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Russian and Norwegian Petroleum Strategies in the Barents Sea¹

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Abstract: *Norway and Russia are both moving petroleum activities into the Barents Sea. The Norwegian activities have been characterized by an industry eager to participate, but ready to withdraw in adverse commercial conditions, and authorities supporting enterprise, whilst imposing strong restrictions. Russia still does not have a coherent policy for offshore development. The prioritization of state goals is unresolved, and the division of functions between state organs and state companies unclear. Private and foreign interests are kept at arm's length. There is still great uncertainty regarding the timing and pace of development, as well as the development concepts involved. The relationship between Russia and Norway in the energy sphere has been peaceful and cooperative, despite the jurisdictional dispute in the Barents Sea. The preliminary delimitation agreement improves the atmosphere further, and means that a promising area could be opened for petroleum activities and possibly joint exploration of deposits crossing the new boundary line.*

Keywords: Barents Sea, Norway, Russia, Boundary delimitation

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Норвегия и Россия перемещают нефтегазовую деятельность в воды Баренцева моря. Активность норвежцев характеризуется деятельностью промышленности, заинтересованной в работах, но при этом готовой остановиться. Другой чертой является поддержка властей, которые одновременно накладывают серьезные ограничения на деятельность. Россия до сих пор не имеет последовательной политики касающейся работ в открытом море. Приоритет государственных целей остается нерешенным, остается неочевидным и принцип разделения функций между государственными органами и государственными компаниями. Частные и иностранные интересы удерживаются на расстоянии. Сохраняется и неопределенность касательно как времени и места разработки месторождений, так и относительно концепции развития в целом. Отношения между Россией и Норвегией в сфере энергетики всегда были мирными и направленными на сотрудничество, несмотря на юридические разногласия в Баренцевом море. Договор по установлению границ значительно улучшает ситуацию, и означает, что потенциальные территории могут быть открыты для нефтегазовой активности, и, возможно, совместной работы по освоению месторождений, находящихся на новой границе.

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Norway and Russia in the global energy economy

Norway has emerged as a major oil and gas producer since production on the continental shelf commenced in the early 1970s in the North Sea. In 2008 Norway was the world's fifth largest net exporter of crude oil. It has also become a major supplier of natural gas in Europe, covering between 20 and 30 per cent of total consumption in Germany, the UK, and France. Fields on the Norwegian continental shelf are connected with terminals on the European continent and with Great Britain by several pipelines.

Russia is the world's largest oil producer, and presently second largest gas producer, by far the largest natural gas exporter and second largest oil exporter. Russia supplies 28 per cent of oil and gas consumed in the European Union. The dominant production areas are in north-western Siberia. Russian petroleum production is almost exclusively onshore.

Norway and Russia are both moving petroleum activities into the Barents Sea. What are the driving forces and what characterizes their efforts? How will the relationship between the two countries evolve? Will development of petroleum activities in the Barents Sea open for conflict or cooperation?

Exploration of the Barents Sea

Norway

Most Norwegian production takes place in the North Sea, where oil output is now falling. During the past decade, the biggest contribution to new resources has come from the Norwegian Sea, off the midsection of the coast of Norway. For future production, the focus will increasingly be on the northern part of the continental shelf, the Barents Sea. When output from existing gas fields in the south starts declining, an extension of the pipeline network northwards is conceivable, to fill free capacity in North Sea pipelines with Barents Sea gas.

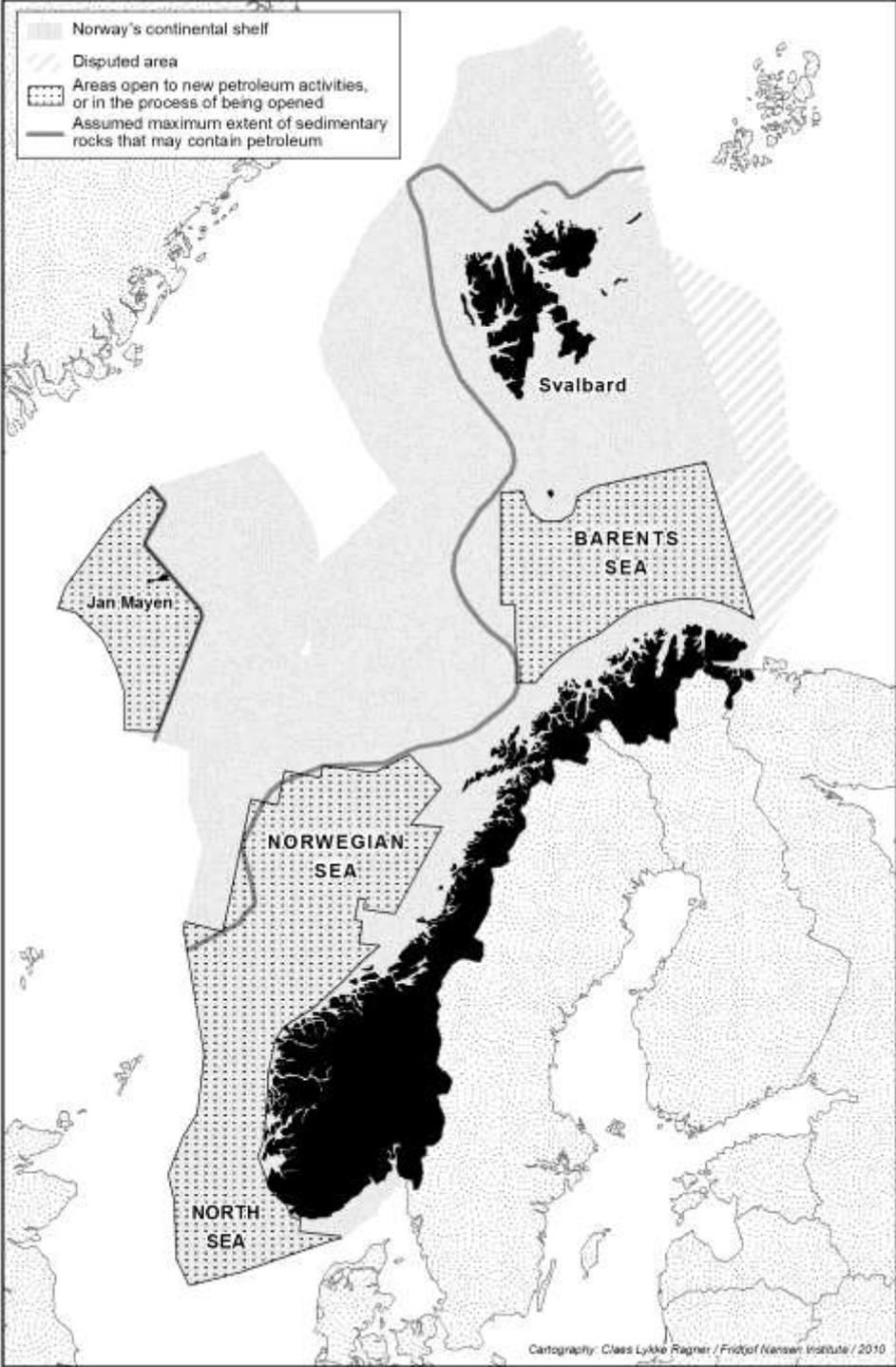
Norway was initially reluctant to start exploration activities in the High North for two main reasons. First, as a newcomer to the petroleum industry, the nation had plenty to do further south, but also the relationship with the Soviet Union played a part. The USSR signaled that it did not want to see international oil companies in the Barents Sea, and Norwegian plans took this into consideration by prescribing dominance of Norwegian companies. However, this line of policy was abandoned in the early 1980s and the 'big majors' were invited to apply for exploration licenses.² In the mid 1980s there was widespread optimism about the resource potential of the Norwegian Barents Sea, and a surge in activity was expected. The results of the exploration effort were not very impressive, however, and at times the oil companies were ready to give up the region. Industry interest is of course not only determined by perception of the resource potential, but also very much by the oil price, available acreage elsewhere, and technological developments.

