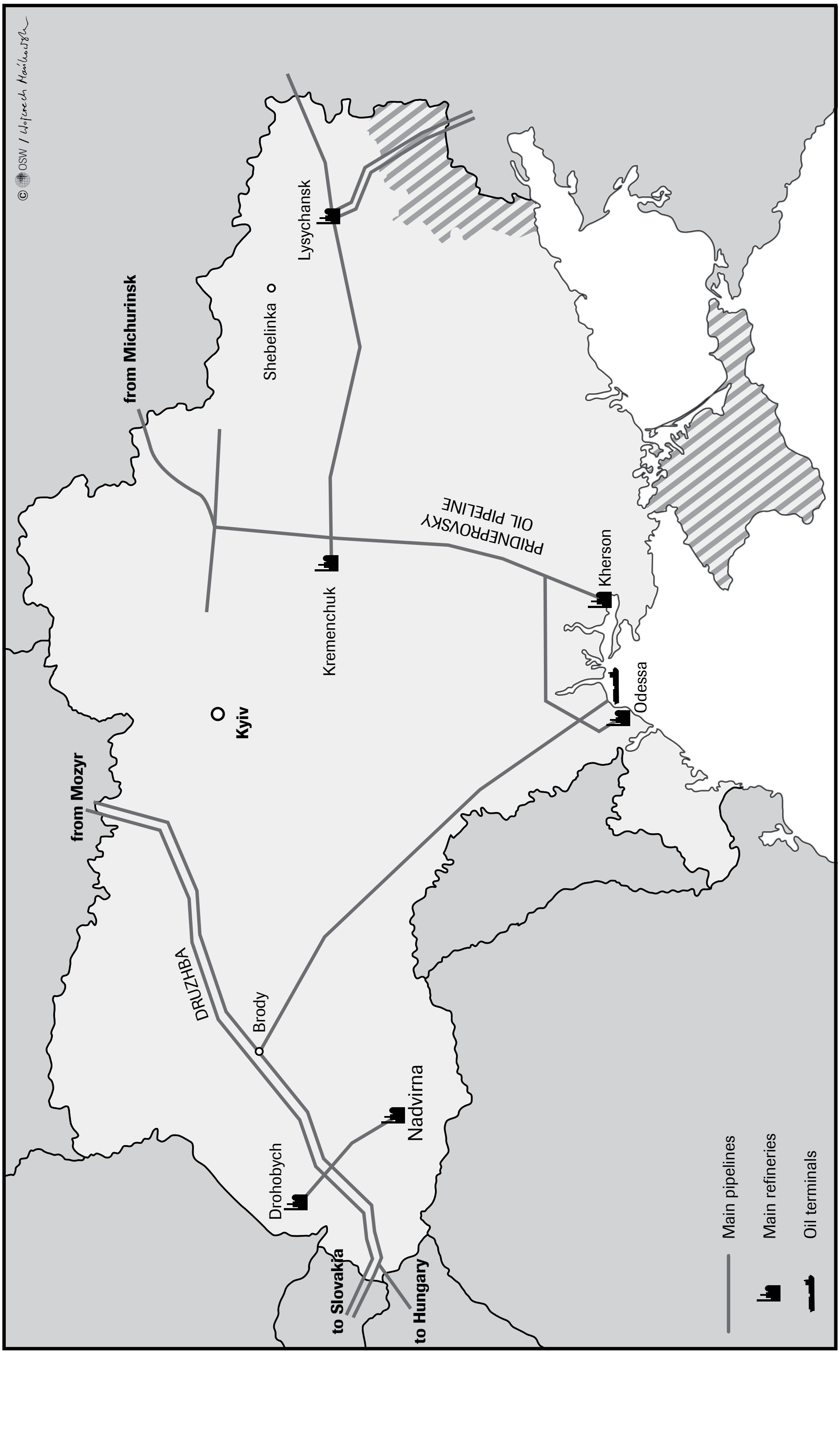
The increasing problems with the oil supply drove Kyiv to decide to sell the refineries to Russian oil companies. This decision was dictated by the belief that it would lead to oil supplies being guaranteed. A 37.5% stake in the Kremenchuk refinery was sold in 1991. It is Ukraine's largest refinery; its processing capacity at that time reached 18.6 million tonnes. The stake was bought by Russia's Tatneft and the government of Tatarstan. As a result of the transaction, the business was used as a base for creating a company named Ukrtatnafta. The decision resulted from the fact that the refinery had been traditionally adjusted to processing heavy Tatar oil. In the following years the share of Russian entities in the shareholding structure rose to 55.7%, while that of the Ukrainian state shrank to 43%.

In 1999–2000, Russians gained control of three more refineries: Kherson (Allians), Odessa (LUKoil) and Lysychansk (TNK). The value of all the three transactions was far below the companies' market prices. The two smallest refineries, Drohobych and Nadvirna, were privatised at the same time. They were taken over by Ukrainian capital (Privat Group controlled by the oligarchs Ihor Kolomoyskyi and Henadiy Boholyubov).

One consequence of the privatisation of Ukraine's most important refineries was the intensification of Russian oil supplies which thus resolved the problem with the shortage of crude oil supplies. In 2003–2004, Ukrainian refineries processed 21–22 million tonnes of oil annually, reaching the highest level since the early 1990s. This not only allowed supplies to the domestic market to be ensure but also the export of part of the output. At the same time, high customs tariffs successfully impeded access for imported fuels to Ukraine.

A major change took place in May 2005 on the Ukrainian oil market, with the arrival of the so-called fuel crisis. It was provoked by the government's attempt to introduce regulated fuel prices, which led to supplies to the market being withheld by the main producers, i.e. Ukrainian refineries controlled by Russian companies. This, in turn, caused diesel oil and petrol shortages. The crisis was accompanied by a dispute between the government led by Yulia Tymoshenko and President Viktor Yushchenko about who was responsible for the situation. As a result, the parliament, wanting to 'stabilise the prices', decided to lift the customs duty on imports of petroleum products.

Map. Main refineries and oil pipelines



This decision had a strong adverse effect on the Ukrainian refining industry. On the one hand it boosted competition on the fuel market, which positively influenced the price levels. On the other, it resulted in a gradual increase in the quantities of foreign fuels on the Ukrainian market, undermining the financial standing of local refineries. They were forced not only to compete with imported products but also to look for funds to undergo a technological modernisation. Oil processing output at Ukrainian refineries began to fall rapidly from 14.1 million tonnes in 2006 to 10.5 million tonnes in 2008. This was partly an effect of the decommissioning of the technologically obsolete Kherson refineries followed by the closure of the Drohobych and Nadvirna refineries (which had annual nominal processing capacities of 7 million tonnes, 3.2 million tonnes and 2.6 million tonnes, respectively). Their owners were either unable to obtain the necessary funds for the costly modernisation or found the business insufficiently promising, given the need to compete with duty-free imported fuel. The Ukrainian refineries whose depth refining is only around 55% were unable to produce the higher-quality fuel (Euro 5) which was becoming increasingly popular.

In 2010, LUKoil decided to decommission the Odessa refinery (with a capacity of 2.8 million tonnes) in response to the decision of the Ukrainian state oil pipeline operator, Ukrtransnafta, to withhold supplies of crude oil from Russia to the refinery via the Pridneprovsky Main Oil Pipeline. LUKoil concluded that importing crude oil by sea was economically unfeasible. The decision of Ukrtransnafta, which at that time was controlled by Privat Group, was motivated by the fact that the same Privat Group two years earlier had illegally (so-called 'corporate raiding') taken control of Ukrtatnafta, the company supervising the Kremenchuk refinery[6]. As a result, Russia withheld oil supplies to this company, and its new owners were forced to import the raw material by sea due to the reversal of supplies via the Pridneprovsky Main Oil Pipeline. This, in turn, caused the need to withhold supplies of Russian oil via this route to LUKoil's refinery in Odessa[7].

