



Overview of the Polish Crude Oil Market

Energy Security
and
Diversification of Supplies from Non-Russian Sources

**Warsaw,
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1. Polish Crude Oil Market

1.1. Market Value and Size

In 2005, PKN Orlen's oil refinery in Płock processed some 13 million tons of crude oil. After the three quarters of 2005, PKN Orlen Group generated ca. PLN 30 billion in sales revenues and posted PLN 4.3 billion in after-tax profit.¹

During the same year, the Gdansk refinery belonging to Grupa Lotos processed ca. 4.7 million tons of crude oil. Grupa Lotos recorded sales revenues of PLN 6.7 billion and an after-tax profit of PLN 0.52 billion for the first three quarters of 2005.²

Such high earnings of Polish refineries are primarily attributable to the low price of purchased Urals oil as compared to the prices of other types of oil, which results in historical levels of record profits given that prices of sold end products are determined by world stock quotations.

The two largest oil concerns in Poland, PKN Orlen and Grupa Lotos hold a combined 82% share in the Polish finished fuel production market. Fuel imports account for the remaining 18%.

1.2. Infrastructure. Druzhba (Friendship) Pipeline.

Poland is linked with Russia by Druzhba Pipeline with a capacity of roughly 43 million tons of oil (the nominal capacity can be increased to 50 million tons depending on the applied chemicals and this option is currently being taken advantage of). Druzhba Pipeline is owned by a one-person State Treasury company, Przedsiębiorstwo Eksploatacji Rurociągów Naftowych "Przyjaźń" S.A. (PERN). The earnings generated by PERN on transport of both oil earmarked for Polish refineries and oil sent in transit by Naftoport, as well as on other business activity pursued in 2004 amounted to PLN 628.4 million.³ The enterprise transported 49.9 million tons of the raw material and 4.9 million tons of finished products. The 2005 figures will be similar but they may vary slightly due to EUR/PLN and US\$/PLN exchange rate differences. Because of the increased investment outlays in 2005 (PLN 650 million against PLN 250 million in 2004), the company's earnings will probably reach PLN 75 to 80 million.⁴ The pipeline represents the primary source of crude oil supply for Poland and Germany. The basic rule governing oil transport by Druzhba pipeline is to satisfy, in the first place, total demand for oil on the part of Polish and German refineries. Only after the refineries' demand has been met, the remaining capacity (amounting to 9.170 million tons in 2005) may be utilized for crude oil transit via one of the two existing ports in Gdansk, Poland, or Rostock, Germany. Historical data show that most of the transported oil has been reaching Germany since the construction of the Druzhba pipeline in the 1970s. After almost 40 years of the pipeline's operation, this trend was reversed from 2002 onwards. Nowadays,

¹ www.orklen.pl

² www.lotos.pl

³ *Rzeczpospolita* daily, Lista 500 [The Top 500 List], 2004

⁴ *Puls Biznesu*, 6 June 2005. Crude oil and fuel transport figures in 2005 to reach the previous year's levels at PERN's Druzhba pipeline

