

STRATEGIC FILE

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Norwegian Energy Policy in the Changing EU Environment: What Poland Can Learn for Developing Its Shale Gas Industry

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Globally, many countries have become victims of the resource curse paradox and/or Dutch Disease after discovering and exploring hydrocarbon resources. The Norwegian experience, however, suggests that the impact of petroleum activities on the overall economy may increase over time, and not as a curse, but as a blessing. Due to good resource management, cost savings, and investment, Norway remains a model of sustainable development among resource rich countries, and, so far, a case for retaining strong government participation, control and supervision within the market regulations of the European Union. Although it is impossible to transpose the Norwegian model directly, EU countries that wish to develop an extractive sector, as Poland does, could learn from it, not least in elements such as private-public cooperation in a transparent institutional framework and strengthening of government competence, engagement, and control.

The optimistic estimates on Poland's unconventional hydrocarbon potential, and the influx of foreign oil and gas companies to Poland since 2010, caused the government to revise the organisational and legal principles of operation in the extractive sector. However, lack of political agreement, lengthy legislative processes and unclear competence sharing soon undermined investment stability. Although major foreign investors decided to withdraw, Poland's industrial potential for unconventional hydrocarbon production remains unclear. Data on this aspect of the country's geology are scarce. This creates a responsibility for the government to create a system that attracts investments and exploration. Moreover, the findings from the national audit show the need to strengthen national institutions and their control over hydrocarbon exploration, and increase the transparency of operations in the sector.¹ The vision and principles for the management of revenues should also be considered at this stage, although they may be implemented only if and when resources have been commercialised.

¹ The Polish Supreme Audit Office, "Report on Shale Gas Exploration and Production," 6 December 2013, available in Polish at www.nik.gov.pl/plik/id,5757,vp,7453.pdf.

Poland should look into the Norwegian model and draw lessons, before the potential shale gas success story stagnates. Ultimately, Norway built a competitive national oil and gas industry in a couple of decades, without prior competence in the sector, and all within the dynamic framework of volatile markets and, later, regulations of the European Union. Obviously, some parts of the story are specific to Norway and not easily transferred to other countries, while others are general and may be transposed more easily. Still, the Norwegian case can provide a useful background for industrial, social and public policy related to the development of a Polish shale gas industry. It can also help sharpen distinctions between the roles of the state and of businesses.

State Engagement in the Petroleum Sector and Cooperation with Business

Petroleum activities in Norway are characterised by a highly developed model based on cooperation between business and government.² Although the role of the state has changed significantly over time, it has remained at the helm of activities. Since the Second World War, Norway has been part of the Western liberal economy, with the North European social-democratic traditions of strong public involvement in sectors considered to be of strategic importance to the country. The shaping of the hydropower industry from the early 1900s, also helped to formulate consensus-oriented goals for a national petroleum administration and industry across party lines, as formulated in the “Ten Oil Commandments” of 1971.³ The leading idea was that the state, through the Ministry of Petroleum and Energy (MPE), its subordinate the Norwegian Petroleum Directorate (NPD), and, before privatisation in 2001, Statoil, should control and approve all steps at all levels of exploration, production and transportation to promote both competition and cooperation, so that the value of production licences would be maximised. The creation of a gas sales monopoly in the 1980s, and later a Supply Committee for gas, were other demonstrations of strong state power in relation to the industry as well as towards the outside world and markets. At the same time, state policy contributed to developing a substantial international competitive supply industry.

Since the 1990s, the Norwegian state has changed its role to become less interventionist, to play more of a regulatory role concerning private companies’ economic activity, though it has continued to control, and reap most of the profits from its resources. Since the fledgling (1970s and 1980s) and maturing (1990s and 2000s) phases of the industry, the “Norwegian model” appears to have entered a new stage. Sectorial slow-down, decreasing global oil prices, and rising costs of offshore operations pose new challenges, and result in an even greater need to involve new companies in production, including smaller players, and enhance small-field developments.

