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Sent via email to:

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The Honourable Steven Guilbeault MP
Minister of Environment and Climate Change
House of Commons,
Ottawa, Ontario K1A 0A6

Impact Assessment Agency of Canada
200-1801 Hollis Street
Halifax, NS B3J 3N4

Dear Minister Guilbeault,

Re: Goldboro LNG – Requirement for a federal assessment under the *Impact Assessment Act*

On May 10, 2021, we wrote to your predecessor Minister Wilkinson, then Minister of Environment and Climate Change, and the Impact Assessment Agency of Canada (the **Agency**)¹ on behalf of our clients, Ecology Action Centre, Nova Scotia Fracking Resource and Action Coalition, Sierra Club Canada Foundation, Council of Canadians, New Brunswick Anti-Shale Gas Alliance, Environnement Vert Plus, Citizens' Oil & Gas Council and Greenpeace Canada, to advise that a federal impact assessment is required in respect of the proposed Goldboro Liquefied Natural Gas export facility project (**Goldboro LNG** or the **Project**) under the *Impact Assessment Act (IAA)*.² On November 2, 2021, we received a response from the Agency's then Acting President, Terence Hubbard, noting that:

On July 2, 2021, the Proponent announced that the Project would not be moving forward as currently proposed. The Proponent was not able to meet the conditions necessary to make a final investment decision and is now evaluating alternatives for the Project. On September 20, 2021, the Proponent informed the Agency that it is now considering further changes to the Project. The Agency will review these changes to determine whether the IAA applies.

¹ As per the *IAA* and *CEAA 2012*, the Impact Assessment Agency of Canada was formerly known as the Canadian Environmental Assessment Agency. Both will be referred to herein interchangeably as the "Agency".

² Letter to Minister of the Environment and Climate Change and Impact Assessment Agency of Canada, dated May 10, 2021, **Appendix 1**.

While we appreciate Mr. Hubbard's update, the *IAA* requires that an impact assessment of the Project be conducted, regardless of whether the proponent may propose changes. We provide this letter, once again on behalf of the groups listed above,³ to reiterate our position that there is no statutory basis for the failure to conduct an impact assessment of the Goldboro LNG Project. None of the appropriate steps were taken to exempt the Project from assessment, and an exemption is not appropriate in this case. Consequently, no exemption was ever available for the Project under the *Canadian Environmental Assessment Act, 2012 (CEAA 2012)* and the *IAA*. Any steps taken to move the Project forward would be unlawful pursuant to the *IAA*.

The Agency and Minister have an ongoing obligation to remedy this non-compliance, which is not rectified by the passage of time, and to conduct a federal impact assessment. If they fail to do so, this non-compliance remains unlawful and is subject to judicial review, regardless of whether the proponent Pieridae Energy Canada (**Pieridae**) proposes changes to the Project, or whether it has made a final investment decision. Any version of the Project that remains a designated activity under the *IAA's Physical Activities Regulations* may proceed only if it receives a valid approval after a federal impact assessment³ or an exemption under *IAA* provisions that allow for such determinations, and then only after conducting appropriate public consultations. An impact assessment is therefore required, regardless of whether the Project proceeds as a floating facility, a land-based terminal, or in some other configuration.⁴

Further, since we received Mr. Hubbard's letter, it has become clear that Pieridae does not intend to abandon the Project,⁵ and plans to move forward with federal funding, though that remains uncertain at present.⁶ In May 2022, the Minister of Natural Resources, Jonathan Wilkinson, also indicated that the federal government is supportive of the Goldboro LNG Project.⁷

The ongoing failure to require a federal assessment of the Project is contrary to the *IAA* and is flawed in both law and fact. The public was never consulted, despite the requirements of the *CEAA 2012* and the *IAA*. Since sending our previous letter, we received more information

³ Information regarding each participant is provided at the end of this letter.