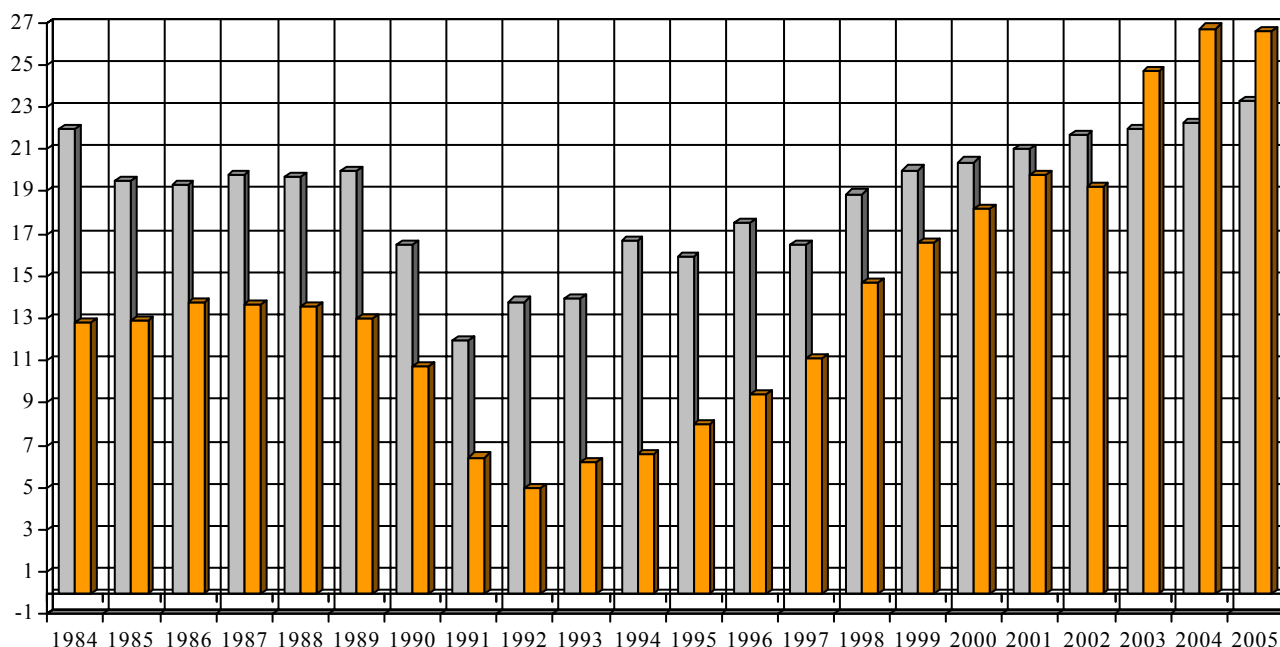
far more oil goes to Polish refineries, on a consolidated basis, and is transported in transit by Naftoport than flows to Germany. Additional transit capacity of almost 10 million tons achieved by PERN has contributed to those extraordinary profits and enabled investment in infrastructure upgrades and expansion.

Crude oil transport from Russia to Germany and Poland via
PERN's Druzhba pipeline, in million tons

Source: Transneft

Grey – crude oil transport to Germany (refineries and crude oil exports via Rostock)

Orange – crude oil transport to Poland (refineries and crude oil exports via Gdansk)



1.3. Naftoport.

An alternative infrastructure to crude oil supplies by Druzhba pipeline exists in the form of Naftoport which offers a possibility to collect crude oil from any location in the world. Handling capacity of Naftoport currently stands at 23 million tons annually. Combined with cargo handling jetties in the Northern Port, the Gdansk terminal is capable of handling a total of 34 million tons of crude oil per year.⁵ This represents almost the double of the demand of Polish oil refineries. In terms of Russian crude oil export volume, the Baltic Sea has recently become comparable with the Black Sea. The Russian port of Primorsk is the primary alternative to oil exports via Gdansk on the Baltic Sea (recently, its handling capacity has been greatly enhanced to ca. 62 million tons). Other alternatives include the Lithuanian port of Butinge with a maximum annual handling

⁵ www.pern.com.pl



capacity of 10 million tons, the Latvian Ventspils with a maximum annual handling capacity of 15 million tons (however, no oil has been either unloaded or loaded there since 2003) and the German port of Rostock with a capacity of roughly 6 million tons per year (due to the limitations of crude oil transport via pipeline). The last port is situated on the same “section of the pipe” as the Polish Naftoport. A theoretical threat exists that a portion of crude oil transit currently ensured via Naftoport will be shifted to Rostock or Ventspils. Furthermore, it should be mentioned that every year the Estonian port of Tallin handles ca. 4 million tons of crude oil supplied by railroad from the end terminal of the pipeline running near Sankt Petersburg, by the Kirishi refinery. **The threat of the Polish Naftoport losing some crude oil transit to the German Rostock is very real considering the current *rapprochement* between Russia and Germany on strategic cooperation in the supply of energy inputs.**

1.4. Expansion of Naftoport

Through most of the 1990s, Naftoport’s facilities were practically unused and not upgraded. Owing to the earnings from crude oil transit, its infrastructure has been recently substantially modernized to strengthen the company’s position on the Baltic Sea. A major enhancement benefiting Naftoport was its accessibility for large crude carriers with capacity beyond 300,000 tons that previously, for technical reasons, could not sail into the port to collect crude oil. This enabled transit of Russian crude oil through the territory of Poland in two new directions, namely those of the US and China. The transit, totaling almost 10 million tons of crude oil and worth a few billion US dollars, has significantly improved both the financial condition of Naftoport and Poland’s energy security, as compared to previous years. **As a result of increased transit, more crude oil is now available in the Polish territory for redirection to domestic refineries to satisfy their demand in emergencies. Thus, Russian crude oil transit via Poland’s Naftoport contributes to the country’s enhanced energy security.** An example of such situation was the discontinuation of crude oil supplies by Petroval (Jukos) and redirection by J&S of a portion of its merchandise earmarked for transit to make up for the shortage suffered by Polish refineries.