To maintain control, enhance efficiency and reduce costs, the Ministry of Petroleum and Energy awards production licences to groups of companies, and never to single enterprises, and designates an operator for the joint venture. The licensee group functions as an internal control system where each licensee’s role is to monitor the work done by the operator. As all activity is reported to the Norwegian Petroleum Directorate, it enables the state to access the information. Moreover, licences for production on the big fields are often granted to a combination of Statoil, the State’s Direct Financial Interests (SDFI) and some private companies, while prospective smaller fields are more often given to smaller companies. Together with the group of companies, the state also participates in geological research (for example, recently collecting seismic data from the Barents Sea before the exploration licensing round).

The state’s take from petroleum production has remained significant. Norway, through the Ministry of Finance, takes most of the economic rent (except for local property taxes), including a special tax on petroleum activities (a total of 78% of company profits), and through direct ownership of parts of the fields (100%, through SDFI).⁴ The state uses licensing and taxation policies to share risks with the private companies and to maintain a high rate of exploration and production. Today, more than 50 companies are present in exploration, production and infrastructure development, making the industry much more diverse in terms of competition and smaller field developments than only one decade ago. Moreover, some of the

² O.G. Austvik, “Landlord and Entrepreneur: The Shifting Roles of the State in Norwegian Oil and Gas Policy,” *Governance. An International Journal of Policy, Administration, and Institutions*, vol. 25, no. 2, 2012, pp. 315–334.

³ O.G. Austvik, “The Norwegian Petroleum Experience as an Example?,” *The International Shale Gas and Oil Journal*, vol. 2, no. 2, 2014, p. 19.

⁴ SDFI is managed by the fully state-owned agency Petoro. Another fully state-owned agency is Gassco, which controls the operation of offshore gas pipelines.

smaller companies have found big fields (such as the recently discovered the largest oil reservoir since the '80s, the Johan Sverdrup field). Oil production has stopped declining and seems to have stabilised at around two million barrels per day. Gas production is stable, at around 110–120 billion cubic metres annually.

Resource Management

Norway is a significant player in international energy markets. It consumes only some 10% of the oil it produces, and barely any natural gas, making it the world's third largest gas exporter and the tenth largest oil exporter. In the combined oil and gas export rankings, it is third, behind only Russia and Saudi Arabia. On the other hand, Norwegian reserves represent only 1% to 2% of total world petroleum reserves, and these are depleting relatively faster than, for example, in Arab countries.⁵ At the current pace of production, the country's reserves will suffice for a decade of oil exports and two decades of gas exports.⁶ However, since many discoveries have not yet been evaluated, the estimates for future production are highly uncertain and depend on both new finds and the extension of existing fields.

Management of petroleum revenues lies at the core of the "Norwegian model" and aims to avoid resource curse and/or Dutch Disease.⁷ To avoid the overheating of the economy, the whole state take (the "Net Cash Flow") from petroleum activities is transferred to the largest sovereign wealth fund⁸ in the world, the Government Pension Fund "Global" (commonly known as the "Petroleum Fund"), and invested in international assets (stocks, bonds and property). Each year, a maximum 4% of its value can be used to balance domestic fiscal budgets. The Petroleum Fund was valued at some €790 billion in March 2015, placing the Norwegian state in a unique position as a substantial net creditor for other industrialised countries. In spite of a relatively low contribution to the domestic employment rate (some 4% of the total Norwegian work force, including oil and gas companies and supply industries), the direct and indirect effects of the petroleum industry are substantial in terms of high wages and demand for products and services.

