

HOW POLAND HAS MANAGED SHALE GAS

In 2009, Poland set out to produce shale gas and oil. This choice has taken in consideration the economic outlook, but also sensitive issues like energetic independence and exiting an all-coal powered policy. The Polish experience has thus

What are the specifics of the Polish situation?

In order to identify them, one may try a comparison with a country like France. Between the two countries, there are some notable similarities but real differences as well, which make a comparison meaningful.

First, in the field of power generation in particular, both are marked by the predominance of a single resource. In France, it is nuclear power. In Poland, it is coal (94% of the electricity production). For different reasons, both countries are debating about diversification. The Poles are concerned about the volatility of energy prices, even though they produce most of the coal consumed in their country; they are also trying to follow the rather strict European regulation for CO₂ emissions.

A second similarity: in both countries the issue of energy is strongly linked to that of sovereignty. In France, it is has been a keen issue since the oil shocks of the 1970s. And it is even clearer for Poland: the historically complex relationship with neighboring Russia is further complicated by the fact that, today, Russians are their largest suppliers of natural gas. Poles pay that gas 30 to 40% above market prices (for instance, compared to the prices granted to Germany), and moreover they depend on the infrastructure that runs through Ukraine and Belarus. When the Russians decide to close the tap because Ukrainians or Belarusians have not paid their bills, the Poles are left out of the loop. And the launch of Northstream, the Russian pipeline that passes through the Baltic Sea, is by no means a solution: being primarily aimed for Germany, it bypasses Poland. And Russians are using this as a basis to justify the price differences between customers served over the old infrastructures and those who benefit from the new ones.

These similarities mark a contrast with fundamental differences, relating in particular to the quality of the distribution network. France possesses an exceptional network,

serving both the general public and industries; while Poland is not equipped with infrastructure of this kind. Nevertheless, one might point out that, neither France nor Poland have sufficient liquefied gas to cover their own consumption levels. It is in this context that the development of shale gas development might make sense. For both countries, the stake at hand would not only be capable to cover their own needs, but also to become market players themselves, becoming net exporters.

Is the prospect of exploiting gas and oil shale in Europe radically changing the rules of the game?

Let us first note that we do not yet know exactly what the subsoil has in stock, even though, and we will get back to that, the Polish experience can give us a rough idea. Then, one must distinguish between gas and oil. In the first case, this would only be an incremental evolution, which would be a game-changer at the local level but would have little impact on global markets. However the prospect of producing oil would have a much more significant impact, as can already be measured with what has been happening in the U.S. for the last decade. It may postpone by several decades the “end of oil”, that is to say the inevitable moment when resource depletion, coupled with high prices, will collectively force us to move on to something else, appears to be quite feasible.

Meanwhile we are entering a period of strategic competition for access to resources, as can be seen in Kazakhstan where the Chinese are spending fortunes to secure their supplies. This is true, moreover, for many commodities, but the issue of energy is obviously central in a context of global competition, and having access to resources proves to be a strategic asset of a critical value. This can be observed by default: the current economic crisis has not dramatically lowered price levels.

Meanwhile, the operation of certain deposits is profitable only once you go beyond high thresholds, i.e. 70 or 80 dollars per barrel in the case of oil processed from tar sands. Isn't the exploitation of oil shale just as expensive, and by engaging in such a production process, aren't we at risk of mobilizing investments that would turn out not to be profitable in the short-medium term?

Situations vary from one deposit to another, but ultimately one must not forget that we are now able to exploit offshore deposits that are 4000 or 5000 m below sea level, which is very expensive. If such deposits are profitable, even though standards are now drastic and insurance costs have risen, then there is no reason for continental deposits to constitute a more tense economic equation.

That being said, it is true that over the last decade production has sometimes experienced a few fits and starts, which contributed to price volatility. In Russia, in particular, projects have been launched, and then halted, over the course of the price of crude. But somehow it is mostly a Russian problem: the OPEC countries, for example, benefit from vastly superior experience which allows them to manage their resources with much more finesse, all this while improving their recovery rate. The Russians, on the other hand, are still on the learning curve.

To answer your query, I would say that the oil industry will be able to deal with uncertainty about price rates: nowadays this is core business for them.

Going back to Poland: how would you describe the current situation?

It all happened very quickly, and at the same time the manner in which the government implemented the approach seems reasonable. It was very fast: one hundred licenses have already been granted, encompassing nearly half of Poland: 150 000 km² (of 330,000). By the end of 2011, fifteen exploration wells had been launched.