Several minor discoveries have been made, but only one, the gas field *Snøhvit* (Snow White) discovered in 1984, has been developed so far. The second substantial discovery, the *Goliat* oil field, was made in 2000 by Agip. Exploration activity in the Barents Sea has not been very intensive, however, with only some 70 exploration wells drilled as of 2009. The same year mean size of expected undiscovered recoverable petroleum resources in the undisputed Norwegian part of the Barents Sea was 910 bn scm o.e. (billion standard cubic meters oil equivalent) equal to 764 mtoe (million tons of oil equivalents), slightly more gas

² Tamnes, Rolf, *Oljealder 1965-1995* – Norsk utenrikspolitisk historie bind 6, Universitetsforlaget, Oslo, pp. 323-4..

than oil.³ The estimated undiscovered volumes in the North Sea and Norwegian Sea are about the same, but those parts of the Norwegian continental shelf have much larger *proven* reserves, though. The degree of uncertainty in the Barents Sea is high since there has been no drilling in large areas.

Map 1: The Norwegian continental shelf



Note: For a map with more nuances on the status of various sections of the continental shelf see *Petroleum resources on the Norwegian continental shelf 2009*, Norwegian Petroleum Directorate, 2009, on which this simplified illustration is based.

³ *Petroleum resources on the Norwegian continental shelf 2009*, Norwegian Petroleum Directorate, 2009, p. 38.

Not only the oil industry, but the Norwegian government as well has been uncertain about the path forward. Possible conflicts with fisheries interests and environmental issues have loomed large in the internal debate, whereas regional development has been an argument for increased activity. By 2001 the heated debate led the government to temporarily ban all new exploration licensing in the area. Then the ban was partly lifted in 2003, and a series of blocks were licensed in three rounds from 2003 to 2009. Clearly the government wanted to increase activity, balancing environmental and economic considerations (see below). From time to time oil industry representatives argue that the self-imposed area restrictions must be lifted. But so far new activity in the 50 km zone from the coastal baseline of Norway's two northernmost counties, Troms and Finnmark, has been ruled out. The political compromise established through the adoption of the integrated management plan for the Barents Sea (see below) calls for a re-assessment of exploration activities in 2010. This is a very controversial issue within the red-green coalition government.

But despite restrictions a considerable increase in interest from the industry was also registered and several companies applied for licenses. Nevertheless, StatoilHydro, who was the operator for most of the wells planned for 2007-2008, declared that results in 2008 would be pivotal for continued exploration efforts in the areas so far opened for the industry.⁴ Again uncertainty regarding future industry interest in the area was demonstrated.

As it turned out, the results in 2007 and 2008 were modest, but not completely discouraging. In 2007 one discovery was made in the Barents Sea, and in 2008 another four. None of the discoveries were deemed commercially interesting in themselves, but the fact that both oil and gas were found in the explored blocks gave hope for other, larger discoveries later on.⁵ In 2009 the Ministry of Petroleum and Energy awarded another 12 production licenses in the Barents Sea in the 20th licensing round⁶ and invited oil companies to apply for licenses in so-called predetermined areas.⁷ The purpose of awarding such licenses was to 'prove resources close to planned and existing infrastructures'.⁸ Furthermore, the Ministry has invited oil companies to nominate blocks for a 21st licensing round in 2010, also including the Barents Sea.⁹

The latest decisions indicate that authorities perceive sufficient interest from the oil industry to go forward with exploration in the Barents Sea. At the same time there is a growing consensus that large discoveries are not very likely. Several small finds is seen as most probable. To make such finds commercially viable will require coordinated development of infrastructure as well as resources.

The first field in the Barents Sea to come on stream was Snøhvit in the fall of 2007, the first large liquefied natural gas (LNG) project in Europe. The field is located 140 km from shore north-west of Hammerfest in Norway's northernmost county, Finnmark. The development of the project was stopped several times when the market outlook was not deemed promising. Only after 2000, with positive expectations in the US market, and only after tax concessions, did it go ahead. It was still a difficult birth, involving commercial uncertainty and cost overruns. After starting it experienced serious technical problems.¹⁰ The field, with recoverable reserves of 161 bn scm and 18 mill. scm condensate, has been developed with sub-sea installations at water depths of about 300 m. The gas is piped to

⁴ *PETRO & Industri*, 5 – 2007

⁵ "Fortsatt tro på Barentshavet" (Still belief in the Barents Sea), *Petro.no*, 25 May 2009.

⁶ *Press release* 30 April 2009 from the Ministry of Petroleum and Energy.

⁷ Awards in predefined areas 2009 (APA 2009) – announcement, Norwegian Petroleum Directorate, 9 March, 2009, <http://www.npd.no/en/Topics/Production-licences/Theme-articles/Licensing-rounds/APA-2009/APA-2009---announcement/>

⁸ *Petroleum resources on the Norwegian continental shelf 2009*, Norwegian Petroleum Directorate, 2009, p. 29.

⁹ Ministry of Petroleum and Energy, *Press release*, 5 November 2009.

¹⁰ "Statoil on course with Snøhvit LNG", *Upstreamonline.com*, 19 April 2010.

shore, where a processing plant has been built. From there the gas is shipped as LNG in special carriers to market.¹¹ The field is slated to produce approximately 6 bcm annually. Of this, 2.6 bn scm has been contracted by Statoil for the US market and 1.6 for Spain, whereas 1.7 bn scm will be sold by the other main partners, Total and GDF Suez.

This is a very advanced and vast project for the sparsely-populated Finnmark County. But in addition, the fact that the fundamental infrastructure is in place makes smaller, adjacent discoveries more interesting to develop. The same is true for discoveries near the Goliat oil field, like Nucula and Tornerose. The plan for development and operation (PDO) of Goliat was approved by the Norwegian Parliament on 19 June 2009. The field is estimated to contain some 174 million barrels, or 23.2 million tons of recoverable oil.¹²

In summary, the Norwegian exploration effort in the Barents Sea is characterized by an industry eager to participate, but also ready to withdraw should prevailing conditions so dictate, and authorities supporting development, but also imposing strong restrictions.