Hence, four decades of development and revenues from the resources on the Norwegian Continental Shelf enabled Norway to climb up the global economic rankings. It doubled its share of the world's GDP (to 0.7%), and boosted the wealth of its citizens, jumping from 18th to 4th place in GDP per capita.⁹ The petroleum sector is Norway's largest industry, measured in terms of value creation, state revenues and export earnings (about €70 billion in 2013). This amounts to one third of the country's GDP, and nearly half of Norway's total export value. State entities cooperate closely with business but remain in control, and the state has a high take in the sector. In addition, Norway, with 5 million citizens, consumes little of what it produces, and spends only a small share of what it earns.

Resilience of the Norwegian Model to EU Regulations

While oil can be transported relatively cheaply all over the world, the cost of transporting gas by pipeline is much higher and has made nearby markets the only alternative for exporters. Although an expanded global LNG market will gradually modify this, Norway currently follows the traditional mode, and exports around 96% of its gas through pipelines. Hence, EU countries are the natural markets for Norwegian gas (and largely also for oil). Norway is the biggest gas supplier to the EU after Russia, and depends on its exports to the EU, where it sells more than 90% of its oil and gas. The EU and Norway have a common interest in maintaining stable trade, and see the situation as a win-win case. At the same time, price interests are to some extent (naturally) the opposite for seller and buyer. Moreover, EU market regulations intend to

⁵ Although reserve figures should not be trusted in too concrete terms, there is much more (conventional) oil and sustained production in the Middle East than in Norway and the rest of the Western world.

⁶ In 2013, Norwegian proven oil reserves were estimated at 9.6 billion barrels, and gas reserves to 2,100 billion cubic meters. Oil production was 1.9 million barrels per day and gas production some 110 bcm. Y. Tormodsgard (ed.), *Facts 2014: The Norwegian Petroleum Sector*, The Norwegian Ministry of Petroleum and Energy, 2014, p. 22.

⁷ The resource curse paradox refers to the empirical fact that countries with an abundance of natural resources tend to have less economic growth than countries without natural resources. The term Dutch Disease refers to the diagnosis of the problems a country can face when petroleum revenues are used domestically, based on the experience of the Netherlands in the 1970s and 1980s, where appreciation of the national currency, real wage increases, and strong inflation weakened the competitive position.

⁸ Sovereign wealth funds are state-owned funds that invest in real and financial assets (stocks, bonds, real estate, precious metals, or in alternative investments) globally, to diversify the investment portfolio.

⁹ United Nations Statistics, GDP, Per Capita GDP (USD), and GDP, at current prices (USD) for 2013 and for 1970. Available at <http://unstats.un.org>, retrieved on 19 January 2015.

optimise European economic developments, and not primarily Norway's national economic interests and control over its highly state-influenced energy sector. To this end, the European Union exerts twofold pressure on Norway. First, as it develops liberalisation, competition and climate rules, binding on Norway, and second, as the long-term transformation of the EU towards becoming a low-carbon economy may create the risk of shrinking demand for Norwegian oil and gas.

Norway depends on EU regulations as it has been a member of the Single Market through the EEA agreement since 1994. The EEA agreement has influenced the formulation of Norwegian energy policy. Legal obligations made Norway apply general EU market liberalisation regulations, and adhere to competition and climate laws. This in turn influenced the organisation of the sector and the form of state engagement. Initially, Norway objected to parts of the liberal paradigm that was built into EU policy for the energy sector during the 1990s;¹⁰ eventually, however, it chose to become a part of that system, finding ways to secure its interests, and maximising state participation and control within those regulations.

The most visible shift, from direct state engagement and intervention to regulation of petroleum activities, was triggered, during the 1990s and 2000s, by a set of factors, including the EU. The more general liberal international economic regime after the break-up of the Soviet Union, low oil prices in the 1990s, and industrial and market maturity created a necessity for greater flexibility and freedom of decision making for the companies. Thus, the partial privatisation of the major national company Statoil around the year 2000 (from a state-owned to a stock-registered oil company with the state dominating ownership), was not triggered by the EU, but self-initiated by the company, to adjust to changing international conditions and international engagements. Even after privatisation, the state preserved its control over Statoil, and today it holds 67% of company's shares.¹¹

