



Conference Board of Canada Doubles Down on Its Losing LNG Bet

IEEFA's Response to 'Rising Tide' report

Executive Summary

The Conference Board of Canada has reiterated and amplified its call for more Canadian liquefied natural gas (LNG) capacity in its recent report, **A Rising Tide: The Economic Impact of B.C.'s Liquefied Natural Gas Industry**.¹ However, the Conference Board's new report is just another example of how the vague hope of potential future Chinese demand can lead otherwise rational actors to disregard risk analysis and place large, short-sighted bets. The report's projections double down on a Canadian LNG industry already in trouble before COVID and deserve careful scrutiny.

The Conference Board, a non-profit economic research organization based in Ottawa, believes Asian, or more specifically, Chinese demand growth can sustain a further leap in British Columbian LNG capacity growth, despite corporate investors already folding their hands.

Rising Tide's exaggerated demand assumptions and disregard for China's manifest price sensitivity are the fatal misunderstandings of its argument. Rising Tide fails to recognize that the deck is already stacked against Canadian LNG, and that China is improving its odds and likely to run the table on global gas imports.

But critical analysis does not appear to be in the Conference Board's wheelhouse, as Rising Tide's focus on future wage and tax benefits takes up most of the report. While COVID has created acute public sector challenges, Rising Tide appears to hope those challenges will make Canada's central and British Columbia's provincial government more amenable to the Conference Board's weak arguments. The authors bank on those governments not knowing when to walk away, and instead call on them to risk sustained subsidies that may only yield stranded assets, depleted finances, and delayed retraining obligations.

Don't bet on it.

**The deck is already
stacked against
Canadian LNG.**

¹ The Conference Board of Canada. *A Rising Tide: The Economic Impact of B.C.'s Liquefied Natural Gas Industry*. Bryan Gormley, July 27, 2020.

Doubling Down on a Bad Hand

Only One LNG Project Moving Forward

Given the ongoing restructuring of the global LNG market, the Conference Board's aggressive projections in *Rising Tide* are overdue a rethink.

The Conference Board's original report in support of LNG-driven growth released in 2016, 'A Changing Tide: British Columbia's Emerging Liquefied Natural Gas Industry,'² had different funding and authors. The original report was also more substantial: While *Changing Tide* argued over 50 pages and included five pages of citations, *Rising Tide* spans just 14 pages and has a single page of eight citations. Most importantly, *Changing Tide* had more modest parameters and implications.

The *Rising Tide* base case assumes an LNG sector 87% larger than *Changing Tide* did (56 million tonnes per annum [MTPA] vs. 30MTPA) with a 50% higher forecast boost to both British Columbia's GDP (US\$8.0bn vs. US\$5.3bn) and its annual job gains (71.0K vs. 46.8K).

In its *Rising Tide* report, the Conference Board doubles down on its call for more British Columbian LNG capacity despite the material deterioration in the Canadian LNG export outlook since *Changing Tide*. In 2016 when *Changing Tide* was released, the Conference Board listed 18 projects in British Columbia to watch, with the usual caveats that timing and financing remained unsure. However, today only Shell's LNG Canada³ is confirmed and moving forward, with another three struggling and uncertain.

**Shell's LNG Canada is
the only project moving
forward of 18 mooted
in 2016.**

It is notable that the original sponsor of the 2016 report, Progress Energy, went on to cancel its Pacific Northwest LNG project just a year after funding *Changing Tide*'s publication.

Private Capital Folding

Canadian LNG Unlikely To be Profitable in North East Asia

Canada's LNG industry was in trouble pre-COVID and the private sector has been voting with its feet. The breakdown in OPEC-linked LNG pricing norms and the global slump in oil prices began well before the pandemic. Global LNG pricing was

² Robins, Allison, Prince Owusu, Dan Munro, and Len Coad. *A Changing Tide: British Columbia's Emerging LNG Industry*. Ottawa: The Conference Board of Canada. 2016.

³ LNG Canada is joint venture 40% owned by Shell Canada, 25% by Petronas, 15% by PetroChina, 15% by Mitsubishi, and 5% by Korea Gas Canada. Petronas (previously Progress Energy) abandoned its previous Pacific Northwest project to invest in LNG Canada.

already in a slump in 2019 as Asian consumption growth slowed, new supply came on stream, and supply contracts became shorter and cheaper.⁴ Canada's pipeline issues and Bill C-69⁵ predate 2020 and, more importantly, so does its LNG export cost structure.

