

FRACK EU: UNCONVENTIONAL INTRIGUE IN POLAND



A Preliminary Investigation of the Fracking Assault on Poland



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CHAPTER 7: D-Day Poland: The April 8, 2010 Warsaw Conference

7. D-Day Poland: The April 8, 2010 Warsaw Conference

It's always important to understand and root out political agendas, how things are planned for key catalytic moments, particularly in the now problematic complex public relations strategies by influential petroleum corporations to establish the adoption and development of unconventional shale energy sources in Europe and elsewhere.

One of these moments in recent history appears to have taken place at the Warsaw University of Technology on April 8, 2010, three months before service industry giant Halliburton gave Poland its very first unconventional deep shale frack job. The one-day conference was called *Energy Security and the Role of Shale Gas: American Experience and Polish Prospects*. Everything else that followed in Poland was built upon and shaped by that event, rippling outwards into the European Union, the bugle call for the fracking troops and the legion of investors to advance, or, the first hammer stroke to begin cracking the wall of the EU unconventional energy policy fortress.

An example, among many, of this ripple effect - the June 2010 Centre for European Studies think tank policy brief, *Shale Fever: Replicating the US Gas revolution in the EU?*:

This so-called 'quiet revolution', a term coined by BP Chief Executive Tony Hayward, is getting louder. Shale fever is now spreading beyond the borders of the United States, entering national discourses in the European Union where it is seen to provide energy independence and jobs, as well as cheaper and environmentally-friendly fuel.



This is particularly the case in Poland, where a veritable land grab is underway for some of the finest shale acreage. Poland has also been one of the first members states to call on the EU to increase its focus on shale gas, with Foreign Minister Radoslaw Sikorski stating that it should be at the heart of the EU debate on energy security.

This CEPS Policy Brief hopes to provide a balanced and concise overview of the development of and concerns surrounding shale gas in the United States, and to explore the extent to which this success story could be replicated in the European Union.

Speakers lined up for the Warsaw conference included:

U.S. Poland Ambassador **Lee A. Feinstein**;

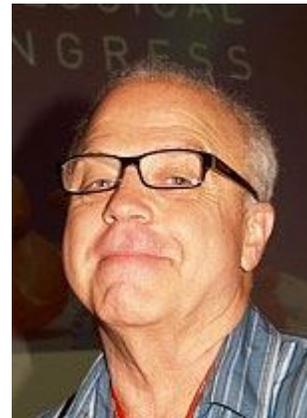


U.S. Ambassador Richard Morningstar (special envoy for Eurasian energy);

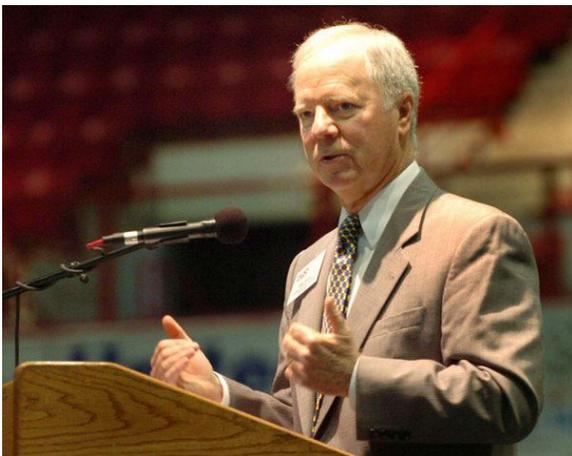


Douglas Hengel (U.S. Deputy Assistant Secretary of State for Energy, Sanctions and Commodities);

Don Gautier (World Petroleum Chief, U.S. Geological Survey);



Sally Kornfeld (team leader, Office of Fossil Fuels, U.S. Department of Energy);