Nevertheless, EU gas directives and competition laws challenged the organisation of Norwegian gas sales. One case required the disbanding of the centralised gas sales monopoly, Gassforhandlingsutvalget, although the consequences have been limited as Statoil remains responsible for around 70% of Norwegian gas exports, through sales of its own and SDFI gas. Another example concerned licensing practice. The EU Licensing Directive outlaws preferential treatment of Norwegian companies. However, discrimination against foreign companies had already largely ended, as a natural development resulting from the maturing of the sector in the early 1990s. The initial idea, that the state, through the Ministry of Petroleum and Energy, should approve all steps at all levels in the sector has been preserved. The ministry has retained control over licensing procedures, selection of the areas for exploration, and the choice of operator, with the support of the Petroleum Directorate. Petoro also secures state economic interests, as a licensee of the SDFIs, and includes about one third of Norway's oil and gas reserves, 33 producing fields, and shares in 15 pipelines and land-based plants.¹² Despite changes brought about by the liberalisation of the regulatory regime, the Norwegian state has preserved a high rate of participation in and control over the sector. In contrast to its counterparts in countries such as the UK and Canada, it has remained at the helm.

At the same time, the country secured its reputation as a stable supplier, for it has not had to rely on transit countries; neither has it used its resources as a political weapon. Indeed, it has actually increased production to adjust to European energy needs. Although not a member of the EU, and often criticised domestically for a passive political attitude towards the union in general, Norway aims at strengthening relations through an active European policy in the energy field, and increased channels of communication. These have included direct contacts with DG Energy, participation in working meetings in Brussels, organisation of Baltic-Nordic breakfast meetings before the councils to communicate Norway's interests, not least new gas deliveries (albeit small during the conflict between Russia and Ukraine), and cooperation with European companies that operate on the Norwegian shelf. Norwegian companies, governmental and non-governmental organisations have representations in Brussels to communicate their interests to EU stakeholders in the field of energy.

¹⁰ A. Goldthau, N. Sitter, "A Liberal Actor in a Realist World? The Commission and the External Dimension of the Single Market for Energy," *Journal of European Public Policy*, vol. 21, no. 10, 2014, p. 1452.

¹¹ Data from: O.G. Austvik, D.H. Claes, "EOS-avtalen og norsk energipolitikk," *Europautredningen*, April 2011, <http://europautredningen.no/Rap8-energi.pdf>.

¹² Information from company website, www.petoro.no.

Impact of EU Climate Law

EU climate policy appears not to have exerted a negative effect on the demand for Norwegian gas in the market. Despite a drop in EU gas consumption by 15% over the last three years, Norwegian exports have continued to rise. However, this perspective could change in the longer term. Should the EU proceed with full-scale low-carbon transformation, at least in theory, it might need less oil and gas. Norway opposed some of the European Commission's proposals regarding European 2030 climate goals, such as a binding energy efficiency goal.

EU climate regulations influence Norwegian resource policy in two ways. Directly, they set binding environmental requirements on petroleum production, and indirectly, they influence petroleum demand in Europe. Since 2008, the joint EU Emissions Trading System has covered the operations on the Norwegian continental shelf. Yet, so far, it has not influenced petroleum production, as the price of allowances has remained a third of what was estimated in 2008. With the other EU regulations that could have influenced the sector, Norway has adopted the same strategy as many EU Member States; it has either delayed implementation, or questioned their EEA relevance.¹³ The dispute around the Offshore Safety Directive is an illustration of the latter case.¹⁴

Polish Shale Gas Start-up

In the first phase of shale gas developments in Poland there has been a deep belief that there are abundant resources, but little knowledge on the country's geology in this respect. Initial incentives for investors were largely provided by the high resource estimates given by the U.S. Department of Energy's Energy Information Administration (EIA), together with a low state take (around 20% of gross profits, mostly from the usual corporate tax, as royalties were close to zero).

