

Salvaging Canadian LNG Potential

by Dennis McConaghy and Ron Wallace November 2019

LNG SERIES

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©2019 Canadian Global Affairs Institute ISBN: 978-1-77397-099-8 n the halcyon days of Canadian liquefied natural gas (LNG) development, brief as they were extending from 2010 to 2014, world-class LNG developers and substantial Asian LNG buyers were genuinely engaged in Canada. This interest was evidenced by at least seven major LNG project proposals that had progressed through the relevant regulatory processes, along with perhaps a dozen other projects that had been publicly announced as being under consideration. NRCAN² reports that:

Eighteen LNG export facilities have been proposed in Canada – 13 in British Columbia, 2 in Quebec and 3 in Nova Scotia – with a total proposed export capacity of 216 Million tons per annum (mtpa) of LNG (approximately 29 Billion cubic feet per day (Bcf/d) of natural gas). Since 2011, 24 LNG projects have been issued long-term export licenses. Canada's only operational LNG terminal (an import terminal) is Canaport LNG's regasification import terminal located in Saint John, New Brunswick.

According to a <u>Conference Board of Canada study</u>, which estimates the potential contributions LNG exports may make to the Canadian economy, an LNG export industry equivalent to 30 mtpa in British Columbia could add roughly \$7.4 billion to Canada's annual economy over the next 30 years, and raise national employment by an annual average of 65,000 jobs.

Following the 2017 cancellations of the Pacific NorthWest LNG and Aurora LNG projects, only LNG Canada, a project led by Shell with its various Asian LNG partners, has progressed to an affirmative final investment decision in October of 2018. Most others have been abandoned or suspended. A few remain under serious consideration, most notably Chevron's Kitimat LNG project.³

While Canada largely squandered the window of opportunity before the oil price collapse of late 2014, some of the market fundamentals that existed in 2010 to 2014 may now be re-asserting themselves. However, we contend that Canada should have no illusions about its competitive position in world LNG development as it first needs to overcome at least three fundamental disadvantages:

Gas from Canada's Western Sedimentary Basin (WCSB) has opportunity costs that must be evaluated relative to other competitive jurisdictions before Canada can be considered a potential

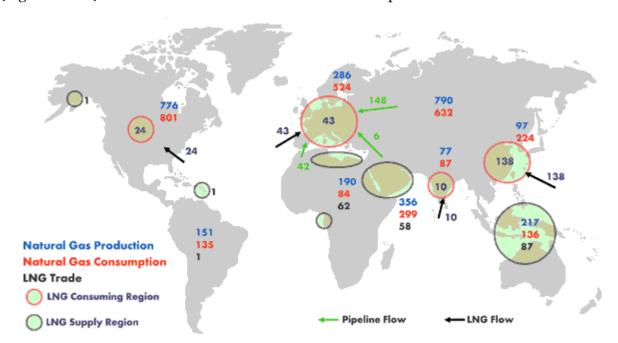
¹ Available at https://www.bcogc.ca/public-zone/major-projects-centre/list

² NRCAN. Available at https://www.nrcan.gc.ca/energy/energy-sources-distribution/natural-gas/canadian-lng-projects/5683

³ Under development since 2008, the proposed Kitimat LNG project is a 50/50 co-venture of Chevron and Woodside Canada that includes a resource development phase, a gas pipeline and LNG liquefaction plant. The project includes Chevron-Woodside's ownership in the Liard and Horn River basins' gas reserves in northeastern British Columbia. The project is planned to include a two-train LNG facility that has secured a 20-year, 10-million-metric-tonne-per-year LNG export licence from the National Energy Board, and required provincial and federal environmental assessment and LNG export certificates. The project has negotiated a benefits agreement with all 16 First Nation bands along the proposed Pacific Trail pipeline route.

supplier for Asian markets. Essentially, any WCSB production that would be committed to LNG development must be valued relative to what its sale to North American gas markets would otherwise realize. Significantly, Canadian gas production is fully integrated to the North American natural gas market, unlike many other potential LNG production sources in the world whose only means of capturing any value is the conversion to LNG. Unavoidably, a major gas transmission trunkline must first be constructed from the northwest extremities of TC Energy's NGTL system to West Coast tidewater – most logically, Prince Rupert or Kitimat – which involves roughly 700 kilometres of a challenging traverse across coastal mountains.

