

Exploration and Production



In the Exploration and Production segment, we conduct geophysical and geological research, exploration of and production from reserves, and preparation of products for sale.

Exploration and Production

Production of natural gas and crude oil

Our presence in the gas and oil production segment makes us a competitive player on the liberalised gas market. A portion of the gas we sell is produced at costs lower than the prices of imported gas. Thus, we may to a certain degree stave off the effects of rises in imported gas prices, driven by growing prices of oil derivatives to which underlie gas prices are index.

Two of our branches, the Zielona Góra Branch and Sanok Branch, carry out production of natural gas and crude oil in Poland.

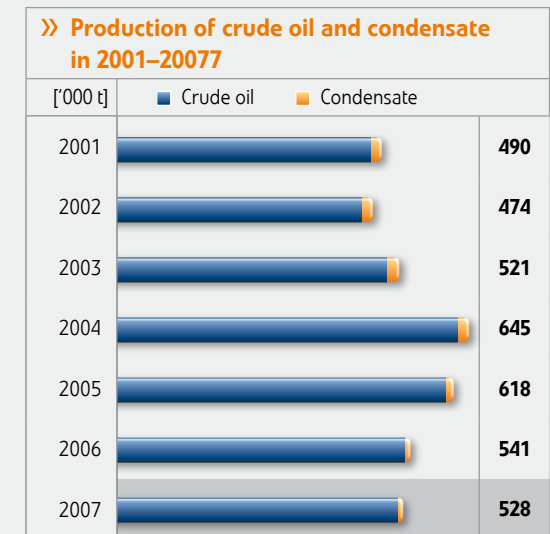
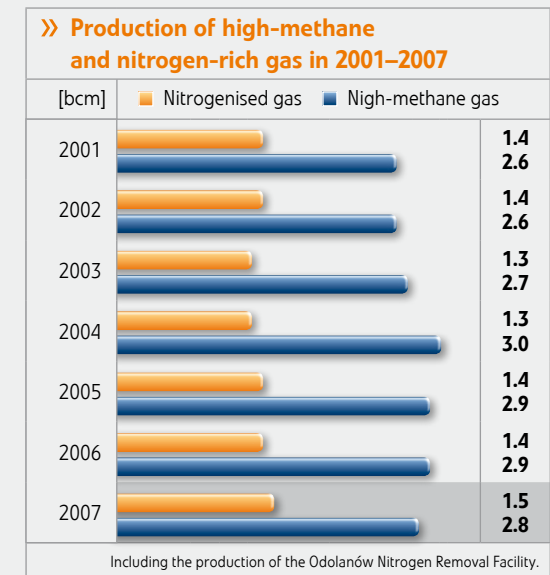
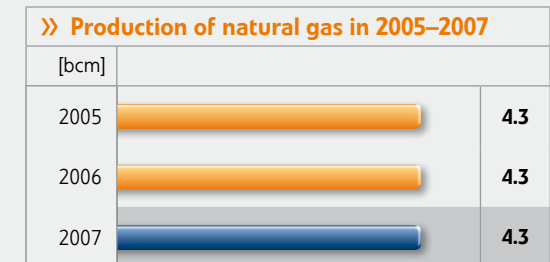
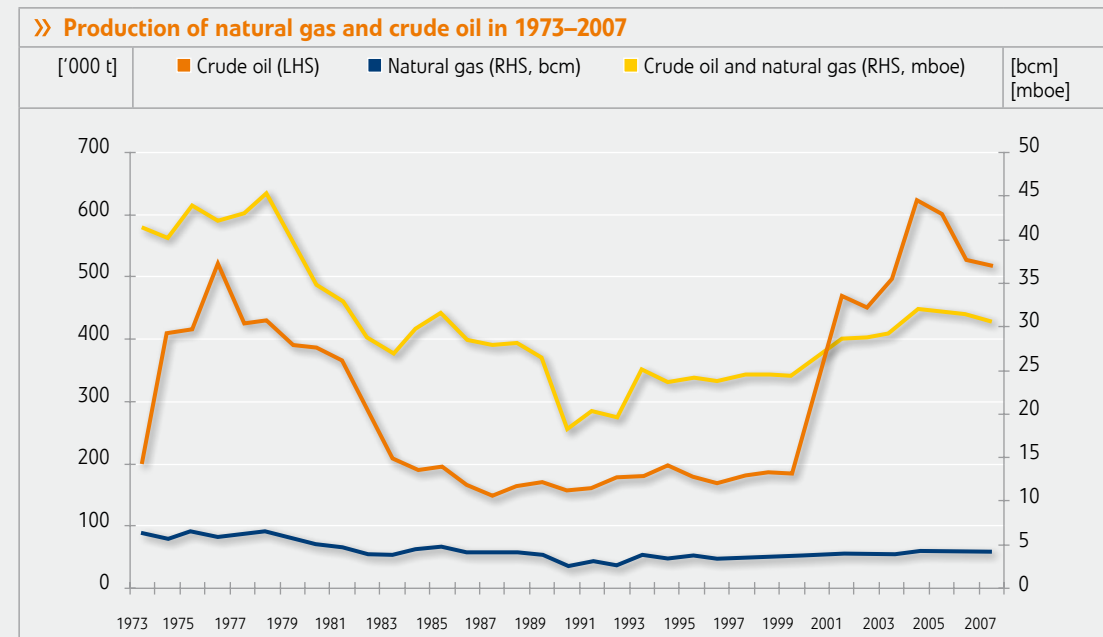
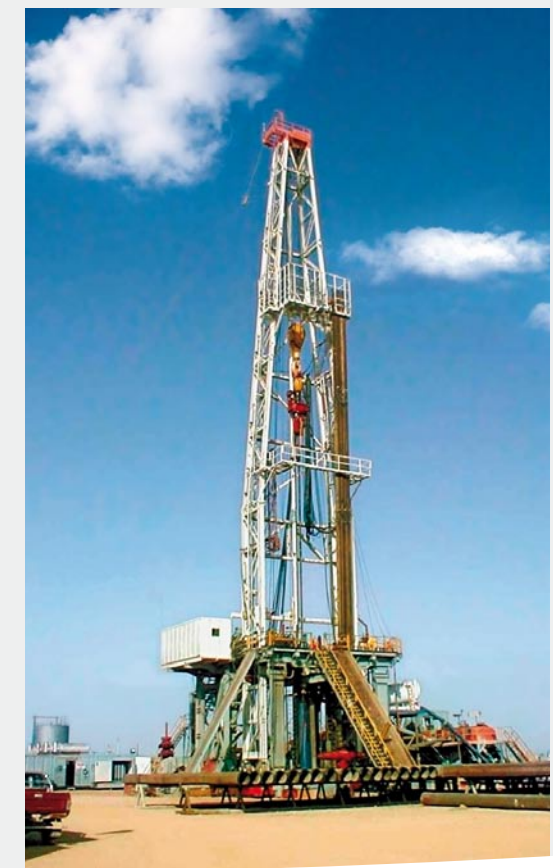
In 2007 (like in 2006), the PGNiG Group produced a total of 4.3 billion cu. m of natural gas (high-methane equivalent) – 2.4 billion cu. m was produced by the Zielona Góra Branch, and 1.9 billion cu. m by the Sanok Branch. The total volume of the gas produced split into 2.8 billion cu. m high-methane gas and 1.5 billion cu. m nitrogen-rich gas (compared with 2.9 billion cu. m and 1.4 billion cu. m in 2006, respectively).