The Kitimat LNG export terminal project is one of those three remaining projects in British Columbia that is struggling and remains uncertain. It also exemplifies the current mood. Last year the project was redesigned to increase capacity from 10MTPA to 18MTPA and received Canada Energy Regulator approval for higher exports for 40 years,⁶ double the original term. Despite this ostensibly good news, both of the project's 50:50 partners, Chevron and Woodside, announced plans to cut their stake last year. In September of 2019, Woodside said it would reduce its 50% non-operating stake to between 20-40%. In December, operating partner Chevron announced that it was seeking to exit the project completely. In February of 2020, Woodside wrote down the value of Kitimat by \$720m. All of this happened before Berkshire Hathaway sent shockwaves into the market with its exit of the US\$9bn Quebec LNG project last March, and before the extent of COVID damage could be understood.

**The fundamentals
of British Columbia's LNG
export cost structure
are *not* competitive
enough to keep private
capital interested.**

The most important fact is that the fundamentals of British Columbia's LNG export cost structure are not competitive enough to keep private capital interested. Although many pundits cite political and regulatory issues, Canadian LNG's biggest problem is profitability.

Last October, McKinsey had already set US\$7/MMBtu as the highest potential Asian-delivered LNG cost ceiling that could justify an investment in new LNG capacity.⁷ LNG Canada's own cost assumptions came in right at US\$7/MMBtu: US\$2.50/MMBtu for upstream, US\$3.50/MMBtu for liquefaction, and just

⁴ Many forecasts for 2020 made last year already expected a collapse in summer LNG benchmarks not too high above where they dropped in the midst of COVID. Reuters. [U.S. LNG exports soar in 2019 but supply glut may await in 2020](#). December 30, 2019. Petroleum Economist. [LNG to test market and infrastructure limits](#). Jason Freer. January 8, 2020.

⁵ Bill C-69 repealed the National Energy Board Act and replaced it with the Canadian Energy Regulator Act and changed how major infrastructure projects are reviewed and approved.

⁶ Healing, Don. [Federal Regulator Approves Expanded Kitimat LNG Gas Export License](#). The Canadian Press. December 5, 2019.

⁷ Chong, Renjun, Dumitru Dediu, and Rahul Gupta. [Setting the Bar for Global LNG Cost Competitiveness](#). McKinsey & Company. October 2019.

US\$1.00/MMBtu for transport.⁸ Sector consultancy Sproule's number is slightly higher at US\$7.15/MMBtu for generic British Columbia LNG exports to Asia sourcing Montney gas, due to a more conservative transport estimate of US\$1.15/MMBtu.⁹

Deck Stacked Against Canadian LNG

LNG Price Outlook Is Bleak

Best-Case Pricing for Canadian LNG Delivered to a Chinese Buyer

\$10 per million BTU



Sources: Shell; IEEFA

Whether sourced from McKinsey, Shell, or Sproule, all of these figures deserve a grain of salt. The McKinsey supply curve predates COVID and the extended gas glut that has led to lower price forecasts (more below). As for Shell's US\$7/MMBtu, it was made prior to construction and may prove aggressive given the history of average cost overruns that range from 55-70%.¹⁰ All three don't include the US\$1.00/MMBtu regasification charge that imported LNG requires once in Asia. And all three fail to include the US\$0.30-0.50/MMBtu that Chinese feeder pipes charge for local transmission to city gate or into the PipeChina network.¹¹

It will be difficult for British Columbia LNG to reach North East Asian markets regassed and to the customer below that US\$7/MMBtu hurdle. Profitability is unlikely without a return to a local price in Asia well above US\$8/MMBtu.¹²

IEEFA therefore rejects the assumption that Asia, and specifically China, can drive demand and price dynamics to sustain the Conference Board's call for another

⁸ Uhl, Jessica and Wetselaar, Maarten. [LNG Canada: Final Investment Decision](#). Royal Dutch Shell. October 2018.

⁹ Mylde, Chris and Tulk, Dave. LNG Webinar: [The Competitiveness of Canadian Natural Gas and LNG on a Global Scale](#). Sproule. June 13, 2019.

¹⁰ Steuer, Claudio. [Conditions Essential to Reaching FID on an LNG Project](#). Natural Gas World. October 13, 2019.