The Lysychansk refinery (with a capacity of 7 million tonnes) was also closed in March 2012 due to the fact that production was unprofitable (the company is at present owned by the Russian state-owned company Rosneft, after it took

[6] For more information on this dispute see: W. Konończuk, W Krzemieńczuku na Ukrainie… bitwa o rafinerię, Gigawat Energia, no. 3/2008; http://www.gigawat.net.pl/archiwum/index.php/article/articleview/1168/1/84/index.html

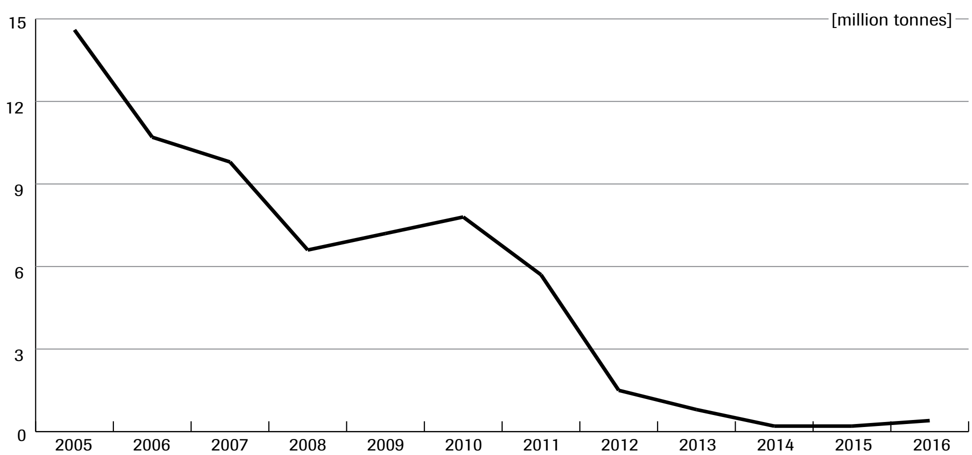
[7] Tatneft, deprived of its stake in Ukrtatnafta by Privat Group, sued the Ukrainian state at an economic court in Paris which ruled in 2014 that the Ukrainian state should pay damages of US$112 million to the Russian company. In November 2016, this verdict was upheld by an appellate court in Paris; http://www.tatneft.ru/press-tsentr/press-relizi/more/4917/?lang=ru

over TNK-BP in 2013). At the same time, foreign fuels were imported on a massive scale to Ukraine and excise duty evasion methods were widely used. This was possible because the people engaged in this were linked to Ukraine's senior government figures (see the details below). Attempts made by the refinery owners to convince the government to impose customs duty on fuel imports proved unsuccessful.

The closure of the Lysychansk refinery led to a complete cut of Russian crude oil supplies to Ukraine. As a result, for five years, Kremenchuk has been the only refinery in operation in Ukraine, processing Ukrainian oil (domestic production in 2016 reached 2.2 million tonnes and is regularly falling) and small quantities of imported oil (mainly from Azerbaijan and Kazakhstan). Small quantities of fuel are also produced by the Shebelinka Gas Processing Plant owned by the state-controlled company UkrGasVydobuvannya.

Since Ukraine gained independence, Russia has been the key source of oil supplies and for many years it had no competitors. In 2006–2015, as much as 89.4% of imported oil originated from Russia, 5.6% from Azerbaijan and 4.4% from Kazakhstan[8]. It is also worth noting that the two latter countries began supplying oil only in the past few years. In 2016, the key suppliers of crude oil to Ukraine were Kazakh producers (96.8% of total supplies), but the supplies (via railroad transport) were small, reaching around 400,000 tonnes.

Chart 4. Crude oil imports to Ukraine (million tonnes)



Data: State Statistics Service of Ukraine

[8] О. Мельник, Нафта. Стабільний рух в нікуди?, EIRCenter.com, 19 July 2016; http://eircenter.com/ua-analiitika/nafta-stabilnij-rux-v-nikudio/

As a result of the processes described above, oil processing in Ukraine has remained at a record-low level of around 2.5 million tonnes annually. In 2015, the share of domestic fuels in total Ukrainian consumption was only 15%. The remainder is imported.

III. THE FUTURE OF THE UKRAINIAN REFINING SECTOR

Ukraine's refining sector is in a deep crisis, which is an effect of various factors: many years of negligence by the owners of the companies who failed to take timely measures to modernise them; the lack of a government strategy for the development of the sector; and the impact of corruption, including high incomes generated by illegal fuel imports. In effect, Ukrainian refineries are the most outdated in Europe, and only one of the six, the Kremenchuk refinery, currently produces fuel. The Energy Strategy of Ukraine to 2030, approved in 2013, envisaged that the expenses necessary to modernise Ukraine's "most modern" – as was stated in the document – refineries are at the level of US$3.6–5.5 billion[9].

The Kremenchuk refinery has a technical production capacity of 10–11 million tonnes annually. This means that theoretically it might satisfy a significant majority of the domestic demand for fuel (diesel oil and petrol). However, insufficient raw material supplies (partly due to falling oil output in Ukraine) and modernisation needs are a problem. The refinery is unable to produce top-quality fuels in the quantities demanded by the market. It was only in April 2016 that the Kremenchuk refinery began producing Euro 5 class diesel oil. The refinery's management has made efforts to import larger quantities of crude oil. In November 2016, the company struck a deal with Azerbaijan under which a total of 4 million tonnes of Azeri Light oil will be supplied within a timeframe of three years; a supply of around 1.3 million tonnes is planned in 2017. The oil will be imported via the Pridneprovsky Main Oil Pipeline connecting Odessa and Kremenchuk from which Urals oil was pumped out in 2016 and replaced with Azeri Light oil.

Privat Group is not currently planning to launch a comprehensive programme for the modernisation of the Kremenchuk refinery. It will only take isolated measures that will not influence the technological development of the company as a whole. The estimated minimum investments necessary cost around one billion dollars. The current modernisation of some installations is expected to make it possible to produce 2 million tonnes of Euro 5 class petrol and diesel oil, which would only satisfy around a quarter of the Ukrainian demand for these fuels[10].

[9] Оновлення Енергетичної стратегії України на період до 2030 р., 11 June 2012; http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=222022&cat_id=104126

[10] Сергей Куюн, Осенние "цыплята" топливного рынка, *Zerkalo Nedeli*, 25 November 2016; http://gazeta.zn.ua/energy_market/osennie-cyplyata-toplivnogo-rynka-_.html

The present situation of the remaining five Ukrainian refineries is much worse. They will not be able to resume operation in the immediate future:

- The two western Ukrainian **refineries in Drohobych and Nadvirna** are so technologically outdated that they would have to be built from scratch, which would require investments worth at least one billion dollars in each case. This is rather unrealistic, not only because their owner (Privat Group) has not shown interest in them, but also because it is economically unfeasible to have two refineries operating in this region of Ukraine.

- Over the past few years attempts have been made to reactivate the **Kherson refinery** which was bought in 2007 by the Ukrainian Continium Group, the owner of the WOG filling station network. It was estimated then that around 2 billion dollars of investments were needed, and the firm was looking for sources of funds. However, since the death of its main owner, Ihor Yeremeev, in 2016, the project seems to be even less realistic.

- It is equally unlikely that the **Lysychansk refinery** (Luhansk oblast) will resume operation. The refinery might produce several million tonnes of fuels (low quality) annually without any major investments. However, Rosneft is not interested in putting it into operation; this is obviously partly due to the fact that it is located in the immediate vicinity of the front line in Donbas (some installations of the refinery were damaged during previous military operations).

- The **Odessa refinery** is also unlikely to resume production. In 2013, it was bought from LUKoil by Serhiy Kurchenko, a Ukrainian oligarch linked to the inner circle of the former president, Viktor Yanukovych. However, Kurchenko had to flee the Ukrainian prosecution authorities due to charges of large-scale corruption. The company's present ownership status is unclear. In 2014, the refinery was taken over by the Russian bank VTB as a security deposit for Kurchenko's unpaid debts. The company's bankruptcy procedure was launched in 2016, and it is currently managed under a decision passed by the Ukrainian Ministry of Energy by the state-owned company Ukrtransnefteprodukt, which is in fact controlled by politicians from the People's Front, the party of the former prime minister, Arseniy Yatsenyuk[11].

[11] Вадим Стародубцев, Сумеет ли Путин отстоять Одесский НПЗ, *Delovaya Stolitsa*, 18 January 2016; http://www.dsnews.ua/economics/borba-za-odesskiy-npz-dostigla-kulminatsii-18012016151600

Another Ukrainian fuel producer, in addition to the Kremenchuk refinery, is the **Shebelinka Gas Processing Plant** which has made moves over the past two years to modernise its installations. This made it possible to launch production of small quantities of Euro 5 standard petrol. The company's present production capacity is around 550,000 tonnes of fuel annually. However, the availability of crude oil is a problem, and (in addition to Ukrainian oil) the company processes small quantities of oil from Kazakhstan.

In 2016, Ukrainian oil companies produced approximately 1.45 million tonnes of fuels in total. In the case of the Kremenchuk refinery, this was 0.58 million tonnes of diesel oil (+12.7% y/y) and 0.6 million tonnes of petrol (+20% y/y), while in the case of the Shebelinka plant this was 0.11 million tonnes of diesel oil (+7.5% y/y) and 0.16 million tonnes of petrol (-11.6% y/y)[12]. According to Ukrainian experts, if modernisation is continued and crude oil supplies are ensured, the output of these fuels could increase to 6 million tonnes annually, above all owing to the existing capacity of the Kremenchuk refinery[13].

The future of the oil sector according to the Draft Energy Strategy of Ukraine to 2035

The Draft Energy Strategy of Ukraine to 2035 has been developed by the Ministry of Energy and Coal Mining in co-operation with the National Institute of Strategic Studies and the private Ukrainian Centre for Economic and Political Studies named after Olexandr Razumkov[14]. The document was published on 19 December 2016 for further consultation.