Russia

The Soviet Union began seismic surveying of the Barents Sea in the 1970s. In the 1980s a systematic exploration effort took place revealing gas fields in the ‘super-giant’ category in the north-western part of the Russian Barents Sea. In the south-eastern part, usually referred to as the Pechora Sea, a number of promising structures were identified and some smaller oil fields discovered. In the 1990s exploration activity fell drastically, for financial and organizational reasons. Altogether only about 60 wells have been drilled in the whole Russian Barents Sea, but the discovery rate has been very high. The basis for a further concentrated exploration effort as well as industrial development is more promising than on the Norwegian side. In all 11 discoveries in the Russian Barents Sea are now designated as ‘fields,’ meaning that resources are expected to be recoverable: 4 oil fields, 1 oil and condensate field, 3 gas and condensate fields, and 3 gas fields.¹³ According to Russian estimates, there are some 3,700 mtoe of recoverable resources in the structures which have been studied in detail.¹⁴ This is more than remaining *reserves*¹⁵ on the entire Norwegian continental shelf. Natural gas is predominant, but there are also sizeable oil resources. Although considerable uncertainty attends the Russian estimates, there is little doubt that the resource potential is very substantial. However, more exploration drilling is needed before development can start.

Despite these promising perspectives the activity level in the Russian Barents Sea has remained low. A half-hearted and limited licensing round was carried out in 1999, but attracted little interest.¹⁶ Presently four Russian companies have ongoing exploration activities in the Barents Sea. Plans for a new comprehensive exploration programme organized as a series of licensing rounds, were presented in 2001 and were reiterated as late as 2006, but there has been no announcement of a new round. There are several reasons for this slowness: The Russian petroleum industry has had many options onshore, besides having little or no offshore experience, and has not pressed for a more vigorous offshore programme; the military has been a brake, but probably less so now than earlier; the authorities have wanted

¹¹ *Facts – the Norwegian Petroleum Sector 2009*, Ministry of Petroleum and Energy and Norwegian Petroleum Directorate, 2009 pp. 138-139.

¹² “Norwegian shelf, 2nd quarter 2009”, *Press Release 47/2009*, 21 July 2009, Norwegian Petroleum Directorate, <http://www.npd.no/en/news/news/2009/norwegian-shelf-2nd-quarter-2009/>

¹³ “Mineral’nye resursy rossiyskogo shel’fa”, *Mineral’nye resursy Rossii –Ekonomika i uprevalenie*, Special edition, 2006 p. 16.

¹⁴ *Ibid.* p. 18.

¹⁵ Note that these reserve/resource classifications are not directly comparable. (Norwegian) ‘remaining reserves’ constitute a more strictly defined category than Russian ‘recoverable resources’.

¹⁶ Moe, Arild and Anne Kristin Jørgensen, “Offshore Mineral Development in the Russian Barents Sea” in *Post Soviet Geography and Economics*, (41) 2000, pp. 98-133.

Russian companies to be in control, but the companies have not been ready. It is also evident that the legal and tax framework has been insufficient to make risky offshore operations attractive.

Over the last four-five years the prominence of offshore development has increased considerably in speeches made by Russian officials. Partly this is connected to a growing realization that Russia may face a problem getting enough fields on stream to keep up output, despite a huge resource base. The increased priority given to offshore has led to improvement in the legal framework and tax rules. But these developments have been overshadowed by the new legislation on foreign investment in strategic sectors that was adopted in April 2008, and accompanying changes in other laws, notably the law on mineral resources. All the resources on the Russian continental shelf were declared to be of ‘federal significance’. The continental shelf would be reserved for state companies with at least five years experience from work on the continental shelf – in practice Rosneft’ and Gazprom.¹⁷ This does not preclude joint projects with foreign companies, as long as the license remains with the Russian party. But the whole governance of the offshore sector must now be questioned. Through the new legislation the authorities have ceded the initiative to the two companies and an assessment of the outlook for further petroleum development in the Russian Barents Sea must therefore, more than ever before, take into consideration the strategies and interests of Gazprom and Rosneft’. It can be questioned whether Arctic offshore development has the same urgency for these two companies as it seems to have for the Russian state.¹⁸ The Deputy Minister of natural resources voiced his frustration in the Duma by referring to the limited investments offshore by Rosneft’ and Gazprom in 2008 (a year when in fact their offshore investments were higher than ever): “By maintaining such levels it will require 155 years to reach the necessary amount of investments”.¹⁹

Increasing emphasis on use of Russian companies and equipment also seems to be irreconcilable with rapid development, since the oil industry lacks experience and the shipbuilding industry has serious problems. According to official Russian documents “Russian civilian shipbuilding is of a non-specialized nature ... and is carried out with outdated means of production”. It is also admitted that Russian yards do not have the scale and are not equipped to handle civilian customers.²⁰

Summing up, it is evident that Russia still does not have a coherent policy for further offshore developments. The prioritization of state goals is unresolved, and the division of functions between state organs and state companies unclear. Private and foreign interests are kept at arm’s length. A new state programme for exploration and development of the continental shelf is promised in 2010, but it remains to be seen whether such a document can resolve the contradictions. There is still great uncertainty regarding the timing and pace of development, as well as the development concepts involved.

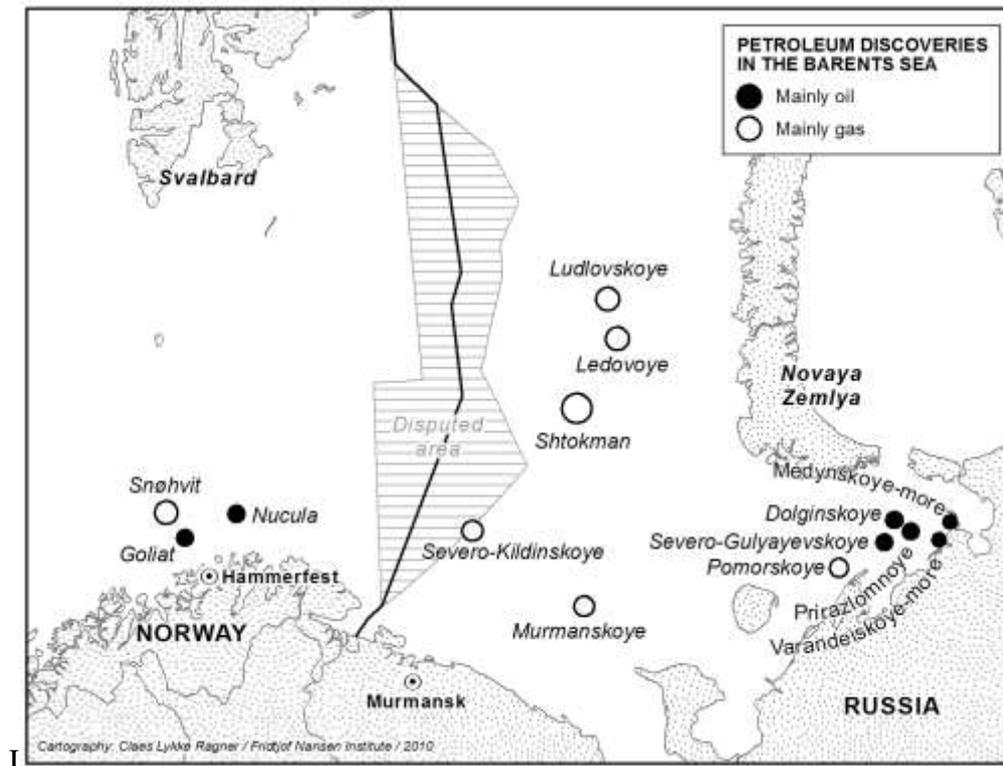
¹⁷ It is possible though that new players will emerge. The state owned oil company Zarubezhneft’ that was set up in Soviet times to work in projects abroad and mainly has been active in a Russian-Vietnamese joint venture, has started activities in Russia. In April 2010 it was announced that it is taking over Arktikmorneftegazrazvedka, the drilling organization in Murmansk controlling most of the exploration rigs. *Kommersant*, 28 April, 2010.

