Oil and Gas News Briefs Compiled by Larry Persily June 6, 2016

B.C.'s LNG advocate says province can help save lives in China

(Vancouver Sun; June 2) – B.C. Premier Christy Clark's hand-picked advocate for liquefied natural gas says the province has a "moral obligation" to develop the industry to save the lives of Chinese residents dying of air pollution. Gordon Wilson, the controversial former leader of the B.C. Liberal Party, made the comment during a heated presentation to a crowd of almost 600 at a North Saanich community meeting this week held in opposition to a proposed LNG plant in a nearby inlet on Victoria Island.

"So let me just say this ... when you've got 500,000 Chinese dying each year attributed to air pollution specific to coal," Wilson said. "That's the number ... that dies every year because they can't breathe the air. And we have an opportunity to not only maintain and build our economy here, but we have an opportunity to provide an alternative fuel that will save lives abroad and help the global climate," he said of LNG exports from the province. "I say we have a moral obligation to do it and we need to get on with the job."

Wilson's comments were greeted with applause, laughter and boos. In an interview, he said B.C. has a moral obligation to address climate change. The premier named Wilson as the province's LNG advocate more than two years ago. He travels the province to sell the benefits of a proposed LNG industry and to link local businesses with potential work. But so far, no LNG projects have been built and his website, which cost taxpayers more than \$850,000, has few job opportunities. Critics have accused the premier of giving Wilson his \$150,000-a-year job as a reward for endorsing her 2013 election.

Canada's resources minister expects LNG decision in September

(Dawson Creek Mirror; BC; June 4) - Canada's Natural Resources Minister said a federal decision on the Pacific NorthWest LNG project near Prince Rupert, B.C., will likely come sometime this September. Minister Jim Carr told reporters at a clean energy conference in San Francisco that the federal government's decision on the controversial project will "likely be some time after the 15th of September."

The terminal would liquefy natural gas sourced from northeastern B.C. It is considered a crucial piece of the province's oil and gas industry, as the sector struggles with a North American supply glut. Developing an LNG industry was also a major plank for the government's 2013 election victory. However, Pacific NorthWest has encountered opposition from environmental groups and First Nations over its impact on Canada's greenhouse-gas reduction commitments and on the Skeena River salmon fishery.

Carr told reporters the Sept. 15 timeline depends on when Pacific NorthWest LNG submits its final paperwork to the Canadian Environmental Assessment Agency, which would then forward its recommendation to the federal Cabinet for a decision. "I expect a decision before the end of September — unless for reasons I don't know about today, there is significant delay in the filing of the final application to the regulator."

FERC approves small-scale LNG export project on Georgia coast

(Natural Gas Intelligence Daily; June 2) – The Federal Energy Regulatory Commission on June 1 approved Kinder Morgan's \$2.3 billion plan to add liquefaction and export capability to the existing Elba Island LNG import terminal near Savannah, GA, as well as to make modifications to existing pipelines in support of the project. The first of 10 small liquefaction units could be placed in service in the second quarter of 2018, with the remaining nine units coming online before the end of 2018.

The project, which is supported by a 20-year contract with Shell for 100 percent of the plant's liquefaction capacity, received a favorable environmental review earlier this year from FERC. Total capacity if all 10 liquefaction units are installed would be 2.5 million metric tons of LNG per year. Kinder Morgan has not publicly announced a final investment decision on the project.

The import terminal opened in 1978 but has been mostly unused in recent years as U.S. shale gas production shut down most LNG imports into the country. The project has Department of Energy approval for export to free-trade countries, with its application still pending for exports to nations lacking free-trade agreements with the U.S. Opponents have challenged the project over environmental and local impacts. Stacey Kronquest of the Sierra Club Coastal Group called the approval "discouraging but not unexpected."

Higher U.S. natural gas prices could make exports less competitive

(Platts; June 2) - Europe is considered by many as an important target for the expected influx of U.S. LNG onto global markets in coming years. But with U.S. gas production starting to dip, strong domestic demand growth, rising exports to Mexico and financial woes at U.S. producers, suddenly the issue of LNG exports looks a little more complicated. Tightening market fundamentals could lead to a higher Henry Hub price, making U.S. LNG less competitive, especially if prices in Europe and Asia remain low.