Relatively little space in the document is devoted to the oil sector. The strategy points out its main weaknesses, such as: the low technical level of Ukrainian refineries; the difficult financial situation; the lack of a strategic approach from the state; the ineffective regulatory, fiscal and tariff policy; the non-transparency of the fuel market; the absence of stimuli for modernisation (fiscal and in the form of penalties). In fact, this is the diagnosis

12 Иван Кудинов, Александр Сиренко, Рынок ДТ — 2016: сравняли качество до 5, Neftегynok.info, 23.01.2017; http://www.nefterynok.info/analytics.phtml?art_id=390; Иван Кудинов, Рынок бензинов 2016: не все потеряно, Nefterynok.info, 16 January 2017; http://www.nefterynok.info/analytics.phtml?art_id=389

13 Сергей Куюн, Евгений Мочалов. Качество ждет объемов, *Zerkalo Nedeli*, 10 September 2016; http://gazeta.zn.ua/energy_market/kachestvo-zhdet-obemov-_.html

14 http://mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=245165746&cat_id=245165726

of a serious collapse. The document also criticises the approach of the previous governments who were too hasty in concluding that investors would guarantee sufficient quantities of crude oil to be processed at Ukrainian refineries. The strategy also concludes that for more than twenty years the state has failed to adopt a single document of a strategic nature that would set the sector's development goals. The most recent one was the development programme for the refining industry adopted in 1993. This, though, has not been implemented.

The strategy formulates the following main goals for the development of the refining sector:

- modernisation of Ukraine's refineries (including the construction of a new plant) and the adoption of an adequate governmental programme to stimulate the process;
- increasing the depth of crude oil processing to the level of 80–85%, which was recognised as the "top priority in the development of the refineries";
- bringing about changes in the fuel consumption structure by reducing the demand for low-grade petrols and increasing that for higher-quality fuels;
- creating a competitive petroleum product market;
- the rapid development of the Ukrainian chemical industry;
- maintaining state control of the oil pipeline system;
- causing an increase in the state's own oil resources to over 150 million tonnes in 2030 by stimulating exploration and extraction;
- maintaining the share of petroleum products in the energy balance at 12.1% in 2020, 10.3% in 2025, 8.8% in 2030 and 7.3% in 2035.

The strategy envisages achieving these goals in three stages:

1. **in 2017–2020,** adopting the governmental programme for the modernisation of the refining industry, a gradual improvement of the quality of the fuels produced, creating a 90-day reserve of oil and petroleum

products, “perfecting the operation of the petroleum products market, including creating conditions for the influx of foreign oil extracting firms and for building a modern refinery in Ukraine”;

2. **in 2021–2025,** creating conditions to ensure oil supplies via pipelines from various directions, leading to increasing oil processing depth to the level of 75%, ensuring supplies of fuels produced in Ukraine up to the level of 30% domestic demand, while limiting fuel supply imports from any single direction to 30% of total imports;

3. **in 2026–2035,** ensuring a 50% share of Ukrainian production in the fuel market and improving fuel quality to the Euro-5 level, making Ukraine part of international extraction projects, ensuring that the share of crude oil supplied from a single direction does not exceed 30%.

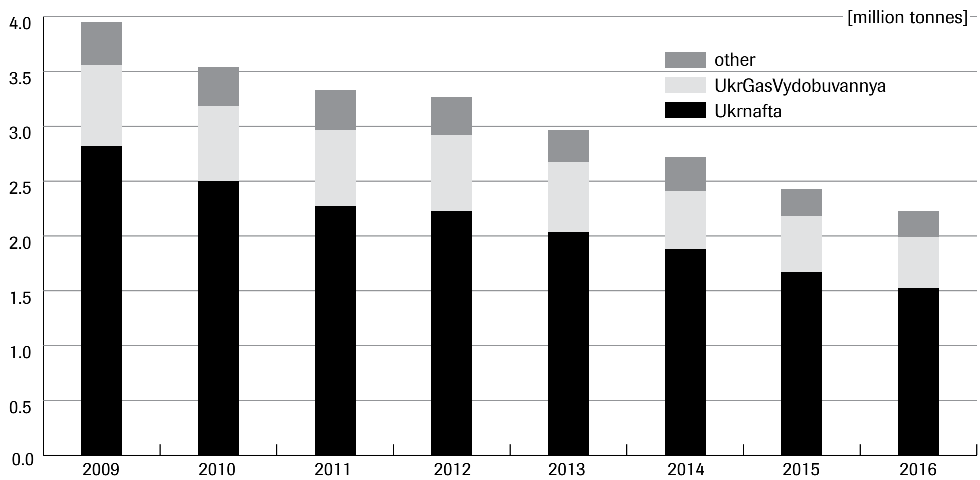
The main problem of the strategy to 2035 is the vague character of most of its provisions, including the one concerning declared state support, and the lack of a mechanism that would lead to the modernisation of the Ukrainian refining sector. As a result, it is difficult to recognise this document as a real ‘signpost’ for the refining industry’s reform. It is rather a set of proposals without a clearly determined way as to how they could be put into practice. The strategy has also been criticised by numerous Ukrainian experts and by the European Commission which stated that it was overly optimistic and failed to take into account the potential risks[15].

15 ЄК розкритикувала проект «Енергетична стратегія України до 2035 року», Interfax, 20 January 2017; http://ua.interfax.com.ua/news/general/397840.html

IV. OIL EXTRACTION IN UKRAINE

Ukraine's estimated oil reserves range between 63 million tonnes (experts' estimates) and 137 million tonnes (Naftogaz's estimates)[16]. Until recently, Ukraine's own oil output was around 4.5 million tonnes annually and was processed by Ukrainian refineries. The fuels made from it satisfied around one fifth of domestic demand. However, over the past few years, oil extraction has been falling rapidly as a result of the depletion of the oil fields in use and an insufficient level of investments. The level of oil production was reduced by 45% between 2009 and 2016 and forecasts indicate that it will continue to fall.

Chart 5. Oil and gas condensate extraction in Ukraine (million tonnes) UkrGasVydobuvannya



Data: Ministry of Energy and Coal Mining

Ukrnafta and UkrGasVydobuvannya are Ukraine's largest oil producers. Together they account for around 90% of domestic oil extraction. In the case of Ukrnafta, the state controls 50% plus one share, while UkrGasVydobuvannya is 100% state-owned (both companies are part of the Naftogaz structure). The remaining volume of oil is extracted in small quantities by around twenty private gas firms during natural gas extraction.

16 О. Мельник, Нафта. Стабільний рух в нікуди?, EIRCenter.com, 19 July 2016; http://eircenter.com/ua-analiitika/nafta-stabilnij-rux-v-nikudio/

1. The situation of Ukrnafta

Ukrnafta has been running at low efficiency for over ten years now due to the fact that the state has in fact lost control of the company. In 2003, management of this firm was entrusted to Privat Group, which controls 42% of its shares. This was a result of informal political deals between the then inner circle of President Leonid Kuchma and the oligarch Ihor Kolomoyskyi who controls Privat Group. Kolomoyskyi has been able to find common ground with all subsequent Ukrainian governments: in the period following the Orange Revolution, during the presidency of Viktor Yanukovych, and after the Revolution of Dignity. The informal price Privat has paid for maintaining control of Ukrnafta is the need to pay bribes to members of the government and support them in Kolomoyskyi's media (in particular, TV 1+1, one of Ukraine's most popular TV channels). Furthermore, the provisions of the Joint-Stock Companies Act imposing the requirement to obtain consent from 60% of shareholders to convene a general assembly meeting have made it difficult for the state to regain control of the company. This meant that the Treasury was unable to expedite the nomination of the supervisory board without consulting Privat. As a result, the structures controlled by Ihor Kolomoyskyi have been siphoning off money from the company on a massive scale for more than ten years. The total output of oil extracted by Ukrnafta was supplied to the Kremenchuk refinery owned by Privat (the company additionally produced around 2–3 million m^3 of natural gas annually). Overexploitation of the company, the lack of investments, and numerous corruption schemes led to a significant decrease in oil and gas output by around 40% and 35% respectively in a few years[17]. In 2016 alone, oil production fell by 9.2%.

After the Maidan revolution, the new government entered into a tactical alliance with Kolomoyskyi, who was nominated governor of Dnipropetrovsk Oblast in March 2014. As Donbas was facing the risk of war, he was capable of stabilising this oblast. Following his dismissal in March 2015, Kyiv made an attempt to regain control of Ukrnafta. In April 2015, the Verkhovna Rada (the Ukrainian parliament) brought about an amendment of the Joint-Stock Companies Act and introduced regulations reducing the quorum necessary to convene the supervisory board to 50% of shareholders' votes. This opened up the way to replacing the board of directors of Ukrnafta who had been completely subordinated to Privat. Mark Rollins from the United Kingdom was nominated

17 С. Куюн, Нефть в обмен на… телевизор, *Zerkalo Nedeli*, 18 March 2016; http://gazeta.zn.ua/internal/neft-v-obmen-na-televizor-_.html

the new CEO of the company. However, it soon turned out that Privat had maintained operational control of Ukrnafta. Furthermore, the siphoning off of funds from the firm also intensified (for example, petroleum products worth around US$280 million were sold to an unknown firm (a money mule) but it is obliged to pay in two years).