1.5. Railroad Tank Cars and Own Crude Oil Extraction

Ten million tons of crude oil or finished product can be supplied in railroad tank cars. PGNiG projects domestic crude oil resources at 26.1 million tons. Crude oil extraction from domestic deposits amounted to 624,000 tons in 2004.⁶ **It is worthwhile to note that it is both technically feasible and absolutely advisable to double the volume of crude oil extracted in Poland.**

1.6. Further Expansion of Infrastructure in the form of the Odessa-Brody pipeline seems real provided that a minimum utilization of 50% of its transport capacity on the *take or pay* principle is ensured. If, however, the pipeline is built, **it would be difficult to oversee the fact that crude oil (so-called Caspian crude oil) will also flow via the territory of the Russian Federation** and must be loaded on crude carriers in the Russian port of Novorossiysk to reach Odessa. Another important element to be considered is that Polish refineries were originally designed to process Russian Urals oil and are unable to

⁶ www.pgnig.pl



leverage the qualitative advantage of Caspian crude oil. Meanwhile, the price of Caspian crude oil plus its delivery cost may be as much as US\$ 50 per ton higher than the current price of Urals crude oil.

1.7. Contracts for Crude Oil Supplies

Under existing crude oil delivery contracts, even after the collapse of Jukos, the situation of Polish refineries is different than in the case of natural gas. At present, some 80 per cent of crude oil deliveries over the following 3 to 5 years are contracted under such agreements. Moreover, some of those agreements are well secured with financial guarantees, offering the refineries comfort in developing spot purchase policies. **Should a political or economic need arise, Polish refineries may, at any time, order crude oil from any location in the world and collect it without encountering any technical problems.** This also provides for a real possibility of establishing price competition between Russian deliveries and deliveries made by crude oil traders or extracting companies in various locations all over the world.

1.8. Contracts

With about 17.5 million tons of crude oil processed every year by both PKN Orlen and Grupa Lotos, the following companies make oil deliveries pursuant to permanent contracts:

- J&S Service and Investment – 7.5 million tons per year. Crude oil purchased by J&S originates from over 30 crude oil producers in Russia and Kazakhstan. The contract's performance is secured with financial guarantees and in the event of non-delivery via the pipeline the supplier shall deliver the Urals or other crude oil, by sea and, should that prove impossible, make up for the difference in the cost of crude oil purchased directly by the refinery. This commitment is secured with an irrevocable bank guarantee;
- Petroval – The contract is not being performed (nonetheless, it has not been terminated so far by PKN Orlen due to the unfavorable wording of the Force Majeure provisions). Petroval's crude oil came from Jukos. Meanwhile, crude oil deposits in Jugansk, constituting the primary resources of Jukos, have been taken over by Rosneft;
- BMP – A contract for delivery of 2 million tons. This crude oil used to be purchased mainly from Jukos and is currently supplied by Tatneft and Bashneft. The contract expires in 2005. No information is available on contract performance bonds; and
- Petraco – A contract for delivery of 4 million tons. According to PKN Orlen, this crude oil will be sourced from Rosneft's deposits, i.e. from Jugansk, formerly owned by Jukos. No information is available on contract performance bonds or guarantees of crude oil deliveries from other sources.