⁴ See Brent Jang, "Pieridae considers plan for full-scale Nova Scotia LNG project to export gas to Germany" *The Globe and Mail* (29 June 2022), online: <https://www.theglobeandmail.com/business/article-pieridae-considers-plan-for-full-scale-nova-scotia-lng-to-export-gas/> [Brent Jang], **Appendix 3, Tab 2**, which states the project could proceed as a land-based terminal or as a floating facility.

⁵ Frances Willick, "2 stalled LNG projects in Nova Scotia may be on the brink of revival" *Canadian Broadcasting Company* (11 May 2022), online: <https://www.cbc.ca/news/canada/nova-scotia/2-lng-proposals-could-move-forward-bear-head-goldboro-1.6447671> [Francis Willick]; Nia Williams, "EXCLUSIVE Canada in talks with Repsol, Pieridae Energy about LNG export terminals" *Reuters* (6 May 2022), online: <https://www.reuters.com/business/energy/exclusive-canada-talks-with-repsol-pieridae-energy-about-lng-export-terminals-2022-05-06/>.

⁶ Brent Jang, "Ottawa seeking private-sector solution for export of East Coast LNG to Europe" *The Globe and Mail* (3 July 2022), online: <https://www.theglobeandmail.com/business/article-ottawa-seeking-private-sector-solution-for-export-of-east-coast-lng-to/>, **Appendix 3, Tab 3**; Mitchell Beer, "BREAKING: No Public Finance for East Coast LNG Projects, Wilkinson Says" *The Energy Mix* (4 July 2022), online: <https://www.theenergymix.com/2022/07/04/public-opinion-practical-details-confront-canadian-gas-exports-to-europe/>.

⁷ Brent Jang & Emma Graney, "Ottawa open to East Coast LNG plans, subject to meeting climate goals" *The Globe and Mail* (27 May 2022), online: <https://www.theglobeandmail.com/business/article-ottawa-open-to-east-coast-lng-plans-subject-to-meeting-climate-goals/>, **Appendix 3, Tab 1**.

through access to information (**ATI**) and freedom of information (**FOI**) requests that further supports our position. The documents reveal discussions between the proponent and Agency staff, and presentations to the Minister, that were conducted without any transparency, public consultation or scrutiny despite the severe climate impacts that will be caused by this Project.

This Project is not advantageous for Canada. It will not contribute to global efforts to reduce GHG emissions and is unable to respond to current, short-lived and short-sighted demand for LNG. The disastrous impacts, particularly the GHG emissions from the construction and operation of the Project, have never been considered by the Agency or by you as Minister, or your predecessors.

1. The Decision to Exempt the Project was Unlawful

As set out in our letter of May 10, 2021 the failure to require a federal assessment of the Project has no basis in law or fact. On December 20, 2012, an Agency Project Manager confirmed that, on the basis of information provided by Pieridae, including a comparison between Goldboro LNG and the Keltic Petrochemical and LNG Project (**Keltic** or the **Keltic proposal**), “the Agency has determined that this project [Goldboro LNG] would not require a federal [environmental assessment]... . We consider that subsection 128(1)(c) of *CEAA 2012* applies to this project.”⁸ Subsection 128(1)(c) states that *CEAA 2012* does not apply to a project if the responsible authority has taken certain courses of action in relation to the project.

As set out in our previous letter, the correspondence from the Project Manager does not provide any additional detail as how subsection 128(1)(c) could apply in relation to two distinct projects, namely the Keltic proposal and the Goldboro LNG Project. Likewise, there is no statutory discretion conferred on a Project Manager to empower them to exempt a project from assessment under the *CEAA 2012* or the *IAA*, based on section 128 or any other circumstances. In documents more recently obtained through ATI requests, as discussed below, it is clear that the main impact of the Project, the massive increase of GHG emissions, was ignored and not examined, creating a false and fundamentally incomplete comparison between the Project and the Keltic proposal.

