Politics as much at play as economics for Russian LNG

As Alaska looks around the world at its potential competitors for natural gas sales to Asia-Pacific buyers, it's easy to see Russia.

Russia already has one LNG export terminal, with three others being considered for the Asian market. The government wants the revenue from increased export sales; Russian oil and gas companies want the business; Asian buyers want more supply options; and, like Alaska, Russia want to see its remote regions benefit from economic development and local access to affordable gas for heat and lights.

Were it that easy. Development costs are high. One Russian project needs a 2,000-mile-long pipeline. LNG tankers departing another would encounter ice-blocked shipping lanes most of the year, diverting them westward to a much longer 40-day voyage around Europe to Asia.

Still, what appears unlikely may happen in Russia. "The minute you think you understand it, you're in trouble," said a global energy analyst at a recent workshop in Washington.

IT COULD HAPPEN IN RUSSIA

"Don't think of these as commercial projects." Rather, he said, accept that Russian politics are part of the equation. The government might be willing to subsidize a project to promote economic development or might want to push an export project ahead to gain momentum in the growing Asian market, the analyst said at the June 21 workshop — "Asia's Uncertain LNG Future" — sponsored by the National Bureau of Asian Research.

"Development of Russian LNG will take longer and cost more and miss more than one market opportunity," he said. "The costs are phenomenal, the distances are great." But, he added, "it would be very foolish to say it's not going to happen."

The conference operated under Chatham House Rule, an 86-year-old English tradition that provides "anonymity to speakers to encourage openness and the sharing of information." It's OK to repeat what is said at the conference, but no names.

The anonymity rules were the same at the Aspen Institute Forum on Global Energy, Economy and Security June 23-26 in Colorado, where another global energy analyst talked of how "LNG projects are being pushed politically" in Russia, despite the costly reality of "extremely difficult" transportation and logistics.

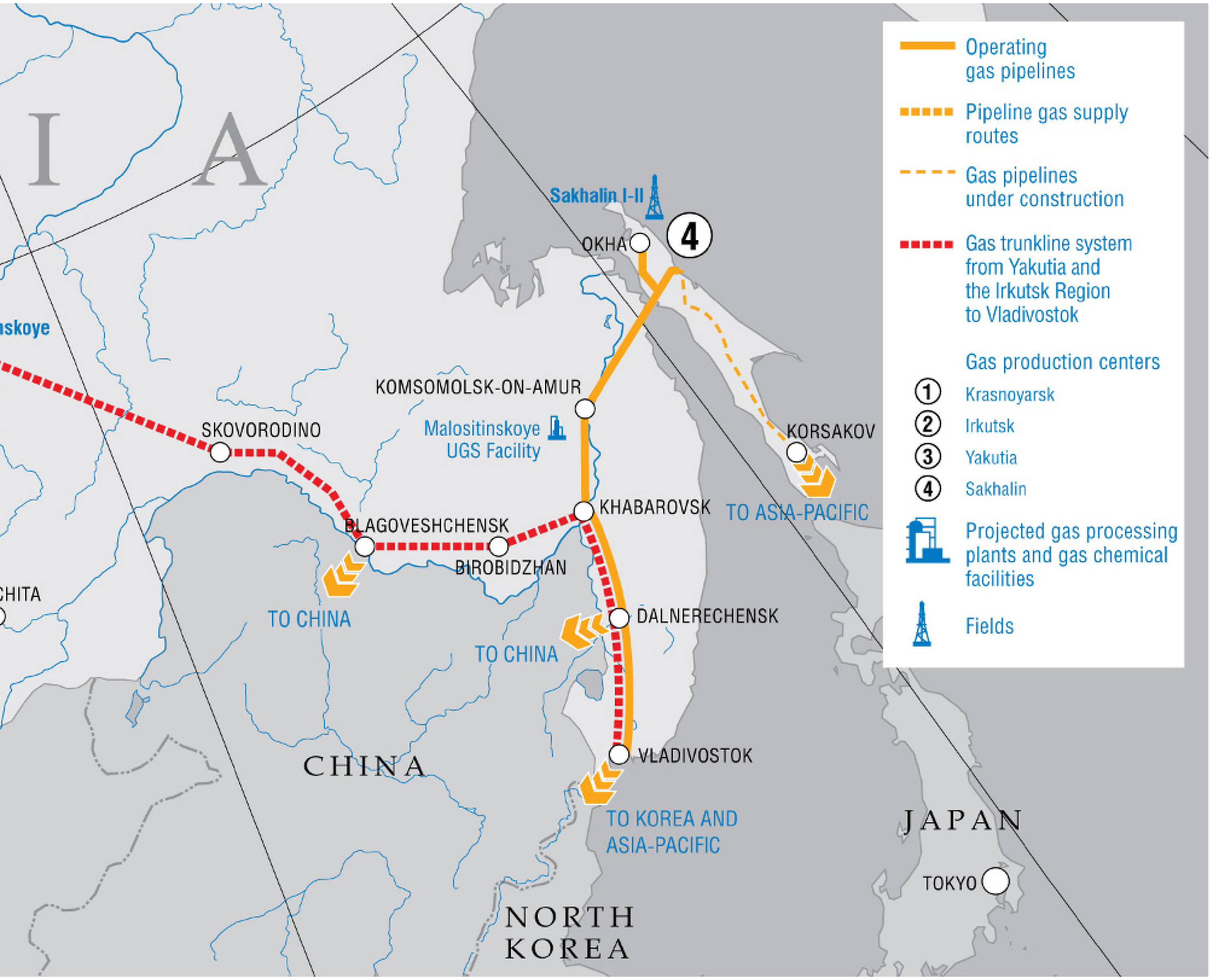
Oil revenues provide about 45 percent of Russia's federal budget, the analyst said, with natural gas fueling just 5 percent of the budget