The subsequent reform of the national system did not sufficiently develop public-private dialogue, the taxation system failed to incentivise exploration drillings, and state entities encountered difficulties in executing and controlling planned drillings. Instead, the political debate was dominated by the management of (hypothetical) revenues to the benefit of future generations. Moreover, the idea of creating a national investor and minority shareholder on each licence, to share the exploration risks, as well as potential profits (Narodowy Operator Kopalni Energetycznych, NOKE), in part inspired by the Norwegian model of State Direct Financial Interests and Petoro, was abandoned in February 2014.¹⁵ Not only has shale business opposed it, but also it also found insufficient support within the government.

Thus, once the results of the initial drillings were found to be unsatisfactory, the resource estimates given by the Polish Geological Institute were lowered,¹⁶ and the government take was adjusted so that it would be double the original share by 2020,¹⁷ the vast majority of foreign companies left Poland. Polish decision makers had already been urged to consider such a likelihood many times before.¹⁸ Paradoxically, the current situation has left the stock-registered Polish national oil companies almost solely responsible (and financially burdened) for exploration drillings. The EU legal regime has an impact on Polish shale gas too, especially as 17 pieces of environmental legislation already apply directly to unconventional fossil fuels.¹⁹ For

¹³ T. Jevnaker, *Norway's Implementation of the EU Climate and Energy Package: Europeanization or Cherry-picking?*, FNI Report 7/2014, p. 29, www.fni.no/doc&pdf/FNI-R0714.pdf.

¹⁴ The Norwegian government questions the geographical application of the regulations and its relevance to the EU internal market. Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations, OJ L 178, 28 June 2013, pp. 66–106, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013L0030>.

¹⁵ Press conference by Donald Tusk, podcast, 5 February 2014, www.premier.gov.pl/multimedia/wideo/premier-donald-tusk-ogazie-lupkowym.html.

¹⁶ Polish Geological Institute, *Ocena zasobów wydobywalnych gazu ziemnego i ropy naftowej w formacjach łupkowych Dolnego Paleozoiku w Polsce (Basen Bałtycko-Podlasko-Lubelski). Raport pierwszy*, Warszawa, March 2012, www.pgi.gov.pl/en/dokumenty-in/doc_view/771-raport-pl.html.

¹⁷ As assessed by the Ministry of Finance, including income tax, local and environmental tax, and new, sector specific net profit royalties and oil and gas taxes. Act adopted in July 2014, to come into effect in January 2020. *Justification for Enforcement of an Act of Parliament*, available (in Polish) at [orka.sejm.gov.pl/Druki7ka.nsf/0/CF68780741B87695C1257CC9003D98FC/\\$File/2351-uzasadnienie.docx](http://orka.sejm.gov.pl/Druki7ka.nsf/0/CF68780741B87695C1257CC9003D98FC/$File/2351-uzasadnienie.docx).

¹⁸ B. Wiśniewski, "Nie utknąć w łupkowej poczekalni," *Rzeczpospolita*, 7 March 2013.

¹⁹ International Association of Oil & Gas Producers, *Shale Gas in Europe*, November 2014, www.iogp.org/PapersPDF/pp-shalegasInEurope-Nov-2014.pdf.

the time being, the European Commission has decided not to draft additional legislation, but this might change with its upcoming assessment of Member States' compliance with non-binding principles for the exploration and production of hydrocarbons using high volume hydraulic fracturing. Without any doubt, environmental rules are an EU top priority, regardless of whether legislative proposals follow.

Issues for Poland

Despite the difficult beginning, Poland should still work on improving the investment environment and regulatory system for its extractive system. Although direct implementation of the Norwegian model is not possible, it remains the most relevant precedent for Poland. Similar attributes can be linked to the material facts of the case (petroleum) as well to the appropriateness, reason and generality of the decisions (and policies) observed. As Poland is now a mid-range and increasingly larger economy within an institutionalised liberal EU setting, policies similar to Norway's may, from political and regulatory perspectives, seem appropriate in this field.