The Zielona Góra Branch produces nitrogen-rich natural gas at 26 mines (including 16 gas mines and 10 oil and gas mines), while the Sanok Branch produces high-methane natural gas at 47 mines (including 25 gas mines, and 22 oil and gas mines). Nitrogen-rich gas produced from the mines in the Poznań, Zielona Góra or Wrocław regions is then processed in the Odolanów nitrogen removal facility. This is where we treat low-methane natural gas using a technology based on cryogenic processes. By removing nitrogen, we produce high-methane gas, LNG, LPG, gaseous and liquid helium, and liquid nitrogen.

Natural gas is produced mainly by the Zielona Góra Branch at five mines (in Góra, Grodzisk Wielkopolski, Gorzów Wielkopolski, Karlino and Ostrów Wielkopolski) located in five different provinces. This branch produces from 25 oil reserves, of which the largest is the Barnówko-Mostno-Buszewo reserve (BMB), near Gorzów, and the smaller ones include Kosarzyn, Zielin or Buk. The total oil

output in 2007 was 518 thousand tonnes, of which 472 thousand tonnes were attributable to the Zielona Góra Branch, and 46 thousand tonnes to the Sanok Branch. Compared with 2006, oil production dropped by 2%, from 529 thousand tonnes (in 2005, it was 602 thousand tonnes). The decline was an effect of natural decrease in production dynamics caused by development of new and depletion of the existing reserves. PGNiG plans to increase its oil output by developing and starting production from the Lubiatów-Międzychód-Grotów reserves (LMG), which should help raise the annual production volume to 1.1m tonnes.

Twelve boreholes were placed in operation in 2007. The ones located on the deposits in Żołyńia, Kańczuga, Jasionka (stage 1–7 boreholes), Przemyśl and Radlin increased the natural gas production capacity by c.a. 600 cu. m per minute, and the borehole on the Buszewo deposit increased the oil production capacity by 70 tonnes per day.



Non-regulated sales of gas and oil

Our activities within the Exploration and Production segment include non-regulated sales of crude oil and natural gas. The oil is sold via two main channels:

- » to foreign customers, where it is delivered via pipelines under annually renewable contracts – 53% of total sales;
- » to customers in Poland, where it is delivered by road tankers and railway tank cars – 47% of total sales.

We export oil (the “Druzhba” pipeline) to our major customers, namely Shell International Trading and Shipping Company Limited and BP Oil International Ltd. Most of the oil sold domestically is delivered to the ORLEN Group (the refineries in Plock, Jedlicze and Trzebinia). The rest is sold to local and direct customers of the production branches.

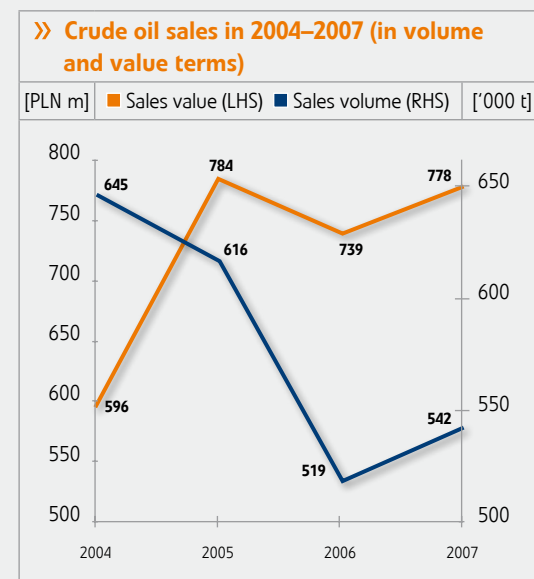
In 2007, our revenues on sales of crude oil and condensate went up by 4.6% year on year, to PLN 780m. The increase is an effect of higher sales volumes and rising oil prices on the international market. At the same time, the strengthening of the złoty against the U.S. dollar eroded the revenues

(the selling price is computed in the U.S. dollar). In 2007, we sold a total of 542 thousand tonnes of crude oil and condensate, which represents a 4.4% increase on 2006 (519 thousand tonnes).

Non-regulated sales of gas are made by way of direct deliveries from our deposits (rather than via the transmission system). The sales transactions are executed on free-market terms, and the terms of delivery (including the gas price) are each time individually agreed upon with the customers and vary on a case-by-case basis. Direct sales of gas are not covered by the tariffs approved by the Energy Regulatory Authority.

In 2007, we sold directly from our deposits 630 million cu. m of gas (high-methane equivalent), i.e. 11.3% more than in 2006. Direct sales represented 5.0% of total natural gas sales. The main type of gas sold in this way was nitrogen-rich gas bought by large customers, such as the Zielona Góra or Gorzów Wielkopolski CHP plants, Zakłady Azotowe in Tarnów-Mościce, or Arctic Paper Kostrzyń. Sales of high-methane gas outside the transmission system concentrate in south-eastern Poland. They are made mainly to small and medium-sized customers who are located close to the mines and do not have access to the transmission or distribution system.

Direct sales enable us to economically use deposits of gas which does not meet the quality standards of gas sold via networks and to attract customers who otherwise could not be served for technical or economic reasons.