Industry observers believe the U.S. gas resource base is big enough and the industry healthy enough to keep a lid on prices, to meet all future demand and to allow LNG exports to flourish. But it is clear that for U.S. prices to stay low, production needs to

keep pace with demand. There now seems to be some niggling doubts as to whether U.S. production — both dry and associated gas — can maintain its record high levels.

"February could likely represent the peak of U.S. gas production for 2016," analysts from Morgan Stanley said in a report this month. Output in the Lower 48 states hit 82.6 billion cubic feet per day in February, just below the all-time high in September last year. But since then, output has slipped by an estimated 2.2 bcf per day through mid-May, Morgan Stanley said, adding that it sees U.S. gas prices rising from \$2 per million Btu now to \$3 in early 2017. But ratings agency Fitch believes "the U.S. gas market is too big and too well supplied for LNG exports to significantly increase U.S. gas prices."

Japanese company will invest in Malaysia LNG plant expansion

(Nikkei Asian Review; June 3) - JX Nippon Oil & Energy will work with Malaysian staterun oil and gas company Petronas to tap the Southeast Asian market for liquefied natural gas. The Japanese refining and marketing company will invest roughly 60 billion yen (\$552 million) for a 10 percent stake in a ninth liquefaction train to be added to a Petronas-operated LNG plant in northern Borneo. The expansion, to start production in 2017, will have an annual capacity of 3.6 million metric tons.

The LNG will be sold through a Petronas subsidiary to Malaysian power companies as well as to gas companies in Japan, South Korea and Taiwan. JX Nippon Oil plans to team with Petronas to market to other Southeast Asian countries as well. JX Nippon has said aims to compensate for expected stagnation in Japan over the mid- to long-term with new businesses in promising overseas markets.

JX Nippon Oil aims to cultivate Southeast Asia as a new profit source, earmarking more than \$3 billion for capital spending between 2016 and 2018. JX Nippon Oil also will buy into state-run Vietnam National Petroleum Group and refine and sell oil in the country.

France's Total bets big on Yamal LNG in Russia

(Worldcrunch; June 2) – The Yamal LNG project is under construction in Sabetta, in the Siberian Arctic, about 1,550 miles from Moscow, with French energy company Total playing a major role in the \$27 billion development. Total owns 20 percent of the Yamal project and also 18.9 percent of Russian gas producer Novatek, which owns 50.1 percent of the LNG development. A Total vice president called Yamal "one of our most important projects because of its size and the amount of investment that is necessary."

The LNG plant, which its owners say will start up in late 2017, faces a multitude of Arctic construction challenges. To ensure the liquefaction plant structures would remain stable in the permafrost, they are being built on 80,000 pilings forced 65 feet down into the

ground. But the logistical and technological challenges are not the only ones. There is also politics: The project was launched in late 2013, a few months before western sanctions against Russia began over the country's actions in Ukraine.

"When the sanctions happened in July 2014, we had advanced well financially with standard contracts with American banks and American lawyers. But we had to start over again from scratch," said Jacques de Boisséson, Total's general director in Moscow. Russian and Chinese banks eventually covered most of the financing. But will Yamal be profitable? Michael Borrell, a senior gas and LNG analyst for Société Générale, said it will make money if there are no delays, "especially because Russia is paying for part of the infrastructure" — including the airport, port and icebreakers to escort LNG tankers.

Russia likely to fall short of its LNG plans from a few years ago

(Petroleum Economist; June 3) - Three years ago, Russia announced bold plans to raise its liquefied natural gas export capacity from 10 million metric tons a year to as much as 40 million tons by 2020. Western sanctions and an oversupplied market have almost certainly put an end to what was an ambitious aim, even for the world's gas superpower. Just one new project is moving ahead and others remain under discussion.

The one project under construction, Novatek's Arctic project, hasn't been trouble-free. Western sanctions on Russia have complicated financing the \$27 billion Yamal LNG development, scheduled to start production in 2017. The project can count on cheap feedstock gas, but it faces stiff transport costs given its location on the Arctic coast, a long way from markets. Whatever the economic rationale, this is a flagship project deemed important by leadership in Russia and China, as reflected in the multibillion-dollar funding from financial institutions close to both governments.

