

Export Infrastructure

LNG Update: Frozen 3? Keeping An Eye On Budgeting Process For Arctic 2

Funding Hot Potato May Be A Drag On Operational Timeline

Who Picks Up The Check For Arctic 2? The timeline for Novatek's high-profile Arctic LNG 2 (19.8mpta) may have hit a modest speedbump, as the ~\$1.9BN request to help finance critical aspects of Arctic 2 [the Utrenneye LNG terminal on Gydan peninsula (page 4), and reloading terminals in Murmansk (for European cargoes) and Kamchatka (for Asia cargoes)] **are absent from Russia's 2020 draft budget.** While the project has already reached a positive FID, and is clearly a national priority – we think it's worth watching whether any squabble over the ultimate funding source ends up delaying its operational timeline (which is already ambitious). The primary options appeared to be (1) the state budget (absent), or (2) funding from the ~\$124B National Wealth Fund, which appears to be a more complicated and competitive process (below). Considering that Arctic 2 is being used as a fulcrum to revitalize/create local content industries – including the Zvezda shipyard for the required LNG carriers (Arc-7s or similar – which cost ~\$350MM each in Korea) and some local fabrication of key equipment, **we ultimately expect continued sovereign support. However, given narrower pricing/economics and (potentially) some budgeting hot-potato, we think its worth watching the Arctic 2 operational timeline.**

Positive FID Is Already In The Rearview Mirror. Arctic 2 took FID on 9/5 via a consortium of Russian (Novatek 60%), Chinese (CNOOC 10%, CNPC 10%), Japanese (Mitsui & Jgomec. 10%) and French (Total 10%) interests. We note that Total has a 19.4% stake in Novatek, so its overall economic interest in Arctic 2 is ~21.6% (Figure 2). Arctic 2 will be Russia's largest LNG project – with a cost ~\$21BN and expected to start production in 2024. While it's likely the *Chinese* and *Japanese* equity volumes (30%) are already placed/allocated to end markets, it's unclear what portion of the remainder have ultimately found a home (if any). The market exposure associated with Novatek's 60% interest, along with more challenging economics would likely make any type of review more challenging – but again, an eventual *sovereign decree* would likely make that math mute.

Along Those Lines...According to Moscow Times, the decision to not include the LNG projects in the state budget is due to concerns surrounding bleak future LNG prices. Prices for LNG sold to Asia markets this past October were 40% lower y/y. In an article from September, Russian Finance Minister Anton Siluanov alluded in his statement that Novatek's Arctic 2 project *could be financed through the National Wealth Fund* (as of Nov 1, NWF has ~\$124BN in AUM). However, we note NWF's investment mandate is to diversify away from oil & gas, and this may present a challenge for the upstream asset in Utrenneye, but the infrastructure reloading terminals may technically meet the needed criteria. According to Kommersant, Novatek is confident that while the 2020 budget did not set aside any allocation for...*continued*

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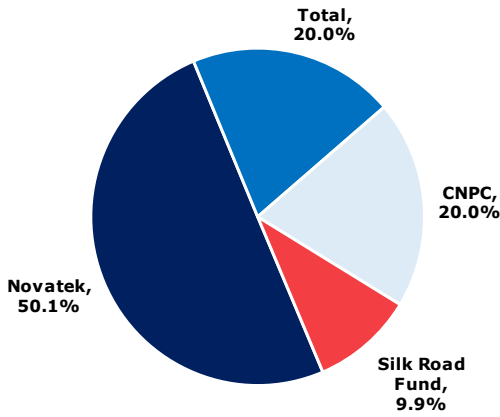
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Utrenneye, they expect “government decrees will be executed”. Novatek is referring to Prime Minister Dmitry Medvedev’s comment from July to order “some spending” for the Utrenneye terminal.

Project Details: Arctic 2 is located on the Gydan peninsula and will run three 6.6mtpa trains using a gravity-based structure platform. Concrete for the foundation started pouring in July and more than 90% of the equipment for the project has already been contracted. Operational timelines of LNG train 1, 2, and 3 are scheduled for 2023, 2024, and 2026, respectively. We note this schedule has *not* been delayed at this point. Feedstock will come from Utrenneye field, approximately 70km from Novatek’s other LNG venture, Yamal LNG. The Arctic 2 project should boost traffic along the Northern Sea Route, which fits into President Putin’s goal of increasing tonnage passing through the Northern Sea Route.

