



Sanctions Continue to Target Russia's Export Projects

The tightening of western sanctions in response to Russia's invasion of Ukraine continues to target Russian liquefaction projects rather than operating LNG export facilities, with the most recent round of restrictive US measures taking aim at Novatek's planned transshipment operations.

The measures follow prohibition of liquefaction equipment and services to Russia by the US, EU, UK and others, which forced Novatek to replace the EU and other western contractors working on the company's 19.8-MMt/y Arctic LNG 2 project as they wound down their operations by May 27 last year. In addition to the transshipment operations, other companies included in the latest round of US sanctions include Russian companies JSC Energies, Nova Energies LLC., LLC. Arctic Energies, and Abu Dhabi's Green Energy Solutions – all of which are providing engineering, technology and/or construction services to the Arctic LNG 2 project.

Despite the exit of western contractors, Novatek was able to get the first gravity-based structure (GBS) to be used for Train 1 of the \$27.6-billion Arctic LNG 2 project out during the summer shipping window. This is key to its plan to start up Train 1 at the end of this year and reach design capacity in 1Q 2024. The GBS arrived on site at Utrenny in Ob Bay on Aug. 12 and commissioning work on Train 1 and construction of the Utrenny port ice barriers are ongoing. Novatek plans to start Train 2 by the end of 2024 and Train 3 by the end of 2026.

Without western contractors, bringing Trains 2 and 3 online could prove trickier, although Novatek was able to get most of the critical equipment to Russia before sanctions started to bite. Also, project agreements for Arctic LNG 2 also include skills transfer from shareholder TotalEnergies, which puts Novatek in a better position to implement it than if it had faced the same challenges in building its first liquefaction project, Yamal LNG. Novatek has also gained experience implementing its own Arctic Cascade liquefaction technology for Yamal LNG's 900,000- t/y Train 4, although the delay in reaching capacity illustrates the challenges it faces.

If Russia can get all three trains to full capacity without foreign help, Arctic LNG 2 will add 19.8-MMt/y of LNG export capacity which could make the looming LNG surplus in 2027 even greater than expected, given that some forecasters have written off its chances, particularly for Trains 2 and 3.

The company has big ambitions to boost LNG exports and to this end obtained a Russian patent for a scale-up of Arctic Cascade called "Arctic Mix" for larger projects that have a capacity of over 6-MMt/y per Train. This could include Novatek's planned 20.4-MMt/y export facility in Murmansk. The project received a boost this month when Russia's Duma, the lower chamber of Russian parliament, approved changes to the law that will allow Novatek to use any fields in Russia as feedgas and have it delivered through Gazprom's network, although this is not without controversy from the latter, which is concerned about its market share.

FSU sanctions aimed at Arctic LNG 2

Shipping logistics are a more immediate concern for Novatek, which could act as a bottleneck for the transit of Arctic LNG 2 cargoes if issues are not resolved. On Sep. 14, the US imposed sanctions on Arctic Transshipment LLC, which was created to operate the two floating storage units (FSUs) that are to be used for transshipments for cargoes bound for Europe via Murmansk in the west and Asia via Kamchatka in the Far East. The newbuild \$375-million, 361,000-m³ vessels – the Koryak FSU at Kamchatka, and Saam FSU at Murmansk – both arrived at their sites earlier this year. They were due to start operations this quarter but were identified as blocked property by the US State Department under the September action.

Any vessel loading at the FSUs would be subject to sanctions and EU ports would also deny them entry. As a result, it is understood that there is currently no activity at the two transshipment points. Use of the FSUs was aimed at optimizing shipping by reducing the number of icebreaking Arc7 LNG carriers needed to deliver cargoes and allow the projects to offer free on-board volumes from Murmansk and Kamchatka (see Map).

While the two FSUs were to be used for both the operating 17.4-MMt/y Yamal LNG export facility as well as the 19.8-MMt/y Arctic LNG 2 project, the sanctions are expected to have a greater impact on Arctic LNG 2. Yamal LNG mostly delivers cargoes to terminals in Europe, such as Zeebrugge in Belgium, Montoir in France, and several import facilities. For these journeys there is less need for an FSU or other types of transshipments to accommodate shipping schedules and capture price spreads, given the shorter shipping distance to Europe.