Elsewhere in Russia, slow progress with other potential projects reflects the uncertain times for the industry. Gazprom said in April it was still discussing with partner Shell the addition of a third train to the country's only LNG export plant, Sakhalin-2, located in the Russian Far East. An investment decision is not expected until next year, at the earliest. Rosneft and ExxonMobil, partners at the nearby Sakhalin-1 oil and gas field, have considered building their own LNG export project in the 2020s. Baltic Sea projects are on hold. In short, all Russian LNG plans bar Yamal LNG remain speculative at present.

Iran talks with Gazprom in effort to build up natural gas exports

(Platts; May 31) - Iran is wasting no time looking to build up its natural gas industry now that it is free of international sanctions, inviting some of the world's industry leaders to Tehran. Iran is working quickly to raise its gas production and export capacity — its medium-term target is to achieve production of almost 13 trillion cubic feet per year by

2020 and export capacity of about 4.5 tcf after that. Experts are skeptical, but Iran is looking to the best in the business to help it move forward.

State-owned National Iranian Gas Co. met May 30 with Russia's Gazprom and discussed ways to expand ties, according to the Iranian energy ministry news service Shana. Saeed Pakseresht, the Iranian company's director of research and technology, said the two sides talked about ways "to boost cooperation," especially in the area of gas transmission. Tehran also has reached out to Ukraine for help with storage. Ukraine's gas storage facilities are capable of holding more than 1 tcf.

Iran has ambitions to develop a number of LNG export facilities — using ship-mounted LNG production facilities — to speed its access to new markets worldwide.

Mozambique debt presents challenge for LNG investment

(Bloomberg; June 2) - Vast gas discoveries hold the potential to boost Mozambique's economy, more than three decades after a civil war that laid waste to the former Portuguese colony. And while South Africa's Sasol plans to spend \$1.4 billion to produce more Mozambique gas to send through a 538-mile pipeline to South Africa's power-starved commercial hub, Mozambique's ambition to become a world-class exporter of liquefied natural gas rests on investments by Eni and Anadarko Petroleum.

The stakes are high as Anadarko and Eni mull whether to proceed with projects expected to draw investment totaling \$100 billion. Project approval could see LNG production boost the size of the economy nine-fold by 2035, according to Standard Bank Group, the continent's biggest lender. But the positive sentiments emanating from the explorers can't lift the gloom over Mozambique's ballooning state debt and depressed fuel prices. "The uncertainty in country does create a challenge on the way forward," said Chris Bredenhann, a partner at PricewaterhouseCoopers in Cape Town.

Mozambique's growing debt burden won't deter Anadarko from a final investment decision to build an LNG plant, said John Christiansen, spokesman for the Texas-based explorer. "We are working hard to put in place a set of agreements with the government that will provide the foundation for definitive sales agreements with LNG customers," he said. "Once those agreements and the financing arrangements are in place, we expect to be in a position to take FID." Both Eni and Anadarko will miss their original 2018 deadline to start shipping LNG after delays in the investment decision.

Sasol says Mozambique's debt crisis will not stop gas project

(Reuters; May 30) - Mozambique's debt crisis and lower oil prices will not affect Sasol's \$1.4 billion natural gas project there because development costs there will be covered

by the South African company and later recouped through gas revenues, the company said May 30. Mozambique missed a loan repayment deadline this month, plunging one of the world's poorest countries into a debt crisis. Slowing growth and delays to the start of offshore gas production have added to Mozambique's cash-flow problems.

Mozambique is sitting on huge gas reserves, and developing large liquefied natural gas export projects could someday bring tens of billions of dollars to the impoverished state. Sasol's smaller project will be rolled out in stages. The first phase will include gas, oil and liquefied petroleum gas. Sasol drilled the first of 12 planned wells in a new oil and gas field last week, with production expected mid-2019. Gas from two other fields is currently being moved in a 538-mile pipeline to buyers in Mozambique and South Africa.