Further, the federal government must take into account the precautionary principle when administering the Act, according to subsection 6(2) of the *IAA*. Subsection 6(3) of the *IAA* requires adherence to the principle of scientific integrity when exercising the Act’s powers. Failing to assess the Project, and its dangerously high GHG emissions, based not on science but on a superficial comparison to Keltic, is contrary to these guiding principles and to the Act’s fundamental purposes.

⁸ Email from Vanessa Rodrigues (CEAA) to Alfred Sorensen (Pieridae) and Thom Dawson (Pieridae) (20 December 2012), **Appendix 2, Tab 10**; Email from Derek McDonald (CEAA) to Alfred Sorensen (Pieridae) (26 October 2012), **Appendix 2, Tab 7**; Email from Uwe Wittjugel (AMEC) to Derek McDonald (CEAA) (2 November 2012), **Appendix 2, Tab 8**.

a. The Keltic proposal and the Goldboro Project are distinct and different

As per our letter of May 10, 2021, there is no statutory basis for the application of subsection 128(1)(c) of *CEAA 2012* to a project with superficial similarities to another approved project. There is also no factual basis to find that Goldboro LNG and the Keltic proposal were the same project or even very similar – the two projects are fundamentally different and distinct.

Documents received through the ATI process further demonstrate the faulty premise for the failure to require an assessment and reveal that the Agency failed to consider, sufficiently or at all, key differences between the Project and the Keltic proposal.

Based on correspondence between Agency employees in January 2012, there was an initial acknowledgement of key distinctions between the Keltic and the Goldboro LNG Projects. The two projects have distinct functions and purposes: the Keltic proposal was based on LNG importation and included a petrochemical manufacturing facility, while the Project is based on LNG liquefaction and exportation with no associated manufacturing component.⁹ The Project appeared to have significant new project components as well as a new proponent, which could require new permits regardless of what might have been required for the Keltic proposal.¹⁰

The draft Comparative Description of the Project and the Keltic proposal dated November 2012 (**Comparative Description**) discusses the two projects' designated activities, project components, supporting components, physical works, emissions, discharges, environmental setting, and potential changes related to federal legislation.¹¹ The key findings of the comparison were summarized in a table at the outset of the document.¹² Although only a draft, this Comparative Description appears to have been used to justify the Agency's failure to require an assessment for the Project.¹³

There is also an undated document entitled "Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes" which appears to review the considerations and rationale for decisions to assess other regional LNG projects, or exclude them from assessment. This comparison states that the Project was considered to "replace" the Keltic gasification facility and was therefore considered to be the same project.¹⁴ The document mentioned the Project's "potential for more air emissions," in comparison with the Keltic proposal, but purported to conclude that these emissions "would not be considered an environmental effec[t]

⁹ Email from Derek McDonald (CEAA) to Vanessa Rodrigues (CEAA) (18 January 2012), **Appendix 2, Tab 5**.

¹⁰ Email from Thom Dawson (Pieridae) to Janet E Blackadar (AMEC) (16 January 2012), **Appendix 2, Tab 2**; Email from Janet E Blackadar (AMEC) to Mike Atkinson (CEAA) (16 January 2012), **Appendix 2, Tab 3**; Email from Mike Atkinson (CEAA) to Derek McDonald (CEAA) (16 January 2012), **Appendix 2, Tab 4**; Email from Derek McDonald (CEAA) to Vanessa Rodrigues (CEAA) (18 January 2012), **Appendix 2, Tab 5**.

¹¹ AMEC Environment & Infrastructure, "Goldboro LNG Versus Keltic Petrochemical and LNG Tanker Terminal Comparative Description: Draft Report" (November 2012), **Appendix 2, Tab 9** ["Comparative Description"].

¹² "Comparative Description", *supra* note 11 at (ii)-(iii), **Appendix 2, Tab 9**.

¹³ Email from Vanessa Rodrigues (CEAA) to Alfred Sorensen (Pieridae) and Thom Dawson (Pieridae) (20 December 2012), **Appendix 2, Tab 10**.