“Properly secured” permanent contracts should be understood to mean the contracts under which all deliveries are secured in such a manner that in the event of the supplier's default, there exists an immediate and irrevocable possibility to make up for the loss resulting from the difference in the prices of crude oil purchased from alternative sources



of supply. **It would be desirable to include such provision (so-called “performance bond”) in all the permanent contracts entered into with suppliers. This is not the case nowadays and may pose threat to Poland’s energy security.**

2. Diversification of Crude Oil Supplies to Poland

2.1. Due to the recent information noise related to the issue of energy security and diversification of crude oil supplies, it should be observed that in the case of crude oil market (unlike in the case of natural gas market) there exists the necessary infrastructure to carry out immediate diversification of crude oil supplies from any location in the world or supplies of the finished product, i.e. fuel. The following factors impair such diversification: technological limitations in processing crude oil other than Urals (estimated investment in installation changeover at both refineries would initially run up to some PLN 500 million), economic competitiveness of deliveries from Russia and lack of clear objectives for proceeding with such diversification. After 11 September 2001 and in the face of political instability in the Middle East, all major consumers of crude oil (the United States, China and the European Union) press for maximization of supplies of cheap crude oil from Russia and Kazakhstan.

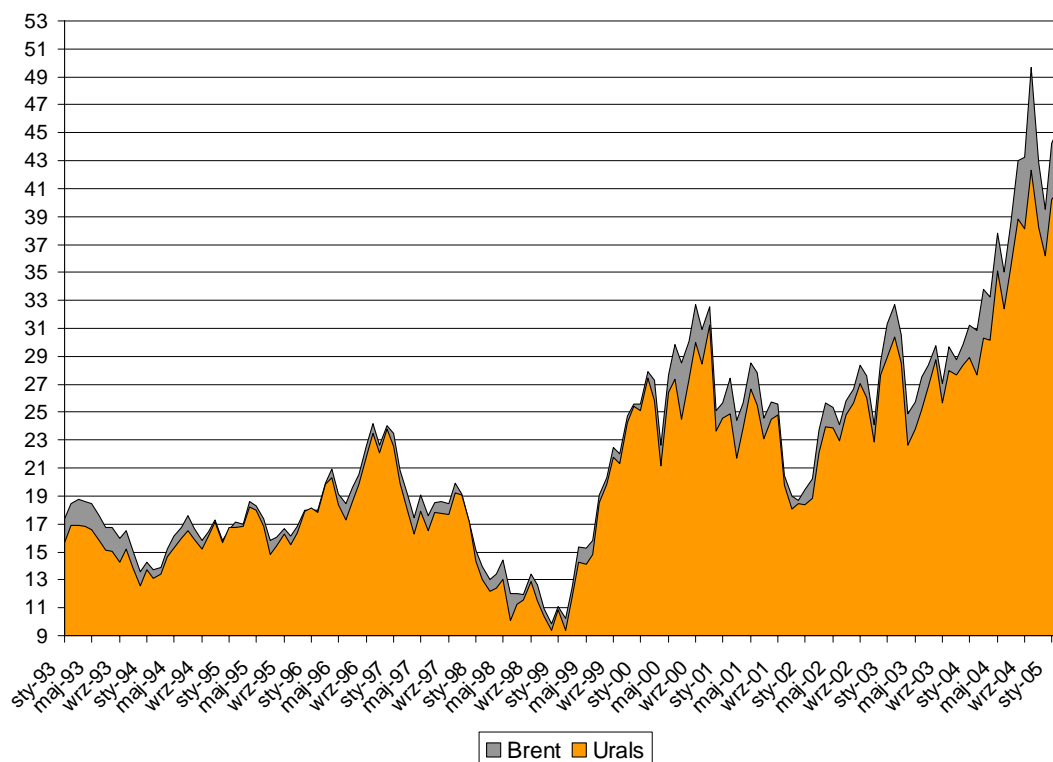
2.2. Reasons for Purchasing Crude Oil from Russia

The primary reason for purchasing REBCO oil (mixture of various types of Urals crude oil) by Polish refineries is the substantial difference between the price of the Russian raw material and the raw material imported from other sources (Brent, Fortis or Oseberg). In the early 1990s, large quantities of crude oil from the Middle East were imported via Naftoport due to a decline in crude oil extraction in Russia and difficulties encountered in purchasing the Urals crude oil. Crude oil originating from the Middle East was more expensive than the Russian one, which had an adverse impact on the earnings of Polish refineries (at the time balancing near the production breakeven point). Crude oil prices in international markets were low at the time. Oil price growth marked a turnaround in the market. The price discount varied in relation to Brent oil and ranged, subject to input pricing in international markets, from US\$ 3 to US\$ 9 per barrel. It now amounts to over US\$ 5 with crude oil prices staying recently within the range of US\$ 55 to 60 per barrel. The discount, combined with the additional “geographic premium” (recently, at around US\$ 2 per barrel), constitutes the main reason why Polish refineries have been recording substantial earnings in recent years and have the funding to finance their modernization.