In late 2012, Gazprom announced plans to build a major trunkline (red line on map) from its interior gas fields to the Far East port o

in 2011. The government wants more money and is looking to increased gas export sales as an alternative to higher oil taxes, he said at the Colorado forum, "Responding to Change: The New World of Oil and Gas."

State-controlled Gazprom has been profitable for Russia, bestowed by the government with a monopoly on natural gas exports. But years of market dominance by the company in Europe — and high oil-linked prices — have caused buyers to push back, seeking other suppliers and lower costs. Norway was more willing than Russia to reduce its gas prices in Europe, and last year the Scandinavian nation overtook Russia as the top natural gas supplier to European Union nations.

LNG from Qatar and Atlantic Basin suppliers — maybe even the United States in a few years — provides Europe with alternatives to Russian pipeline gas. The expanding world of LNG supply options comes at the same time as gas demand



Source: Gazprom

city of Vladivostok. The pipeline could cost $13 million a mile.

is down in Europe due to the continent's weak economy, increasing reliance on renewable energy and rising imports of cheap U.S. coal. "Demand is in the toilet," the analyst said at the Aspen event.

"Gazprom's mental map of the world" looks like 2009, he said. "The world is not their oyster anymore."

GAZPROM LOOKS FOR MORE LNG SALES

Gazprom held almost half of the European imported gas market in 2003, but its share had dropped to about one-third by 2011, the Washington speaker said. Those pipeline deliveries represent about 25 percent of Gazprom's Western Siberia production but 75 percent of its income due to the much higher price charged export customers than Russian buyers, he said.

Source: Gazprom

Gazprom's Sakhalin-2 LNG project is supplied by offshore fields. It shipped 80 percent of its cargoes to Japan last year.

The company thinks Asian exports are important for a profitable future, said the analyst at the Washington workshop.

Gazprom's Sakhalin-2 LNG export terminal in Russia's Far East went online in 2009 and last year sent more than 80 percent of its cargoes to Japan, with the rest going to South Korea and China. Shipments totaled more than 520 billion cubic feet.

One option to take more market share in Asia would be to expand Sakhalin-2. Gazprom's partners include subsidiaries of Shell and Japan's Mitsubishi and Mitsui. It's just a two-day tanker trip to Japan, giving the terminal a transportation advantage over the world's largest LNG producer, Qatar, which is two weeks away.

But while an expansion project generally is more cost effective than new development, there is the question of where Gazprom would get the gas to supply a Sakhalin-2 expansion. The company doesn't control enough proved reserves to feed an expansion, said several speakers at both conferences.

Russian oil giant Rosneft and its partner, ExxonMobil, have gas at their nearby Sakhalin-1 oil project, but have so far declined to partner with Gazprom, the Aspen speaker said. Small volumes of gas from Sakhalin-1 have been sold in the domestic market since 2005, but no export sales.

ROSNEFT, EXXON WORKING TOGETHER

To export LNG, the Sakhalin-1 sponsors would need government approval to end the monopoly granted to Gazprom. The Russian government has signaled its willingness to break the monopoly, but only for LNG sales to Asia, not pipeline or LNG deliveries to Europe, the Aspen speaker said, adding that the government has yet to say exactly how it would change the law.