¹⁴ "Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes" at 1, **Appendix 2, Tab 15** ["Previous Approval Description"].

under *CEAA 2012*”.¹⁵ This statement is incorrect, is not supported by the provisions of either *CEAA 2012* or the *IAA*, and flies in the face of the scientific consensus, but seems nonetheless to have been used to excuse the refusal to assess the Project’s GHG emissions. The next bullet indicates that the Project was found to be “essentially the same” as the Keltic proposal.¹⁶ We consider this analysis to be of great concern, as it is superficial and is based on selective and inaccurate comparisons that deliberately ignore the Project’s serious climate impacts.

b. Many Keltic proposal conditions can’t apply to Goldboro LNG

Our letter of May 10, 2021 noted key differences between the Keltic proposal and the Project, including the inapplicability of Keltic approval conditions to the Goldboro LNG Project. In addition to those submissions, there are further indications of the fundamental differences between the projects in the context of the conditions that would ostensibly apply to each.

In fact, in correspondence between Agency employees, there was a discussion of whether the Keltic proposal’s federal approval conditions should apply to the Project. A project manager stated that: “if it’s the same project for the purpose of deciding that *CEAA 2012* does not apply, then it’s the same project that was already assessed and therefore the terms of the previous [environmental assessment]...continue to apply. It can’t be the same project for one purpose then be a different project for another purpose.”¹⁷ This conversation underscores the problems inherent in the “comparison” exercise that was put forward to justify the unlawful refusal to require an assessment of this major project. There are obvious and fundamental differences between the projects, including the impossibility of applying many Keltic-specific conditions to the Project. Of particular note is the absurdity created by applying conditions required for a petrochemical manufacturing and LNG regasification and import facility to an LNG liquefaction and export facility. Failure to comply with approval conditions must necessarily invalidate the approval, yet compliance with a number of the conditions imposed on Keltic is impossible in the context of the project.

The fundamental distinctions between the projects are highlighted by the difference in terms of the provincial conditions that applied to Keltic but are clearly inapplicable to the Goldboro LNG Project. For example, Condition 1.4, a condition imposed by Nova Scotia on the Keltic proposal, requires the Proponent to provide Nova Scotia Environment and Labour with “anticipated emissions data from the proposed petrochemical plant...”¹⁸ While we agree that the Project must report fully regarding all air emissions, it cannot comply with this condition as it is not a petrochemical plant. Provincial Condition 5.4 requires the Proponent to apply “Canadian Chemical Producers’ Association (CCPA) Responsible Care® principles to the design, maintenance, and operation of the petrochemical plant”.¹⁹ Again, Condition 5.4 may be appropriate for petrochemical facilities, but can have no application to the Project. In contrast to

¹⁵ “Previous Approval Description”, *supra* note 14 at 1, **Appendix 2, Tab 15**.

¹⁶ “Previous Approval Description”, *supra* note 14 at 1, **Appendix 2, Tab 15**.

¹⁷ Email from Derek McDonald (CEAA) to Mike Atkinson (CEAA) (15 January 2014), **Appendix 2, Tab 11**.

¹⁸ Nova Scotia, Department of Environment and Labour, *Environment Assessment Approval: Keltic Petrochemicals Inc. LNG and Petrochemical Plant Facilities*, at 2, online (pdf): https://iaac-aeic.gc.ca/050/documents_staticpost/pdfs/23818-a2E.pdf [*Nova Scotia Keltic Petrochemicals Approval*].