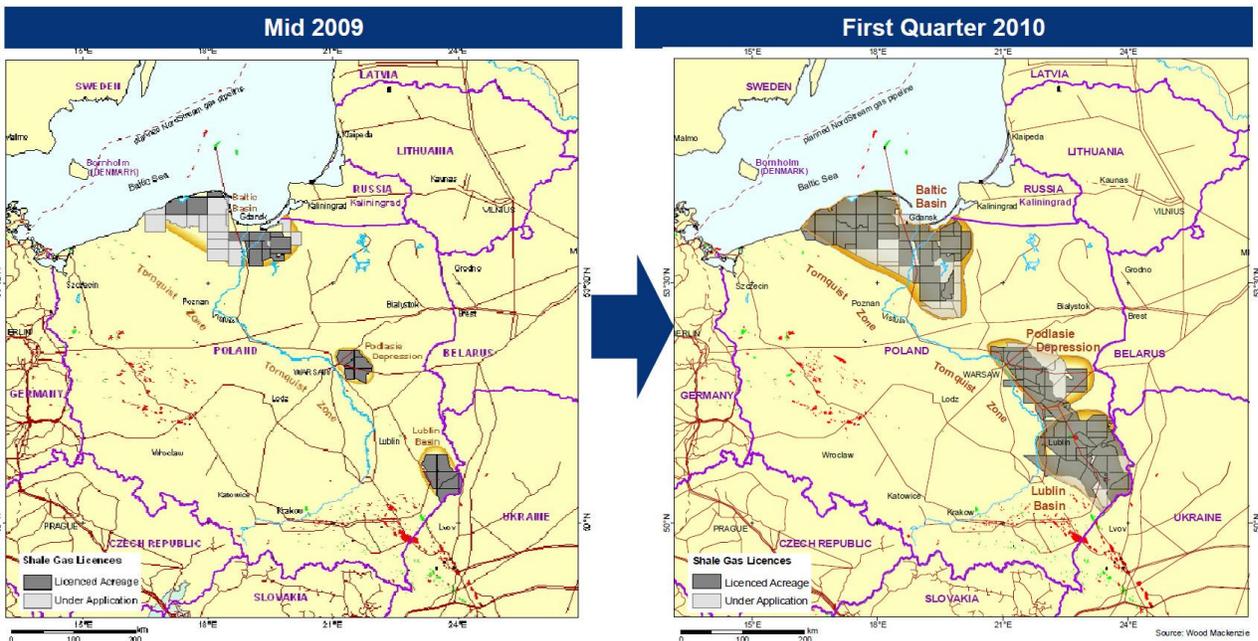


Mike Smith (Executive Director, U.S. Interstate Oil and Gas Compact Commission);



and **Fabrizio Barbato** (Assistant Deputy Director General for Energy, Directorate General for Energy, European Commission).

Other speakers from the petroleum industry and a petroleum investment marketing firm included **Annell Bay** (senior vice president, worldwide exploration, **Marathon Oil Corporation**), **Chris Hopkins** (vice president for unconventional resources, **Schlumberger**), **Lynn Strickland** (manager global new ventures, **ConocoPhillips**), **Mike Eberhard** (manager for production and enhancement, **Halliburton**), and **Rhodri Thomas** (Europe & Sub Saharan Africa Upstream Research Manager, **Wood Mackenzie**).



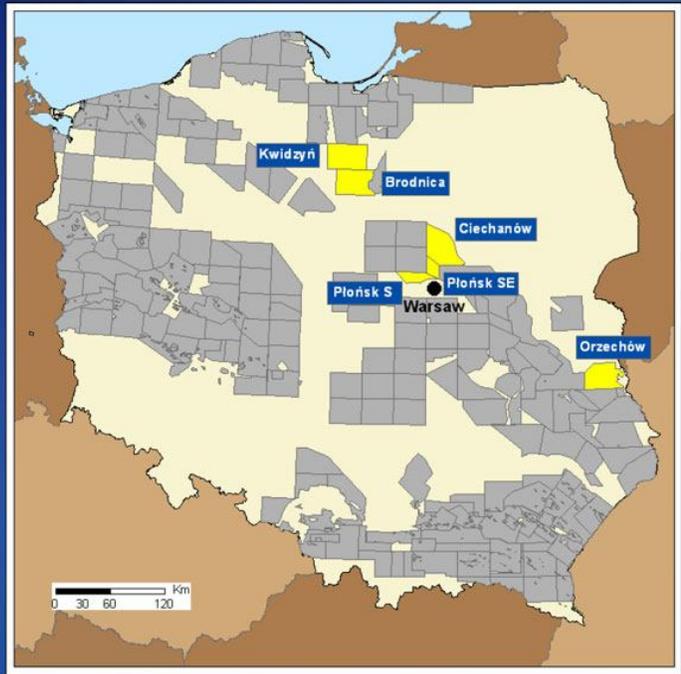
In Rhodri Thomas’s power point presentation, *Polish shale gas - large potential but big challenges*, was a slide showing the contrast in the shale gas licensing race from mid-2009 to the end of March, 2010. Thomas “project managed a global multi-client study on hydrocarbons in 2006/7 and subsequently launched a new research product on unconventional gas” (conference biography).

Poland Unconventional

Early Entry into Potential Shale Gas Play



- ◆ **Shale gas potential**
 - Lower Paleozoic shales
 - 30 - 200 meters thick
 - 2000 - 4500 meters drill depth
- ◆ **Total 5,083 square km**
 - 6 concessions
 - 100% interest
 - 2D Seismic & 1 well commitment per block in exploration phase
- ◆ **Pursuing additional licenses**