Canada's relative geography to Asian markets must compete with development areas that are even closer to those markets, whether it is Russia's Sakhalin Island, the north coast of Australia or East Timor. A recent report by Clear Seas noted that as of 2018, there were 132 LNG import (regasification) terminals and 48 LNG export (liquefaction) terminals with more terminals in the planning and construction stages.⁴ As noted in the figure below, the majority of the import (regasification) terminals are located in the Orient and Europe.⁵



Nonetheless, Canada has some relative advantages for LNG development compared to U.S. Gulf Coast greenfield sites.⁶ However, these assume that Asian buyers will consider greater diversification in their supply portfolio to include North American production, for these reasons:

Compared with Gulf Coast production sites, the geographic proximity of the ports
of Kitimat and Prince Rupert to Asian markets such as China, Korea and Japan

⁴ LNG and Marine Shipping. Available at https://clearseas.org/en/lng/

⁵ Canada Energy Regulator. Available at

 $[\]underline{https://www.cer-rec.gc.ca/nrg/sttstc/ntrlgs/rprt/archive/lqfdntrlgscndnprspctv2009/lqfdntrlgscndnprspctv2009-eng}$

⁶ Available at https://ceri.ca/assets/files/Study 172 Executive Summary.pdf

provide shorter cycle times for tanker traffic and the avoidance of the Panama Canal.

- Western Canadian natural gas has a pricing advantage over U.S. Gulf Coast production for Asian buyers. It is discounted due to continental transportation considerations and the supply/demand dynamics within the western Canadian supply area itself.
- Currency considerations related to various construction and operational costs between Canada and the United States.

Significantly, the emergence of the massive,⁷ cost-competitive Montney shale gas reserves in northeast British Columbia and northwest Alberta represents a key opportunity for Canadian LNG potential developments. Regrettably, in spite of the emergence of these abundant new natural gas reserves, Canada's reputation as having a reliable, predictable and efficient regulatory system has significantly eroded among industry and international investors.

Key elements contributing to this erosion of investor confidence include:

- Predictable and efficient regulatory processes required for LNG approvals have been compromised, especially at the federal level. One need only examine the history of Petronas' Pacific NorthWest LNG project as a case in point. The timelines for environmental approvals extended to almost five years instead of the 24-month period that the governing legislation anticipated.⁸
- For numerous projects, fundamental issues related to specific production locations and initial project designs were not identified early in the regulatory process, only to emerge as being significant to regulators and assessors late in the licensing process.
- Even when apparent project approvals are in hand from both regulators and democratically elected governments, subsequent judicial reviews of basic procedural decisions taken years before have been revisited, based on deficiencies related to Indigenous consultation due entirely to the functions of government

⁷ National Energy Board, "Energy Briefing Note: The Ultimate Potential for Unconventional Petroleum from the Montney Formation of British Columbia and Alberta," ISSN 1917-506X, November 2013. (The 2013 joint NEB report concluded: "The Montney Formation's marketable, unconventional petroleum potential has been evaluated for the first time in a joint assessment by the National Energy Board, the British Columbia Oil and Gas Commission, the Alberta Energy Regulator, and the British Columbia Ministry of Natural Gas Development. The thick and geographically extensive siltstones of the Montney Formation are expected to contain 12,719 billion m³ (449 Tcf) of marketable natural gas, 2,308 million m³ (14,521 million barrels) of marketable NGLs, and 179 million m³ (1,125 million barrels) of marketable oil.")