Comparison of Brent and Urals crude oil prices, January 1993 to March 2005

(in US dollars)

Source: Argus Petroleum, March 2005



2.3. Crude Oil Pricing Mechanism in Poland

Polish refineries sell petrol at filling stations at retail prices corresponding to world stock quotations for finished product deliveries in Rotterdam (in other words, at the price representing the cost of producing petrol or diesel oil from the input purchased by Western European refineries and inclusive of transport costs). This mechanism allows for such product pricing by PKN and Lotos as to maximize earnings because prices are set at the levels rendering imports of the petrol manufactured at other refineries unprofitable. Meanwhile, Polish refineries generate high profits by purchasing the input at the price discounted against Brent and, additionally, by benefiting from the so-called ground premium, i.e. a price discount resulting from their geographic location “near the pipe”. It can be assumed that it would be possible to reduce the retail cost of petrol at filling stations by applying the mechanism for pricing such petrol based on the purchase cost of cheap Russian input. The above approach could theoretically be implemented in Poland (although such move would not be welcomed by investors and liberal business media). A reduction in retail prices at filling stations would, however, take place at the expense of the refineries’ margins and consequently lead to their share price decline (impacting also the holdings of the State Treasury). Another factor enabling reduction of fuel prices is the



lowering of excise tax and charges that currently jointly account for roughly two-thirds of the product's final price.

2.4. Giving up or Limiting Crude Oil Supplies from Russia

Theoretically, almost immediate resignation from any quantity of Russian crude oil imports is also possible and its replacement with the crude oil sourced from another location in the world. The necessary infrastructure enabling execution of such operation at any time is already in place. Without doubt, this would be real diversification of input supply. **Such operation would be consistent with the strategy of growing independent from the Russian input supplies but, at the same time, would be against the economic interests of the state which should ensure either competitiveness of the economy by offering cheaper fuel or growth in the value of refineries.** Technical problems and cost of adapting refineries to the processing of different crude oil are difficult to estimate. In the event of resignation from Russian crude oil deliveries, the limitation consists in contractual provisions (permanent deliveries) and in the expenses involved in terminating the contracts. In addition to the contractual sphere, there exists permanent demand for spot deliveries (currently accounting for some 25 per cent) that could be met with crude oil deliveries from any source realized by Naftoport. However, the cost of purchase of such crude oil would be significantly higher (the difference between Brent and Urals plus transportation cost). Another problem shall also arise in the case of "sea" deliveries, namely that the least expensive alternative to supplies via the Druzhba pipeline are crude oil deliveries from the Russian port of Primorsk. Here, one cannot speak of any diversification because this would still be the same Russian Urals oil for which the buyer would additionally have to pay a higher price inclusive of the cost of transport by crude carriers. Russian crude oil still comes second in terms of pricing even in the case of deliveries made from the port of Novorossiysk on the Black Sea (Urals Med.). As far as economic parameters are concerned, crude oil deliveries from non-Russian deposits rank third in terms of pricing attractiveness. Thus, supply diversification through purchases from crude carriers could lead to an absurd situation whereby a crude carrier would bring Russian crude oil a few dollars per barrel more expensive than that transported via the pipeline. Furthermore, losses estimated at ca. PLN 100 million per year would be suffered by the state-owned PERN deprived of its earnings from crude oil transit (under the scenario, the pipeline would be operated only on the one-way basis and, technically, it could not be used for transporting crude oil in the opposite direction). All in all, if a hypothetical assumption is made that crude oil sourced from other locations would be priced, at a maximum, US\$ 50 per ton higher than that transported via the pipeline, then multiplied by 17.5 million tons it would come to US\$ 875 million plus PLN 100 million of lost income by PERN, totaling some PLN 3 billion in annual "losses" following diversification of all crude oil demand.

