

Poland like Texas?

2010-01-28

The last two years have seen a dramatic increase in interest in unconventional natural gas deposits on the part of global petroleum corporations. Can the gas trapped in rock offer a new potential to Poland as well? There are many signs indicating that this indeed is the case.

Several petroleum giants are already exploring underground formations in Poland to find out whether the country could have its own gas-production region like Texas in the United States. Drilling will start near the village of Łebień, northern Poland, in April 2010.

A new gas craze has hit the whole world. "The great gas rush has reached Poland," says Henryk Jacek Jezierski, deputy Environment Minister and Poland's chief geological officer. Shale gas trapped in shale formations and tight gas locked in pore spaces surrounded by impermeable rock has already become very popular with investors. Large petroleum corporations in the United States, Canada, Australia and European countries, like for example Germany, Sweden and Hungary, have been interested for a long time in unconventional gas deposits and have conducted exploration activities. It is estimated that global unconventional gas deposits are 10 times larger than conventional reserves. How much will we manage to extract? This largely depends on the situation on the market, demand and prices.

There are now 14 companies involved in explorations for unconventional gas deposits in Poland. They operate under licences issued by the Environment Minister in the Lublin region, Mazovia, Pomerania and in south-western Poland (Przedsudecka Monocline). The area of the planned explorations covers over 37,000 square kilometres, or almost 12% of Poland's total territory. In the past two years the Environment Minister granted 44 licences for the exploration and appraisal of mineral deposits including unconventional natural gas deposits.

Does Poland have a chance to become a second Texas in gas extraction? Poland may have gas reserves of up to several hundred billion cubic metres. In the next few years, data from new wells will show whether this estimate is correct. It is

presumed that shale gas deposits are located in Poland in the coastal, Podlasie and Lublin regions. Data from drilling operations will show how large the deposits are. After they have appraised a deposit, the petroleum corporations submit geological documentation with detailed information on the size of individual mineral deposits to the Environment Minister.

"I am unable yet to say how large Poland's gas reserves are, but expectations are very high," the deputy minister says. "If the companies that come to us and want to carry out explorations discovered gas our energy balance would change radically. As the chief geological officer, I really count on that."

Unconventional gas deposits have been discovered in different parts of the world for a long time now - since the 19th century - but until recently gas production from such deposits was very small and accidental. The share of such gas in the total output was very slight. Explorations for shale gas and its production started on a larger scale in the 1990s. These operations have been quickly developing.

The large-scale extraction of shale gas has continued for 20 years. The world is seeing a real unconventional gas boom. What has changed? The prices of natural gas have gone up, boosting investors' interest in unconventional deposits. But the crucial factor has been the development of new technologies which make horizontal drilling and hydraulic fracturing possible. Traditionally, when searching for deposits, vertical wells are drilled to a pre-determined depth. But in order to obtain gas from unconventional sources, it is necessary to change the drilling direction and fracture rock to enable the flow of the trapped gas. So far only a few corporations in the world have mastered this technology. Apart from American companies, only several global corporations, like BP, Total and Schlumberger, know how to efficiently exploit such deposits.

It is difficult to say how large the global deposits of unconventional gas are because most of the world is still completely unexplored or poorly explored. The most is known about North America. At present, shale gas accounts for around 10% of the United States' gas output and its share is growing rapidly. It is estimated that in the future shale gas alone will account for 50% of United States' gas output. Gas extracted from all unconventional deposits - shale gas, tight gas and coal-bed methane - already accounts for 50% of this output. Outside the United States, the history of shale gas exploration has only started. The first exploratory wells were drilled in Europe last year - in Posidonia shale in the Lower Saxony Basin in Germany and alum shale in Scania, Sweden. Appraisal work is

conducted in many basins.

Licences for gas exploration and appraisal in Poland

Shale gas

Company Number of licences Location

1. Chevron Polska Exploration and Production Sp. z o. o.

3 – Lublin region

2. ExxonMobil Exploration and Production Poland Sp. z o. o.

5 - Mazovia; Lublin region

3. Lane Energy Poland Sp. z o. o.

6 - Pomerania

4. Lane Resources Poland Sp. z o.o.

3 – vicinity of Częstochowa

5. Liesa Investments Sp. z o. o.

2 – Przedsudecka Monocline

6. Lublin Energy Resources Sp. z o. o.

1 – Lublin region

7. Marathon Oil Poland Sp. z o.o.

2 - Pomerania; Lublin region

8. Mazovia Energy Resources Sp. z o. o.

7 – Przedsudecka Monocline; Pomerania, Mazovia

9. Oculis Investments Sp. z o. o.

2 - Pomerania

10. PGNiG SA

3 – Lublin region; Pomerania

11. PKN Orlen SA

5 – Lublin region

12. Saponis Investments Sp. z o. o.

3 - Pomerania

13. Vabush Investments Sp. z o. o.

1 – Małopolska

Tight gas

1. Energia Zachód Sp. kom. Sp. Z o.o.

1 – vicinity of Poznań

Visit the website www.mos.gov.pl/dgikg