Rosneft and ExxonMobil have the gas and have the cash, and building an export plant at Sakhalin-1 makes more sense than any other Russian LNG proposal for Asia, he said. But the partners first have to finish the battle with Gazprom and win liberalization of Russia's export laws, he added.

The companies in April announced they were considering a $15 billion LNG project, with a decision possible this year and first gas possible in 2018.

It's a similar schedule for other new LNG suppliers looking to get into the market. "Obviously, they (Russian LNG proposals) are stacked up against projects around the world," the Washington speaker said.

VLADIVOSTOK LNG NEEDS LONG PIPELINE

Turning back to the mainland from Sakhalin Island's offshore oil and gas fields, an LNG project is proposed for Vladivostok, a Russian Far East port. The city is on the Sea of Japan, about 600 miles south of the southern end of Sakhalin.

This one is a Gazprom project. This one needs a 2,000-mile pipeline to deliver gas from interior fields. This one could cost upward of $45 billion for the pipe and LNG plant, with some analysts saying up to $65 billion, the Washington speaker said.

The pipeline itself will cost $13 million a mile over challenging terrain, he said, noting even that estimate could be low. "Getting information about what Gazprom is up to is exceedingly difficult," he added. The line is called "The Power of Siberia," though the Aspen speaker commented the actual route is south of Siberia.

The project is so expensive that it would need to move a lot of gas to deliver supplies at a competitive price, the Washington speaker said. That means extending the line for large-volume pipeline deliveries to China, along with LNG to Japan or other Asian buyers.

Talks between Russia and China over gas sales have been under way for years, with the two sides far apart on price.

China would like pipeline deliveries pegged to the price of coal, the lowest-cost alternative for power generation, an Asian energy adviser said at the Washington workshop. Gazprom is not inclined to sell gas that cheap.

Regardless of the pricing formula, China has to pay enough to cover the cost of the pipeline,

Source: Encyclopaedia Britannica

The port city of Vladivostok is a long way from Russia's gas fields but a short voyage to Japan.

another analyst said, unless the Russian government and Gazprom are willing to absorb some of the cost.

One way to break the price impasse might be to give China a discount in exchange for pre-payment, Gazprom's deputy CEO Alexander Medvedev said recently.

"I don't think they're going to get this done very soon," said the Asian markets adviser at the Washington workshop. "China has a lot of options right now."

OPTIONS FROM CENTRAL ASIA, NORTH AMERICA

China's choices include existing pipelines from Turkmenistan and Uzbekistan, a new line from Myanmar scheduled to start up this year, Australia LNG, and maybe Canadian gas. "They view Canada as the Australia of North America," the Asia adviser said. Australia is building so many LNG export terminals that it is headed to overtake Qatar as the world's largest LNG supplier before the end of the decade.

Wherever the gas comes from, China wants to get out from under its coal-induced smog, a China analyst said. Though domestic gas production is growing, it is not building fast enough to cover demand, which bodes well for increased imports.

Maybe U.S. LNG, too, could head to China. But "political noise" over U.S. natural gas exports is a concern to the Chinese, he said. "They worry about dependence on the U.S. market."

In addition, China has a lot of shale gas, maybe even more than the United States. Problem is, China lacks the expertise to develop the gas. And much of the shale is in arid regions, far from the massive volumes of water needed for hydraulic fracturing to free the gas from the rock.

Without game-changing technology, the constraints on shale gas production "will be overwhelming," the China watcher said. "Unless they can import water."

Political will may trump pipeline economics and Russia may not wait on China for the long pipeline to the Pacific Coast, the Aspen speaker said. Russian President Vladimir Putin told Gazprom last year he wants the pipeline built and he wants an LNG plant at Vladivostok, regardless whether China is on board for pipeline deliveries.