2.5. At Present, Possibility to Source Inexpensive Russian Crude Oil Represents an Opportunity rather than a Problem for Polish Refineries

One can predict with a large degree of probability that the present difference between Brent and Urals crude oil prices constituting the main rationale behind imports will begin to level off as the volume of crude oil received by China via currently constructed pipelines grows (at present, Russian crude oil deliveries to China are effected via crude



carriers and railroad tank cars). Major demand growth on the part of China owed to the establishment of the infrastructure necessary to transport the raw material and even a slight increase in crude oil demand on the part of the US may cause **the oil supply for the Polish market and the pricing gap between Brent and Urals crude oil to shrink as early as 2007 and afterwards, enhancing economic viability of deliveries of crude oil other than Russian.** Thus, in a natural way and subject to free market mechanisms, the direction of crude oil stream flowing via Naftoport may be reversed.

2.6. Obstacles to Diversification Associated with Crude Oil Pricing

Contrary to the opinions voiced over recent years, Poland possesses adequate technical infrastructure to diversify its crude oil imports. The rationale underlying Russian oil imports is both technological and financial. Nonetheless, a political decision to import crude oil from non-Russian sources via Naftoport, apart from political repercussions, will have serious adverse financial effects such as lower earnings of Polish refineries and PERN. It should be kept in mind that, from the legal perspective, the Polish government is not in position to “force” Boards of PKN Orlen or Grupa Lotos to act to the financial detriment of the managed companies through purchase of expensive inputs (this issue would have to be regulated statutorily). Imports of more expensive crude oil will have an adverse impact on fuel prices at filling stations. Another option is to lower retail prices at filling stations through leveraging of real advantages of low prices of Russian Urals and reduction of the refineries’ margin. This would stimulate the economy at the expense of shareholders. It seems extremely important to stress that there is room for virtually any political decision on crude oil supply diversification that would only be limited by legal issues (e.g. statutory obligation of PKN Orlen and Lotos Management Boards to diversify and purchase non-Russian oil). **Meanwhile, the Polish government may, at any time, purchase oil from non-Russian sources, e.g. to replenish its strategic reserves.**

2.7. Deliveries from Non-Russian Sources and Economic Security

The fastest diversification method would be, irrespective of economic and legal aspects, the decision to begin importing crude oil from non-Russian sources at the level of 12 to 13% of annual consumption. This would mean a monthly purchase of one crude carrier, i.e. some 130 thousand tons and would not result in major technological disturbances. **The key thing is that oil imported in such quantities, given the capabilities of the production process, would not greatly impact the refineries’ financial performance and the product’s price (additional cost of about 1 grosz per one liter of fuel).** This fact would constitute a significant **political and media success**, not affecting the relations with the current oil suppliers provided that this move is presented to the general public as **an increase in crude oil processing and not as a replacement of the so far delivered Russian or Kazakh input.** It should be stressed that this kind of diversification would primarily have the “propaganda” effect and, in fact, would merely provide the “smoking screen” for the long-term strategy.

2.8. With Necessary Infrastructure for Receiving Crude Oil, Long-Term Energy Security Strategy Requires Investment in Crude Oil Deposits

The top long-term priority is to ensure that the Polish fuel industry secures guarantees of direct access to crude oil extraction (“upstream”). The current earnings of PKN Orlen or



Grupa Lotos should be earmarked for gaining direct access to oil extraction rather than for investing in distribution or processing. Such “up-stream” investment should fulfill the conditions of long-term security. In that context, it seems most reasonable to invest in crude oil extraction in Canada, Nigeria, Angola or Iraq. It must be stressed that at the time when oil prices are exorbitant, a typical conventional approach to investment in oil extraction may be very costly and not necessarily likely to generate the expected outcome within a short period of time. Therefore, unconventional solutions should also be sought as there is a real possibility to attain the objective with no need to lay out gigantic funds to purchase small blocks of shares in crude oil deposits. The largest reserves of unexplored crude oil are currently held by Canada (bitumen sands). They fulfill investment conditions and offer a guarantee of security given Canada’s stable political and economic situation. A theoretical assumption can be made that at the current breakeven cost of extraction in Canada amounting to US\$ 17 per barrel, an “upstream” investment should be roughly US\$ 2 billion spread over ca. 10 years. This would offer a possibility of annual extraction of around 100 million barrels and, at the same time, would require annual investment of some US\$ 200 million. Given the present earnings of PKN Orlen alone exceeding US\$ 1 billion, this seems to be an economically viable and feasible option. **It is quite likely that crude oil extraction from Canadian deposits may be started within 3 years (when first oil flows) at a relatively acceptable investment burden and subject to assurance of maximum security of deposits.** The second most attractive location in terms of crude oil extraction and supply diversification may be Nigeria and Angola (accounting for ca. 25 per cent of Poland’s abroad extraction under the scenario). It must be stressed that Nafta Polska, a company wholly owned by the State Treasury, would be best suited for such purposes. By investing the dividends received from PKN and Lotos, it would not expose the stock-listed oil refineries to the shareholders’ criticism.