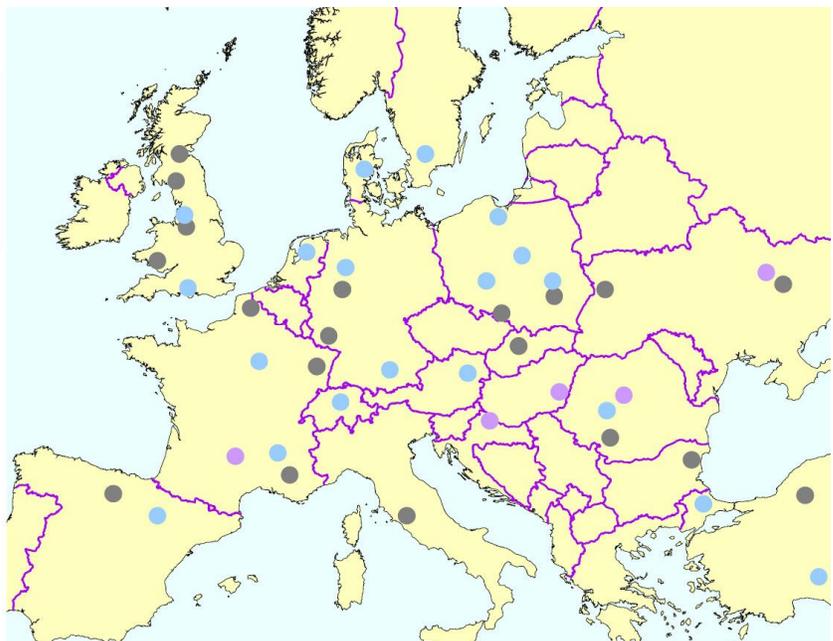


■ Marathon Licenses ■ Existing Licenses

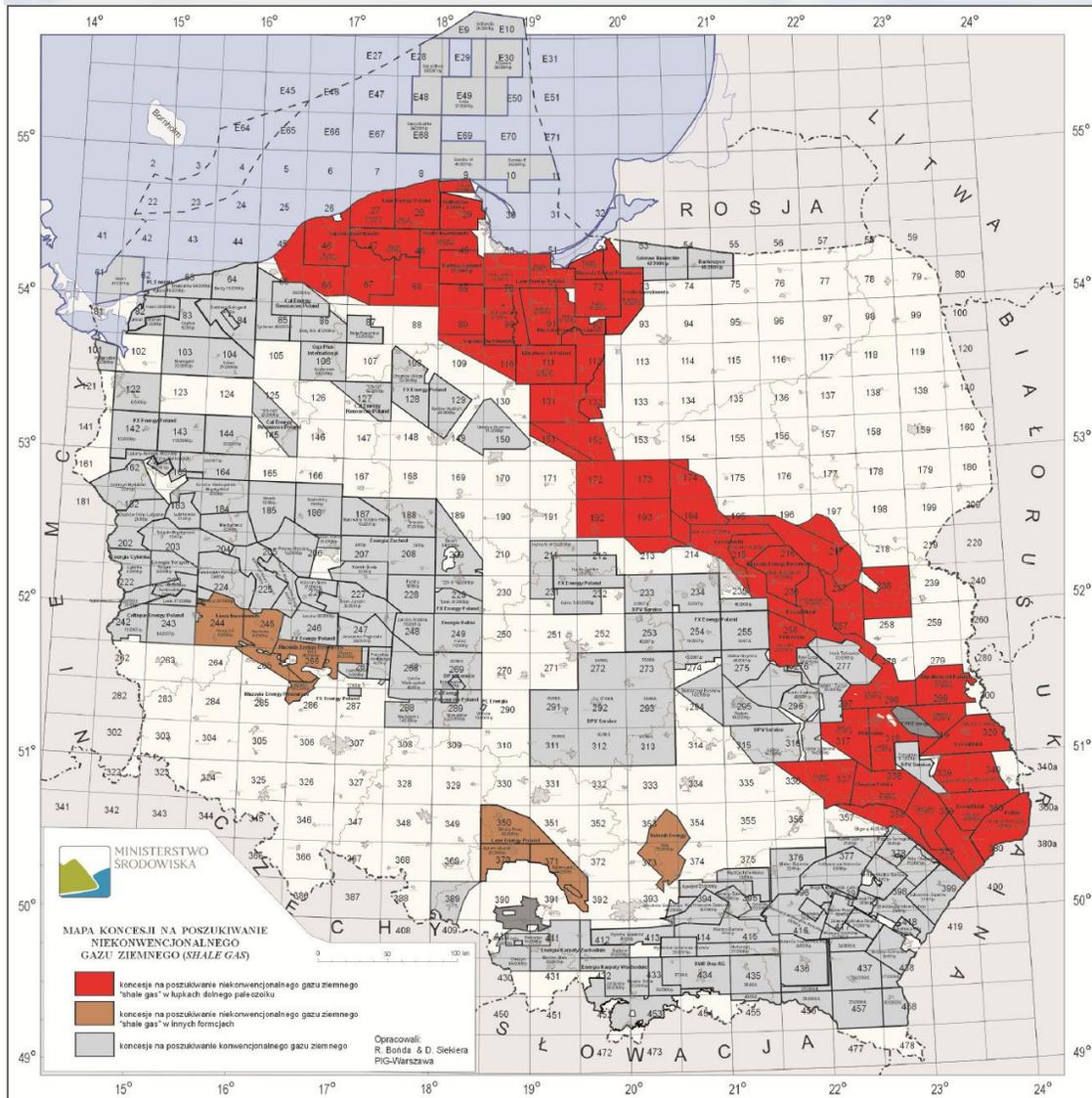
In Annell Bay's presentation was a slide showing Marathon's shale gas licenses up to that point in time, during the "early entry".

Rhodri Thomas had another slide indicating the extent and distribution of the three *unconventionals* in west and east Europe - Coal Bed Methane, Tight Gas, and Shale Gas.