⁸ Available at https://ceri.ca/assets/files/Study_172_Executive_Summary.pdf



agencies. Worse, some authorities consider that Bill C-69⁹ could potentially imperil much of the established jurisprudence on consultation.^{10,11}

• The enforcement of regulatory approvals has become uncertain. Witness the continuing inability or unwillingness of governments to definitively deal with the Unist'ot'en blockade on the right of way of the Coastal GasLink pipeline, the gas supply system for Shell's LNG Canada.¹²

These circumstances have combined to erode respect for Canadian federal regulatory processes that were previously characterized by a history of competent and legally sustained decisions provided by the National Energy Board (NEB). They have also cast a pall over parallel provincial processes. The demonstrated inability of proponents and investors to gain an enforceable right to complete a project represents the greatest current impediment to Canadian LNG development.

The basic differentials between Asian LNG prices and western Canadian gas values at the plant gate have increased again to levels similar to those of 2010-2011. Also, most of the brownfield capacity on the U.S. Gulf Coast for future LNG production is committed. Sadly, these positive factors for economic development are being overwhelmed by the fundamental regulatory, political and judicial risks that combine to afflict Canadian resource development. Simply put, what private sector entity would enter into regulatory and assessment processes that risk hundreds of millions, if not billions, of dollars for a Canadian LNG project with these demonstrated uncertainties, notwithstanding improved international market fundamentals?

Investors recognize that prospects for material growth in Canadian natural gas production are highly dependent on enhanced access to Asian LNG markets. By addressing these impediments, Canada would not only be serving its own economic interests but could make a constructive contribution to mitigating the risk of global climate change, particularly in China. Exports of Canadian LNG to China could contribute to a decrease in the rate of growth in global emissions. It seems incredible that potential opportunities for material, sustainable economic growth through enhanced Canadian LNG production have not been fully recognized as a national priority, especially as Canadian production continues to be subject to stringent regulatory reviews – inclusive of environmental assessments – that are equal to, or better than, any other competing jurisdiction.

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⁹ Bill C-69: An act to enact the *Impact Assessment Act* and the *Canadian Energy Regulator Act*, to amend the *Navigation Protection Act* and to make consequential amendments to other acts.

¹⁰ Available at https://www.ceaa.gc.ca/050/documents/p80032/115668E.pdf

¹¹ Since this paper was drafted, Bill C-69 passed through the Senate and received Royal Assent. The legislative process was notably fraught. On its first passage through the Senate, 229 amendments were made to the legislation. While 130 of those amendments were ultimately rejected, Bill C-69 incorporates 99 of them – 62 as proposed by the Senate and 37 with government alterations. This reportedly is "the highest number of amendments on any piece of legislation since at least 1946" (Masher 2019). Available at https://ablawg.ca/2019/06/25/as-bill-c-69-receives-royal-assent-will-the-project-list-deliver-on-the-promise/

¹²https://www.theglobeandmail.com/canada/british-columbia/article-a-contested-pipeline-tests-the-landscape-of-indigenous-law-who/

¹³ Available at http://www.neb-one.gc.ca/nrg/ntgrtd/mrkt/snpsht/2019/03-02pdtcndnlng-eng.html

¹⁴ See the recent cancellation of Exxon Mobil WW project in December 2018 as a case in point. Available at https://business.financialpost.com/commodities/energy/exxon-mobil-withdraws-application-to-approve-25 billion-b-c-lng-project

What must be done to restore Canada as a legitimate location for LNG development for Asian markets?

- A requirement would be a clear statement of national policy from the federal government that Canada is unequivocally committed to the development of its natural gas resources for conversion to LNG to be exported to Asian markets. This commitment would consider LNG development to be in the Canadian national and public interest, full stop.
- 2. The federal government could declare that Canada considers LNG development to have no negative net climate impacts. This consideration would take into account that regardless of any incremental GHG emissions within Canada that would arise from incremental natural gas production and subsequent liquefaction, it could be shown that those emissions would be offset by the reductions in Asian GHG emissions with the substitution of LNG for coal in electric generation or in other combustion applications.
- 3. Regulatory approvals related to LNG development could address legitimate incremental impacts directly attributable to specific developments, consistent with acceptable global engineering and risk-mitigation standards. However, it would not be necessary to determine in the case of each project whether LNG development itself was in the Canadian national public interest. Nevertheless, we include in this consideration the need to seek parallel, consultative economic development with local and affected Indigenous interests that could prosper from constructive participation in such projects.