¹⁹ *Nova Scotia Keltic Petrochemicals Approval*, *supra* note 18 at 8.

the federal approach, the clear differences between the projects meant that Goldboro LNG underwent a separate provincial environmental assessment (EA) and was approved with new and distinct provincial conditions reflecting those inherent differences.²⁰

These fundamental distinctions can also be observed when looking at the federal conditions and mitigations ordered for the Keltic proposal, that are obviously inapplicable to Goldboro LNG. One such condition is the requirement for a forced draft cooling tower and fog warning system for the Keltic petrochemical facility.²¹ A cooling tower would have no utility for Goldboro LNG. Likewise, the federal Keltic requirement to use waste heat from the petrochemical plant as a heat source for LNG regasification can have no application to Goldboro LNG.²²

It stands to reason, and is supported by a discussion between Agency employees as previously mentioned, that if the Keltic and Goldboro LNG Projects were truly the same, or even substantially similar, they would have the same federal and provincial approval conditions. Yet, there is no evidence that the vast majority of federal conditions drawn from the Keltic Project have played any part in moving the Goldboro LNG Project forward. This underscores the factual reality that the projects are fundamentally different, and subsection 128(1)(c) of *CEAA 2012* cannot apply to Goldboro LNG.

Further, due to the Agency's characterization of the Project as "essentially the same", the Minister of Environment and Climate Change has failed to require the proponent to comply with basic federal approval conditions imposed on other LNG export facilities. For example, in the Decision Statement approving the LNG Canada Export Terminal Project, Conditions 7.2 and 10.3 require the Proponent to do follow-up studies to verify EA predictions on the effects of wakes from the project on Aboriginal use of lands and resources for traditional purposes and consult on a strategy to notify Aboriginal groups when there are accidents or malfunctions, respectively.²³ No similar conditions are imposed on the Keltic project in the federal approval nor the Goldboro LNG Project in the provincial approval. Moreover, the LNG Canada Export Terminal Project Decision Statement, unlike the provincial Goldboro LNG approval and federal Keltic approval, contains conditions dealing with moderating speed of LNG carriers to avoid

²⁰ Nova Scotia, Department of Environment, *Environment Assessment Approval: Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal*, online (pdf): <https://novascotia.ca/nse/ea/goldboro-lng/conditions.pdf>.

²¹ Canada, *Environmental Assessment Decision Statement: Keltic Liquefied Natural Gas Facilities and Marginal Wharf Project Issacs Harbour (NS)* (7 March 2008), online: https://iaac-aeic.gc.ca/archives/evaluations/10471/document-html-eng_did=25805.html; AMEC Earth & Environmental, "Keltic Petrochemicals Inc. Liquid Natural Gas Facilities and Marginal Wharf Goldboro, Nova Scotia: Final Comprehensive Study Report: Environmental Effects, Mitigation, Residual Environmental Effects and Follow Up" (October 2007) at 5-34, online (pdf): https://iaac-aeic.gc.ca/050/documents_staticpost/pdfs/23818-05E.pdf ["Keltic Final Comprehensive Study Report: Environmental Effects"].

²² "Keltic Final Comprehensive Study Report: Environmental Effects", *supra* note 21 at 5-143; AMEC Earth & Environmental, "Keltic Petrochemicals Inc. Liquid Natural Gas Facilities and Marginal Wharf Goldboro, Nova Scotia: Final Comprehensive Study Report: Project Description and Scope of Assessment" (October 2007) at 2-23 online (pdf): https://iaac-aeic.gc.ca/archives/evaluations/10471/documents_staticpost/pdfs/23818-02E.pdf ["Keltic Final Comprehensive Study Report: Project Description"].

²³ Canada, Ministry of the Environment and Climate Change, *Decision Statement Issued under Section 54 of the Canadian Environmental Assessment Act, 2012 for the LNG Canada Export Terminal Project*, at 11-3 <https://iaac-aeic.gc.ca/050/documents/p80038/138517E.pdf> [*LNG Canada Decision Statement*].

collisions with marine mammals.²⁴ Goldboro LNG’s provincial approval and Keltic’s federal approval also lack a condition comparable to LNG Canada Export Terminal Project Decision Condition 4.2.2, that the Proponent must maintain tidal flow and wildlife passage by the marine terminal and the area between the LNG processing and storage site.²⁵ The reliance on the Keltic approval both imposes useless and inapplicable conditions on the Project and creates a serious risk of the Project proceeding without appropriate and necessary conditions for LNG export facilities.

