As climate change continues to render the Arctic more accessible, interest in the region’s energy resources has grown significantly. The European Union has expressed an ambition to play a larger role in the Arctic, citing its engagement as a “geopolitical necessity” amid increasing competition for resources and the emergence of new shipping lanes. After overtaking Russia as Europe’s biggest natural gas supplier, Norway has also encouraged energy companies to ramp up oil and gas exploration projects in remote Arctic regions.

This flurry of activity and interest has broad geopolitical implications as countries move to secure supply of critical resources and mitigate the risk of weaponized interdependence. Most notably, the Arctic is central to Russia’s vision of a multipolar global order, primarily achieved through the development of the Northern Sea Route and investments in Arctic military capabilities. China has also described the Arctic as a “new strategic frontier” and stated its ambition to become a “polar great power” by 2030.

In this edition of Northern Connections, the authors examine two topics that may reshape energy security in the European Arctic. Both illustrate how the Arctic is being affected by a set of interacting global crises: climate change and Russia’s ongoing invasion of Ukraine.

In the first essay, Arild Moe from the Fridtjof Nansen Institute in Oslo, Norway, outlines Russia’s emergence as a leading global exporter of liquefied natural gas (LNG) amid increasing Western pressure. He explains that despite European attempts to cut off Russian gas imports, Russian LNG exports to Europe have soared. However, while Russia has weathered these headwinds in the short term, the outlook for Russian LNG remains uncertain and highly contingent on external financing, access to emerging markets, and the implementation of Western sanctions.

In the second essay, Anne Husebekk, Silje Elde, and Else Kristine Welde from the Centre for the Ocean and the Arctic at UiT The Arctic University of Norway examine Norway’s opportunity to establish marine business parks and sustainably leverage Arctic oceanic resources. They find that “marine co-location can strengthen Norwegian sustainability and competitiveness” in a manner that could mitigate the climate crisis “while creating positive ripple effects” for Arctic coastal communities. However, the Norwegian regulatory
environment for marine business parks is currently lacking, and there should be a clear legal framework that simplifies the procedures for obtaining permits and licenses and outlines the rules for impact assessments.

Russian Arctic LNG Exports: From Success to Uncertainty
By Arild Moe, Fridtjof Nansen Institute

Russia’s LNG development in the Arctic and subsequent exports have been a tremendous success story for the Kremlin. Despite domestic resistance from Gazprom, the state-owned Russian gas company, the output from the Yamal LNG project grew rapidly between 2017 and 2022 from 0.3 million tons to 21 million tons. Even the European Union’s ambition of becoming independent of Russian energy, as well as the gas trade disruptions since the Russian invasion of Ukraine, have not hurt LNG exports to Europe. On the contrary, they have soared.

While Russia has weathered these headwinds so far, uncertainty looms in the future for the Russian LNG industry. U.S. and European leaders are increasingly paying attention. Although the Arctic LNG 2 project is targeting non-Western markets such as China and India, it has become the focus of recently introduced U.S. sanctions aiming to curtail further Russian LNG development.

THE RUSSIAN LNG BREAKTHROUGH
Before the surge in U.S. shale gas production, Russia was the world’s largest producer and exporter of natural gas. Russia has vast gas resources and an extensive pipeline network that has connected gas fields in West Siberia with domestic consumers in western Russia and lucrative export markets in Europe. Gazprom, which held a monopoly on pipeline exports, thus had no need to prioritize LNG.

Nevertheless, one major LNG project was realized. The Sakhalin-2 offshore project in far eastern Russia was developed by a consortium between Dutch company Shell and Japanese partners operating under a production-sharing agreement from the mid-1990s. Although the consortium was forced to sell a majority stake to Gazprom in 2006, operationally and technologically the project continued to be dominated by the foreign partners. Gazprom also partnered with France’s Total (now TotalEnergies) and Norway’s Statoil (now Equinor) for the Shtokman field, a major gas development in the Barents Sea. But after several years of planning, the project was shelved in 2012 due to spiking costs and a deteriorated market outlook caused by the growing development of U.S. shale gas.
The breakthrough for Russian LNG came from another quarter. Gas company Novatek was privately owned but had good contacts with the Kremlin through one of its main owners, Gennady Timchenko. In 2009, the company acquired control of licenses for gas fields destined for LNG on the eastern side of the Yamal Peninsula in West Siberia. It involved Total—and, since 2013, China National Petroleum Corporation—as a partner in what became the Yamal LNG project.