- Example areas
- CBM
 - Tight Gas
 - Shale Gas



Shale gas exploration concessions

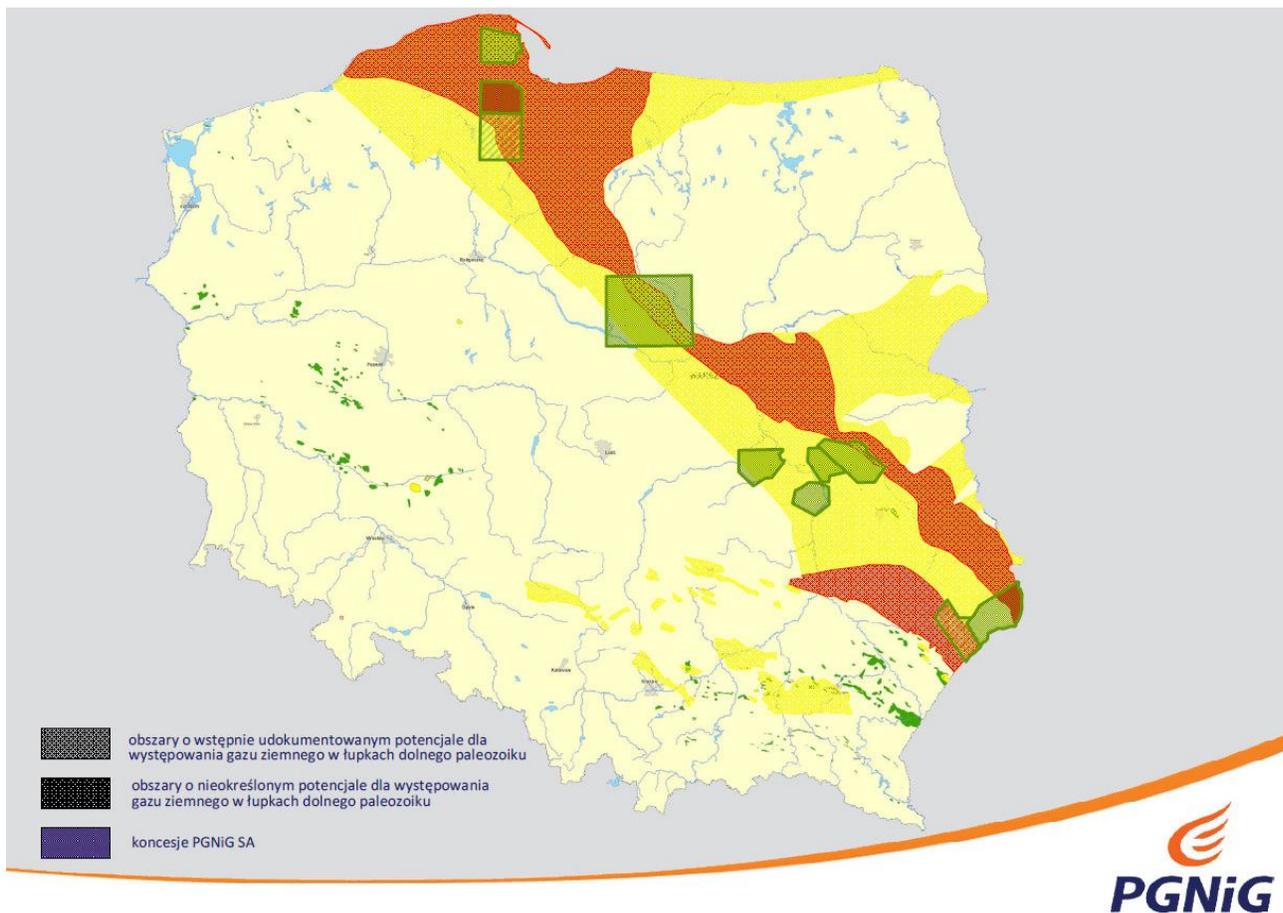


Dr. Henry Jacek Jezierski, Poland's chief national geologist, and Ministry of Environment's Under-Secretary of State, included the above map showing shale gas exploration concessions (red and brown color highlights). Jezierski's presentation was called *Concession policy and legal regulations for exploration and production of gas*. In his conclusion slide, he stated "we took advantage of "the Gold Rush of the XXI-st century". "

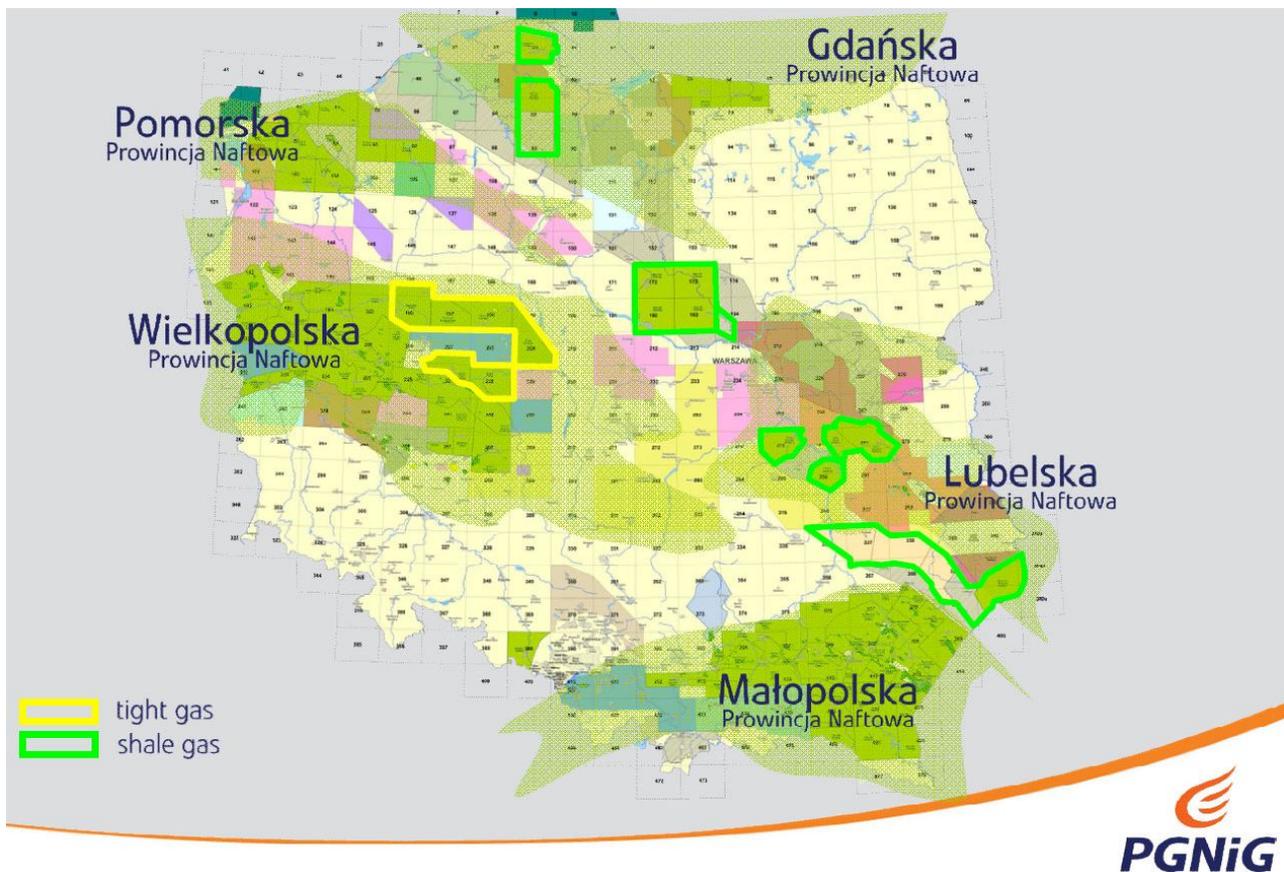
Jezierski had a slide naming the shale gas concession holders to date:

- Chevron Polska Exploration and Production
- Cuadrilla Polska
- Aurelian Oil and Gas Poland

- ExxonMobil Exploration and Production Poland
- BNK Petroleum (Indiana Investments, Saponis Investments)
- Land Energy Poland & ConocoPhillips
- Lane Resources Poland
- San Leon Energy (Liesa Investments, Oculis Investments, Vabush Energy)
- Marathon Oil Poland
- Mazovia Energy Resources
- Lublin Energy Resources
- PGNiG
- PKN Orlen
- Strzelecki Energia

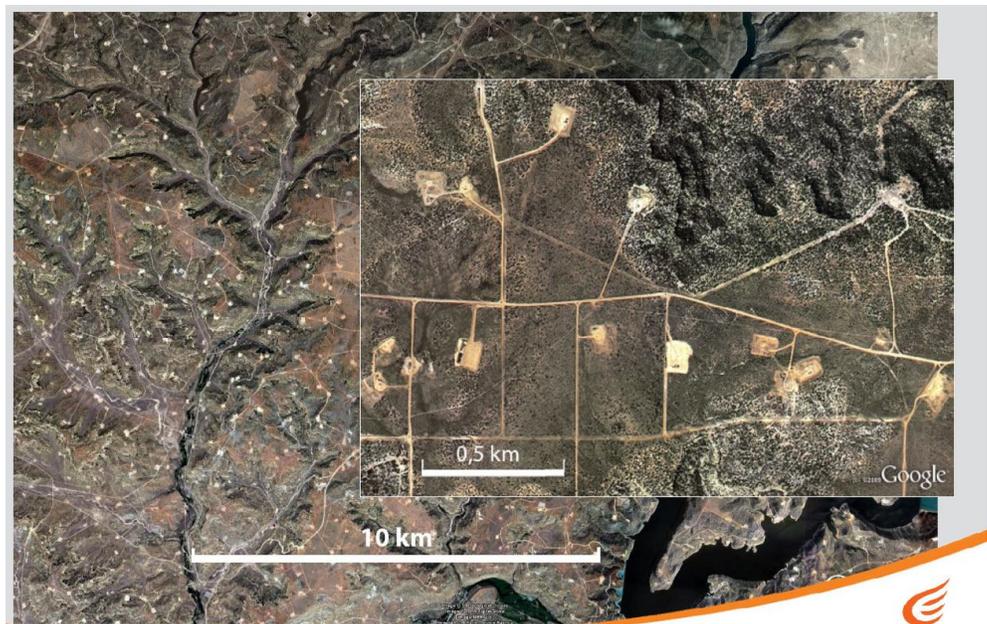


Stanisław Rychlicki’s presentation was called *The search for unconventional deposits of natural gas in Poland*, which included the above slide showing Polish company PGNiG’s holdings (in green), “areas with pre-documented potential” for natural gas in lower Paleozoic shales (orange), and “potential for occurrence” of natural gas in lower Paleozoic shales (yellow). Rychlicki has been the chairman of PGNiG SA’s supervisory board since February, 2008, and is a “Professor at the Faculty of Drilling, Oil and Gas, as well as Head of the Chair of Oil Engineering” at the University of Science and Technology of Kraków. Rychlicki explained that in November 2009, PGNiG SA “signed a letter of intent” with Marathon Oil for joint operation activities in the U.S. (Quotes from Rychlicki’s conference biography)



