

## Energy and resources in the Arctic: Warmer seas – new challenges

“Climate change will give rise to new challenges in the recovery of resources in the Arctic,” say researchers Olav Schram Stokke and Arild Moe at the Fridtjof Nansen Institute.

Both researchers are affiliated with the strategic research project Geopolitics in the High North, Norwegian Interests (GEOPOLITIKK-NORD), and take part in research on the resource situation in the Arctic. They point out that there is tremendous uncertainty regarding the course global warming will take in the Arctic region.

### High risk

“It is clear that the area of the Arctic covered by sea ice year-round is diminishing. Nevertheless, there are major variations from year to year, also within the same season. The ice only recedes during certain parts of the year. With the exception of the short summer months, the ice will remain quite thick. So even if summer sea ice disappears almost entirely, equipment must be able to withstand ice for most of the year. Therefore, the operational conditions and costs of oil exploration and production will not be much different than they are today,” says Professor Schram Stokke.

Vast areas are becoming accessible for test drilling due to melting sea ice. At the same time, many petroleum provinces outside the Arctic region have become less accessible to international oil companies, thus increasing interest in oil recovery in the Arctic. However, according to Senior Research Fellow and Deputy Director Moe, it is highly unlikely that we will see an intense race for resources.

He points out, that global warming causes the breaking up of substantial ice masses and large ice floes, creating new threats to petroleum activities. Climate change may therefore lead to new problems for oil and gas recovery in the Arctic.

“The accident in the Gulf of Mexico focused greater attention on the risk invol-



Arild Moe  
Photo: Fridtjof Nansens Institutt.



Olav Schram Stokke



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ved in offshore activities. There were major problems capturing the oil in the Gulf – imagine what it would be like in tall waves during the pitch-black Arctic night? Great demands would probably be imposed with regard to oil spill preparedness and response procedures and equipment. And oil companies operating in the Arctic could also be required to put down steeply-priced security deposits. This could lead to a situation in which only the largest companies would be able to conduct operations in the Arctic,” says Mr Moe.

### No overview over resources

Mr Moe points out that no complete overview of available oil and gas resources in the ocean areas of the Arctic currently exists.

“Russia has the largest continental shelf in the Arctic, with the largest amount of resources and the highest expectations. Substantial reserves have been discovered in the Barents Sea, among other places, but there are only estimates for other large areas because no drilling has been conducted. It is difficult to say whether these resources are recoverable until more drilling has been carried out.”



▶▶▶ “Estimates are often presented as more certain than they actually are. We don’t know much, but geological surveys indicate that there is more gas than oil in the Arctic,” he explains.

Mr Moe says that the development of Russian offshore oil and gas activities has been slower than the Russian authorities claim. This is due, in part, to the fact that only state-owned companies are permitted to engage in these activities in Russia.

“What’s more, offshore production of Arctic gas is very costly and less attractive than it was only a couple of years ago. This is due to the increased availability of unconventional gas, such as gas shales, and the expectation that gas prices will be lower than envisioned several years ago.”

### Fish migration

“Cod stocks in the Barents Sea are currently the world’s largest. These are living resources in motion, and they are found both within and outside Arctic areas. Warmer seas will lead to changes in fish migration patterns. A larger proportion of certain stocks may become accessible to fishermen in high seas, instead of remaining within zones of national jurisdiction. Such changes may give rise to international management challenges,” says Dr Schram Stokke.

He emphasises that Norway and Russia have thus far handled uncertainties regarding fisheries management in a constructive manner and that the two countries closely coordinate stock preservation measures, fishing quota distribution and research on shared stocks.

“Climate change will affect fish stocks in several ways. While higher temperatures promote increased bioproduction, more extreme weather conditions may have a negative impact, making the ocean surface rougher and decreasing the light supply, thereby shifting the competitive constellation between fish stocks. The relationship between changes in the natural environment and the basis for economic activity is very complex,” explains Dr Schram Stokke. He points out, that questions like these are excellent topics for research cooperation between natural scientists and social scientists.

### More traffic in the Arctic

Melting sea ice and increased activity in the Arctic are elements that lead to growth in ship traffic in the Arctic ocean areas. At the moment, this mainly consists of fishing vessels, but there will be a rise in transport of raw materials and ship-based tourism in the years to come. In certain areas, maritime activities have been expanded significantly, bringing with them a greater risk of accidents.

The Arctic Council has negotiated an agreement on marine search and rescue in the Arctic, which is expected to be signed at the Arctic Council Ministerial Meeting in spring 2011. The council itself does not have the authority to pass binding resolutions.

“The role of the Arctic Council is growing more and more important and in recent years it has presented several high-profile reports assessing the specific challenges facing the Arctic in areas such as climate change, petroleum activities and shipping. The 2009 report



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on Arctic marine shipping recommended drawing up a search and rescue agreement, which will soon be in place. The report also recommended a massive expansion of the maritime infrastructure in the Arctic, including better maps and more knowledge about seabed conditions in the region,” says Dr Schram Stokke.

### Keeping calm

Both researchers stress that the shared interests among the Arctic states by far outweigh the conflicts of interest.

“The delimitation of maritime boundaries in the Arctic has come a long way compared to many other ocean areas. All of the Arctic coastal states, including the US and Russia, have a clear self-interest in maintaining the legal system that exists today,” asserts Mr Moe.

“All of the states also demonstrate the willingness in practical terms to solve potential disagreements without confrontation. A key factor in maintaining international stability in the region is that all of the Arctic states are stable and relatively well governed,” Dr Schram Stokke adds.

## The NORRUSS programme

The Programme on Russia and International Relations in the Northern Areas (NORRUSS) is a social science research programme under the auspices of the Research Council of Norway. GEOPOLITIKK-NORD is a strategic project on geopolitics and Norwegian interests in the High North under the NORRUSS programme.

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