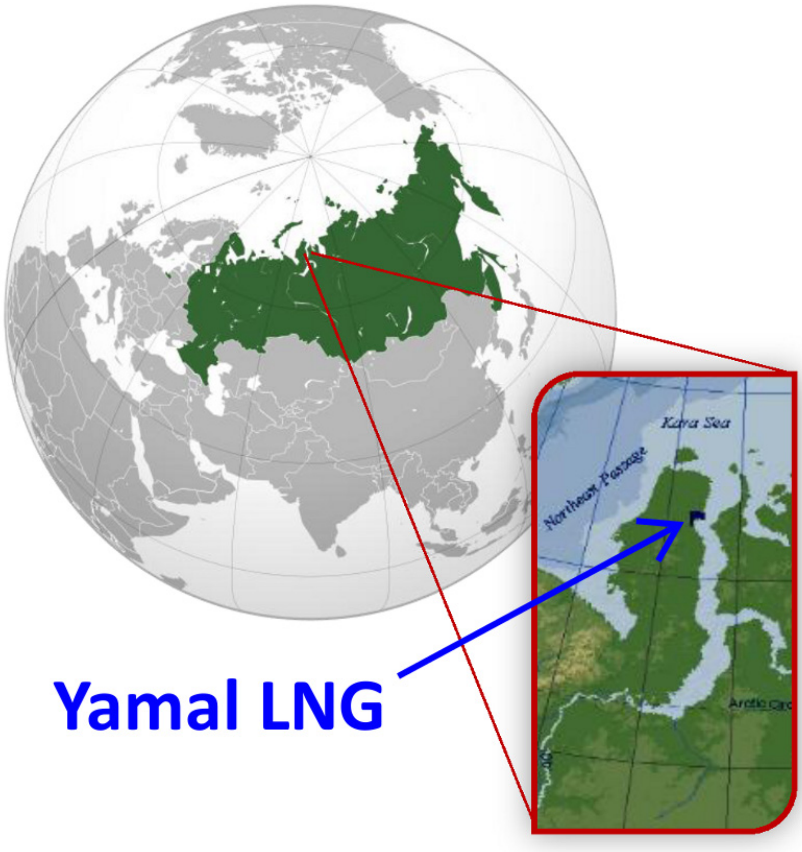
The Russian Far East covers an area two-thirds the size of the United States, but is home to just 6 million residents. Running a pipeline through the region will make gas available for local needs and, hopefully, the government believes, lead to economic development, the Washington speaker said.

YAMAL LNG A LONG WAY FROM CUSTOMERS

One more LNG export project under consideration to serve Asia is on the Yamal Peninsula, at the top of Russia, closer to Norway than to the Pacific Ocean and almost 3,000 miles from the right-hand turn to the south down the Bering Strait on the way to Asian import terminals.

Russia's private-sector producer Novatek is leading the effort to develop Yamal LNG, with longtime partner Total and new partner China National Petroleum Corp., which signed on for a 20 percent stake in June. The plant, as proposed, is estimated at $20 billion, capable of shipping out an average 2 billion cubic feet a day at full capacity by the end of the decade.

The development team still needs signed customers for the full capacity, financing, official government approval of exports and a final investment decision. Meanwhile, the Russian government is building the port, airport and other infrastructure to help ease the cost to the



Source: Gazprom

The proposed Yamal LNG project is on a peninsula jutting out into Russia's Arctic waters, about midway between Iceland and Nome, Alaska, near the top of the world.

companies.

The Aspen speaker skeptically pointed out that while the companies talk about a final investment decision this year, "not a single, firm contract is in place" for the gas.

China's involvement in the project could aid with obtaining financing from that country, just as Japanese lenders helped with project financing for Sakhalin-2 which includes two Japanese trading houses in the development team.

The biggest problem — or, the longest problem — for Yamal is its distance from Asian customers. It would be a 22-day voyage during the few months each year when sea ice might be broken up enough for tankers to run the Northern Sea Route east to the Bering Strait, with government-provided icebreaker escort, the Aspen speaker said.

It would be a 40-day voyage most of the year west toward the Atlantic, south to the Mediterranean Sea, through the Suez Canal, across the Indian Ocean and into the home stretch to Asian-Pacific ports. Icebreakers may be needed even in the summer months, depending on conditions, the Aspen speaker said.

Asia is the only option under Putin's announcement that he is willing to ease up on the export monopoly. He opposes LNG deliveries to Europe, saying they would compete with Gazprom's pipeline business.

Commenting on Putin's decision and on projects at Sakhalin, Vladivostok and Yamal, the Aspen speaker said, "This is really, really ambitious."

For more information, please visit our website: www.arcticgas.gov

Contact information:
Larry Persily, Federal Coordinator
(202) 627-6862
lpersily@arcticgas.gov

General Questions:
info@arcticgas.gov

Locations:
OFC Washington, DC
1001 G Street NW, Suite 800
Washington, DC 20001
(202) 627-6862

OFC Alaska
188 W. Northern Lights Blvd., Suite 600
Anchorage, AK 99503
(907) 271-5209