Most of the Sasol project's gas will go to a 400-megawatt power plant in Mozambique's capital city and customers in South Africa. Despite the country's cash crunch, Sasol will continue with the development because gas sale proceeds with cover the Mozambique government's financial obligation, a Sasol spokesman said. "We are in Mozambique for the long haul. We will ride the waves, the downturns and the upturns." Sasol owns 70 percent of the project, with Mozambique government companies holding 30 percent.

China looks to boost gas supplies, pipelines and LNG import capacity

(China Daily; June 3) - Asia's largest oil and gas producer China National Petroleum Corp. is betting big on natural gas, aiming to boost both its supplies and transportation capacity in the next five years. The state-owned company, which provides more than two-thirds of China's natural gas, plans to sell in excess of 26 trillion cubic feet of the fuel between now and 2020, a 40 percent increase on the past five years, said Zhao Zhongxun, deputy director of CNPC's planning department.

"Our top priority is to boost domestic supplies of natural gas, then adjust imports based on demand, and at the same time expand our pipeline network and capacity of LNG terminals," he said, detailing the energy giant's new five-year plan for gas during a "green development" forum held in Beijing. In addition to expanding the company's pipeline network, CNPC plans12 more gas-storage sites and 50 percent capacity expansion at its three liquefied natural gas import terminals to 19 million tons a year.

CNPC spokesman Qu Guangxue said there will be greater promotion of gas-fired power plants and the use of natural-gas-powered vehicles. CNPC imports a third of its natural gas by pipeline from major countries in Central Asia such as Kazakhstan and Turkmenistan, with Russian pipeline gas deliveries expected to start in 2019. "Natural gas is a practical choice for China," said Gao Jian, a senior analyst at commodities consultancy Sublime China Information.

India wants to attract U.S. companies to look for oil and gas

(Bloomberg; June 1) – Casualties of the U.S. shale oil glut are being offered a new frontier thousands of miles away in India to remake their fortunes. Prime Minister Narendra Modi is striving to woo investors to develop discovered but untapped smaller oil and gas fields. India depends on energy imports, a problem that Modi wants to tackle as the fastest expansion among major economies turns India into a center of global oil demand growth.

"Entrepreneurs who have capped their wells in Alberta or North Dakota will be looking at this kind of a story with a great amount of interest, as there's very little to look forward to in their own fronts," Atanu Chakraborty, the head of India's oil regulator the Directorate General of Hydrocarbons, said May 31. India isn't fussy about who takes up the challenge — whether foreign wildcatters or local internet tycoons looking to diversify their investments — as long as they're serious and have money, Chakraborty said.

The government is offering incentives such as simpler permits, tax breaks and freedom from pricing restrictions to overcome the deterrent that low oil prices pose to boosting production. India's robust domestic consumption is a buffer against the risk of low prices, Chakraborty said in an interview in New Delhi. India's \$2 trillion economy imports about 77 percent of the oil and gas it needs. Chakraborty said he's planning roadshows in North America, the U.K., Singapore and India to drum up interest.

Opposition groups increasingly win out over fossil fuel projects

(Wall Street Journal; June 1) - Major fossil fuel projects across the U.S., from pipelines to export terminals, have been shelved or significantly delayed because of a confluence of new regulations, grassroots opposition and a drop in energy prices. Overall, more than a dozen projects, worth about \$33 billion, have been either rejected by regulators or withdrawn by developers since 2012, with billions more tied up in projects still in regulatory limbo.

Cancellations include the coal industry's bid to ship its product through the Pacific Northwest, where local communities are increasingly opposed to fossil fuels due to climate-change concerns. In May, the U.S. Army Corps of Engineers rejected an \$850 million coal-export terminal proposed for Cherry Point, Wash., a forested, coastal area two hours north of Seattle where two oil refineries and an aluminum facility operate. The agency concluded the terminal would violate tribal fishing rights of the Lummi Nation.