The Canadian Regulatory System and LNG Development

Numerous informed authors have reviewed recent judicial decisions in the Canadian energy sector^{15,16} and some have increasingly highlighted the complexity of regulatory processes as negatively affecting resource development investment decisions:

These confusions and contradictions are increasingly noted beyond our borders. Companies have plenty of options on where to invest their money around the world. They are doing so by investing elsewhere or, as Kinder-Morgan did, by giving up and selling the entire pipeline project to the government of Canada, netting a tidy profit in the process. Headlines are made when companies leave. Nothing is usually said when investments are not made.¹⁷

¹⁵ D. Mullan, "Developments in Administrative Law Relevant to Energy Law and Regulation," *Energy Regulation Quarterly*, vol. 7, issue 1, 2019, March.

¹⁶R. Harrison and G. Kaiser, "2018: The Canadian Energy Year in Review," Editorial, Energy Regulation Quarterly, vol. 7, issue 1, 2019, March.

¹⁷ J. Simpson, "Uncertainty and Confusion in Canada's Natural Resource Development," Macdonald-Laurier Institute, 2019: 3, para. 7.

Church (2017)¹⁸ broadly observed the developing trend whereby Canada's public utility regulators were subjected to increasing attentions, especially from interest groups. He noted that utility decision-makers have been subjected to aggressive commentary, hostility, disbelief, contempt and even disobedience. These tactics have tended to undermine public trust in the decision-makers' abilities and legitimacy. Such attentions have also been extended to national regulators in both Canada and the U.S.

A recent study from the C.D. Howe Institute¹⁹ warned that legislative initiatives under Bill C-69 are "likely to worsen Canada's present disease"; the "disease" being one of plummeting Canadian resource investment. The study found that planned investment in major resource projects declined by roughly \$100 billion between 2017 and 2018, including 37 projects worth \$77 billion that were cancelled, with the greatest proportional decline in planned investments for pipelines. Annual capital spending in energy projects was down \$50 billion in 2018, as compared with 2014.

Prior studies have confirmed that as a result of such attentive regulatory standards, Canada currently has one of the most expensive, time- and resource-consuming EA processes in the world,²⁰ a fact that contributes to understandable concerns among the investment community. Thus, we consider that Bill C-69 presents fundamental risks to investments in Canadian hydrocarbon development.²¹ The legislation is intended to replace the Canadian Environmental Assessment Agency with the Impact Assessment Agency of Canada and the National Energy Board with the Canadian Energy Regulator. Remarkably, the federal government has plans to expend \$1 billion over five years to develop these new agencies that will have the effect, at great cost, of centralizing and diluting the expert, independent decision-making of the previous National Energy Board.

Now that Bill C-69 has been enacted, we contend that private sector capital investors will face greater hurdles in risk assessments for major project proposals associated with the Canadian regulatory assessment process.²² We argue that this process would profit from being restored to a technocratic process mediated by independent, expert tribunals, especially as LNG developers cannot be expected to rely entirely on provincial approvals for LNG development.

We note that high-profile announcements made in B.C. regarding LNG Canada implicitly assumed that proposed federal legislation to reform the energy regulatory system was working. Presumably, these assertions were made to reassure current and future investors in Canadian

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¹⁸ J. Church, "Defining the Public Interest in Regulatory Decisions: The Case for Economic Efficiency," C.D. Howe Institute Commentary 478, 2017, ISSN 1703-0765.

¹⁹ Grant Bishop, C.D. Howe Institute, "The Flawed **Bill C-69** Will Worsen, Rather than Solve, the Crisis in Canada's Resources Sector," *Globe and Mail*, Feb. 25, 2019. Available at

https://cdhowe.org/expert-op-eds/flawed-bill-c-69-will-worsen-rather-solve-crisis-canada's-resources-sector-globe-and-mail-op-ed

²⁰ Canadian Association of Petroleum Producers, International Review of Environmental Assessment Processes, 2016.