¹⁸ For more on Russian offshore strategies see Moe, Arild and Elana Wilson Rowe, “Northern Offshore Oil and Gas Resources: Policy challenges and approaches”, in Elana Wilson Rowe (ed.) *Russia and the North*, University of Ottawa Press, Ottawa 2009, pp. 107-128.

¹⁹ Ministry of natural resources, *Press release*, 24 June, 2009.

²⁰ *Federal’naya tselevaya programma ‘Razvitie grazhdanskoy morskoy tekhniki na 2009-2016 gody’* (Federal target programme ‘Development of civilian marine engineering for the period 2009–2016’) Confirmed by Government resolution No. 103, 21 February, 2008, quoted and discussed in Moe, Arild and Lars Rowe, “[Petroleum Activity in the Russian Barents Sea: Constraints and Options for Norwegian Offshore and Shipping Companies](#)”, FNI Report 7/2008, Fridtjof Nansen Institute, Lysaker 2008.

Map 2: Discoveries in the Barents Sea



Shtokman

Russia's *Shtokman* gas and condensate field, located 650 km north-east of Murmansk city and 540 km from shore is one of the largest offshore gas fields in the world, with reserves of 3,800 bcm.²¹ Again the precise comparison with Norwegian reserve numbers is difficult, since the Russian number reflects the reserve category C1 – test-drilled (evaluated reserves) which in other cases have turned out to be overstated, but clearly the field is more than twice as big as the Troll field in the North Sea, currently the biggest producing offshore gas field in the world. Shtokman also contains condensate, 53 mill. tons, something which enhances its commercial attraction.

The Shtokman field was discovered in 1988 and in the period 1990–96 seven exploration wells were drilled. Various international cooperation schemes for development of the field have been discussed over the years, but the Russian license holder Gazprom (through subsidiaries) only became committed after 2003 when liquefied natural gas (LNG) gained prominence in the company's strategy, particularly directed towards the US market. In addition, technological breakthroughs made development of the field and the world's biggest LNG project more feasible. Gazprom announced that it would develop the field in a consortium with foreign companies, and most large international companies showed interest. In 2005 five companies were shortlisted: Chevron, ConocoPhillips, Total, Statoil and Norsk Hydro. Plans were changed, however, when in October 2006 Gazprom declared that foreign part-ownership was out of the question and that the field would be developed by Gazprom

²¹ <http://www.gazprom.ru>. Bcm – billion cubic metres – are used here when referring to Russian data. Note that a Russian cubic meter is measured differently than a standard cubic meter, the measurement used on e.g. the Norwegian continental shelf. Russian figures must be multiplied by 0.91 to get the equivalent in standard cubic meters.

itself, with the help of foreign technology providers and possibly international oil companies in assisting roles.²²

But this position too was soon abandoned, and in 2007 a new collaborative model was launched. For the first phase of development, a special-purpose company, Shtokman Development AG, was established, together with Total and the now merged StatoilHydro. The foreign companies hold 25 and 24 per cent respectively, whereas the majority, 51 per cent, rests with Gazprom. The special-purpose company will develop and operate about one third of the field. It will own the infrastructure for 25 years after production start-up, at which point everything will be handed over to Gazprom. Shtokman Development AG is not to sell the gas. This will be done by Gazprom, and the license remains with Gazprom's subsidiary which was renamed *Gazprom neft' shel'f*. The exact contractual conditions are not public and may be finally settled only in the course of 2010.

The full development of Shtokman is currently envisaged in three stages, each producing up to 23.7 bcm per year, to commence at four-year intervals. Gazprom has already started planning the second phase itself and has created a new fully-owned subsidiary, *Gazprom dobycha shel'f*, for that purpose. According to present plans, peak production of 71.1 bcm per year will be reached after 25 years. Altogether the field is scheduled to produce for 50 years. There are, however, expectations that it will be possible to have a fourth development phase, bringing peak production up to 95 bcm.²³

When 'New Shtokman' was launched in 2007 there was not an agreed overall technical solution for the field, and the challenges are substantial, as distance to shore, drifting ice, and high waves all pose problems. Statoil and Hydro had separately and together argued for a pure subsea solution, referring to their experience from Snøhvit and Ormen Lange. Gazprom, it seems, found such a solution too risky, and favored a more conventional solution with one or two platforms. The solution arrived at is a kind of compromise: subsea installations connected to a floating platform.

The initial plans for the first phase indicated that half of the output would be transported by a new pipeline linked to the North Stream pipeline under the Baltic Sea to Germany. Some gas would be used for local needs along the pipeline. The other half would be liquefied in the LNG plant to be constructed at Teriberka on the Kola Peninsula. The annual output of LNG would be 7.5 mill. destined for "countries in the Atlantic basin". For the total field development, one third of output was considered for liquefaction. This would amount to 30 mill. tons of LNG per year at peak production from the field.²⁴ The official goal was originally to start deliveries of piped gas in 2013 and LNG in 2014, but the practicality of that time frame was questioned by many, referring to time required for the construction of installations, but also to the time needed for drilling.

It was first announced that Shtokman Development would decide in late 2009 whether to go ahead with investments. This date was then moved to the first half of 2010 and later it was signaled that the decision would be made in the course of 2010. To make a decision SDAG would need to have the results from the design studies that were commissioned in 2008-2009 and probably also concrete offers for part of the development, making it possible to calculate costs.

²² For an analysis of this decision see Moe, Arild, "Shtokman-beslutningen: Forklaringer og implikasjoner" ('The Shtokman Decision: Explanations and Implications'), *Nordisk Østforum*, (20) 2006, pp. 389–403.