A more detailed review of the differences between the Goldboro LNG and Keltic projects, in light of the internal documents received through ATI requests, further highlights key distinctions between the projects in terms of novel refrigerant components and fugitive methane emissions and the resulting differences in GHG emissions.

c. Novel refrigerant components and fugitive methane emissions resulting in potential GHG differences

Documents received through an ATI request, as well as documents related to the Keltic EA decision and the Goldboro LNG Project, reveal differences between the two projects due to the Keltic proposal being a regasification project, and Goldboro LNG being a liquefaction project. Most notable amongst these differences are the refrigerant components needed for the Goldboro LNG Project’s liquefaction process that, as far as we can discern, were not involved in the regasification process planned for the earlier Keltic proposal. As will be shown, the refrigerant components of the Goldboro LNG Project will be a major cause of significant GHG emissions that would not have been produced by the Keltic proposal. Unfortunately, a lack of information regarding the expected GHG emissions from the Keltic Project betrays a failure to consider GHG emissions in relation to that project. It means that there is no definitive accounting available to us by which to compare the expected emissions from the Keltic proposal to those outlined for the Goldboro LNG Project. A failure to meaningfully consider potential GHG emissions resulting from the Keltic Project and glossing over the GHG emissions of the Goldboro LNG Project is unacceptable within the current climate crisis.

The Keltic proposal was to be a regasification plant, receiving shipments of LNG and re-converting that LNG into a gaseous form. In contrast, the Goldboro LNG Project is designed to receive natural gas via pipeline and convert it into LNG for export overseas. According to the documents, this distinction means that there are key operational differences between the two project plans. Most notably, as explained in the Comparative Description, the Goldboro LNG Project is set to involve refrigerants and a refrigeration process for the conversion of natural gas into liquefied form that was not necessary in the Keltic proposal.²⁶ While the exact function of the Goldboro LNG Project’s refrigeration process is not clearly laid out in the project documents, some of the refrigerant types involved in the process, ethylene and propane, are described in an

²⁴ *LNG Canada Decision Statement*, *supra* note 23 at 8.

²⁵ *LNG Canada Decision Statement*, *supra* note 23 at 9.

²⁶ “Comparative Description”, *supra* note 11 at 10, **Appendix 2, Tab 9**.

email from Pieridae to the Agency on January 29, 2021 regarding how the Goldboro LNG Project differs from the Keltic proposal.²⁷

The novel refrigerant component of the Goldboro LNG Project is of concern because provincial EA documents show elements of the refrigerant process causing a large share of the Goldboro LNG Project's projected GHG emissions. Projected GHG emissions from the refrigerant compressor gas turbines are to be approximately 1.8 million tons of CO₂/year, making up nearly half of the Project's entire predicted emissions of 3,778,290 tons of CO₂/year.²⁸ The Keltic proposal does not mention refrigerants or Refrigerant Compressor Gas Turbines, and refrigerants are a novel component only present in the Goldboro LNG Project.

The ATI and EA documents do not set out the Keltic proposal's expected GHG emissions, in contrast to the Goldboro LNG Project's provincial EA materials, as already outlined above.²⁹ This lack of data on the Keltic proposal's GHG emissions casts doubt on any reliable comparison between the projects. There is no basis to conclude that they are "similar" when one set of data is completely absent. As the Keltic EA did not involve a meaningful, accurate accounting for GHG emissions, it is difficult to understand how the Agency determined the projects were the "same" for the purposes of subsection 128(1)(c) of *CEAA 2012*.

Despite the absence of a GHG accounting for the Keltic proposal, information from other Canadian re-gasification projects may shed some light on Keltic's projected GHG emissions. For example, an Irving LNG re-gasification plant producing 1,000 million standard cubic feet/day of natural gas output produced roughly 330,000 tons of CO₂/year.³⁰ In another instance, a Kitimat LNG re-gasification plant producing 610 million standard cubic feet/day of natural gas output produced roughly 326,000 tons of CO₂/year.³¹ In contrast, Keltic was set to have an output of 1,829 million standard cubic feet/day of send out capacity, roughly triple that of Kitimat, and just under double that of Irving.