2.9. Only Investment in Crude Oil Extraction in Stable Regions Abroad Offers a Chance of Real and not Apparent Diversification of Supply Sources

It is certain that such investment would not entail physical oil imports from the selected source to Naftoport as this would not be economically viable. If investment were to be made at present in crude oil extraction (up-stream), it would be advisable and profitable to sell the extracted raw material in international markets to maximize sale prices while continuing to purchase cheaper Russian oil for processing in Polish refineries. **Nonetheless, access to such deposits offers a guarantee of crude oil availability in the face of a direct threat to Poland’s energy security due to shortage of Urals or other crude oil deliveries in international markets.** The necessary condition is investment in crude oil extraction in a politically safe region. The strategy adopted by the current management Board of PKN Orlen seems to be different. During his visit to Moscow on 1 November 2005, Igor Chalupiec, president of PKN Orlen, announced PKN Orlen’s commitment to extraction of Russian oil deposits. The project is still at the preliminary stage and work is underway on the investment plan. The Polish oil concern is planning to present a detailed plan at the beginning of 2006.⁷ The strategy of investment in crude oil deposits in the territory of the Russian Federation does not alter in any way Poland’s

⁷ Interfax, 1 Nov. 2005: PKN Orlen to consider Russian crude oil production projects;



energy security from the point of view of supply diversification. On the contrary, it strengthens Poland's dependence on Russia, providing the latter with a potentially very powerful instrument of pressure.

2.10. Example of Strategic Utilization of Foreign Crude Oil Deposits

The Indian government has recently taken a similar decision to invest in crude oil deposits in Russia but for India this move will be an element of growing independent from oil sources in the Middle East. In an attempt to diversify the country's oil supplies, the Indian state-owned oil concern ONGC (Oil and Natural Gas Corporation) acquired 20% of shares in the Sakhalin-1 project foreseeing exploration of crude oil deposits out in the Sea of Okhotsk.⁸ However, transporting homewards the crude oil extracted there is very troublesome – the port in Sakhalin is too small to welcome large crude carriers. What makes things even worse is that from December till May the port is frozen. Therefore, ONGC is planning to use smaller crude carriers to transport the crude to the less distant South Korean ports. Instead of transporting its own crude oil from Sakhalin, it would be more profitable for India to “swap” it for the ChinaOil Corp. crude kept in oil storage facilities in South Korea (China has a limited capacity for warehousing its crude oil reserves).⁹ Unlike India but relying on a similar mechanism, Poland should invest in non-Russian oil deposits and do so on a principle similar to Indian “swaps” (sell the crude oil extracted from its abroad deposits in international markets while importing cheaper crude oil from Russia like India which imports crude oil from the Middle East despite investment in Russian oil deposits).

2.11. Summary

There is no doubt that the strategy of the Polish government regarding crude oil deliveries should aim to maximize the country's energy security. The top priority in this respect should be continuous modernization and expansion of the infrastructure used to import the crude (Naftoport, railways and Odessa-Brody pipeline) and expansion of domestic oil extraction. Nonetheless, it is essential to verify whether existing contracts for crude oil deliveries are adequately secured from the legal and financial perspective. The balance between economic security and assurance of oil imports from non-Russian sources would be established by importing ca. 130 thousand tons of crude (one crude carrier a month), thus ensuring a diversification of over 10 per cent and impacting fuel price by a mere 1 grosz. In the long run, Polish refineries should, however, make “upstream” investment in oil extraction in Canada (3/4) and Nigeria or Angola (1/4) where, owing to an investment of US\$ 2 billion spread over 10 years that Polish refineries may find acceptable, access could be granted to oil deposits satisfying 70 per cent of the country's demand.