Firstly, the Norwegian experience argues that the state should have a vision and policy for economic and social developments of such large industries, such as in Norway's "Ten Oil Commandments." The measures used to reach social goals may well in part include rather liberal, hands-off regimes. However, if a state is politically passive in relation to overall developments, albeit regulatory active in the details, fledgling national industries may not be developed as they may lose out to more competitive foreign companies at the outset. The control of strategic sectors may also be lost or weakened in a mature phase through mergers and acquisitions by foreign companies that have concerns other than the host's national interest. Saying this, shale oil and gas has generally higher costs than large conventional fields. The economic rent to be collected can be expected to be less than where conventional oil and gas is produced. But, if the sector becomes big, it may still have significant implications for energy security, the environment, industrial development and other social, political or economic areas important to a host country. Political measures must be adjusted to what at any time is the existing situation, but national political and administrative competence is paramount all the time.


Secondly, Norway has shown that the industrial political tool box is not empty in a liberal economic EU regime. The creation of the Norwegian energy clusters shows that there is considerable room for a state to facilitate entrepreneurship in a non-interventionist way, in a way similar to the role of governments proposed by Michael Porter.²⁰ Also, beyond its regulative role, a state can, in a liberal regime be an industrial player itself, through fully state-owned companies. This has been shown through the ownership of Statoil, and the creation of fully state-owned agencies (the Petroleum Directorate, Petoro and Gassco). The state's own competence is important for controlling the sector, and also for matching companies' competences and for making good policy and regulations adjusted to the particularities of the sector. Finally, international regulations may in many cases leave room for different substance even if the form is the same, in as much as states may formally adapt to the international rules and regulations, while at the same time giving their content a strong national flavour through individual interpretation and adaptation and introduction of new policies to reach old goals.

Thirdly, it is the state's relative ability (compared to the situation) to develop policy and define visions and preferences that is important in a competitive environment. The Norwegian experience shows that the state has to keep moving just to stay in line with industrial and international changes. It must always stay ahead in negotiations, adaptation and implementation of and to international agreements, markets and technological change, directly or indirectly, in interaction with the industry concerned. A sector's competitive advantage also relies on relevant comparative advantages in policy-making from both cost and efficiency points of view. A dynamic mixture of roles for the state as landlord and entrepreneur, within an overall political enterprise, is better than adhering only to one or the other. The higher the industrial and organisational competence in the state apparatus and among politicians in understanding and doing this, the better the chances of finding and sustaining an optimal policy mixture.

Thus for Poland, the main questions that remain to be answered are whether a clear and distinct Polish reason for policy can be developed (as stated in a vision and goal as a policy different than for non-strategic

²⁰ M. Porter, *The Competitive Advantage of Nations*, Macmillan Press, London, 1990, pp. 617–682.

sectors), and whether the generality of the Norwegian model of a strong state in relations between business and government are acceptable to society. The Norwegian example shows how to ensure control and transparency in the sector, and develop efficiency and geological knowledge, while developing cooperation with business. Moreover, Poland can draw lessons from Norway's engagement with the EU and its ability to preserve and promote national interest. In addition, although the EU legal regime is common for both, Poland, as a full member, is directly engaged in the decision making process, which might also open the door for partnership and cooperation between Oslo and Warsaw in influencing and understanding EU policies in these areas.



The GoodGov project explores how Poland and Norway can learn from each other in the crucial policy areas of security, energy and migration. This paper is one of three analyses devoted to the relations between the European Union and the key oil and gas suppliers: Russia, and Norway. The project is conducted by PISM in cooperation with the Norwegian Institute of International Affairs and the Institute of Political Studies of the Polish Academy of Sciences. The project is managed by Lidia Puka (PISM). The content editor is Roderick Parkes (PISM).

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