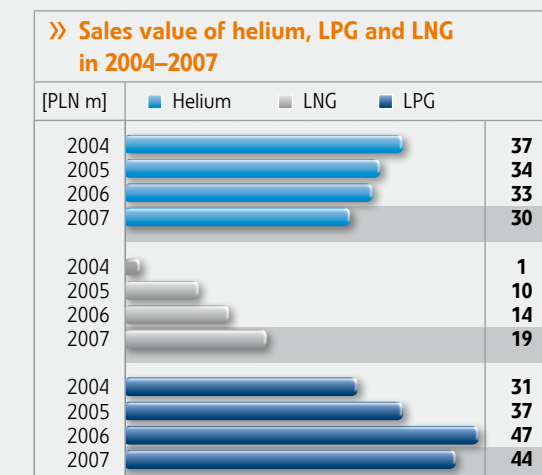
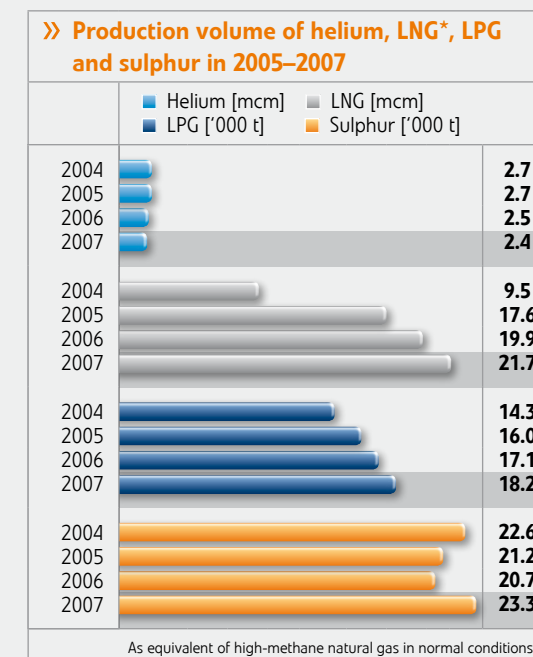


Production of helium, LNG and LPG

By-products of the gas production and nitrogen removal process include sulphur, propane-butane (LPG), (gaseous and liquid) helium, and LNG. The last one is a relative novelty on the Polish market – we launched it in 2002. Since then, the LNG production volume has risen by 505% – from 3.6 million cu. m to 21.7 million cu. m (high-methane equivalent). The production volumes of sulphur and LPG go up every year.

Sales of other products

Besides the non-regulated sales of natural gas and crude oil, we sell other products, namely helium, LNG and LPG. In 2007, revenues derived from such transactions went up by 14% year on year. However, this did not materially affect revenues of the entire PGNiG Group because these products represent only a marginal portion of total sales.