By contrast, around 80% of Arctic LNG 2's cargoes are expected to go to Asia, eastbound on the Northern Sea Route (NSR), with only 20% planned for delivery to Europe. There is a greater need for an FSU to provide a buffer, of around two to three cargoes in storage, for deliveries to Asia. Both Mitsui Osk Lines and NYK ordered LNG carriers for charter to Novatek which were likely aimed at onward delivery of cargoes from the transshipment FSUs. However, the shipping companies are not expected to risk loading at sanctioned facilities or handling cargoes which have passed through sanctioned facilities. China's Cosco also ordered three LNG carriers from Hudong-Zhonghua Shipbuilding at the end of 2021, which could also be aimed at transshipment trade.

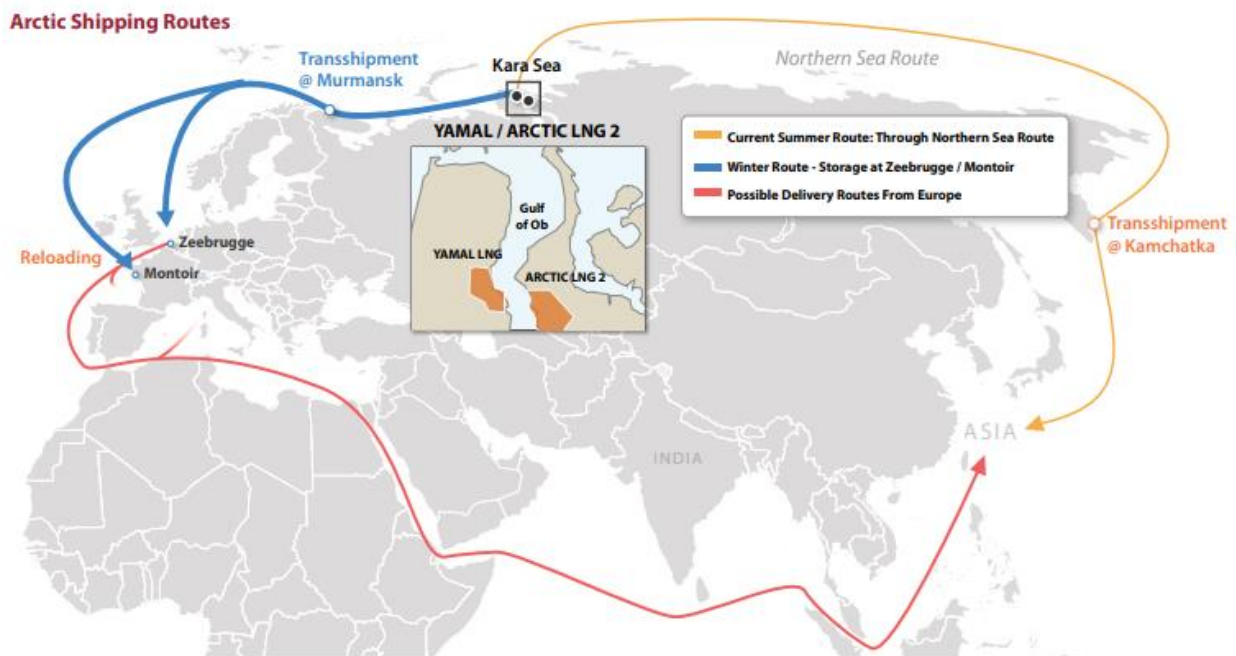
Operations could be manageable as the project ramps up but if the FSUs remain constrained there may be insufficient shipping tonnage for full capacity loadings. The first Arc7 for Arctic LNG 2, built by Hanwha Ocean, Pyotr Kapitsa, has returned to the shipyard after sea trials, and the second, Lev Landau, was out on sea trials this month. Hanwha Ocean is looking to sell these two vessels and another Arc7 it is building for its own account after it cancelled the order from Russian shipowner Sovcomflot (or SCF Group) which was prevented from making payments due to sanctions. Hanwha Ocean is also building three identical Arc7s for MOL to serve Arctic LNG 2.