²¹ G. Morgan, "A Crisis of our Own Making: Regulatory Logjam has Cost \$100 Billion in Cancelled Resource Projects," *Financial Post*, Feb. 21, 2019. Available at https://business.financialpost.com/commodities/crisis-of-our-own-making-regulatory-logjam-has-cost-100b-in-cancelled-resource-projects

²² Available at https://cepa.com/wp-content/uploads/2018/03/Submission-to-Parliamentary-Committee-Bill-C-69-Final.pdf, https://context.capp.ca/articles/2018/feature_capp-calls-on-government-to-pause-on-bill-669



energy infrastructure projects. Regrettably, nothing could be further from the truth. In the joint federal-provincial announcements made Oct. 1, 2018, Prime Minister Justin Trudeau stated:

Today's announcement by LNG Canada represents the single largest private sector investment project in Canadian history. It is a vote of confidence in a country that recognizes the need to develop our energy in a way that takes the environment into account, and that works in meaningful partnership with Indigenous communities.

Parallel political statements that Canada couldn't "build energy projects like we could in the old days when the environment and the economy were seen as opposing forces" were more than just misleading. In fact, the B.C. projects had received regulatory approvals in 2014 from provincial regulators, with the NEB providing the export permit. This was well before the current federal government was sworn into office on Nov. 4, 2015 and proceeded with its proposed sweeping changes to the federal regulatory system. Thus, any statements implying that current federal regulatory policies had achieved this welcome breakthrough in resource investment could be viewed as an attempt to conflate new federal initiatives under Bill C-69 with the investment announcements by Shell Canada and TC Energy.

Clearly, any presumptions that such investment decisions represent an endorsement of the regulatory reforms enabled by the current federal government are not only misleading but untrue. If anything, the lessons gained from the regulatory success of the LNG Canada and Coastal GasLink projects under existing provincial approval processes should have been used to better inform efforts by the federal government in its considerations of fundamental regulatory reform. However, any pretensions that these two B.C. projects, approved in 2014, signal the arrival of a new resource capital investment climate as a result of new regulatory proposals enacted under Bill C-69, are highly questionable.

Regrettably, the federal government's recent actions and intrusive legislative proposals are widely predicted to further disrupt the investment climate for the Canadian resource sector. Worse, the passage of Bill C-69 now allows cabinet to choose among major projects at the end of costly and increasingly undefined assessment processes. All these factors undermine the fact-based processes of regulators and expert tribunals whose decisions are crucial to major investors.

Prior to passage of the legislation, the Canada West Foundation²³ summarily concluded that:

Bill C-69 will have major consequences for our economy and for Indigenous economic reconciliation. Yet only one ministry – the Minister of the Environment – sponsored it, and only one committee – the Environment and Sustainable Development Committee – worked on it. There was no input from the Natural Resources Committee, the Finance Committee or the Indigenous and Northern Affairs Committee. It ignored the advice of an expert panel appointed by the Minister of Natural Resources to modernize the National Energy Board.

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²³ C. Collins, "Bill C-69 Would Overhaul How Canada Approves Major Projects and Assesses their Impact. Now, Only the Clear-Headed Senate Can Rescue and Repair It," Canada West Foundation, *Policy Options*, March 18, 2019.

The foundation further noted that the disruption to existing regulatory processes under the NEB would have unintended and negative consequences²⁴:

Although we support the intentions of Bill C-69, this aspect would be a huge mistake. Not only is this approach unnecessary (the required improvements to the NEB can be accomplished separately) – the unintended consequences would be disastrous.

It would appear that with the passage of Bill C-69, Canada has chosen to voluntarily subject itself to a significant regulatory and economic "experiment" while the warnings and predictions of industrial, financial and regulatory experts have largely been set aside.