As a result, in 2016, Ukrnafta sustained a loss of US$250 million, and the debt it owed to the state reached around US$470 million (mainly due to outstanding taxes), which means that the firm has found itself on the verge of bankruptcy[18]. Although the Ukrainian media had reported on the situation in the company for many months (this was also confirmed by a PWC audit revealed in October 2016), neither the management of Naftogaz nor the government did anything to improve the situation. Everything seems to suggest that this is a consequence of the still binding deal between Kolomoyskyi and a section of the government elite. The People's Front, a member of the government coalition, had previously lobbied for Kolomoyskyi's interests, for example, by blocking the amendments to the Joint-Stock Companies Act. Andriy Kobolyev, the CEO of Naftogaz, is the chairman of the supervisory board of Ukrnafta (he has political links with Arseniy Yatsenyuk's party). He might have blocked the schemes to siphon off large amounts of money from the company in 2014–2016, but he turned a blind eye to this for some reason[19].

2. The situation of UkrGasVydobuvannya

UkrGasVydobuvannya has also been a political piggy bank for subsequent government elites over the past few years. After 2010, the management of UkrGasVydobuvannya (which is one of Ukraine's largest and richest companies producing around 15 billion m^3 of natural gas annually) was entrusted to oligarch Dmytro Firtash. According to information from the Ukrainian media, he won an informal 'tender' by paying one billion dollars to the inner circle of President Yanukovych[20]. A gas market reform was initiated following the Revolution of Dignity in Ukraine. It envisages, for example, unbundling of

18 Аудит „зради", *Zerkalo Nedeli*, 1 October 2016; http://zn.ua/columnists/audit-zradi-225939_.html

19 For more information see: С. Куюн, Преступление и наказание по Черчиллю, *Zerkalo Nedeli*, 10 March 2017; http://gazeta.zn.ua/energy_market/prestuplenie-i-nakazanie-po-cherchillyu-_.html

20 С. Куюн, Пора вернуть нефтегазовую отрасль Украине, *Zerkalo Nedeli*, 28 February 2014; http://gazeta.zn.ua/energy_market/pora-vernut-neftegazovuyu-otrasl-ukraine-_.html

Naftogaz and excluding UkrGasVydobuvannya from its structures. In addition to this, the company's board of directors has been changed, and the company has adopted a new strategy, which offers the chance for a rapid improvement of its operation and an increase in its output.

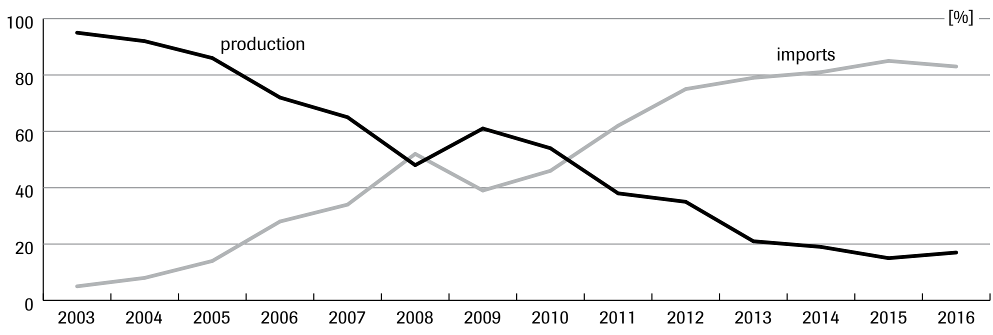
V. FUEL IMPORTS TO UKRAINE

As the Ukrainian refineries limited production and some of them were decommissioned, this gave rise to an increase in fuel imports. While until 2005 the share of imported petrol and diesel oil in total consumption did not exceed 8%, it subsequently began to rise rapidly. One factor which contributed to this was the unfortunate decision made by the government in Kyiv in 2005 to lift customs duty on imported petroleum products which led to a gradual degradation and closures of Ukrainian refineries which were unable to compete with foreign production. Their lack of competitiveness was also an effect of the owners' failure to modernise their companies.

In the first years after the decision to lift the customs duty, the share of imported fuels in total consumption rose several times. 2011 was the first year when more fuel was imported than produced at Ukrainian refineries (62% versus 38%). The government in Kyiv was seriously considering the option of reintroducing import duty at that time. However, the lobbying of the political and business groups which controlled a significant section of imports won.

In the next years, the upward trend in imports further intensified. In 2012, imported fuels had a 75% share in the Ukrainian market, in 2014 it rose to 81%, and in 2015 to 85%. The share of imports versus domestic production was lower in the case of petrol (70% and 30% respectively) and higher in the case of diesel oil (90% and 10% respectively). Ukraine is the only European country of this size to have such a low share of own production in total fuel consumption.

Chart 6. Petrol and diesel oil production in Ukraine compared to imports of these fuels (%)



Data: IEA, State Statistics Service of Ukraine

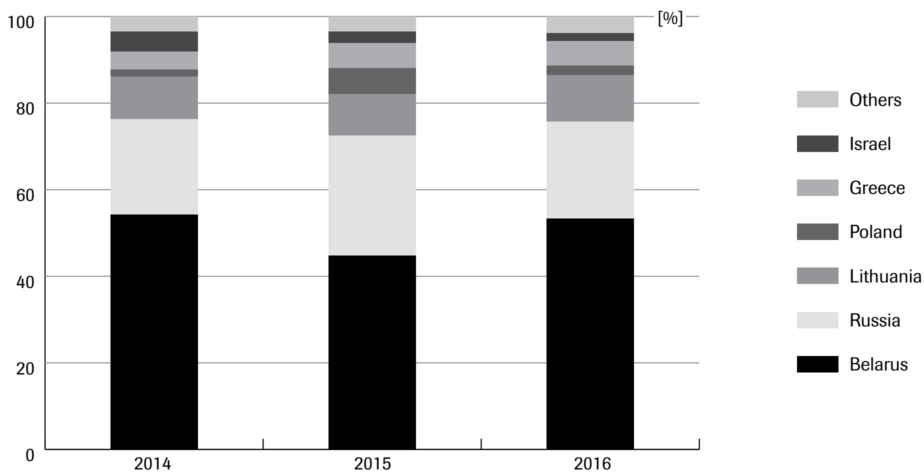
Ukrainian companies are also unable to produce sufficient quantities of LPG to satisfy the rapidly growing domestic demand. Therefore, increasing quantities of this fuel are imported. While in 2008 96.1% of LPG was produced in Ukraine, in 2012 this share fell to 62.7%, in 2014 to 46.9%, and in 2016 to 27.1%[21].

1. The directions of fuel imports

Ukrainian fuel imports are well-diversified. The largest suppliers over the past few years have been: Belarus, Russia, Lithuania and Poland. However, their share differs depending on the kind of fuel.

Imported diesel oil accounted for as much as 88% of diesel oil consumption in Ukraine in 2016, reaching almost 5.2 million tonnes (+7.1% when compared to 2015). Belarus, whose share reaches almost half of all supplies, has been a key supplier for a few years. Supplies from Russia account for over one fifth of the imports, and those from Lithuania for around 10%. Ukraine's industry and agriculture, one of the pillars of the Ukrainian economy generating the largest share in exports, are the main consumers of diesel oil. The structure of imports of this fuel in 2016 was the following: 75.9% was imported by rail, 13.7% by the product oil pipeline, 10.1% by tankers and 0.3% by road transport.

Chart 7. The directions of diesel oil imports to Ukraine (% of total imports)



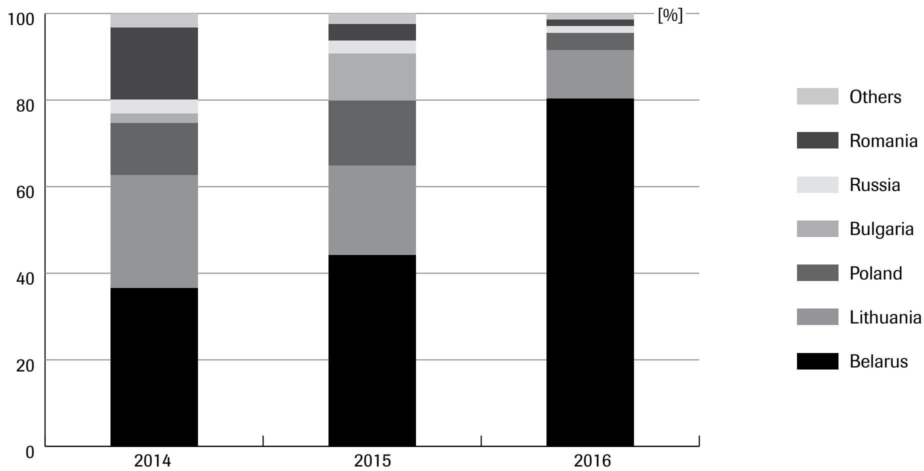
Data: Nefterynok.info[22]

[21] Рынок LPG-2016: без передышки, Nefterynok, 6 February 2017; http://www.nefterynok.info/analytics.phtml?art_id=393

[22] Иван Кудинов, Александр Сиренко, Рынок ДТ — 2016: сравняли качество до 5, Nefterynok.info, 23 January 2017; http://www.nefterynok.info/analytics.phtml?art_id=390

In 2016, imports satisfied 66% of total petrol consumption in Ukraine, reaching 1.45 million tonnes (+4% when compared to 2015). Belarus is the dominant supplier of this fuel to Ukraine. Its share in 2016 grew to a record-high level of 80.3% of total imports. Supplies from Lithuania and Poland (the refineries owned by PKN Orlen) had a share of 11.3% and 3.9%, respectively. As can be seen, the three countries in aggregate had a share of over 95% in total petrol imports. The supply structure was as follows: 92 petrol (54.4%), 95 petrol (45.2%) and 98 petrol (0.4%).