¹¹ A charge of approx. US\$.050/MMBtu was listed for Zhejiang on page 38 of ENN Energy's [2018 Annual Results: Company Presentation](#). March 2019. Conservatively we assume approximately US\$0.30/MMBtu on average.

¹² "Unless LNG price driven by Asian demand returns to the \$8-\$12 per MMBtu range, it would be difficult for the few remaining planned LNG projects to be profitable." This was, once again, known prior to COVID, but has only become more poignant in the wake of a demand growth trajectory that has shifted lower as a result.

Jiang, Wenran. [China's LNG Market: Past, Present and Future](#). Canadian Global Affairs Institute. August 2019.

32MTPA beyond LNG Canada. Shell's original forecast internal rate of return (IRR) for LNG Canada was 13% based off an \$8.5/MMBtu price in Tokyo, a price unseen since February 2019 and unlikely to be seen again for some time.¹³

The LNG price outlook remains bleak as more capacity is coming to market either without long-term contracts or priced at a lower discount to Brent. Qatar will expand its production of LNG by 64% by 2027, adding a further 49MTPA to global supply out of the North Field it shares with Iran. Its recent pricing contracts are the real story, however, as Qatar has reset the benchmark to Brent from around 14% to just 10.2%.¹⁴ With an average of US\$43.00 Brent over the past three months, this leads to a delivered LNG price of about US\$4.39/MMBtu to Asia.

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For Canada's LNG to hope to compete with Qatar's contract rates, Brent would need to be over US\$69 on a sustained basis.

China Improves its Odds

Demand Forecasts Are Being Revised Post COVID

China's story is more dramatic and more important, as China remains the largest factor in marginal global gas consumption growth.

In a recent IEEFA report from July 2020, 'No Upside: The U.S. LNG Buildout Faces Price Resistance from China,'¹⁵ energy analysts Clark Williams-Derry and Ghee Peh found Chinese buyers are likely to cap imported LNG prices at roughly US\$7/MMBtu to protect profits. They noted that PetroChina has paid more for imported gas than the average price it received from end consumers in every year since 2015. To justify imported LNG purchases going forward, PetroChina needs consumer pricing to cover the cost of imports, plus regasification and any domestic transportation costs. At the current average city gate pricing in China, Canadian LNG would therefore need to arrive at a Chinese port for US\$6.92/MMBtu (US\$8.22/MMBtu average less US\$1.00/MMBtu regasification less US\$0.30/MMBtu local transmission).

¹³ "Platts Analytics does not see the Asian benchmark breaching \$7/MMBtu (annualized, real 2019 \$) before the end of the decade." as seen in: Mosis, Samer. [Qatari Expansion: Build It and They Will Come?](#) Petroleum Economist. September 8, 2020.

¹⁴ Tan, Clara. [Qatar Close to Clinching Another New LNG Buyer](#). Energy Intelligence Group. September 18, 2020.

¹⁵ Williams-Derry, Clark and Peh, Ghee. [No Upside: The U.S. LNG Buildout Faces Price Resistance from China](#). Institute for Energy Economics and Financial Analysis. July 2020.

Since IEEFA's recent report, however, the Chinese government has embarked on a long-awaited pipeline reform to create the China Oil & Gas Piping Network Corporation, or PipeChina. It is envisaged that PipeChina will become one of the world's largest pipeline and terminal operators. PipeChina is designed to lower consumer prices by liberalizing midstream access while providing smaller players outside the national oil majors (PetroChina, Sinopec and CNOOC) with equal access. PipeChina will feed into downstream liberalization as well, with local governments no longer setting market prices. We should expect the US\$8.22/MMBtu city gate price and PetroChina's US\$7.00/MMBtu hurdle to both come down as a result. This reform is likely to encourage domestic production and favour more economical piped imports.¹⁶

China has also shown a willingness to exert pressure when long-term contracts fail to respond to market conditions.