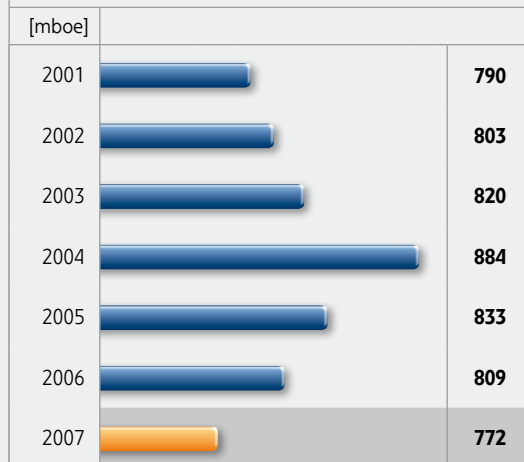


Reserves

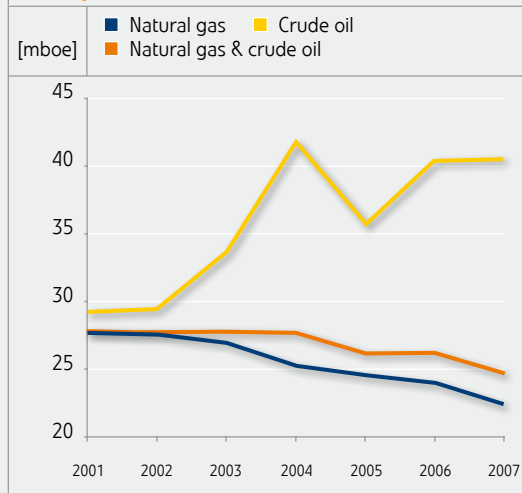
As at the end of 2007, the documented reserves of natural gas amounted to 98 billion cu. m (high-methane equivalent), while the reserves of crude oil were estimated at 21.2 million tonnes. The size of the reserves was favourably assessed by the Mineral Reserves Commission and approved by the Minister of Environment. Our total reserves, expressed as barrel of oil equivalent, were 772 million at the end of 2007.

In 2007, the reserves decreased by 3% year on year, driving down the reserve/production ratio from 25.8 in 2006 to 25.1. This means that with the current level of crude oil and natural gas production (excluding newly discovered resources), the reserves will be sufficient for 25 years of production. Over the same period, the crude oil reserves/production ratio rose by 9.3%, to 40.1.

» Reserves of gas and crude oil as barrel of oil equivalent in 2001–2007



» Ratios of gas, oil and gas & oil reserves to production volumes in 2001–2007

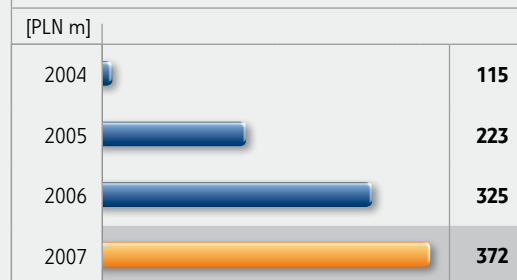


Exploration work and geophysical prospecting in Poland and abroad

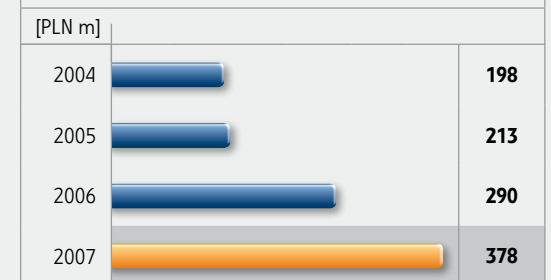
The PGNiG Group conducts exploration and prospecting work domestically and abroad. Its work in that area involves mainly exploration of geological structures for hydrocarbon reserves in the form of natural gas and crude oil. The exploration and prospecting of reserves comprise a study of historical data, geological analyses, as well as geophysical and drilling research. The work is conducted by PGNiG and the PGNiG Group's exploration and geophysical and geological service subsidiaries.

Carpathian Foreland and the Polish Lowlands. In total, 52 081 metres of drilling was done in 31 wells, of which 25 were exploration wells and six were appraisal wells. In four of the wells, drilling commenced in 2006 was continued. By the end of 2007, 24 wells had been drilled and tested. Sixteen wells were drilled with positive results (13 wells flowed gas and three wells flowed oil at commercial rates). Additionally, 1.6 thousand km of 2D seismic and 600 km² of 3D seismic were acquired in the area.

» PGNiG Group's revenue from geophysical and geological services in 2004–2007



» PGNiG Group's revenue from exploration services in 2004–2007



In 2007, the exploration and prospecting work (including geophysical surveying) carried out by the PGNiG Group companies was focused in three areas of Poland: the Carpathian Mountains, the

As a result of the exploration and prospecting work, PGNiG's producing reserves increased as follows:

- » natural gas reserves – by 2.8 billion cu. m (high-methane gas equivalent);
- » crude oil reserves – by 360 thousand tonnes.

Currently, we are also involved in various exploration and geophysical projects outside of Poland. In the Kirthar Block in Pakistan, we conducted exploration work jointly with Pakistan Petroleum Ltd. (we hold a 70% working interest in the block, while the Pakistani company holds the remaining 30%). In 2007, seismic data acquisition was completed in the area – with 161.7 km of 2D seismic shot. Based on the findings of the geological and geophysical surveys, it was decided that an exploration well in the southern part of the block will be drilled. The project is scheduled to commence in 2008.