As with other fossil-fuel projects, an alliance between Native American tribes and environmental groups proved formidable for the coal terminal. Another coal project, near Longview, Wash., is awaiting approval. Coal projects face the biggest challenges, but oil and gas projects are also facing headwinds. A \$3 billion gas pipeline proposed for the

Northeast was scrapped in April, and New York state regulators this spring rejected a \$1 billion gas line to serve New England. Backers of that project have appealed in court.

Canadian regulator approves more time for Mackenzie Valley gas line

(CBC News; June 2) – Canada's National Energy Board is giving Imperial Oil until the end of 2022 to start building the Mackenzie Gas Project. In a decision released June 2, the board approved extending the project's "sunset clause" to Dec. 31, 2022. Previously, Imperial Oil and its partners had until the end of 2015 to begin building the 741-mile, \$16.2 billion gas pipeline project from the Mackenzie River Delta on the Beaufort Sea to connect with the North America gas pipeline system in Alberta.

The Northwest Territories' Regulator of Oil and Gas Operations will also require Imperial Oil to file an annual report describing steps taken to advance the activities or decisions associated with making a final decision on the project. "This extension will allow time to assess whether changes in the North American gas market, including the potential impact of numerous proposed LNG projects, will result in improved economics for development of Mackenzie Delta gas," said Lisa Schmidt, an Imperial Oil spokesperson.

Had the board not granted the extension, the long-delayed pipeline could have faced another environmental assessment, deterring the partners from moving forward. If it's ever built, the Mackenzie Gas Project would transport gas from anchor fields in the Mackenzie Delta and along the Mackenzie River Valley to a hub in northern Alberta. The National Energy Board decision still needs to be approved by the federal government. Imperial Oil is majority owned by ExxonMobil.

Exxon plans large investment in Argentine shale oil region

(Bloomberg; June 3) - ExxonMobil may invest more than \$10 billion as it transplants the U.S. shale-drilling model to Argentina's Vaca Muerta region in the next few decades, CEO Rex Tillerson said June 2. The oil giant has so far invested \$200 million in the world's second-largest shale gas deposit and plans to invest another \$250 million in the coming months on a pilot project, Tillerson said after meeting with Argentine President Mauricio Macri in Buenos Aires.

Unlike the mega-projects that have been Exxon's hallmark for more than half a century, the shale developments the company began pursuing in 2010 have involved drilling hundreds of individual wells and installing thousands of miles of pipes to squeeze crude and gas from deep, dense, onshore fields. If the Argentine pilot project is successful, the company will start full development during a period of 20 to 30 years that could involve additional investment "that would be well in excess of \$10 billion," Tillerson said.

Argentina's vast Vaca Muerta shale region represents an opportunity to reverse Exxon's production losses and add reserves after a \$35 billion wrong-way bet on U.S. natural gas and a Russian exploration venture derailed by international sanctions. Exxon, the world's largest oil explorer by market value, has designated Vaca Muerta as one of nine "key activity" areas in the Western Hemisphere. Vaca Muerta, Spanish for Dead Cow, is one of the world's top shale plays, covering an area the size of Belgium and is considered key to restoring Argentina's energy self-sufficiency.

B.C. regulator orders increased monitoring of seismic activity

(Business in Vancouver; June 3) - A series of small but high-profile earthquakes triggered by hydraulic fracturing last year is behind a decision by B.C.'s oil and gas regulator to step up monitoring of seismic activity. Starting June 1, the B.C. Oil and Gas Commission will collect ground-motion data from new wells in gas fields near Fort St. John and Dawson Creek, the regulator announced in an industry bulletin this week.

The new permit conditions require companies to have "adequate monitoring" systems in place during hydraulic fracturing. In addition, companies will have to file a ground-motion monitoring report within 30 days of completing a well fracture. Fracking was deemed the cause of a 4.6 earthquake north of Fort St. John last summer — the largest "induced seismicity" event on record in B.C.

The quake had its epicenter at a drilling site operated by Progress Energy, which temporarily suspended operations during an investigation. While the quake caused no damage, it raised debate about industry regulation as the provincial government pins its hopes to a liquefied natural gas export industry and the increased gas production that would be needed to feed the LNG plants. More than 230 quakes were linked to fracking in an earlier Oil and Gas Commission study between August 2013 and November 2014.