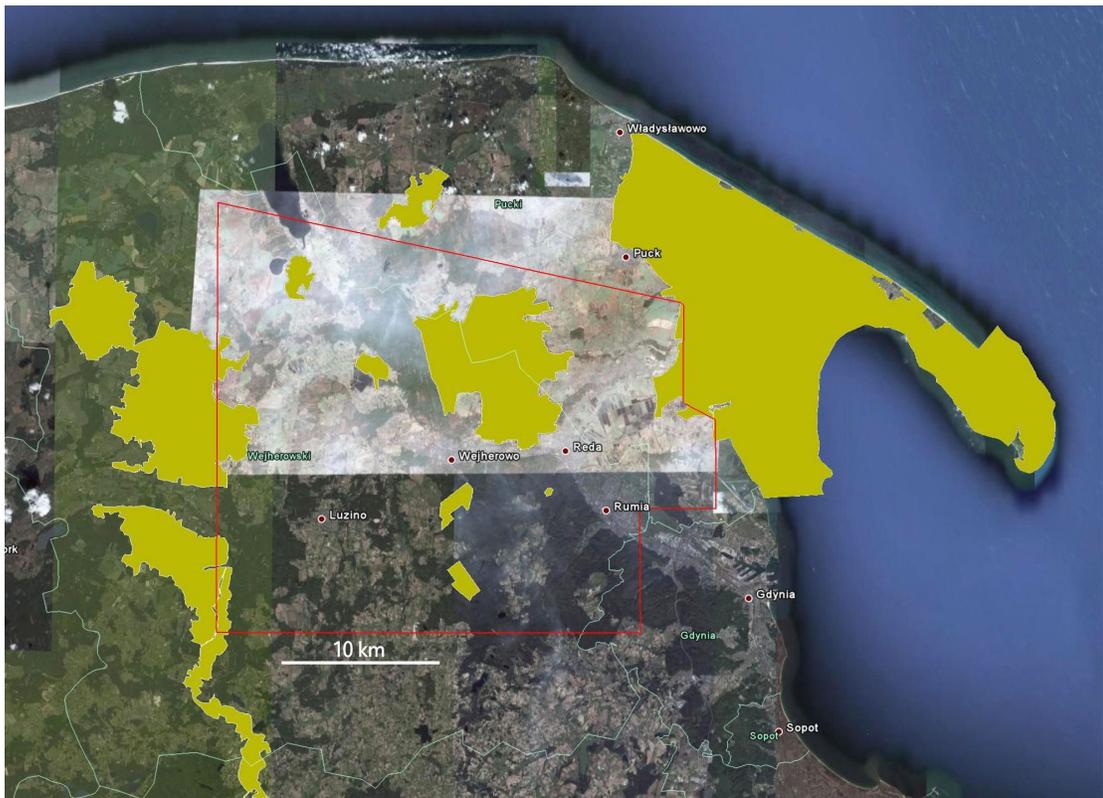
Another slide by Stanisław Rychlicki, showing tight gas (yellow border) and shale gas (green outline) concessions held by PGNiG. In the lower right hand area, in PGNiG’s shale gas zone in the Lublin shale trench area, Rychlicki identified that in late 2009 PGNiG SA developed a joint exploration agreement with Chevron.

Rychlicki then developed the theme of “threats and opportunities”. For comparison purposes, to help illustrate what might possibly develop in Poland over the foreseeable future, Rychlicki included this first image he obtained from Google Earth on shale gas developments in the State of New Mexico. It shows a highly fragmented and degraded landscape from shale gas developments.





In the following two slides, called “urbanization in the concession area,” Rychliki included two images identifying PGNiG’s most northern concession area in Poland (with the red border line), including environmental conflicts concerning Poland’s “protected areas” (light green, below). The area is in the Province (Voivodeship) of Pomerania, some 300 kilometres northwest of Warsaw. The Province is divided into 20 counties (powiats), 4 city counties, and 16 land counties. (Wikipedia - *Pomeranian Voivodeship*.)





In one of his two slides above, Rychliki included another image from Google Earth as an overlap close-up slide, showing the non-urban area near the hamlet of Luzino (top area of image), within the southwest quadrant of PGNiG’s concession area in Pomerania. The implications from Rychliki’s presentation is that this area may face some serious impacts from shale gas developments, and therefore would face strong community resistance. Rychliki identified the following “threats”:

- urbanized areas;
- stricter rules on environmental protection as a large number of areas and objects are under protection;
- negative opinions of local government, especially in the areas attractive to tourists (Pomerania);
- access to suitably large water resources.

Rychliki included this photo at the end his presentation, but failed to identify the location and date of the fracking operation (somewhere in the U.S.)



As stated in a May 2010 briefing report by Tomasz Cwiok, *Shale Gas Promises*, written for the American Chamber of Commerce in Poland, **the American Embassy in Poland “organized” the April 8 Warsaw conference**, which was co-sponsored by AmCham.¹ The following are lengthy excerpts from that report:



Poland is picking up the pace in its hunt for shale gas with a little help from its American friends. But the benefits of the Shale Gale do not need to be exclusively limited to the U.S. Poland is known to have geological formations similar to the ones bearing shale gas in the U.S. It is a matter of extensive exploration to identify whether those formations carry shale gas, and if so, to assess how much of it can be commercially exploited. The Polish potential for shale gas is now estimated at 3 trillion cubic meters, the highest in Europe.