In 2007, the exploration companies were also actively trying to acquire new exploration and licence areas. As a consequence, in January 2007 a memorandum of understanding concerning potential cooperation in the exploration and production of hydrocarbons in India, Egypt and Yemen was concluded with India's Gujarat State Petroleum Company. Following a tender process, in mid-2007 we were awarded operatorship of new licence areas located in Libya and obtained the right to execute an Exploration and Production Sparing Agreement (EPSA) which defines the manner of conducting exploration and production work covered by the licence for Block 113. In February 2008, PGNiG Finance BV was transformed – for the purposes of the Libyan project – into POGC Libya BV, a company with an entirely different business profile.

December 2007 saw the conclusion of an agreement concerning transfer to PGNiG of a 40% interest in licence 1/05 located in mainland Denmark from the Danish company Willumsen Exploration Consultants Aps. The remaining interest in the licence is held by Odin Energi A/S (40%) and the Danish government-controlled company Nordsofonden (20%). The project is scheduled to commence in 2008.

The year 2007 witnessed the finalisation of purchase of a 15% working interest in three licence areas, covering the Skarv and Snadd fields on the Norwegian Continental Shelf, from Mobil Development Norway A/S and ExxonMobil Production Norway Inc. Following unitisation of the two fields with the Idun field, our interest in the expanded exploration and production area approximates 12%.

The PGNiG Group's involvement in the project on the Norwegian Continental Shelf is in line with our strategy designed to increase the reserves of crude oil and natural gas outside of Poland. Acquisition of interests in the exploration and production licences in Norway is a long-term investment meant to ensure diversified sources of natural gas supplies and, thereby, to increase the security of gas supplies to Poland.

In December 2007, upon approval of the field development plan by the Norwegian parliament, the implementation phase of the project formally commenced. Gas and oil production is due to be launched in the second half of 2011. Based on data approved by the Norwegian Petroleum Directorate, aggregate proved reserves of all the fields, corresponding to the interest in the licence acquired from ExxonMobil Production Norway Inc, are estimated at some 392 mboe, including:

- » 239 mboe of natural gas (37.9 billion cu. m);
- » 110 mboe of crude oil and condensate (15 million tonnes);
- » 43 mboe of NGL (5.3 million tonnes).

The fields have significant exploration potential, estimated at 360 mboe (especially in the northern areas of the Snadd and Idun fields).

The fields are operated directly by BP Norge and indirectly by its partners – E.ON Ruhrgas Norge (purchase of an interest from Shell in August 2007) and StatoilHydro.

Investment projects – development of reserves

Our natural gas and crude oil production capacity can be expanded in two ways – by developing new reserves or by stepping up the productivity of its existing mines. In 2007, we were carrying out the following investment projects:

Project: Stobierna, Terliczka, Jasionka, Trzebowisko

The gas fields are being developed with a view to supplying high-methane gas to the national gas distribution system. Two tasks undertaken as part of the project were completed in 2006: development of the Stobierna-Terliczka fields and development of the Trzebowisko 3 field. 2007 saw the development of the Jasionka I gas field (stage I), as well as construction of a gas transmission pipeline connecting OZG Jasionka I with the Stobierna-Terliczka fields. The production rate of high-methane gas from the field has reached 150 million cu. m. The project is expected to be completed in 2009, together with development of the Jasionka I gas field (stage II). Total expenditure incurred on the project by the end of 2007 amounted to PLN 73m.

Project: Barnówko-Mostno-Buszewo (BMB)

The aim of the project is to maintain oil production rates from the reserves exploited since 2000 at current levels, while allowing the Company to achieve incremental production rates from new reserves which are just beginning to produce. Additional work, which proved necessary due to changes of the geological conditions of the fields, led to an increase in total expenditure on the project, which has reached approx. PLN 120m, of which PLN 82m was spent in 2007.