Initially, the plan was to use Gazprom as an agent for export sales, but financial backers demanded that the project have direct export access. This prompted Novatek to lobby for a legislative amendment allowing direct sales to foreign markets, making a serious dent in Gazprom’s export monopoly. After Western sanctions were imposed on Russian energy projects in 2014 in response to Russia’s annexation of Crimea and support to separatists in eastern Ukraine, China’s role in the Yamal LNG project increased, with the Silk Road Fund becoming a direct investor and a greater share of financing and equipment coming from China.

AN ARCTIC LNG SUCCESS STORY

To the surprise of many observers, the Yamal LNG project was completed on time and on budget in December 2017 at a total cost of approximately $27 billion. Along with the liquefaction plant in the port of Sabetta on the Yamal Peninsula, 15 300-meter-long ice-breaking LNG carriers were custom-built at the Daewoo Shipbuilding & Marine Engineering (now known as Hanwha Ocean) yard in South Korea, to be owned and operated by international shipping consortia. The plant rapidly reached a nameplate capacity of 16.5 million metric tons per year from the first three production units, rising to 21 million tons in 2022 after adding an extra unit. The Russian government had been very supportive of the project, helping finance port infrastructure and providing tax concessions.

The success of the project led to a reassessment of the role of LNG in Russia’s overall gas strategy. Even though Russian pipeline gas exports had been increasing every year, the outlook for further growth in sales to Europe, the most lucrative market, looked bleak because of stagnating demand. Pipeline exports to China were becoming important in volume terms but were not as profitable. LNG, by contrast, offered access to premium markets worldwide. The gas fields in the Arctic made it possible to direct exports both westward and eastward.

However, tensions with Gazprom increased since Yamal LNG sold gas not only in markets outside the reach of Russian gas pipelines, as initially promised, but also in Gazprom’s core markets in Europe. Moscow also exempted LNG from export and mineral extraction taxes as part of the incentives provided to develop the industry. According to Gazprom, this made competition with pipeline gas unfair, leading to unsuccessful attempts by the state-owned giant to restrict further liberalization of LNG exports. In fact, Novatek had secured licenses for several fields on the Gydan Peninsula—across the Ob Bay from Sabetta on the Yamal Peninsula—and prepared a series of LNG projects that would bring total output up to 70 million tons by 2030. With plans to expand further in the long term, these initiatives would cement the region as a major global source of LNG. The first of these projects, Arctic LNG 2, secured initial investments in fall 2019, with a Japanese consortium, Total, and two Chinese companies signing up as partners.
RUSSIAN LNG EXPORTS IN THE SHADOW OF WAR

Before Russia launched its full-scale invasion of Ukraine on February 24, 2022, the Russian LNG strategy looked credible and sustainable, with Novatek as the lead actor and Gazprom also developing smaller LNG projects. Shortly after the start of the war, the European Union declared that it aimed to cut imports of Russian gas by two-thirds before the end of 2022. The European Union did not introduce sanctions against Russian gas per se, but several member countries ruled out new purchases of Russian pipeline gas. Moscow, however, saw cuts in exports to Europe as a tool to create economic disruption and coerce governments to limit their support for Ukraine and sanctions against the Kremlin. Russia used various means to curb pipeline exports, such as new payment arrangements and alleged pipeline repair needs—while maintaining that existing gas contracts were honored. Yet the explosions on the Nord Stream 1 and 2 pipelines under the Baltic Sea in September 2022 effectively took out a big chunk of the physical export capacity. As a result of these disruptions, Russian pipeline deliveries to EU countries were slashed by 80 percent.