²³ "Shtokman ostaetsya rossiyskim proektom", *Gazprom*, 3, 2008. Interview with Yuri Komarov, General director of Shtokman Development AG

²⁴ *Ibid.*

Prirazlomnoye

The largest field identified in the Pechora Sea is *Prirazlomnoye*, located 57 km offshore from Varandey, at a depth of 20 meters. Since drilling started in 1989, four wells have been completed. The exploitable reserves have in recent years been adjusted radically downwards and are by 2010 estimated to be 46,4 million tons, sufficient to support an annual output of 6 million tons. The *Rosshel'f* consortium²⁵ received a license for development of the field in 1993; construction of the *Prirazlomnaya* platform at the Sevmash shipyard in Severodvinsk was scheduled to take three years, starting in 1995. The platform is a huge steel caisson to be placed on the shallow ocean floor, more like an artificial island. It will contain production and storage facilities and protect the installation from the severe ice problems in the area.

However, problems soon emerged, and the construction process came to a complete standstill several times. In addition to direct technical problems, constant changes in the design have been a major reason for delays. It also proved difficult to attract sufficient financial resources. Several foreign partners have been in and out of the project, including the Australian oil company BHP, the International Finance Corporation (under the World Bank) and the German company Wintershall AG. Other companies have been approached to take part in the project – in 2003 notably Norsk Hydro – but they have declined, finding the project too risky and/or not commercially attractive.

In 2002 the license was transferred to Sevmorneftegaz, initially owned jointly by Gazprom and Rosneft.²⁶ It was decided to abandon the original idea of building a complete platform in Severodvinsk. Instead a discarded platform from the North Sea – Hutton TLP – was purchased and the topside transported to Severodvinsk for installation on the caisson. The used platform proved to be a disaster, however, and there is very little of this purchase that will eventually be used. The new topside currently being built consists solely of imported equipment.²⁷ A new agreement covering all aspects of finalization of the platform as well as its installation on the continental shelf was signed in August 2008²⁸ and in 2009 Gazprom officially declared start-up for oil production at *Prirazlomnoye* to be 2010.²⁹ But this deadline too will be broken.

All in all the experience from *Prirazlomnoye* has not been encouraging, but some lessons have been learnt. The development has taken longer and has proven more costly than expected. Plans for using almost exclusively Russian equipment had to be abandoned. There is, however, widespread belief that the field will start producing in a few years; and with the large platform in place as a hub, development of other smaller fields in the vicinity will become more attractive.

Environmental and resource management concerns

The vulnerability of the northern environment is a central issue in Norwegian thinking about the High North. Environmental concerns include the preservation of wildlife and biodiversity

²⁵ *Rosshel'f* gradually became dominated by Gazprom, but had various organizations with ambitions in the offshore sector as shareholders, notably Sevmash. For an analysis of this early phase see Moe, Arild, "Oil and Gas: Future Role of the Barents Region", in Olav S. Stokke and Ola Tunander (eds.) *The Barents Region: Cooperation in Arctic Europe*, Sage, London 1994 pp. 131-144.

²⁶ Sevmorneftegaz was established as a joint company between Gazprom and Rosneft' in 2002 and took over the licenses for Shtokman and *Prirazlomnoye*. In 2004 Rosneft' sold its share and Sevmorneftegaz, as a fully-owned subsidiary, then became the offshore development division of Gazprom. In 2008 it was renamed Gazprom neft' shel'f and given a more limited role.

²⁷ 'Gazprom inspektiruet stroitelstvo platformy'. *Press release* from Sevmash, 25 April 2008.

²⁸ *Press release* from Sevmash, 4 August 2008.

²⁹ *Gazprom v tsifrakh 2004-2008*, Moscow: Gazprom, 2009.

as well as the pristine natural surroundings, but they are also connected to specific economic interests: fisheries. The Barents Sea is one of the most bio-productive seas in the world, and has very rich fishing grounds, especially for the highly-valued cod. Environmental and fisheries interests fear that pollution and spills related to petroleum activities will have a serious negative effect on biodiversity and fish resources, and may reduce catches or lower the value of fish from the Barents Sea. These fears are substantiated by results from marine research institutions and experience from elsewhere in the world.

For these reasons, Norway has proceeded cautiously in developing its hydrocarbon resources in the North. Concern for the environment and for the possible impact on fisheries has limited the scope of exploration – both in terms of spatial extent and time periods. When the Barents Sea shelf was re-opened in 2003 after the halt in exploration in 2001, the “zero-discharge principle” was applied, requiring minimization of operational discharges. There is a continuing heated debate about which areas shall be opened for exploration and development. Stricter environmental regulations than elsewhere on the Norwegian continental shelf are applied in those areas where petroleum activity is allowed.

The Russian Federation has many of the same interests as Norway with regard to protection of the environment and resources in the North, and has officially acknowledged the importance of environmental considerations. There are, however, fundamental differences in the attitudes to environmental challenges.

The Norwegian approach is dominated by the precautionary principle: What can be done to prevent possible problems? The debate in Norway has to a large extent been revolving around hypothetical situations. There have been very few actual environmental problems with the activity carried out. On the Russian side the attitude is different. The focus is on the actual situation – and also on experiences from elsewhere. As long as concrete problems have not been identified, like major discharges, it is difficult to turn the attention to possible future problems. “Let us wait and see what happens” is a phrase commonly heard. This difference in attitude can be given various explanations, but clearly many Russians, researchers and ordinary people alike, find it futile to discuss hypothetical environmental problems offshore when there are many unsolved environmental issues close at hand.

The political processes surrounding environmental policy and regulations are also very different between Norway and Russia. Environmental debates are a central element in the general political discourse in Norway. In addition, several environmental NGOs have a high profile and play an active part. Such organizations are regarded as legitimate stakeholders, and concern expressed by laymen is considered a factor to be addressed. In Russia, there is a much stronger emphasis on ‘expert opinion’. There are therefore many fewer legitimate participants in the limited ongoing debate. Environmental NGOs active in Northwest Russia sometimes are consulted by authorities, if they are considered to possess expertise, but generally they are considered amateurs. Also the environmental NGOs themselves tend to focus on current, concrete issues, rather than potential future problems.³⁰

Interestingly, the perceived state of environmental affairs on the Russian continental shelf has been used as an argument in favor of increased activity on the Norwegian Barents Sea shelf. The reasoning was that Russia was about to start large-scale activities in the Barents Sea, and that Norwegian companies should be given a go-ahead so they could provide an example potentially for the Russian industry to follow.³¹ Clearly, as argued earlier in this

³⁰ For an elaboration of Russian attitudes see Hønneland Geir, J. H. Jørgensen and A. Moe, “Miljøpersepsjoner i Nordvest-Russland: Problemoppfatninger knyttet til petroleumsutbygging i Barentshavet” (“Environmental Perceptions in North-Western Russia: Perspectives on Petroleum Development in the Barents Sea”) in *Internasjonal Politikk*, (65) 2007, pp. 7-22.

³¹ Jensen, Leif Christian, “Petroleum discourse in the European Arctic: the Norwegian case”, *Polar Record* (43) 2007 pp. 247–254.

article, the impression of haste on the Russian side was exaggerated, and the perception of Russian regulations was superficial.