40% of total licenses have been granted to Polish companies. The rest mostly went to big American and British groups, to Statoil (Norway), and to the Japanese. On Poland's side, there are three main players. The first is PKN (Polski Koncern Naftowy), a company that has tended to specialize in refining and distribution and sees here its first opportunity to do some upstream business. They have made great efforts to promote their technology and the precautions they would take. They obtained seven licenses and started two boreholes. The second one is Polskie Górnictwo Naftowe i Gazownictwo (PGNiG), a state enterprise based in Warsaw that boasts extensive experience and has obtained 17 licenses. They are now sufficiently advanced to discuss starting dates for production, around 2013-2014 – in other words, tomorrow! Finally, there is Petrolinvest, which I chair and which has a different profile, more entrepreneurial and focused on exploration. We have obtained 13 licenses, spread into three structures, and they will be operated in partnership. One of our partners is a Polish power company, which is considering converting two coal plants that are located in the vicinity of one of the deposits.

The issue of proximity is a key one in the Polish context, and it is going to be a real challenge to develop a pipeline network – this infrastructure requires advanced technology. This explains why the business of gas exploitation in Poland primarily targets industrial customers, not the retail market.

Out of the hundred licenses that have been issued, how many will actually see industrial operation?

Based on the American example, statistics say after ten years that the probability rate is around 40%, which is high. Polish authorities expect a more modest estimate: 10%. As for the industry, they anticipate that the actual rate will be between 15 and 20%.

In practice, how does it work? We start from a geological survey that allows for good presumptions to find a deposit. We then move to conduct one or two exploratory drilling to test reservoir quality – their ability to generate a stream. We then proceed to seismic measurements.

Only afterwards?

Yes, because it takes a lot of time to interpret the data. Some firms are very well equipped – you mentioned it, I believe, with Philippe Ricoux who deals with supercomputers at Total. But whatever the quality of the models obtained, experts still need to spend time interpreting and testing results. This is the very reason why we conduct the first drills before, not after seismic studies; firstly because exploratory drilling can collect additional data, then because the long and costly step of data interpretation is conducted only if it proves to make sense from an economic perspective.

One could think that such work belongs to the public domain, to inform authorities and the public about the risks associated with drilling...

The fact of the matter is that they are considered as highly sensitive data, and that is why they are not in the public domain. Not because the companies want to hide things from the public, but because they do not wish to inform their competitors. When preparing to operate a field, the quality of seismic data is essential to maximize investment. We work at depths of 3000, 4000, sometimes 6000 m, representing investments of 10 to 20 million euros per well. The quality of data and of their interpretation determines economic calculations, and for majors companies, every 5% or 10% earned matter.

That these studies are carried out by the private sector does not mean they are not conducted in a serious way: while the “Sisters” have specialized departments, others resort to hiring specialists – there are world experts whose reputation is at stake whenever they perform studies, and these people are not kidding with risk assessment.

Nevertheless, one cannot imagine leaving those topics at the sole discretion of the private sector. What was involvement of the Polish government on this sensitive issue?

Authorities, and in a broader sense the political class, have really addressed the matter, trying to articulate the different issues at stake: environmental security, energetic independence, tax revenues, social acceptability... The debate was enlightened, with input from critical perspectives and ultimately led to a fairly broad consensus around the chosen approach.

To get a grasp of the subject of this consensus, one must understand that the dominant theme was that of energetic independence, that is to say, the relationship with Russia. This is a major political issue for Poles, and it is the very theme that has crystallized consensus. On this basis, the idea of an opportunity to grab emerged quickly – an industrial and economic opportunity for the country, and a source of potential revenue for the state. An opportunity that demanded to be seized, but reasonably so – with caveats which cover various aspects. The first caveat is how licenses are granted and to whom (especially regarding the mix between Polish and foreign companies). This is followed by a good definition of tax policies (how to make money without stifling the private sector). The environmental issue is strongly linked to the prospect of exiting an all-coal energy policy, which is extremely polluting. What emerged from this approach is that the political class made a strong choice, and was followed by the Polish society.

It is also worth noting that unlike Norway, which also has huge hydrocarbon reserves and whose relation to sovereignty is also very sensitive (the country obtained independence only in 1916), Poland has not asserted its decision with a stance of distancing itself from the European Union. At the contrary, it remains very anxious to comply with European standards, which impose rather strict procedures on the sale of licenses (the first were given, but since 1 January 2012 they are being auctioned). In fact, the existence of these standards, and in particular the mandatory requisite of transparency appears as a safeguard against the risk of public interests ending up co-opted by private interests. Polish authorities have therefore relied on this failsafe, both in the course of the public debate and at during the implementation of the second phase of licensing. Ultimately, their position was very careful and they never lost their touch on the matter, which allowed them to determine a carefully weighed and rather finely wrought strategy. More convincingly, in any case, than what we have seen in other countries.

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