Following these changes to the European energy market, LNG exports from Yamal soared. In fact, the lion’s share of output in 2022, some 15 million tons, was sold in Europe—contributing to the desperately needed diversification of gas supplies caused by the cuts in pipelines gas deliveries from Russia. The picture was the same in 2023. Due to the extraordinarily high gas prices in Europe in 2022 and 2023, the sellers of Russian LNG have enjoyed huge windfall profits.

This result has been a surprise to many observers and politicians since the European Union has a stated ambition of denying Russia income that could fuel the war and of ending Europe’s dependence on Russian gas supplies. Defenders of continued LNG imports argue that Russian LNG has been a relief in a difficult supply situation and has helped avert the European economic crisis that Putin had hoped for. Another argument is that less income from LNG exports ends up in Russian state coffers than from pipeline gas since LNG taxes are far less substantial. Besides, much of the Russian LNG sold belongs to foreign companies. Still, powerful voices within the European Union continue to call for curtailing imports of Russian LNG.

It may also seem surprising to some that Russia has not stopped LNG exports to Europe, given that it wanted to destabilize European economies. There could be several reasons for this. Unlike the pipeline gas sold by Gazprom export arm Gazexport, which remains controlled by the state, LNG from Yamal is sold by the owners, including TotalEnergies, CNPC, Novatek, and other companies with long-term contracts for offtaking gas. They usually sell their gas through traders who deal with the importers. Moscow ordering a stop of gas sales from Yamal LNG to Europe would involve breaching chains of contractual arrangements and create a major commercial conflict with key partners in Russian LNG development. Not interrupting sales is also extremely important for the standing of Russian LNG globally.

OUTLOOK FOR RUSSIAN LNG

With the European market for Russian pipeline gas disappearing and unlikely to recover even after the war in Ukraine is over, Russian hopes are now pinned on LNG. This includes the continuation of sales to Europe, which constitute only a fraction of the previous
volume sold via pipeline, as well as new markets in other parts of the world such as South America and India. It has particularly high expectations regarding the LNG-hungry economies of Japan, South Korea, and China.

However, the outlook for Russian LNG does not only depend on Russia’s performance. Technology sanctions are hitting the sector, delaying implementation of Novatek’s bold expansion plans—even though Russian and Chinese replacement technology permitted the project to come onstream at the end of 2023. But further development also requires financing. Western investments are of course out of the question, and Chinese investors may find that the risk associated with new Russian hydrocarbon projects is too high.

Market access for Russian LNG is a major uncertainty. Although the United States had imported very little natural gas from Russia, Washington imposed an import ban on Russian gas shortly after the war in Ukraine broke out. New U.S. sanctions outlined in November 2023 leave current supplies from Yamal LNG untouched but do aim to stop companies worldwide from buying gas from Arctic LNG 2 (expected to start producing in early 2024), thus denying Russia new revenue streams. One expressed U.S. goal is to derail Russian plans for LNG expansion.

Implementation of these sanctions, together with continued technology and financial restrictions, will undoubtedly have serious consequences for Russia’s LNG development. This holds true even if Russian owners succeed at selling more LNG to China and perhaps India. The longer-term outlook for Russian LNG will depend on the outcome of the war in Ukraine and domestic developments in Russia. As of now, the prospects for the reintegration of Russia into the global energy economy are highly uncertain.

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Marine Business Parks: Can Nature and Industries Be Balanced at Sea?

By Anne Husebekk, Silje Elde, and Else Kristine Welde, Centre for the Ocean and the Arctic at UiT The Arctic University of Norway

Fisheries, aquaculture, and offshore and subsea energy sources have long dominated popular conceptions of the use of the ocean in the Arctic. However, despite the vastness of the ocean and the significant long-term potential of both seafood and sea energy, it is the maritime areas close to coastlines that are most useful for the people living there. In these areas, activities compete for space. The Centre for the Ocean
and the Arctic at UiT The Arctic University of Norway recently presented a policy brief to the Norwegian Minister of Fisheries and Ocean Policy, Cecilie Myrseth. The document provides specific recommendations on “how marine co-location can strengthen Norwegian sustainability and competitiveness” in a manner that mitigates the climate crisis “while creating positive ripple effects for nearby coastal communities.”