Environmental impact assessments play a central role in Norwegian petroleum policy: first, before decisions are taken about opening new areas for exploration, then later before licensing rounds are announced and when concrete projects are considered. Russia has a well-established system of environmental impact assessments – *OVOS* – for all kinds of industrial projects. However, impact assessments are directed towards the project level, and Russia lacks a more integrated approach to strategic planning before individual projects are developed.³²

There clearly are conflicts between different arms of the Norwegian government regarding offshore development. The Ministry of petroleum and energy is generally supportive, whereas the Ministry of the environment is more skeptical. The government tries to balance concerns and form a coherent policy. An ambitious attempt at a concerted policy was the development of a comprehensive plan for integrated management of the Barents Sea, finalized in 2006.³³ The plan is intended to be in line with international treaties and processes, stressing the need for integrated management of resources and need for environmental considerations in sea areas. One of the most politically touchy issues here is the establishment of areas with severe restrictions – whether as PSSAs (Particularly Sensitive Sea Areas) according to IMO standards and guidelines, or other categories of marine protected areas where oil exploration will not be permitted at all. This overall management plan is an important determinant for the further opening of new areas for exploration and production.

The Russian environmental authorities are relatively weaker than their counterparts in Norway. The Ministry of natural resources (which from spring 2008 has added ‘Ecology’ to its name), is mainly a structure oriented towards resource exploitation. There are agencies under the Ministry set up to monitor and control offshore activities. But their political clout is not strong. Environmental policy continues to be treated as a sector interest, and is given much less attention at the highest political level than is the case in Norway. Another feature of Russian policy-making is that issues tend not to be settled, precisely because the government does not really integrate and balance all concerns. Infighting continues after decisions ostensibly have been made.

In some cases Russian environmental regulations are stricter than in Norway, for example, with regard to discharges. But questions have been raised with regard to *compliance* with extensive and complicated Russian laws and regulations. Fines imposed on perpetrators are not always high enough to deter offenders.

While Norway cannot directly affect developments on the Russian side, it can support improvements in Russian policy and regulations, and this is a declared goal for the Norwegian government.³⁴ There is a long-standing relationship and cooperation between Norwegian and Russian environmental authorities, and the Russian side has shown interest in adopting elements from the Norwegian integrated management plan in the Russian Barents Sea. Increased cooperation between research institutions led to publication of a joint environmental status report for the Barents Sea in 2009.³⁵ The next phase might be establishment of common monitoring systems. But the weakness of Russian environmental authorities puts limitations

³² Solodyankina, Svetlana and Johann Koeppel, “The environmental impact assessment process for oil and gas extraction projects in the Russian Federation: possibilities for improvement” in *Impact Assessment and Project Appraisal*, (27) March 2009 pp. 77–83,

³³ English version can be downloaded from http://www.regjeringen.no/upload/MD/Vedlegg/Svalbard%20og%20polaromraadene/Forvaltningsplan%20Barentshavet/PDF0080506_engelsk-TS.pdf. Accessed 12 May 2010.

³⁴ Report 1 to the Storting 2009-2010 (The State budget – Ministry of the environment), chapter 10.

³⁵ “Joint Norwegian-Russian environmental status 2008 Report on the Barents Sea Ecosystem”. IMR/PINRO Joint Report Series, 2009.

on this effort. The Norwegian dream of developing common principles for resource and environmental management for the whole Barents Sea is still far from realization, even though the general Russian attitude to cooperation on resources management is positive.³⁶

In the Norwegian domestic debate, climate concerns are being used as an argument against extension of petroleum activities in the North. The reasoning is that as rapid climate change in the Arctic is becoming more and more evident, increasing petroleum activity in that region is particularly negative. The government does not agree with this and holds that climate change is a global problem, where production from the Arctic is no different than oil from other regions. On the other hand the almost euphoric statements about the access to new acreage provided by the receding ice-cover heard in some international media is almost absent in the Norwegian public. This may be explained by a degree of political sensitivity in the Norwegian oil industry, but also by the fact that ice has not been a problem in the Norwegian Barents Sea south, the area so far opened for commercial activity.

On the Russian side climate change and climate politics are much lower on the agenda. Increased open waters are sometimes referred to, but are not a major issue in official documents concerning development strategies in the North.

Jurisdictional issues

The disputed area

When developments in the Law of the Sea extended the continental shelves belonging to the coastal states and also gave these states the right to establish exclusive economic zones, a large area of overlapping claims between Norway and the Soviet Union emerged in the Barents Sea, since the two countries adhered to different principles for delimitation of neighboring shelves and zones. Norway supported the equidistance or median-line principle, which defines the border as a line drawn an equal distance from the territory of the two states. The Soviet Union and later Russia argued for the sector-line, based on a line drawn in the 1920s from the mainland border to the North Pole, within which the USSR declared sovereignty over all islands. Formal negotiations started in 1974 over the disputed area, which constituted some 175,000 square kilometers.

The Norwegian Petroleum directorate carried out some seismic surveys in the mid 1970s and the Soviet Union did so well into the 1980s.³⁷ After the mid 1980s both states practiced a moratorium on exploration in accordance with UNCLOS provisions to avoid activities in contested waters. Whereas Norwegian authorities wanted as little discussion as possible about anticipated resources, so as not to complicate the negotiations, Russian geologists have regularly voiced considerable optimism regarding the potential of the area. In recent years reinterpretation of old seismic data with new equipment and improved analytical methods seems to have reinforced the optimism, and various maps indicating a large gas field in the area have been circulated. Russian authorities even published data on “recoverable resources” in the disputed area: 520 million tons of oil and 5.9 trillion cubic meters of natural gas.³⁸ But certainty cannot be achieved until drilling is undertaken. That has not happened, but an

³⁶ In a press release from the Russian Ministry of natural resources 11 December 2009 after a meeting with the state secretary in the Norwegian ministry of petroleum and energy, a series of co-operation areas for the near future was listed, including exploration and production of hydrocarbons on the Arctic and Barents continental shelf.

³⁷ The scope of the soviet seismic activity is unknown, but Tamnes argues that it continued in limited form also after 1985. Tamnes, Rolf, *Oljealder 1965-1995* p. 302.

³⁸ Ledovskikh, A.A., “Geopoliticheskie aspekty razvitiya neftegazovogo kompleksa severo-zapadnogo regiona Rossii”, in *Mineral'nye resursy Rossii – Ekonomika i upravlenie*, 4, 2005, pp. 2-13.

exploration well was drilled by a soviet organization more or less on the median line in 1983, creating considerable anxiety in Norway.³⁹

In the negotiations the Russian side repeatedly argued that Norway and Russia could establish a co-operative regime for exploitation of hydrocarbon resources in the area – before a delimitation line was drawn. The Norwegian position was that co-operation in exploration and production could be established only after a firm delimitation line had been drawn. These positions were not easy to reconcile, but in recent years it seems that the two sides have discussed hypothetical co-operation schemes, schemes that could be implemented once a delimitation line had been agreed upon.