The first Arc7 being built in Russia at its Zvezda shipyard for Sovcomflot was named Alexey Kosygin in September, although when it will be ready to operate remains unclear. It is also in doubt whether all 21 Arc7s that were to be chartered to Arctic LNG 2 will be built. In addition to the six ships coming from Hanwha Ocean, 14 were ordered from Zvezda by Smart LNG, a joint venture between Novatek and Sovcomflot, on top of the first one for Sovcomflot. Zvezda had partnered with Samsung Heavy Industries which was to provide the hulls for the ships, with five delivered – the status on the rest remains unclear.

Meanwhile, Yamal LNG is continuing with normal cargo deliveries west to Europe and east along the NSR to Northeast Asia. LNG exports have not been subject to sanctions, although some European policy makers are continuing to put pressure on importers purchasing Russian LNG.

Three of the project's conventional LNG carriers recently returned from Northeast Asia via the NSR in convoy behind returning Arc7s, acting as icebreakers for them.

At the end of September, 21 cargoes had transited east along the NSR, which is about the same frequency as last year. Last year Yamal LNG dispatched two of its Arc3 conventional LNG carriers east along the NSR unescorted, but one incurred ice damage to the hull and spent 30 days for repair in a Singapore shipyard.



Ust-Luga project work continues despite sanctions

Arctic LNG 2 is not the only Russian project that has been subject to sanctions. Work on the 13-MMt/y Ust-Luga LNG project (which is west of St Peterburg) continues, despite it having to switch out its main engineering, procurement and construction (EPC) contractor, Germany's Linde, as a result of restrictive EU measures. The project – which is sponsored by Gazprom-RusGazDobycha joint venture RusChemAlliance (or RusKhimAlyans) – plans to start its 6.5-MMt/y Train 1 in 2027 and its 6.5-MMt/y Train 2 in 2028, with sanctions delaying the timing by a year, thus far.

The new EPC contractors working on the project are understood to be Gazprom-affiliated and Serbian engineering companies. The project is licensed to use the Linde technology and is understood to be around 15-20% complete.

Ust-Luga had recently started marketing production again, primarily to Asian and Latin American buyers for a minimum offtake of 10 or 15 years, either FOB or delivered ex-ship. The project is in discussions

with ship owners and shipyards to secure light ice class LNG carriers because cargoes will transit the Baltic Sea.

As well as liquefaction facilities, the project includes gas processing facilities and a chemical plant, being built by a Chinese contractor, to make 4 MMt/y of ethane, 2.2 MMt/y of LPG, 3 MMt/y of polyethylene and other products. The complex will have the capacity to process 45 Bcm/y of gas. Originally half of it was expected to go through the Nord Stream pipeline but now that it is not operating, Gazprom will take the gas back into its system.

Costs for the whole complex are put at around \$50 billion. The Russian state is providing bridge funding for the project, with around \$12 billion coming from the Russian National Welfare Fund and around RU 445 billion (\$4.78 billion) from Russian development bank VEB. However, because of the extensive capital expenditure, other Russian banks and Chinese banks could be tapped for funding. Russian banks that have been hit with severe sanctions are unlikely to be included because their presence may deter potential Asian LNG buyers.

RusChemAlliance wants to recover an advance of €900 million (\$950 million) it paid to Linde to design and build the Ust-Luga LNG plant. Linde had to terminate the work to comply with EU sanctions and has also said repayment would violate EU sanctions. A court in St. Petersburg froze almost \$500 million of Linde's assets in January this year at RusChemAlliance's request.

RusChemAlliance also filed lawsuits in the Court of Arbitration of St. Petersburg against guarantors for the Linde Ust-Luga EPC contract signed in 2021. It is seeking RU 45.7 billion (\$490 million) from Italy's UniCredit Bank, RU 28 billion (\$30 million) from Bayern LB, and RU 5.4 billion (\$6 million) from Landesbank Baden-Wurttemberg. This follows a similar lawsuit against Germany's Deutsche Bank and Commerzbank seeking RU 31 billion (\$333 million). Deutsche Bank and Commerzbank won injunctions in the London Court of Appeals to stop RusChemAlliance suing them in Russia. They said they could not pay because they would be in violation of EU sanctions.