LNG Development Approvals and the Rule of Law

Another issue for urgent resolution is the subsequent unlawful obstruction of the Coastal GasLink pipeline. In their October 2018 final investment decision, the project sponsors of Coastal GasLink took into consideration a blockade by a small element within the Unist'ot'en along the proposed right of way. Federal and provincial governments have been reluctant to clearly assert the primacy of the existing approvals these projects hold. There are several examples whereby protracted attempts to reach further accommodations with entities implacably opposed to the project have continued with highly undefined outcomes. While seeking meaningful and appropriate accommodation, it is nonetheless essential that Canadian governments re-assert the rule of law if Canada is to persuade serious capital investors to undertake major infrastructure projects that have been determined to be in the national interest. In spite of public announcements by the federal and provincial governments, LNG Canada has been jeopardized by protests that have tended to undermine or negate approvals with unlawful obstruction.

The federal government should seriously consider legislation to reduce the risk of dysfunctional litigation.²⁵ The purpose of such legislation would be to provide judicial regulatory certainty for corporations and investors before they spend hundreds of millions of dollars on uncertain, and challengeable, regulatory approvals, as has been demonstrated recently. This could, at least in part, be addressed through considerations of legislation that would clarify the rules and procedures for affected parties and investors.

Further, specific legislative guidance is required on what constitutes adequate consultation with First Nations at various phases of regulatory approval for both proponents and the Crown itself. "Consultation" cannot be taken to mean that an obligation exists to accede to any terms demanded by certain interests, an approach that could lead to an erosion of determinations of national interest.

²⁴ M. H. Findlay and M. Orenstein, "Improve-But Don't Replace the National Energy Board," Policy paper, 2019.

²⁵ See the Aug. 31, 2018 decision by the Federal Court of Appeal for TMX. Available at https://www.neb-one.gc.ca/pplctnflng/mjrpp/trnsmntnxpnsn/index-eng.html?pedisable=true&wbdisable=true

Several legal experts²⁶ have noted that the Canadian courts will probably increasingly emphasize the meaningfulness of consultation to be an "evolving standard". If so, this trend implies that proponents and governments will have to demonstrate meaningful and responsive engagements in order to reduce the number of issues ultimately required to be addressed by the Crown. This would mean ongoing considerations of the UNDRIP²⁷ that includes "free, prior and informed consent" - a terminology which, if adopted, may vet engender further judicial challenges to regulatory decisions and potentially compromise the hard-won judicial clarity that has been attained.

Thus, current federal legislative initiatives further imperil the judicial certainty that has been achieved on regulatory decisions. The Canada West Foundation observed²⁸:

Yet we have finally achieved a significant level of jurisprudential certainty and approval. Throwing out the NEB now, along with its well-established, extensively court reviewed process, will also throw out that hard-earned jurisprudential certainty. A new, untested process will take the whole system right back to square one in terms of court challenges. Opposition via the courts would start all over again, leading to years of additional and unnecessary delay for any major pipeline or any major electricity transmission line, and a whole new climate of uncertainty for investment."

The remarkable Federal Court of Appeal decision rendered by Judge David Stratas on Sept. 4, 2019²⁹ regarding the Trans Mountain pipeline project provided further legal clarifications, but nonetheless reflects the complexity of issues that continue to be evinced between the courts, project opponents and the government of Canada. These legal, regulatory issues are also of direct relevance to proponents who may be formulating project proposals for LNG export. The most recent remarkable series of events culminated with the Federal Court opining:

The Court's standing practice is not to issue reasons in disposing of leave applications. However this is an exceptional case as the respondents, who have a direct interest in the project, took no position for or against the leave applications in all cases but one, thereby leaving the matter to the discretion of the Court. Taking no position on a motion is a common practice when dealing with procedural matters; it is not when issues of general importance are in play. (our emphasis).

²⁶ B. Gray, McCarthy Tétrault LLP, "Trans Mountain Decision: Application of Existing Principles or Evolving Standard? Canadian ERA Perspectives," March 15, 2019. Available at https://www.mccarthy.ca/en/insights/books-guides/mining-courts-vol-ix-march-2019

²⁷ United Nations Declaration on the Rights of Indigenous Peoples. Available at https://www.aadncaandc.gc.ca/eng/1309374407406/1309374458958

Findlay and Orenstein ...