The unsolved delimitation issue was regarded in Norway as the biggest obstacle to bilateral relations with Russia, even if it did not prevent establishment of extensive co-operation in several areas, including petroleum activity. When a resolution to the dispute was found in a preliminary agreement in April 2010, the news was met with widespread relief in Norway. The political compromise reached divides the area into two approximately even parts (see Map 2).⁴⁰ In a joint statement “a comprehensive Treaty concerning maritime delimitation and co-operation in the Barents Sea and the Arctic Ocean” was envisaged.⁴¹ It seems though that this is only a political statement signaling positive intentions. Large-scale concrete joint activity is so far not in the offing. But the two delegations also “recommend the adoption of detailed rules and procedures ensuring efficient and responsible management of their hydrocarbon resources in cases where any single oil or gas deposit should extend across the delimitation line”.⁴² It is clearly a necessity to establish rules for unitization of fields. Whether unitization will imply parallel or joint exploitation will to a large extent depend on economic calculations. Only when unitization rules are established and the delimitation line is detailed can the delimitation agreement be signed and later presented to the parliaments of the two respective countries for ratification.

Resolution of the delimitation dispute means that a promising area could be opened for petroleum activities, even though it may take several years before a comprehensive exploration effort starts. But it can also be argued that removal of the dispute adds stability to the whole region and makes investments more attractive. Norway has an interest in developing advantageous cooperation projects with Russia in the area, but will continue to want to see companies from other countries active in the region.

Svalbard

The Svalbard archipelago (Spitsbergen) has been under Norwegian sovereignty since the Spitsbergen Treaty of 1920 entered into force. But even though Norway was granted ‘full and absolute sovereignty’ over the archipelago, this sovereignty came with some qualifications. Norway may not discriminate subjects of other signatories when it comes to most forms of economic activity on the islands, notably exploitation of mineral deposits, nor may Norway profit by imposing higher taxes than needed for the administration of the islands.

Whereas the treaty defines the archipelago as the islands within certain geographical coordinates, it says nothing about the sea areas beyond territorial waters or the ocean floor.

³⁹Tamnes, Rolf, *Oljealder 1965-1995* p. 302.

⁴⁰ The joint statement implicitly refers to the median-line principle but states “In addition to the relevant factors identified in this regard in international law, including the effect of major disparities in respective coastal lengths, they have taken into account the progress achieved in the course of long-standing negotiations between the parties in order to reach agreement.” Joint Statement on maritime delimitation and co-operation in the Barents Sea and the Arctic Ocean. 27 April 2010.

http://www.regjeringen.no/upload/UD/Vedlegg/Folkerett/030427_english_4.pdf. Accessed 12 May 2010.

⁴¹ *Ibid.*

⁴² *Ibid.*

The reach of the provisions of the Spitsbergen Treaty is a matter of controversy. Norway holds that the treaty limitations on its jurisdiction do not apply to the continental shelf around Svalbard outside the territorial sea, now 12 nm, and that the seabed is subject to unrestricted Norwegian jurisdiction.⁴³ Some parties to the treaty have reserved themselves against the Norwegian interpretation. A few have protested, holding that treaty restrictions apply also beyond the territorial sea, and that the archipelago has its own continental shelf – to be governed in the same way as the islands themselves.⁴⁴ Most of the 39 signatories to the Svalbard treaty have not voiced any views on the matter.⁴⁵

Thus, the disagreement about the regime for the continental shelf around Svalbard is not about Norwegian sovereignty, but about the legal basis for that sovereignty, the modern law of the sea, providing the coastal state with extensive rights, as claimed by Norway, or the Svalbard Treaty, with its provisions limiting the exercise of Norwegian jurisdiction, as argued by some other states, including Russia.⁴⁶ The dispute has not become heated since it has remained uncertain whether the areas in question have any promising geological structures for oil and gas deposits. Little is known, because very limited seismic surveying has been carried out.

In addition to surveys carried out under the auspices of the Norwegian petroleum directorate, some seismics have been shot by foreign scientific expeditions. According to the UN Convention on the Law of the Sea, permission for “marine scientific research projects” shall in normal circumstances be granted, “in order to increase scientific knowledge of the marine environment for the benefit of all mankind”.⁴⁷ The Norwegian interpretation of the latter clause is that data collected should be published or at least made available to Norwegian authorities.

Some attention has been given to a Russian geological company that over several years has carried out seismic surveys on the continental shelf around Svalbard on behalf of the Russian Ministry of natural resources, as part of a broader program to study the geology on the northern continental shelves. Norway has granted permission for the surveys as ‘scientific research’. The purpose of these expeditions has, however, included the identification of prospective zones for oil and gas accumulations, and that could bring them into conflict with the Norwegian ban on commercial exploration for petroleum in the area. The Russian company has also been reluctant to publish data.⁴⁸ It is difficult to see, though, that Russia has

⁴³ For a presentation of the official Norwegian view see: “Svalbard and the Surrounding Maritime Areas” by Rolf Einar Fife, Director General, Legal Affairs Department, Ministry of Foreign Affairs. <http://www.regjeringen.no/en/dep/ud/selected-topics/civil--rights/spesiell-folkerett/folkerettslige-sporsmal-i-tilknytning-ti.html?id=537481>. Accessed 12 May 2010.

⁴⁴ In connection with Norway’s submission to the Commission on the Limits of the Continental Shelf in 2006, only two countries, Russia and particularly Spain, used the opportunity to underline that acceptance of the submission did not influence their position on the status of the continental shelf around Svalbard. Jensen, Øystein, in Vidas, Davor (ed.) *Law, Technology and Science for Oceans in Globalisation – IUU Fishing, Oil Pollution, Bioprospecting, Outer Continental Shelf*, Martinus Nijhoff Publishers, Leiden/Boston 2010, pp. 519-538. See page 537.

⁴⁵ When Norway and Denmark/Greenland concluded an agreement on a maritime boundary between Greenland and Svalbard in 2006, the jurisdiction issue was mentioned, but in a very neutral way: “This Agreement is without prejudice to the respective Parties’ views on questions that are not governed by this Agreement, including questions relating to their exercise of sovereign rights or jurisdiction over the sea and the sea-bed and its subsoil” (Article 3). Quoted in Elferink, Alex G. Oude, “Maritime Delimitation Between Denmark/Greenland and Norway” in *Ocean Development & International Law*, (38) pp. 375-380.

⁴⁶ Pedersen, Torbjørn, “The Svalbard continental shelf controversy: Legal disputes and political rivalries”, in *Ocean Development and International Law*, (37) 2006 pp. 339-358.

⁴⁷ Article 246, 3rd paragraph. United Nations Convention on the Law of the Sea of 10 December 1982. http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm. Accessed 12 May 2010.

⁴⁸ Pedersen 2006 pp 348-349.

an interest in undermining the Norwegian position with regard to jurisdiction on the continental shelf around Svalbard, at least for the time being. If Norway were to open the shelf for commercial activities, Russian companies would hardly be best positioned to take advantage of such a development, given their inexperience in offshore operations.