While the documents did not set out Keltic's emissions as noted above, observing the emissions and output of these other LNG re-gasification projects provides some insight. As indicated from the Irving and Kitimat numbers, these re-gasification plants have a variable ratio of CO₂ emissions to natural gas send out capacity and we cannot reliably predict Keltic's CO₂ annual emissions based solely on such data. A detailed analysis and projection would be required from qualified experts. However, if the natural gas output/day to CO₂/year ratio expected for Keltic was similar to either Kitimat or Irving, then Keltic's emissions would have ranged from roughly 600,000 (based on the Irving ratio) to 1 million (based on the Kitimat ratio) tons of CO₂/year. Even this rough calculation shows that emissions from re-gasification plants are many times

²⁷ Email from Heinie Brunner (Pieridae) to Melanie Smith (Agency), Barb Bryden & Andy Mukherjee (2 February 2021) at 000131, **Appendix 2, Tab 12**.

²⁸ Pieridae Energy (Canada) Ltd, "Environmental Assessment Report (Class 1 Undertaking): Section 10.0: Environmental Effects Assessment" (September 2013) at 10-29, online (pdf): *Nova Scotia Environment and Climate Change*: <https://novascotia.ca/nse/ea/goldboro-lng/10-Environmental-Effects-Assessment.pdf> ["Environmental Assessment Report (Class 1 Undertaking)"].

²⁹ "Environmental Assessment Report (Class 1 Undertaking)", *supra* note 28 at 10-29.

³⁰ "Keltic Final Comprehensive Study Report: Environmental Effects", *supra* note 21 at 5-42.

³¹ "Keltic Final Comprehensive Study Report: Environmental Effects", *supra* note 21 at 5-42.

smaller than the nearly 3.8 million tons of CO₂/year expected from Goldboro LNG Project.³² The absence of meaningful information regarding Keltic on the crucial question of GHG emissions makes it impossible and unreasonable to use subsection 128(1)(c) of *CEAA 2012* to sidestep the requirement that the Goldboro LNG Project be subject to federal assessment.

Also conspicuously absent from the comparison document is any comparison between impacts associated with fugitive methane emissions relating to the transportation via pipeline from either project, other than a more general reference to both having the “[p]otential for containment failure and accidental spills during transportation of large volumes of LNG and minor volumes of [petroleum-oil-lubricants] and other hazardous chemicals”.³³ Significantly, the Goldboro LNG Project plans to source natural gas via long pipeline networks, including transporting natural gas from as far away as gas fields in Alberta, whereas the Keltic proposal planned to supply LNG via a shorter pipeline route through a connection to the local Maritimes and Northeast Pipeline.³⁴ The potential for methane leakage over such a long supply route magnifies many times the harmful emissions that would result from the operation of the Goldboro LNG Project. This was not adequately considered, if at all, within the comparison document. The full impacts of methane leakage via pipelines were ignored when evaluating whether an assessment of Goldboro LNG was required. As with the failure to consider the Project’s direct GHG emissions, this is an egregious breach of the Act’s focus on “scientific integrity”.

2. The Project is not advantageous for Canada

As highlighted in our May 10, 2021 letter, on pages 14-24, there have been substantial changes in the understanding of important factors relating to the Goldboro LNG Project since the Keltic proposal was federally assessed in 2007, including our knowledge about the project’s impacts on climate change, methane emissions and GHG emissions reduction requirements. The precautionary principle and the principle of “scientific integrity”, referenced at subsections 6(2) and 6(3) of the *IAA* respectively, require these dramatic changes to be taken into account in any assessment or decision relating to the Goldboro LNG Project, especially since there is significant public concern regarding the Project and its impacts.