Project: Lubiatów-Międzychód-Grotów (LMG)

The objective of the project is to develop the Lubiatów-Międzychód-Grotów reserves of crude oil and natural gas and to facilitate transport, storage and sale of crude oil, natural gas, sulphur and liquefied petroleum gas (LPG) from the LMG petroleum mine. The project comprises construction of the LMG Central Facility (a hub for collection, distribution and treatment of reservoir fluids), construction of a dispatch terminal (to support collection, shipment in rail tank cars and sale

of crude oil in the daily amount of 1.5 thousand tonnes, and to handle the pumping of crude oil to the PERN Druzhba Pipeline at the hourly rate of 800–1,100 cu. m), as well as construction of a gas pipeline to the nitrogen removal facility in Grodzisk. The total value of the project is approx. PLN 743m. The LMG field reserves are estimated at 8.1 million tonnes of crude oil (60 mboe) and 7.4 million cu. m of natural gas (47 mboe). The LMG project implementation is key to achieving the target crude production rate of 1.1 million tonnes.

In 2006, the Regional Court of Warsaw issued an order cancelling the tender process for development of the LMG reserves – which caused a delay in the project execution. In March 2008, two contractors submitted their bids, which are currently being evaluated by the tender panel.

Project: Grodzisk Wielkopolski

The aim of the project is to enable the sale of gas from nitrogen-rich reserves after it has been processed to be of uniform composition – consistent with the properties of high-methane gas. The nitrogen removal facility to be constructed near Grodzisk Wielkopolski is aimed to intensify production of nitrogen-rich gas at the existing mines and from deposits intended for development, while ensuring that the scale of nitrogen-rich gas production is well-balanced between winter and summer months.

The project comprises development of the Wielichowo, Ruchocice, Jabłonna and Paproć gas fields, modernisation of KGZ Paproć (a natural gas mine), construction of the Przylęk-KGZ Paproć gas pipeline, extension of the gas mixing plant and construction of the nitrogen removal facility in Grodzisk. The project is scheduled to be completed in 2010. The capital expenditure incurred on the project in 2007 was PLN 79m, while its total value is estimated to be in the region of PLN 380m.

In September 2006, PGNiG concluded a contract with PBG SA, providing for construction of the nitrogen removal facility in Grodzisk – an industrial unit used to remove nitrogen from nitrogen-rich natural gas. Its hourly processing capacity will be around 35 thousand cu. m.



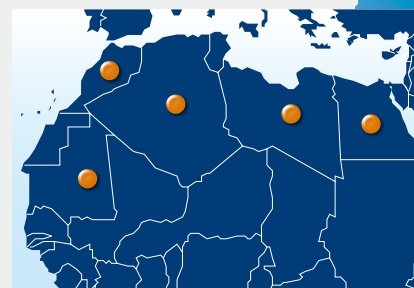
Activity of the PGNiG Group companies



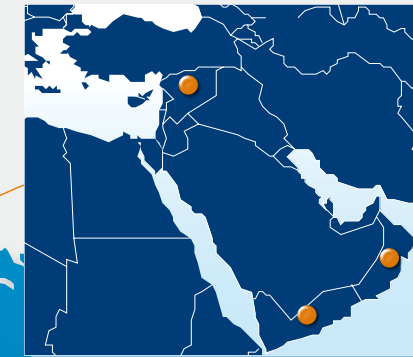
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» Columbia » Cuba » Venezuela



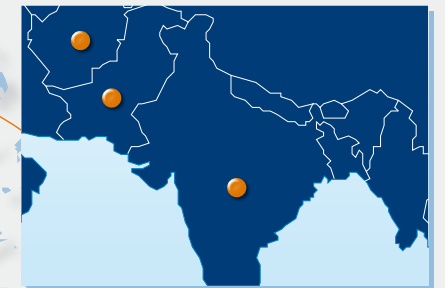
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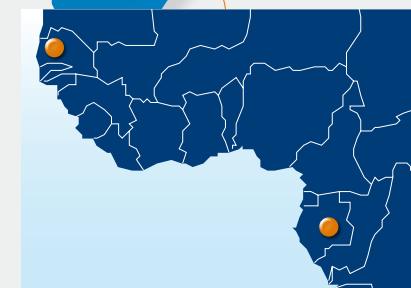
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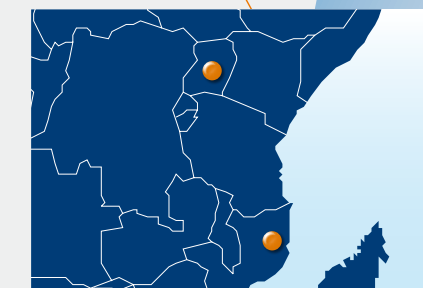
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