THE AMERICAN CHAMBER of Commerce in Poland (AmCham) is a business organization that serves and promotes its member companies. It fosters a positive relationship with the government and promotes the free market spirit for the benefit of business. www.am-cham.pl. ul. Emilii Plater 53, 00-113 Warsaw

Understanding the consequences which shale gas exploration and commercial use may have for Poland, the Ministry of Foreign Affairs and the U.S. Embassy in Poland joined hands to organize a conference entitled “Energy Security and the Role of Shale Gas: American Experience and Polish Perspectives.” On April 8, leading Polish and American experts representing public and private sectors met at the Warsaw University of Technology to discuss issues concerning shale gas exploration, from geological to economic, ecological, legal and social aspects that are crucial for the potential emergence of a new industry in Poland.

Is there any shale gas in Poland?

*According to conference speaker **Richard Morningstar**, U.S. Special Envoy for Eurasian Energy, there are reasons for optimism. “The geology of Poland looks quite similar to that in the U.S.,” he said at the conference.*

*“The opportunity to extract gas from shale formations can transform Poland’s climate policy,” **Kraszewski** said. “With our heavy dependence on coal to produce energy, it is increasingly difficult for Poland to meet the E.U. requirements governing greenhouse emissions. It will cost Poland a lot if it continues to burn coal to produce electricity. But if it happens that shale gas is there in Poland, it will let us cut the emissions further and sell our emission rights too.”*

Exploration companies need to drill 1,000 to 3,000 wells to have the component of one conventional well.

¹ AmCham Canada’s website (under ‘AmCham’) states that AmCham “is affiliated with the United States Chamber of Commerce, which links with other chambers of commerce throughout the United States.” In turn, AmCham Canada, has ties with Foreign and Affairs & International Trade Canada. Association Members of the United States Chamber of Commerce include the American Gas Association, American Petroleum Institute, American Society of Association Executives, and the Association for Corporate Growth.

Conference speaker **Sally Kornfeld**, team leader at the Office of Fossil Fuels, U.S. Department of Energy, said that in Texas companies drill in the shadow of high-rise buildings: “It requires a lot of moving around. This in turn requires working with the local community to make sure that the regulation is appropriate and does not exclude the development of shale gas exploitation.”

But the development of many wells in a relatively small area may be stalled by local governments and licensing procedures. It is universally feared that local communities will not support the development of drilling sites, especially in areas that are attractive to tourists. The province of Pomerania is one such region. Currently two-thirds of the area is covered by shale gas exploration licenses.



Image from a special promotional magazine produced by Cleantech Poland called *Shale Gas Investment Guide*. “The Investment guide is targeted at North American suppliers and service companies who are considering entry into the Polish market”, a quote from Cleantech Poland’s May 27, 2011 news release.

According to conference speaker Prof. **Tomasz Parteka**, director of the Regional and Zoning Development Department at the Pomerania Province Governor's Office, local governments will cooperate with investors because of the anticipated benefits. According to Parteka there is no problem with multiple well drilling in the region. "The local government will be more than happy to cooperate with investors to find the best places for drilling," he said. What counts here, according to Parteka, is the conditions under which the drilling will take place, compliance with regulatory frameworks, and the transparency of investors in dealing with the local population.

Laws can help develop an industry, or hold it back. Exploration for natural mining resources in Poland is governed by the Geology and Mining Law, which dates from the early 1990s. In general, the economic risk of exploration is put on investors. If they find what they are looking for and obtain a license to extract it, they are obliged to share the profits with the state. The law is now being revised by the Parliament.

According to **Henryk Jezierski**, so far Poland has issued 291 licenses for exploration for mining resources, including 216 licenses for hydrocarbons (oil and gas). In turn, out of 394 licenses issued for extraction of mining resources, 224 cover hydrocarbons. "The business is booming," Jezierski said. "In the last two years I have issued 56 licenses for shale gas exploration."

Ecological concerns

The large amounts of water that hydro-cracking requires pose major ecological questions. "Water is a big problem for Poland," **Tomasz Parteka** said at the conference. "We have shallow resources of water. On the other hand our underground water reservoirs are under protection. Shale gas cracking can therefore pose a serious problem for the protection of underground water reservoirs."

PGNiG's **Stanisław Rychlicki** noted that access to water supplies will be a problem for investors.

Another problem is that it takes a lot of energy to inject millions of gallons of water under high pressure to crack the rock formation, especially if the research is carried out in northerly parts of Poland, a region which is energy deficient.

More environmental concerns come with the chemicals that are added to water to help it crack the rock.

Conference speaker **Mike Eberhard**, Manager for Production and Enhancement at Halliburton, said that hydraulic pressure cracking is used to fracture the rock so the gas inside the rock is released into the formation. "To do that, depending on the formation, different additives are used," he said. "There were thousands of wells made in the U.S. without any major issues of contamination."

Eberhard added that 20–60% of the water can be retrieved, but a significant portion of the water is not going back but becomes geological water. This is a problem. "Municipalities and agriculture are not big fans of shale gas exploration," he said. "We take water from rivers, lakes, and various other resources that are available. The state of South Dakota is

trying to figure out how to use the Missouri River and there are some issues with that. So that leads us into the environmental impact.

Water is a big concern. How much it costs to get it there, to store it and use it. It takes about 200 trucks to deliver the water you need to fill in a well. This is about environmental impact too.”

Eberhard said that the state of New York had prohibited all shale gas fracturing, which was the most extreme measure taken by a state so far in the U.S. “This is because they do not have any experience with shale gas fracturing,” he explained. “There is casing in the drilling zone and the casing is cemented twice. The area is isolated from surface waters but also from geological water beds. This is a regulatory requirement.”