Turkmenistan lacks much of a domestic economy and earns over 90% of exports from gas pipeline exports to China. Earlier this year, when long-term Turkmenistani and Khazak gas contracts failed to react quickly enough to the drop in spot prices, China declared force majeure on gas imports through the KazTransGas (KTG) pipeline. KTG gas suppliers in Turkmenistan, Uzbekistan and Khazakhstan had no choice but to accept double digit declines in gas exports, and likely, modified contract terms dictated by the Chinese.¹⁷

LNG oversupply to persist until 2030 at least

China's market fundamentals remain most important to the prospects of British Columbian LNG exports to North East Asia. China is still the largest source of marginal gas consumption growth in most global forecasts and will overtake Japan as Asia's largest LNG importer around 2023. However, even with pricing in retreat, those demand forecasts are being revised post-COVID. Bloomberg New Energy Finance's Global Gas Report 2020 forecasts LNG oversupply for the remainder of this decade.¹⁸ At the very least, the Conference Board's call for increased British Columbia LNG capacity lacks urgency.

¹⁶ Academic research has found that liberalizing prices and improving third party access to the pipeline could lead to up to 16% lower prices and hit LNG imports as market players move to lower cost supply sources. Rioux, Bertrand et al. [The Economic Impact of Price Controls on China's Natural Gas Supply Chain](#). As seen in *Energy Economics* 80 (2019) 394–410. January 2019.

¹⁷ China is now switching back to pipeline, perhaps suggesting a faster reaction mechanism in contract pipe.

Liang, Cindy and Yep, Eric. [China's Trucked LNG Loses Edge to Pipeline Gas as Spot LNG Prices Climb](#). S&P Global Platts. September 15, 2020.

¹⁸ P41. [Global Gas Report 2020](#). BloombergNEF/International Gas Union/Snam. August 6, 2020.

This negative scenario becomes more troubling when put in a long-term time frame more appropriate to LNG industry construction periods and asset lives. The Conference Board certainly understands that projects have a long lag time for approvals, financing and construction, so let's look beyond 2030.

Much will, of course, depend on government policies and whether deflationary cost trends associated with the current energy transition continue to reshape the global economy. For some, gas is still seen as a transitional fuel within the global decarbonization effort, despite the fact that its total supply chain impact on greenhouse gas emissions is not materially different from coal in the short term. For this reason, BP's recent Energy Outlook: 2020 forecasts peak gas demand between 2030-2035 within a 2-degree scenario.¹⁹ Whether governments globally stay true to the goals of the 2-degree scenario will therefore matter a great deal for British Columbian LNG once the gas glut subsides in 2030.

China looks likely to strike a path for future supply that would be decidedly unfavourable to British Columbia LNG exports. China's priority now and into the future will always be energy independence, ideally at lowest cost. China fears the chokepoint of the Malacca strait and the threat of blockades, so much so that China has explored construction of not one, but two massive canal projects: Through Thailand across the Isthmus of Kra, and through Nicaragua across the Isthmus of Panama.

**By 2030, China is
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renewable energy.**

Aside from the push for increased domestic gas production from PipeChina, Beijing continues to make significant investments in renewable energies. Xi Jinping's recent pledge at the United Nations (UN) to achieve carbon neutrality by 2060 would suggest there is far more to come.

Wood Mackenzie forecasts Chinese investments will make up over 50% of Asia's total investment into renewables.²⁰ From now until 2024, Chinese wind and solar investment will be three times China's investment into gas. Between 2020-2040, Wood Mackenzie see North East Asia investment in renewable energy at about six times that of gas overall. By 2030, China is expected to source 30% of its energy from renewable energy. Gas for power generation, in China specifically and North East Asia more generally, will be under some price pressure from new sources as a result.

¹⁹ The 2-degree scenario is widely seen as the accepted limitation of temperature growth to avoid significant and potentially catastrophic changes to the planet.

²⁰ Whitworth, Alex and Shrestha, Rishab. [The Trillion Dollar Question: How will Asia Pacific Meet Power Supply Needs in the Next Decade?](#) Webinar. summarizing [Asia Pacific Power & Renewables Market Outlook: H1 2020](#). Wood Mackenzie. September 9, 2020.

China Running the Table

China Will Decide When and How Future Projects Proceed

At the same time, IEEFA thinks China will continue to prefer suppliers where its leverage is maximized. This should favour gas from partners with struggling economies and/or revanchist actors which might be at odds with regional or international systems: Russia, Iran, Central Asia, and Myanmar. It is arguable that Qatar's often-contentious regional status due to its closer relations with Iran might also fit that description.