Chart 8. The directions of petrol imports to Ukraine (% of total imports)



Data: Nefterynok.info[23]

The companies which operate filling station networks are among the largest fuel importers to Ukraine. The two key ones, WOG and Okko, accounted in aggregate for 34% of total petrol imports in 2014 and 31% in 2015. Belarus's BNK, operating through its Ukrainian subsidiary BNK-Ukraine, is also a large importer; in 2015, it had an 18.3% share in the petrol market.

1.1. Fuel supplies from Belarus

Belarusian producers have been gradually increasing their share in the Ukrainian fuel market for years., They have also the largest suppliers of both petrol and diesel oil for years. Belarus's advantage over competitors is an effect above all of its geographic proximity. The Mozyr refinery (processing capacity of 12 million tonnes of oil annually), i.e. the key Belarusian supplier to Ukraine (over 90% of all supplies from Belarus; the remaining supplies are affected by

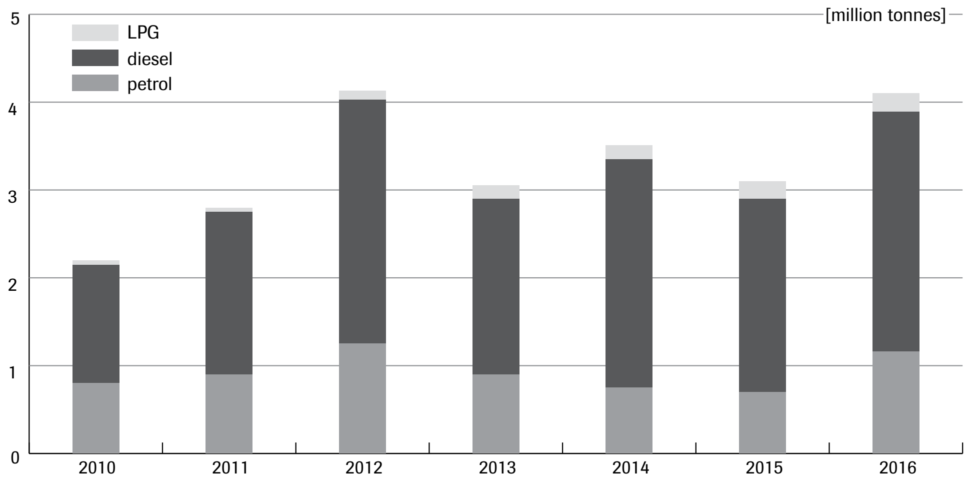
23 Иван Кудинов, Рынок бензинов 2016: не все потеряно, Nefterynok.info, 16 January 2017; http://www.nefterynok.info/analytics.phtml?art_id=389

the Polatsk-based refinery Naftan), is located close to the Belarusian-Ukrainian border. The modernisation process it underwent in the past few years has enabled it to sell good-quality fuel at a moderate price.

Belarusians have also developed their own sales network on the Ukrainian market, above all through the Ukrainian subsidiary of the Belarusian Oil Company (BNK), which was established by Belarusian refineries and the state-owned company Belorusneft. Over the past five years, the level of fuel sales from Belarus has been at a level of 3–4 million tonnes annually, and diesel oil has the greater share in this.

In 2016, Belarusian fuel exports to Ukraine increased to 4.1 million tonnes, while petrol supplies grew by 65%, and diesel oil supplies by 24% when compared to the preceding year. The share of fuels supplied from Belarus in the total Ukrainian market thus reached almost 50%.

Chart 9. Fuel supplies from Belarus to Ukraine (million tonnes)

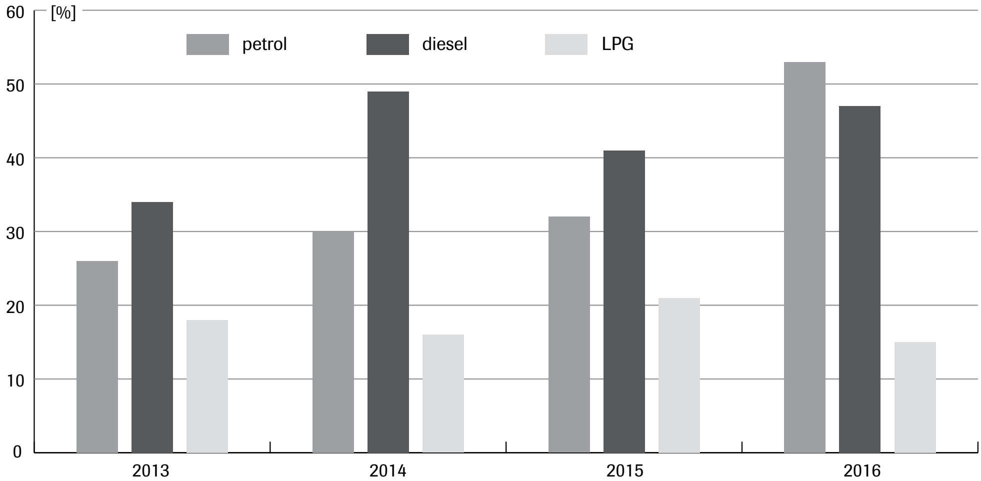


Data: Ministry of Energy and Coal Mining

In 2016, the share of Belarusian supplies in the sales of various types of fuel in Ukraine grew to 53% of the total petrol market and over 47% of the diesel oil market. Meanwhile, the share of Belarusian LPG sales fell to 15%. It is worth noting than more than half of the petrol imported from Belarus is 92 petrol. The demand for it results from the fact that Ukrainian wholesale buyers enrich it with various components, thus 'upgrading' it to the level of 95 petrol.

Belarus is also the number one supplier of mazut, which is mainly used by Ukrainian thermal power plants and for bitumen, which is important considering the activation of the Ukrainian road repair programme.

Chart 10. The share of fuels imported from Belarus in the Ukrainian market (%)



Data: Nefterynok.info

There is also large potential in Belarusian-Ukrainian co-operation as regards crude oil supplies to Belarusian refineries from non-Russian sources. The Odessa–Brody oil pipeline and then the southern section of the Druzhba oil pipeline may become an alternative route of crude oil supplies to Belarus.

1.2. Fuel supplies from Russia

In the first years after Ukraine lifted the import duties on fuels, Russia was a medium-size supplier, with a share of around 10% of diesel oil supplies and several times less petrol supplies. Imports of Russian diesel oil significantly increased recently, remaining at around 25% over the past five years. At the time of Viktor Yanukovych's presidency, this increase resulted from the fact that part of the market had been taken over by 'the family', i.e. his inner business circle, in particular Serhiy Kurchenko's firms (for example, VETEK) which imported diesel oil from Russia. In 2015, Russian companies sold 1.75 million tonnes of petroleum products in Ukraine, including 1.2 million tonnes of diesel oil. Russia's position was temporarily harmed by Moscow's embargo on fuel exports to Ukraine that was in force between October 2015 and March 2016.

There was a discussion in Ukraine in spring 2016 initiated by the then Prime Minister Arseniy Yatsenyuk whether it was reasonable to ban imports of Russian fuels. Finally, this option was rejected – officially because of the risk of fuel prices on the Ukrainian market rising significantly, unofficially because of the participation of people linked to government members in fuel imports from Russia.

As a result, Russian producers returned to the Ukrainian market in 2016, selling 1.2 million tonnes of diesel oil and 0.1 million tonnes of petrol. Fuels from Russia thus had a 16% share in total fuel sales. The share of Russian fuels may grow further as a consequence of the reactivation of the product oil pipeline running from Russia to Ukraine in June 2016. Since that time, this route has been used to supply 150,000 – 180,000 tonnes of diesel oil (Euro 5) monthly to Ukraine. Furthermore, it costs US$20–25 less per tonne when compared to supplies by rail. This means that, if the present level of supplies is maintained, the share of Russian fuel may increase to 50% on the Ukrainian diesel oil market.

The product oil pipeline from Russia

After the collapse of the USSR, the ownership of the product oil pipelines running from Ukraine was transferred not to Ukraine (unlike with the Ukrainian section of the Druzhba oil pipeline) but to Transneft, the Russian state-owned monopoly. The most important asset was the Samara–West Direction product oil pipeline, with an annual transport capacity of 3.5 million tonnes and a length of 1,433 km, connecting the Russian-Ukrainian border with the Ukrainian-Hungarian border, which is managed by a company named PrykarpatZapadTrans. However, in 2011, a Ukrainian court transferred the ownership of this pipeline to the Ukrainian Treasury, and this was confirmed by a decision passed by the Ukrainian Supreme Economic Court in March 2015. Unexpectedly, the decision was cancelled by a court in Rivne, at the same time transferring the ownership of the product oil pipeline to the Russian company. In August 2015, Transneft sold the pipeline to Switzerland's International Trading Partners AG, and in December 2015 the Ukrainian Anti-Trust Committee approved this deal and it was finally signed in March 2016.