*Conference speaker **Mike Smith**, executive director of the U.S. Interstate Oil and Gas Compact Commission, said that local people don’t know much about the business. “They are really afraid because it affects they lives, their business. The more education the better.”*

Smith said there has been a lot of discussion about environmental concerns stemming from oil and gas exploration: “We have a very mature industry in the U.S., but we are learning. Fifty years ago we didn’t have the technology that would enable us to protect the environment. Hydraulic fracturing is an issue. It makes shale gas extraction economical. We have a million wells in the U.S. that were hydraulic-cracked. Our organization has the hands-on responsibility to protect the environment and make sure the operators operate properly within the rules and regulations. Although there were complaints from landowners about surface water contamination or well contamination, there were no cases where the contamination was a result of hydraulic fracturing. Chemicals that can get into water were from other sources: agricultural use or domestic use. Hydraulic fracturing was safe and continues to be.”

*But when it comes to developing long-term energy strategies, policymakers proceed with caution. According to **Fabrizio Barbaso**, “They should not rush into premature action that may do more harm than good in the long term. As the E.U. formulates its position on unconventional gas, it is to fully examine the U.S. experience. We have heard about the benefits of this experience and how important the growth of shale gas supply is for the U.S. economy. We need to understand all we can take from the U.S. experience, what makes it a positive experience. Only such in-depth analysis will allow us to manage our unconventional gas experience properly.”*

Barbaso added that the European Council needs to gain an understanding of the shale gas experience so it can be formed into a policy. “Therefore we need to answer some essential questions about the U.S. experience: How did it come about and why? Where is the story leading the U.S.? What can be learned from the U.S. experience? We need to analyze the similarities and differences between the E.U. and the U.S. The understanding of the answers to those questions is important to make our own shale gas story successful.”

***Morningstar** agreed, saying that the decisions we make about energy sources will have long-term consequences. But in order to make the decision process more reliable for partners, the U.S. is willing to share information about shale gas technology. “In this time of energy crisis we need to consult with our friends and allies,” Morningstar said. “Poland*

and the U.S. have a long history of partnership and new partnerships are on the horizon, driven by the partnership in shale gas exploration.”

For Sikorski, the American experience in the sector of shale gas exploitation, coupled with the interest of American companies in the Polish geological potential, provides a perfect opportunity for boosting the cooperation between the two nations. “This year, energy and climate are the main topics of the Polish-American strategic dialogue,” Sikorski said. “I hope that the conference will not only serve the goal of information exchange but will inspire us with new initiatives and ideas.”

Numerous news items were flogged following the April 8 event. One mentioned how American-based companies were attracted to ‘cheap’ rates of land concession dished out by the Polish government, concessions which companies would later flip (like real estate scams) to gain enormous profits. Not to name names, but this was a key attraction for U.S.-based billionaire George Soros through his company San Leon, which acquired BNK Petroleum in 2010.

And because shale gas is not proven yet, some companies have picked up acreage for pennies an acre. As Wolf Regener, CEO of BNK Petroleum said, “We were actually really surprised by how inexpensive the acreage was. In the U.S., unproven acreage costs \$100–200 per acre, and top-quality property can run all the way up to \$30,000 per acre. Decent shale plays usually run at least \$8,000. What we found is that in Europe, the most expensive acreage that we are pursuing was 55 cents per acre.”

For these reasons, Poland seems to have attracted a lot of attention. The super majors are here already — Exxon Mobil, Chevron and ConocoPhillips, as well as Marathon Oil and Talisman Energy. This says good things about the potential of Polish shale gas.²

Other articles still voiced due caution toward investing in Poland. One summarily expounded the “hurdles”:

It’s still too early to tell whether European shale gas will prove the game-changer that it has been in the US. But Bernstein Research analyst Oswald Clint, after a trip to Poland to meet companies operating there, remains unconvinced that the various hurdles already identified will be easily overcome — and adds a few more concerns of his own.

The brief peak flow of shale wells could prove more of a difficulty than in the US, because well costs are much higher and available rigs are limited — Europe, says Clint, has only 74 operating land rigs compared to the US’ 1499; and just seven of those are in Poland:

“However Clint believes that density in rigs is not likely, and uses satellite maps to compare the density of farms around the basin with that of well-known US shale plays. The relatively high density of farms, he writes, could prove difficult for exploration and production efforts. In fact Poland’s relative lack of renewable water supplies and land compared to the US (on a per-head basis) could also be problems, he adds, particularly around environmental concerns.”

² *Finding Gains in the European Shale Boom*, Penny Sleuth, May 10, 2010.

*Also, knowledge is very thin — only five wells have been drilled in the Baltic Basin in Poland's north-west, the most promising area. Clint says the first real data on Europe's shale gas should come from some of the Polish players and from Shell's play in Sweden in late 2010 or early 2011; but it may take another year to make much sense of it.*³

Clint was right, in a way. Look at what happened to Royal Dutch Shell in Sweden (in the preceding chapter). Of course, the shale players lining up in Poland were carefully watching the events unfolding in Sweden with a microscope, getting briefed from their buddies at Shell. 'We must not let the same happen here in Poland,' was undoubtedly the refrain and aim of Poland's invaders.

By the way, the April 8, 2010 conference event was also sponsored by: Chevron, ConocoPhillips, ExxonMobil, Halliburton, Marathon Oil, Schlumberger, and Wood Mackenzie.

³ *European Shale Gas hurdles need to be overcome*, the Analyst, April 18, 2010.