China has only recently added Myanmar and Russia pipelines to its existing Central Asian KTG pipeline. Chinese piped gas imports have been around 50 billion cubic metres per year (bcm/y) for the past few years, but Russia's Power of Siberia pipeline should boost that flow another 38bcm/y by 2025. Beyond 2025, a recent Russian Energy Strategy document targets 80bcm/y of piped gas exports to China by 2035,²¹ or another 42bcm/y—nearly twice the capacity of LNG Canada. This would flow through a recently redesigned Power of Siberia II pipeline that would cross Mongolia and deliver gas right to Beijing. China signed the original contract when Russia's partially state-owned multinational energy corporation Gazprom was struggling under international sanctions in 2014.²² China appears again in the position to decide when and how future projects proceed.

And let's not overlook China's recently signed 25-year strategic partnership with Iran.²³ The details of the document are not well known but are said to go well beyond trade to include military security as well. This security alignment has gained much attention, with less written about China's reported commitment to invest US\$280bn into Iranian oil, gas and petrochemicals, and a further US\$120bn into the country's transport and manufacturing infrastructure.²⁴ In return, Iran is said to have committed to give China a discount of over 30% on all prospective oil, gas and petrochemical purchases, which could make Iran's exports to China the cheapest LNG on earth.

²¹ Eastern pointers from the Gazprom AGM, appearing in [Quarterly Gas Review: Short and Medium Term Outlook for Gas Markets](#). The Oxford Institute for Energy Studies. July 2020.

²² Wan, William and Hauslohner, Abigail. [China, Russia Sign \\$400 Billion Gas Deal](#). The Washington Post. May 21, 2014.

²³ Saleh, Alam and Yazdanshenas, Zakiyeh. [Iran's Pact With China Is Bad News for the West](#). Foreign Policy. August 9, 2020.

²⁴ Watkins, Simon. [China Inks Military Deal With Iran Under Secretive 25-Year Plan](#). Oilprice.com. July 6, 2020.

At present, any Iranian shipments would need to be clandestine, either in the form of LNG trans-shipments or piped via Turkmenistan, Russia, or potentially through Pakistan²⁵ in the future. However, in ten years it is difficult to envision a scenario in which China won't be importing substantially more gas from Iran. Chinese and Iranian relations seem likely to only get closer under this new agreement, even as China is expected to become increasingly indifferent to U.S. diplomatic efforts to isolate Iran.

**Iranian exports to China
will be the cheapest
LNG on earth.**

Know When To Walk Away, Know When To Run

Canada Risks LNG Capacity Without a Market

The economics for British Columbia LNG exports to China are deteriorating in almost every key respect. They will be bad for the next decade and are unlikely to improve much after 2030. LNG Canada is already likely to struggle to be profitable, so it seems foolhardy to call for further LNG capacity expansion in British Columbia.

But economics don't seem to be the point of the Conference Board's Rising Tide report. The bulk of the brief document is spent lauding potential wage and tax benefits to Canada generally and British Columbia more specifically.

Rising Tide is a lobbying effort for government subsidies, support and flexibility. LNG Canada has already secured substantial public sector support in the form of discounted electricity, a carbon tax break in British Columbia, a corporate income gas tax credit, and other tax deferrals that will cost billions over the life of the facility.²⁶ These incentives would be the baseline for any marginal investment, but for the Conference Board this is evidently insufficient.

**The prospects for
Canadian LNG exports
to Asia are bad and
getting worse.**

While COVID has triggered acute public sector challenges, Canada's central and British Columbia's provincial governments will likely continue to face LNG lobbying campaigns with the promise of job creation at their core.

²⁵ Safdar, Muhammad Tayyab and Zabin, Joshua. [What Does the China-Iran Deal Mean for the China-Pakistan Economic Corridor?](#) The Diplomat. August 14, 2020.

²⁶ Lee, Marc. [A Critical Look at BC's New Tax Breaks and Subsidies For LNG.](#) Canadian Centre for Policy Alternatives. May 2019.

For British Columbians, LNG is not going to deliver in the way that the Conference Board's breezy narrative suggests. The potential for Canadian LNG exports to Asia is bad and getting worse. Given the path of future capacity, Chinese imports, and long-term LNG pricing, further public sector support for British Columbia LNG exports may only exacerbate oversupplied markets, risk creating stranded LNG capacity without a market, and deplete public sector finances.

This is no time to double down on a bad hand.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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