**WHY MARINE BUSINESS PARKS ARE SIGNIFICANT**

Marine business parks are areas where at least two ocean activities are located together and benefit from each other. One example could be colocating offshore wind turbines providing renewable energy for land-based use and electric ships, carbon-capture projects for industrial storage and use, and seaweed, mussel, or oyster farming. Such a model would deliver cost savings for all stakeholders involved and reduce water pollution.

Establishing marine business parks requires cooperation between several actors to plan the parks, harmonize regulations, collaborate with local governments, ensure businesses see the long-term benefits, and consult with external stakeholders. These external stakeholders could be local fishers who have knowledge in areas of specific interest for fisheries and can advise on where such parks could be established.

**HOW TO ESTABLISH MARINE BUSINESS PARKS IN NORWAY TODAY**

The current Norwegian regulatory framework complicates the establishment of marine business parks because they span several industries, types of businesses, and policy areas across multiple municipalities. Therefore, they require harmonizing regulations covering these sectors and government entities. As explained in the policy brief, “A clear legal framework must be established that simplifies the procedures for obtaining permits, licenses and rules for impact assessments for marine business parks. At the same time, the environmental requirements for impact assessments and licenses must not be reduced, and the body dealing with this must possess considerable environmental expertise.”

According to the center’s preliminary study on marine business parks, in Norway this legislation “must include both the licensing process (granting of permits), provisions regarding impact assessments, regulation of technical conditions (if a multipurpose platform is to be used), as well as provisions concerning health, safety, and environment (HSE). Furthermore, a tax and duties regime must be designed.”

Permanent marine business parks cannot be established until more research and innovation has taken place. In the long term, aspects such as pollution, the implications for the surrounding marine ecology, the influence of technological installations, and economic returns will vary depending on the specific environment and businesses involved with each park. This research and innovation should therefore analyze the topic through the lenses of biology, technology, economy, and social sciences in an interdisciplinary approach that incorporates stakeholders from coastal municipalities and the private sector, not just academia.

**FUTURE SUSTAINABLE BUSINESS DEVELOPMENT IN THE OCEAN**

Given the severe ongoing climate and nature crisis affecting Arctic areas, the establishment of maritime businesses needs to be handled with care. There is a fine balance between conserving and exploiting the ocean and between traditional fishing and new businesses such as aquaculture, oil and gas exploitation, offshore wind power, and seabed mining. Policymakers and private sector stakeholders should pay attention to the global demand for
food and energy, the health of the ocean, and the well-being of populations living on the coast before planning for the sustainable development of ocean businesses.

In this context, combining ocean businesses in multiuse parks could reduce the oceanic areas in use, develop relationships among private sector stakeholders, and free up resources to protect biodiversity. The sustainable use of ocean resources would contribute to achieving the UN Sustainable Development Goals related to hunger, energy, climate, and oceans. However, no municipality, region, or nation can solve this problem by itself. If maritime business parks are shown to be the most sustainable way of organizing ocean businesses, then international regulations and cooperation will be required. In this context, several international projects are exploring multiuse parks in the ocean with an array of involved stakeholders and regulatory frameworks. Among them is UNITED, an EU- and industry-funded project that “aims to provide evidence of the viability of ocean multi-use through the development of five real-life ocean multi-use pilots that combine different marine activities.” This project is exploring the economic, environmental, societal, legal, and technological aspects of marine business parks.

Regardless of ongoing activities, more research and investments are needed to ensure the long-term viability of marine business parks. The Norwegian government is uniquely positioned to finance such projects to explore their functionality, effects, economic profitability, and impact on the health of oceans and coastal populations. The Centre for the Ocean and the Arctic at UiT The Arctic University of Norway stands ready to advise the government throughout this process and provide a forum for dialogue on marine colocation issues in Norway.

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