It is unclear why, during a Russian-Ukrainian war, the government in Kyiv in fact allowed Russia to take over control of the strategic transport infrastructure and then to sell it to a money mule from Switzerland. Furthermore, according to information from the Ukrainian press, International Trading Partners AG is most likely controlled by Viktor Medvedchuk, a Ukrainian politician who is reputed to be an important lobbyist of Russian interests in Ukraine.

Russia is also a major LPG supplier to the Ukrainian market. In 2016, supplies reached almost 0.8 million tonnes, which ensured a 54% share in the sales for Russian LPG in Ukraine. For Russian and Belarusian producers, this is a natural territory for expansion, given the geographic proximity and the cost-effectiveness of exports.

The growing share of LPG in total fuel sales in Ukraine has made the government more interested in controlling this segment of imports and the market. Unexpectedly, towards the end of 2016, the Security Service of Ukraine (SBU) accused more than ten firms importing fuel from Russia of 'financing terrorism' and arrested part of the cisterns with LPG at the border checkpoint. Everything seems to indicate that this move was aimed at eliminating some firms which in aggregate control around 40% of the market. This case was widely publicised by the Ukrainian media and the companies themselves, who found the SBU's actions groundless and illegitimate. As a result, most of the charges were withdrawn. However, everything suggests that this operation was intended at replacing part of the present importers with firms which have connections with the representatives of the present government, most probably including– according to a Ukrainian media report – President Petro Poroshenko and Viktor Medvedchuk[24].

1.3. Fuel supplies from Lithuania and Poland

The products of refineries owned by PKN Orlen, the Mažeikiai refinery in Lithuania and the Płock refinery in Poland supply high-quality fuel and have had a strong position on the Ukrainian fuel market for years. Their total share in the Ukrainian market in the record-breaking year 2015 reached around 35% of petrol sales and over 15% of diesel oil sales. As a result, they became one of the top three foreign fuel suppliers to the Ukrainian market.

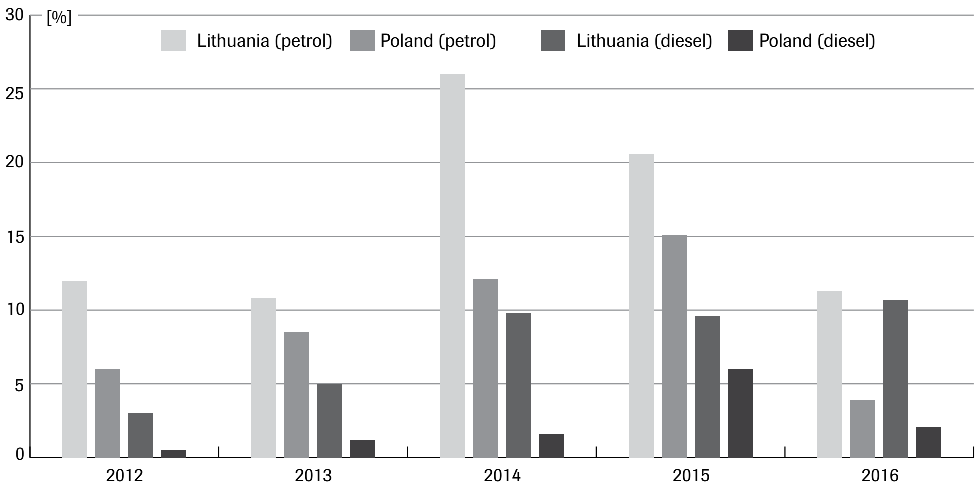
Over the past few years the share of Lithuanian fuels has been growing at a regular rate – from 9% of total imports in 2009 to around 12% in 2011. It is worth noting that Orlen Lietuva has a particularly strong position on the petrol market (in 2014–2015, its share reached 20–26% of total imports) and has increased its share in the diesel oil market from 3% of total imports in 2012 to almost 10% in 2015. In 2016, the sale of Lithuanian petrol fell to 11.3% of total imports, while that of diesel oil increased to 10.7%.

Poland also increased its share in the Ukrainian market by 2015 – in the case of petrol from 6% in 2012 to 15% of imports in 2015, and in the case of diesel oil

[24] Р. Иванченко Газ со вкусом шоколада, *Zerkalo Nedeli*, 24 February 2017; http://gazeta.zn.ua/energy_market/gaz-so-vkusom-shokolada-_.html

from less than 1% to 6% of imports in the same timeframe. However, in 2016, the share of the Płock refinery fell to 3.9% of petrol imports and to 2.1% of diesel oil imports due to a more than ten per cent increase in fuel consumption in Poland (which was an effect of successfully combating the grey economy) and competition from Russian and Belarusian fuels.

Chart 11. The share (%) of supplies from Poland and Lithuania in imports of petrol and diesel oil



Data: Consulting Group A-95

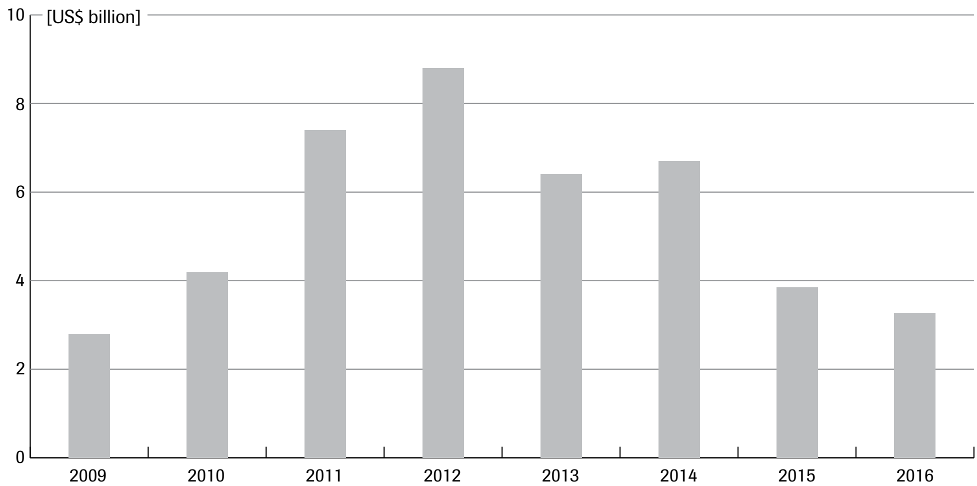
1.4. Other foreign suppliers

The suppliers that have traditionally had a significant share in the Ukrainian fuel market include Greece, Israel and Romania, which each have a share of several per cent in total sales. Petrol from Romania until recently had the strongest position. In 2014, its share in imports reached 16.6%, but in 2016 it fell to 1.4%. This happened as a result of the decision made by the Romanian company Rompetrol (which is controlled by Kazakhstan's KazMunayGas) to withdraw from Ukrainian market and also as a result of the sale of the network of Ukrainian filling stations by LUKoil which supplied part of its fuel from Romania.

2. The costs of fuel imports

The regularly growing share of foreign fuels in Ukrainian consumption has caused foreign petroleum products to have a very important position in Ukrainian imports. For years, fuel imports have had the second largest financial value (after natural gas). While in 2009 the costs of imported fuels were at US$2.8 billion, in 2012 they had already moved up to US$8.8 billion. In 2015 and 2016 expenses on foreign petroleum products fell to US$3.85 billion and US$3.3. billion respectively, which was an effect of falling oil prices.

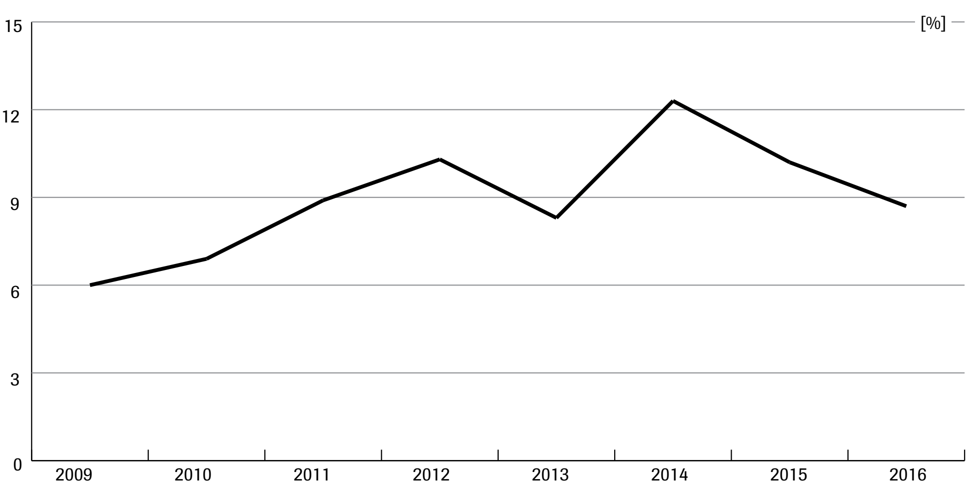
Chart 12. The value of fuel imports to Ukraine (US$ billion)



Data: Ukraine's State Tax Service

The share of fuels in total Ukrainian imports rose from 6% in 2009 to a maximum level of 12.3% in 2014 to finally fall back to 8.7% in 2016. Thus one consequence of the deep crisis of the Ukrainian refining industry is the need to import fuels from other countries, which worsens Ukraine's trade deficit.