Even though Norway has found little explicit support for the principle of unrestricted Norwegian jurisdiction on the shelf around Svalbard, the alternative – a shelf regime based on the Spitsbergen Treaty – would not necessarily be attractive for other states, especially if the Mining Code has to be applied. The potential for conflict with other parties would make engagement in the area very risky from a commercial point of view. What makes the Treaty regime attractive are the lax tax rules.

So far Norway has not opened these areas for commercial petroleum exploration – as indicated on Map 1. It remains to be seen if the issue will heat up. Much will depend on expectations for the resource potential. If expectations are high, pressure on Norway to open the Northern Barents Sea shelf must be expected. In practice it is difficult to imagine extensive commercial activities on the shelf around Svalbard without Norwegian administration, since it would entail a very high risk to operate without some form of regulator. In addition there would be a need to establish base facilities on the islands.

Conclusions

Initially we posed two questions regarding Russian and Norwegian petroleum activities in the Barents Sea:

What are the driving forces and what characterizes their efforts?

How will the relationship between the two countries evolve?

As we have seen there are similarities, but many contrasts as well. The resource picture in Norway and Russia differs. Whereas Russia has several unexplored areas, Norway's options are more limited, as has become increasingly evident after 2000. The Norwegian petroleum industry has strongly argued for increased activity in the North. On the Russian side, companies have been more reluctant. Both in Norway and in Russia regional interests have generally been positive towards development, but regional concerns loom larger in Norway than in Russia.

Both in Russia and in Norway there are restraining forces, but they are significantly different. In Norway environmental considerations have slowed the general development and have seriously influenced the organization of activities. In contrast, environmental restraints have so far not played any observable role in Russia's policies. This does not mean that the environment is irrelevant. As has been shown in other instances, environmental regulations have the potential to stop or delay industrial development, but green issues are brought in at a later stage in the planning process than in Norway.

There is a discrepancy between Russian policy statements and actual development of the offshore hydrocarbon sector. An important reason is competing policy goals. Russian companies and suppliers are supposed to play a dominant role in the development of offshore resources, but since they are not ready to play that role, development is slow.

A major Russian project, Shtokman, has been underway for some time, seemingly undermining the arguments above. But in that case the configuration of interests was different. The main driver for Shtokman development was Gazprom's interest in the LNG market. That interest was shared by foreign companies, including Norwegian enterprises. And for this huge project, obviously regarded as strategic, the foreign companies were willing to accept a peculiar organizational and contract structure, a structure which probably would not be applicable for other projects at other times.

Whereas uncertainties relating to costs and time frame were evident from the start of the new co-operative venture, market uncertainties took center stage from 2009. The financial crisis caused a sharp dip in gas demand in Russia's export markets, and even more so within Russia, causing a cutback in Russian gas production by some 12.4 per cent that year.⁴⁹ The need to bring in new production capacity for the sake of Russia's gas balance was suddenly less urgent than just a year earlier. Nevertheless, this situation need not derail a project which is expected to come on stream well after the financial crisis is over and demand has picked up. The more serious challenge comes from development of unconventional gas, particularly the vast resources of shale gas in the United States, which may drastically change gas markets.⁵⁰ According to some forecasts, the United States, which is a major market for LNG from Shtokman, may not need to import much LNG at all in few years, and may in fact become a net exporter.⁵¹ Not only Russia, but also other gas producers have been developing projects aimed at the US market, projects that cannot be stopped since the 'gas revolution' has happened so rapidly. There is likely to be an oversupply of LNG for some time, not least in the European market, another possible destination for Shtokman LNG. Much uncertainty about the cost, timing and potential of shale gas persists, but it has undoubtedly affected the outlook for Shtokman, and it was specifically referred to the uncertain market outlook when Shtokman Development AG on 5 February 2010 announced that the investment decision was postponed to 2011.⁵²

The company also announced that it would decide on the pipeline project first and then later in 2011 whether to build the LNG plant. Thus a 'pipeline-only' solution is being considered. Such a development would, however, mean stronger competition with other onshore Russian resources, notably the Yamal peninsula. And the *raison d'être* for developing Shtokman has been its strategic location as an LNG source. Shtokman gas is commonly considered more expensive to develop than other possible sources for the integrated Russian pipeline network. On the other hand, Shtokman could relieve some of the pressure on Gazprom's investment budget, since the foreign partners will help with financing as well as management of the project. Shtokman as a collaborative project could also perhaps play a role in reducing some of the tensions between Europe and Russia in the gas market.

There is no consensus on how the gas market will develop in the longer term. Gas optimists argue that the availability of vast new gas resources world-wide, but particularly in the United States, will change the attitude to this energy carrier, and make it the desired fuel for the longer term in many countries, thus increasing demand compared to earlier estimates. This development will in turn support higher prices than what was experienced during and in the aftermath of the financial crisis. These are also considerations in the discussion of the start up of a long-term project like Shtokman.

The unconventional gas 'revolution' is a challenge, not only for Shtokman but also for other Arctic gas projects, including on the Norwegian continental shelf. It is probable that the petroleum industry for some time will be much more interested in oil than gas discoveries.

The Shtokman process nevertheless remains a big experiment in cooperation – whether development goes ahead or not. There clearly is scope for more technical and commercial cooperation on the Russian continental shelf, but it is up to Russia to release that potential.

⁴⁹ *Kommersant*, 12 January 2010. Gazprom's reduction was 16.1 per cent.

⁵⁰ Shale gas is one form of unconventional gas. It is produced from shale with a high content of organic material by way of hydraulic fracturing. The reserves have been known and exploited for several years, but recent technological developments have led to a radical reassessment of the commercial potential.

⁵¹ For a discussion of the impact on gas markets from the expected surge in unconventional gas production, see *IEA World Energy Outlook*, OECD/IEA, Paris 2009.

⁵² Gazprom press release, 5 February 2010.

Norway and Russia have successfully jointly managed the major fish stocks in the Barents Sea for more than thirty years. Norwegian authorities have in recent years been eager to cooperate with Russia on standards for environmental and resource management. Here developments are slow, but positive from the Norwegian authorities' point of view.

Despite the delimitation dispute in the Barents Sea and disagreement about the status of the continental shelf around the Svalbard archipelago, the relationship between Russia and Norway in the energy sphere has been peaceful and cooperative. Neither side allowed the disagreement to spill over into areas where there is potential for cooperation. One possible interpretation of the Russian willingness to come to an agreement is that the resolved delimitation dispute improves the atmosphere further, at the same time as it gives Russia access to a promising area. An improved atmosphere is one requirement, but only one, if Russia wants to change its offshore development strategy and offer attractive conditions for foreign participants, not only Norwegian. Should Russia develop such a strategy, international petroleum companies may start to compare prospects in the western and eastern parts of the Barents Sea.

In the shorter term on the bilateral level, the agreement will serve as inspiration for development of cooperation in many spheres, even in the event of a setback in the Shtokman project.