⁸ Neft Trader Weekly vol. 5, issue 40, 07.10.2005, India to bring home its share of crude from Sakhalin-1 project;

⁹ ChinaWire vol. 11, no. 208, 25 Oct. 2005, ChinaOil to lease 2.7 million bbl crude storage facilities in South Korea;

3. Natural Gas Market in Poland

Information on the natural gas market is provided herein only within the scope enabling comparison of the crude oil and natural gas markets. Both tend to be frequently confused although their status in terms of energy security, diversification of supply sources and financial condition is largely different.

3.1. Market Size and Value

The volume of natural gas sourced by Polskie Górnictwa Naftowego i Gazownictwa S.A. (PGNiG) amounted to 13,633.5 million cubic meters (m³).

According to PGNiG S.A., 65.2% of natural gas in Poland in 2004 originated from imports, mainly from Russia (61.89% of total gas imports). Other countries exporting natural gas to Poland included Germany (4.14%), Norway (5.16%), and Central Asian countries in transit via Russia and Ukraine (28.81%). Thirty-two per cent of domestic supply comes from local gas deposits and 2.8% from “other domestic sources”. Domestic natural gas resources were estimated in 2004 at 109.5 billion m³, domestic extraction in 2004 stood at 4.3 billion m³.

In 2004, PGNiG sold 13,072.4 million m³ of natural gas, of which it exported only 44.1 million m³. The main recipients of natural gas were fertilizer producers (7,618.8 million m³ in 2004).

PGNiG Group reported sales revenues of PLN 10,910 million in 2004. It closed the year with an after-tax profit of ca. PLN 1,016 million.

3.2. Infrastructure

In terms of import infrastructure and natural gas transport, similarities between the crude oil and natural gas markets basically end on the statement that in both cases natural gas and crude oil are imported from Russia via pipelines. The Jamal to Europe gas pipe supplying Poland is managed by a Polish and Russian Europol Gaz company whose sales revenues in 2004 reached PLN1,385 million (almost 13% down on the preceding year) and posted an after-tax profit of PLN1.210.437 million.¹⁰

Poland has no infrastructure enabling relatively rapid diversification of gas supplies:

- The gas pipeline from Norway was not built;
- Interconnecting pipelines, i.e. linkages to the Western European gas network were not built;
- Poland has no Liquefied Natural Gas (LNG) port that would allow for collection of liquid gas from any source in the world;
- The contract for purchase of natural gas from Gazprom was renegotiated in such a manner that the only constructed branch of the Jamal pipeline enables collection of merely 2.4 billion m³ by Poland, with the rest being transported to Germany;
- In fact, we have ourselves waived the possibility to build the second branch of the Jamal pipeline;
- Poland has no right to re-export Russian gas; and

¹⁰ Rzeczpospolita daily, Lista 500 [The Top 500 List], 2004;



- Implementation of alternative projects like Nabucco is at the preliminary stage.

Apart from the inexistent infrastructure, there is one more key factor affecting Poland's energy security in terms of natural gas supplies in a fundamental way, namely the contract entered into with Gazprom, the monopolist in gas extraction and transport controlled by the Russian state treasury. Lack of alternative infrastructure and the nature of the concluded contract contribute to the fact that prices of Russian natural gas can hardly be considered low. In fact, the only major positive factor is the possibility to increase our own extraction of cheaper local gas (its deposits being estimated at 150 billion m³).

The second positive factor would be the immediate and independent construction of an LNG terminal owned directly by the State Treasury and not PGNiG. Erection of a LNG terminal of a capacity of 4 to 6 billion m³ annually would last 2 years and cost ca. US\$ 600 to 800 million. Such terminal could be expanded by another 2 to 4 billion m³ should the neighboring countries show interest in the project.

Other elements include prompt initiation of "silent" talks with Gazprom to negotiate a number of specific concessions within the framework of bilateral cooperation.

Having secured such concessions and constructed the LNG terminal, Poland would establish "real" price competition at home between the Russian and non-Russian gas, which would effectively and permanently both ensure enhanced security of deliveries and lower prices to the level derived from "gas-to-gas" market competition. Furthermore, as in the case of crude oil, a real possibility exists to invest in non-Russian gas deposits outside Poland, e.g. in Nigeria (Africa) or in Qatar (the Middle East).

This overview has been developed by MDI Strategic Solutions, which cooperates with J&S Group, an oil trader, and with other businesses from the energy sector. All the opinions contained herein represent exclusively the views of MDI Strategic Solutions.