Chart 13. Import of fuels to Ukraine as a % of total imports



Data: State Statistics Service of Ukraine

VI. THE GREY FUEL ECONOMY

It is impossible to understand the situation in the Ukrainian oil sector without taking into account the significance of the schemes of illegal fuel imports which have been functioning for more than ten years and the fuel fraud in Ukraine. Although the scale of this phenomenon is difficult to determine precisely, it certainly covers a very important part of the market. The likely size of the grey economy, i.e. the share of illegal fuel in total consumption (i.e. fuel without excise duty, fuel which fails to meet standards and fuel from unregistered imports), is around 20–25% of the market. The scale and the resulting cost-effectiveness of this kind of trade and the real patronage from government representatives were among the major factors which have influenced the present situation of the Ukrainian fuel sector.

Illegal fuel imports to Ukraine gained momentum after 2005 when the government decided to lift import duty on petroleum products. This led to the establishment of many firms engaged in importing fuels and often evading taxes. The scale of this phenomenon was proportionate to the decline in the output of the Ukrainian refineries. One of the reasons why subsequent refineries were closed was their inability to match their competitors who were selling cheap fuel.

One of the largest firms operating on the market over the past few years was Livela, a subsidiary of the Ukrainian-Polish firm Taystra (little is known about its operation). Livela was given the unprecedented privilege of tax-free fuel import and its operation reached its peak in 2010[25]. At that time the company's exclusive right was confirmed by the Supreme Administrative Court; this was viewed as a political decision. As a result, in just a few months it legally imported thousands of tonnes of fuels without the need to pay customs duty. The estimated losses sustained by the Ukrainian budget in 2010 alone were at around US$500 million. Livela was linked to politicians of the Party of Regions which took power at that time. However, everything suggests that this company also has connections with Ihor Kolomoyskyi, who has been the main player on the oil market for many years.

When Viktor Yanukovych governed the country (2010–2014), the schemes of illegal fuel imports also became more advanced because his inner circle ('the family') was involved in them. One of the most rapidly developing companies at

[25] Дмитрий Гнап, Александр Акименко, Анна Бабинец, Ливела и миллиарды, *Ukrayinska Pravda*, 11 October 2011; http://www.pravda.com.ua/rus/articles/2011/10/24/6691712/

that time in the fuel import and sale sector (BRSM-Nafta) was owned by Eduard Stavytsky, the then minister of energy. The grey fuel economy reached a record-high level at that time. According to cautious estimates from independent Ukrainian experts, in 2013 the volume of illegal imports and of fuels originating from illegal domestic production reached around 2.3 million tonnes[26]. This was above all petrol because the excise duty on it was four times higher than that on diesel oil. The Ukrainian budget lost around one billion US dollars due to this. The massive illegal imports of cheap fuels also led to the closures of the Odessa and Lysychansk refineries (months before the closure of the latter its director pointed directly to the risk of withholding production unless the government took measures to protect the domestic refining industry).

After the Maidan revolution, the untaxed fuel situation improved to a certain extent. The greatest success was achieved in combating the smuggling of petroleum products supplied to the Ukrainian market via sea ports. Mikheil Saakashvili, who was governor of Odessa Oblast for a year or so until October 2016, waged a successful war on this practice. The previously functioning schemes involved declaring imports of fuels by sea at quantities that were many times lower than the real volume[27].

While fuel smuggling is widespread in southern Ukraine due to the proximity of the sea ports, and in Donbas, fuel fraud and illegal production is a common practice in the other regions. This is done by various fuel bases and mini refineries; the estimated number of these could be as high as 120. Real fuel is 'multiplied' with the use of various kinds of components. This is possible due to permission from local governments, tax services and the Security Service of Ukraine who benefit financially from this. One example is the sale of petrol by Privat Group. In 2014 this reached 930,000 tonnes despite the fact that the Kremenchuk refinery it controls produced only 460,000 tonnes and imported 150,000 tonnes within that timeframe. The difference of 320,000 tonnes (30%) can be qualified as a product of the grey economy. Furthermore, according to tests conducted, as much as 80% of the petrol sold failed to meet the standard declared[28].

26 Сергей Куюн, Эволюция "тени", *Zerkalo Nedeli*, 28 November 2014; http://gazeta.zn.ua/energy_market/evolyuciya-teni-_.html

27 Сергей Куюн, Неуловимый акциз, *Zerkalo Nedeli*, 24 April 2015; http://gazeta.zn.ua/energy_market/neulovimyy-akciz-_.html

28 Бензин течет мимо бюджета, *Zerkalo Nedeli*, 21 December 2012; http://gazeta.zn.ua/ECONOMICS/benzin_techet_mimo_byudzheta.html

The state has been making attempts to take some measures to combat illegal production and tax evasion. A system for monitoring fuel production and retail sale has been in operation since April 2016 and is expected to bring about a situation in which a filling station will be able to sell fuel only at the amount it bought and paid excise duty for. Furthermore, higher taxes have been imposed on the components used to 'multiply' fuel, which is expected to reduce the attractiveness of such schemes.

Despite some progress seen in combating illegal production and fuel sale, the grey economy will still form an essential part of the Ukrainian petroleum product market due to the high profitability of this business and the inalterably corrupt government, law enforcement agencies, prosecution authorities and courts. According to calculations provided by Ukrainian experts, the sale of one million tonnes of illegal fuel can generate around US$650 million net profit in the case of petrol and around US$450 million in the case of diesel oil[29].

[29] Олександр Мельник, Нафтопродукти. Чи потрібна в Україні нафтопереробна промисловість?, EIRCentr, 11 August 2016; http://eircenter.com/ua-analiitika/chastina-p%E2-%80%99yata-naftoprodukti-chi-potribna-v-ukrayini-naftopererobna-promislovisto/

VII. THE ORGANISATION OF THE FUEL RETAIL MARKET

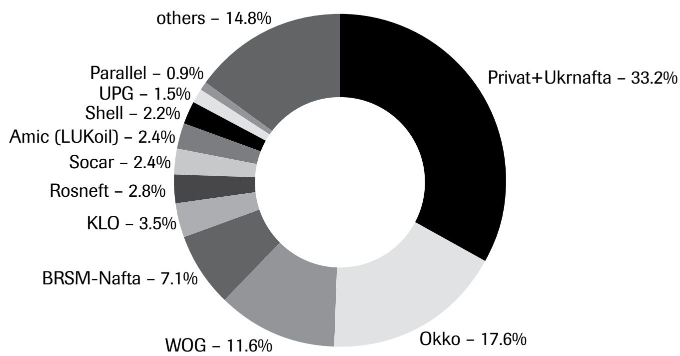
Over 6,500 filling stations operate in Ukraine. Ten networks control around 75% of the market. The fuel sale market can be divided into the three main segments:

1. The **premium class** networks (including WOG, Okko, Shell, Amic and Socar) have the greatest market share. In aggregate, they have around 1,100 filling stations but they control as much as 45% of the market share. The fuel they sell is the most expensive but its class is the highest and it originates from legal sources. These networks are usually honest taxpayers.

2. The second group, known as **'Privat Group'** (Avias, Ukrnafta, ANO, Sentoza and, Maveks networks) because it is owned by Ihor Kolomoyskyi and his business partner Henadiy Boholyubov or the companies de facto controlled by them (the state-owned Ukrnafta). Its market share is around 30%, and it sells fuel via around 1,500 filling stations. The fuel they sell is the cheapest on the market, but its quality varies.

3. The third group includes the **remaining retailers** who have the largest number of stations (around 3,600) but at the same time their market share is only 25%. The fuel sold by these networks is usually cheap but of low quality and often originating from the grey economy.

Chart 14. The market share of the major filling stations in 2015 (%)



Data: BiznesCensor

The share of filling stations controlled by foreign capital does not exceed 15%. The largest networks are those controlled by Russia's Rosneft and Tatneft, British-Dutch Shell, Azerbaijan's Socar and Austria's AMIC (the latter bought its network of 230 stations in 2014 from LUKoil for US$300 million; it most likely has capital links with LUKoil's owners).

VIII. THE SIGNIFICANCE OF UKRAINE AS A TRANSIT COUNTRY

Ukraine has one of Europe's longest oil transport systems; its operator is the state-owned company Ukrtransnafta. Its oil pipelines have a total length of 4,671 km and are accompanied by 51 compressor stations. The transport capacity of the oil pipelines on entry from the Russian and Belarusian borders' side is 114 million tonnes and on exit 56 million tonnes (borders with EU member states).