²⁹ Raincoast Conservation Foundation v. Canada (Attorney General), 2019 FCA 224. Available at https://www.fca-caf.gc.ca/fca-caf/pdf/Summary_TM_2019-09-04_English.pdf

Bankes et al. (2019)³⁰ further dissected the legal saga, one which has consequences for not just pipeline projects but for the future of Canadian resource development:

In conclusion, six First Nations met the test for leave. Leave on the other six applications brought by other First Nations, Vancouver, two ENGOs and Adkin-Kaya et al was denied. We also now have a rare view into the test and reasoning the FCA uses in deciding whether to grant leave. It is worth noting that this FCA leave decision may be appealed to the Supreme Court of Canada; however, it is also the practice of that court to not give reasons (see for example City of Burnaby v Attorney General of Canada et al, May 2, 2019). In the meantime, as these latest legal challenges to TMX proceed, the CPCN remains valid and the government has indicated that construction will proceed.

Conclusion

Will Canada and the provinces demonstrate the political will to contemplate and deal with these fundamental issues? Clearly, Canadians are struggling to forge a national consensus on how best to proceed with hydrocarbon development while enunciating either an appropriate and proportionate national carbon policy or a credible climate policy.

Many consider it ironic that whether or not Canada cultivates potential LNG project investment, it will have little or no overall effect on global LNG demand.^{31,32} LNG that Canada could have supplied to global markets will instead be captured by others, most of whom do not have comparable environmental standards or respect for human rights, nor Indigenous or socioeconomic interests. Canada must choose if it wants to participate in supplying the global trade of LNG. Certainly, the global LNG marketplace will largely evolve with or without Canadian participation.

However, it seems certain that if current policies for resource development and regulation persist, Canadians can be assured that their nation will be economically poorer.

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³⁰ N. Bankes, M. Olszynski and D. Wright, "Federal Court of Appeal Provides Reasons in TMX Leave Applications," ABlawg, Sept. 11, 2019. Available at http://ablawg.ca/wpcontent/uploads/2019/09/Blog_NB_MO_DW_Raincoast.pdf

³¹ Bloomberg NEF, Global LNG Outlook 2018, 2019 Bloomberg Finance L.P. Available at https://about.bnef.com/lng-outlook/

³² T. Paraskova, "Asian LNG Demand to Quadruple by 2030," Oil Price.com, December 2018. Available at https://oilprice.com/Energy/Energy-General/Asian-LNG-Demand-To-Quadruple-By-2030.html

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Dennis McConaghy is the former Executive Vice-President of Corporate Development at TransCanada Corporation. Previously, he was Executive Vice-President, Pipeline Strategy and Development. Dennis joined TransCanada in 1998, and has held senior positions in Corporate Strategy & Development, Midstream/Divestments, and Business Development. He has more than 25 years experience in oil and gas, including responsibility for Keystone XL.

Ron Wallace, PhD, has extensive research, consulting and regulatory experience in the Canadian and Siberian Arctic regions. He has worked with the World Bank (Washington), the Asian Development Bank (Manila) and the European Bank for Reconstruction and Development (London) on international resource management projects. He was assigned lead responsibilities by Canada and the World Bank for the emergency assessment and containment of the Kharyaga Pipeline oil spill near Usinsk, Russia – work that was subsequently recognized with the 1996 Alberta Emerald Award for Environmental Excellence. He was also recognized in 1997 by the Alliance of Manufacturers and Exporters Canada for work with U.S. and Russian corporate interests associated with the development of Siberian natural gas pipelines on the Yamal Peninsula, Russia. He was CEO and vice-chairman of a publicly traded Canadian defence manufacturer that won the 2001 Corporate Technical Achievement Award and the 2004 Alberta Entrepreneur of the Year Award (Advanced Manufacturing Technologies).

Appointed to energy, environmental and regulatory boards for federal, provincial and territorial agencies, in 2013 he was made a permanent member of the National Energy Board, retiring in November 2016. He founded Wallace Galleries, Ltd. (Calgary) and has actively supported the Calgary Military Museums, the Glenbow Museum and the Calgary Uncles-at-Large Program. He lives in Calgary, Alberta.

Canadian Global Affairs Institute

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