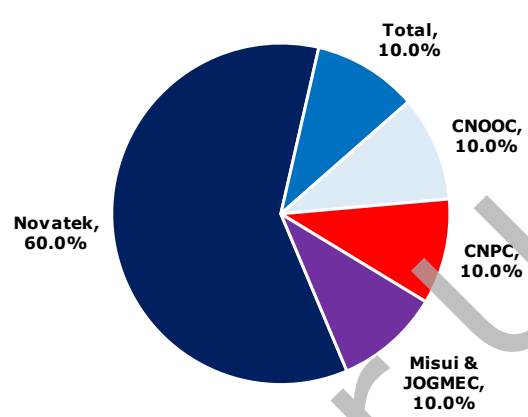
New Generation Ice Breakers: On November 2, Zvezda, signed a deal with Sovcomflot to build a pilot ship for the Arctic 2. This vessel will be the first of 15 ice-class Arc7 carriers with scheduled delivery to coincide with the launch of Arctic 2 (~2023). VEB, a state national development bank signed on to provide financing for all 15 carriers. Samsung Heavy Industries will work alongside Zvezda as key technological partner on these next generation ice-breaking LNG carriers. According to Sovcomflot, these new carriers will have a different hull shape than its predecessor and should operate better along the Northern Sea Route. Notably, DSME, which built the first wave of Arc7 ice-breakers for Novatek’s Yamal LNG project, was not selected. DSME is set to merge with HHI later this year. In addition to Yamal and Arctic 2, Novatek is contemplating a third LNG project in the Arctic, currently known as Ob LNG (4.8mtpa), although the immediate backdrop around that project is still uncertain.

Figure 1. Yamal LNG Ownership



Source: Webber Research & Advisory, LLC estimates, Yamal LNG

Figure 2. Arctic 2 Ownership



Source: Webber Research & Advisory, LLC estimates, Novatek

Figure 3. Russia's LNG Projects



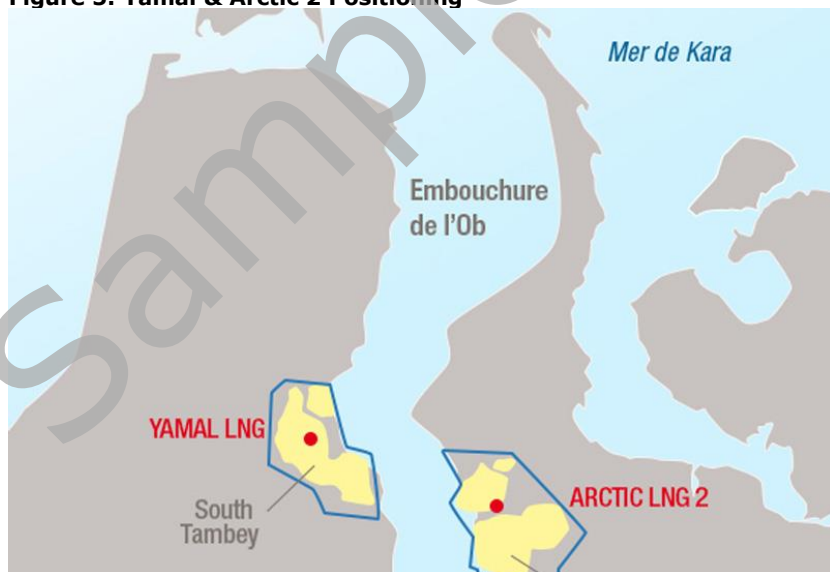
Source: NIKKEI Asian Review

Figure 4. Northern Sea Route



Source: Arctic Portal

Figure 5. Yamal & Arctic 2 Positioning



Source: The Barents Observer

Figure 6. Yamal LNG



Source: Novatek

Figure 7. Yamal Arc7 LNG Fleet

<u>Vessel</u>	<u>Owner</u>	<u>Shipyard</u>
1) Boris Vilkitsky	Dynagas	DSME
2) Fedor Litke	Dynagas	DSME
3) Georgiy Brusilov	Dynagas	DSME
4) Boris Davydov	Dynagas	DSME
5) Nikolay Zubov	Dynagas	DSME
6) Vladimir Rusanov	MOL	DSME
7) Vladimir Vize	MOL	DSME
8) Nikolay Urvantsev	MOL	DSME
9) Christophe de Margerie	Sovcomflot	DSME
10) Eduard Toll	Teekay	DSME
11) Rudolf Samoylovich	Teekay	DSME
12) Nikolay Yevgenov	Teekay	DSME
13) Vladimir Voronin	Teekay	DSME
14) Georgiy Ushakov	Teekay	DSME
15) Yakov Gakkel	Teekay	DSME

Source: Webber Research & Advisory, LLC, Reuters

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