Three transit oil mains run through Ukraine:

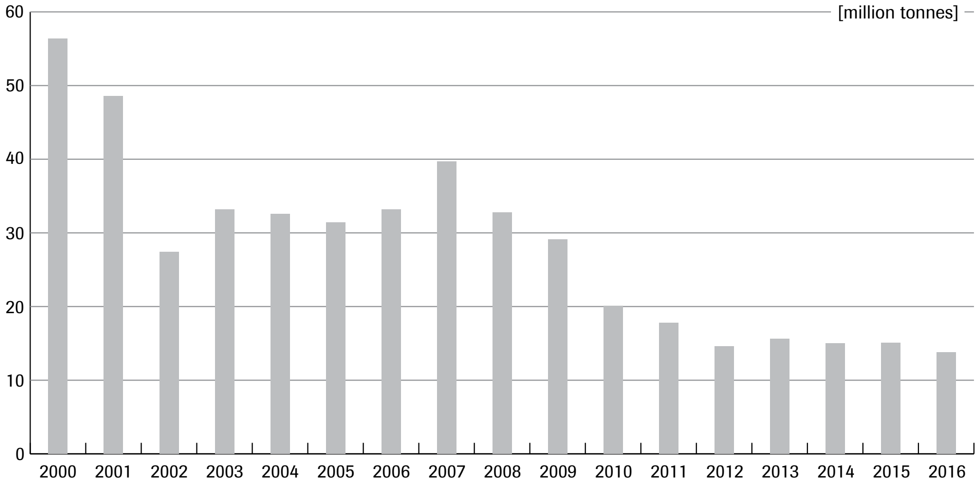
- **Druzhba**, transporting oil from the Belarusian border to Slovakia and Hungary, has been in operation since the late 1960s, although its significance has noticeably fallen over the past decade or so.

- **Pridneprovsky,** transporting oil from the northern and eastern borders with Russia (the areas close to Sumy and Luhansk) to the Lysychansk and Kremenchuk refineries, and then running to the ports in Kherson and Odessa. This pipeline, Ukraine's oldest, has not transported oil from Russia since 2010. However, at the beginning of 2017, it began transporting Azerbaijani oil to Ukrtatnafta in Kremenchuk.

- **Odessa–Brody**, connecting the Pivdennyi terminal near Odessa (with a transport capacity of 14.5 million tonnes, adjusted to receive tankers carrying up to 100,000 tonnes) with Brody in western Ukraine, where the pipeline is connected with the Druzhba system. This is Ukraine's newest oil pipeline, launched in 2002.

Around 55 million tonnes of Russian oil used to be transported annually via Ukrainian territory in the 1990s. However, Russia decided to develop its own export system terminating at Russian ports to thus avoid dependence on transit countries, including Ukraine. A key element of this strategy was the launch of the Baltic Pipeline System (BPS) in 2001 running to the terminal in Primorsk (Leningrad Oblast), with an annual capacity of 76 million tonnes. As a result, the role of Druzhba and transport via its Ukrainian section fell significantly – the transport volume was reduced by around 20 million tonnes within two years. The BPS-2 oil pipeline, with a transport capacity of 36 million tonnes, was put into operation in 2012. Russia also developed the transport capacity of the pipelines running to its own Black Sea ports.

Chart 15. Oil transit via Ukrainian territory (million tonnes)



Data: Ukrtransnafta, Ministry of Energy and Coal Mining

Russia's policy involving bypassing transit countries in oil exports to the West resulted in a reduction of oil transit via Ukraine by over 70% over fifteen years. In 2004–2008, Russia transported up to several million tonnes of oil annually via the Brody–Odessa oil pipeline (reversal); this was intended at preventing the use of this route for diversifying oil supplies from other than Russian sources. However, finally the project was discontinued due to being economically non-viable.

At present, Druzhba is the only operational main oil pipeline in Ukraine transporting Russian oil to Slovakia, the Czech Republic, Hungary and Bosnia. Over the past five years, it transported around 15 million tonnes of oil annually. In 2016, the volume transported reached a record-low level of 13.8 million tonnes.

Kyiv has had no visible policy to develop the pipeline system over the past two decades. This was an effect of the same factors which led to the degradation of the Ukrainian refining industry, in particular—to corruption. The management of the state-owned company UkrTransNafta, as a result of the government's concession, was informally entrusted to Privat Group. This company had a monopoly in the oil pipeline operation sector and in 2009–2014 was managed by Oleksandr Lazorko, the former director of the Drohobych refinery (owned by Privat). Control of Ukrtransnafta has in fact become an instrument for combating competition for Ihor Kolomoyskyi's firm in the oil sector. Lazorko caused, for example, the discontinuation of Russian oil supplies to LUKoil's refinery in Odessa in order to ensure supplies of crude oil via Odessa to the Kremenchuk refinery controlled by Privat.

The case of Ukrtransnafta lays bare the absence of the state in this strategically important sector and Privat Group's management based on overexploitation. Towards the end of this team's rule, i.e. already after the Maidan revolution, it began pumping so-called 'technological oil' out of those transit oil pipelines that had not been in use in the past few years[30]. This in particular concerned the Michurinsk–Kremenchuk pipeline and probably also the Odessa–Brody pipeline. According to this corruption scheme, the oil from the pipeline used for its maintenance was sold to money mules for the price of US$30–40 per barrel, while its market value was perhaps double that. The extent to which technological oil has been pumped out of the pipelines is unclear, but it can be assumed that it was worth hundreds of millions of dollars.

Another problem which Ukrtransnafta has is oil theft from transit pipelines via illegal drilling. Annual oil losses reach around 40,000–50,000 tonnes. Most often this is possible due to 'protection' offered by local police and the SBU.

30 "Приват" заблокировал государственную нефть "Укртранснафты" на 200 млн грн, *Zerkalo Nedeli*, 24 July 2015; http://zn.ua/ECONOMICS/privat-zabral-u-gosudarstvennoy-ukrtransnafty-nefti-na-200-mln-grn-183438_.html

IX. CONCLUSION: THE STATE STILL HAS NO STRATEGY

The formally applicable oil strategy of Ukraine to 2030, approved in July 2013, envisaged that fuel consumption in Ukraine would grow to 11.2–11.7 million tonnes in 2015 (in fact, it reached 7.4 million tonnes), and oil processing at Ukrainian refineries would then reach 11–13.5 million tonnes (in fact, it was 2.5 million tonnes). The document diagnosed that the Ukrainian oil sector was in crisis and admitted that one of the main obstacles to the development of Ukrainian refineries was the unfavourable customs regime and that "the state should stimulate the development of the refining industry to reach a competitive level necessary to satisfy the demand on the domestic market (…) that the state should develop a special programme for supporting production and modernisation of the refineries"[31]. The strategy expressed the hope that Ukrainian refineries would be able to reach an adequate level of technological advancement and competitiveness by 2020.

One obvious reason why Ukraine has found it impossible to achieve the goals it set itself was the Russian aggression and ongoing conflict in Donbas, which worsened the crisis of the Ukrainian state and economy. However, this is neither the sole nor even the main reason. Almost three years since the victorious Revolution of Dignity, Kyiv still has no consistent policy aimed at stimulating the modernisation and development of its own refining industry. The obstacles are the same as those seen over the past few years: the enormous corruption, the involvement of a section of the government elite and the law enforcement agencies in various kinds of corruption schemes, the appropriation of private property by oligarchs in state-owned companies from the oil sector (Ukrnafta, UkrGasVydobuvannya and UkrTransNafta) and the lack of a concept for their development.

As a result, the degradation of the Ukrainian oil sector is continuing. However, this does not affect the availability of fuel at affordable prices at Ukrainian filling stations and to corporate clients. This is the case because a competitive fuel market has emerged in Ukraine over the past decade de facto without the state's interference (and often despite its measures to combat it). However, this market is 85% dependent on imported petroleum products.

[31] Енергетична стратегія України на період до 2030 р.; http://zakon3.rada.gov.ua/laws/show/n0002120-13

The consequences include not only the insufficient development of the Ukrainian oil industry but also the unusually heavy reliance the Ukrainian market has on fuel imports mainly from the neighbouring countries (above all Belarus, Russia and Lithuania). This adversely affects the Ukrainian trade balance, deprives thousands of Ukrainian workers of jobs at Ukrainian refineries, reduces state revenues from taxes, and contributes to the flourishing of the grey fuel economy resulting in supplies of low-quality fuel. An additional consequence of the present situation is its adverse effect on Ukraine's energy security. The state does not require importers to create any reserves in case of emergency (it is a standard in EU member states to maintain a 90-day fuel reserve).

Everything suggests that the collapse of the Ukrainian oil market will continue. Since the Maidan revolution, the state has not adopted any new policy towards this sector of the economy. It was only in December 2016 that the Ministry of Energy and Coal Mining presented the Draft Energy Strategy of Ukraine to 2035. However, this document is too vague and overly optimistic at many points, which means that the state is still a long way from adopting a final document that might bring about a change in its policy. While positive and unprecedented reforms have been implemented in the Ukrainian gas sector, the crisis situation in the oil industry is ongoing. Considering the trends outlined in this report, the existing condition is likely to be maintained in the coming years.

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