The documents received through the ATI request reveal that at various times, the alleged advantages of the Goldboro LNG Project were discussed at meetings between the proponent and Agency employees as well as presented to the Minister and others through briefing notes and memorandums. The Project was to be justified based on outdated, incomplete, and misleading information containing significant misconceptions, including that it would:

1. contribute to global action on climate change by reducing GHG emissions,
2. create economic opportunities and benefits,
3. respond to projected demand for LNG, and

³² “Environmental Assessment Report (Class 1 Undertaking)”, *supra* note 28 at 10-29.

³³ “Comparative Description”, *supra* note 11 at 11. The Comparative Description also describes the potential for fugitive natural gas from leakage related to LNG storage and handling, but not related to transportation: see p. 9.

³⁴ “Keltic Final Comprehensive Study Report: Project Description”, *supra* note 22 at 2-6.

4. rely on existing pipeline infrastructure.³⁵

While some of these points were addressed in our previous letter, we highlight recent developments as well as other information that has since become available to us to further rebut points 1 and 3. We submit that on the basis of these points and those previously discussed, the Project is not advantageous for Canada.

a. The Project will not contribute to global climate action

Despite being a major fossil fuel development that would produce massive new upstream, downstream and direct GHG emissions, the Goldboro LNG Project was pitched as being a “sustainable” project that would reduce GHG emissions and contribute to climate action on a global scale. This is evidently not based on domestic emissions reduction requirements, since the Project would result in substantial domestic GHG emissions and make it difficult for both Nova Scotia and Canada to meet their emissions reductions targets, as highlighted in the previous letter. Rather, this premise ignores the massive emissions that would be associated with the Project, and is based on the incorrect assumption that LNG would displace the use of coal in target markets.

The characterization of the Project as “sustainable” is flawed for several reasons. First, there is no place for new natural gas infrastructure in an emissions reductions trajectory in line with keeping global warming to 1.5°C, which the Glasgow Climate Pact recently reaffirmed as an important part of the international community’s objective to limit the impacts of climate change.³⁶ For instance, a recent study found that “the expansion of the LNG industry as planned in the context of coal-to-gas switching is incompatible with the 1.5 °C temperature target of the Paris Agreement by 2050.”³⁷

The recent Intergovernmental Panel on Climate Change (“IPCC”) Working Group I Contribution to the Sixth Assessment Report noted that while there is a chance that catastrophic, runaway warming can be avoided, even the lowest GHG emissions scenarios will likely see earth’s surface temperature rise to over 1.5°C in the next few decades, and warming will continue to increase past 2°C this century, in all but the lowest emission scenarios, unless drastic emissions cuts are made immediately.³⁸ Indeed, the report’s Summary for Policy Makers states that “[g]lobal warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep

³⁵ Natural Resources Canada, “Meeting Note to the Minister: Minister Meeting with Alfred Sorensen, Pieridae Energy”, **Appendix 2, Tab 16**; Natural Resources Canada, “Memorandum to the Deputy Minister: Pieridae Energy Limited’s Proposed Goldboro LNG Export Facility”, **Appendix 2, Tab 17**.

³⁶ [Glasgow Climate Pact](#), UNFCCC, 3rd Sess, Agenda Item 2(c), UN Doc PA/CMA/2021/L.16 (2021) at Preamble, arts 20-1.

³⁷ Shuting Yang, Sara Hastings-Simon & Arvind P Ravikumar, “[Global liquefied natural gas expansion exceeds demand for coal-to-gas switching in paris compliant pathways](#)” (2022) 17:6 *Envtl Research Letters*.

³⁸ Intergovernmental Panel on Climate Change, “[Chapter 4: Future Global Climate: Scenario-based Projections and Near-term Information](#)” in [Climate Change 2021: The Physical Science Basis](#), V Masson-Delmotte, P Zhai & A Pirani et al, eds (Cambridge University Press: Cambridge and New York 2021) at 580-82.

reductions in CO₂ and other greenhouse gas emissions occur in the coming decades”.³⁹ Continuously updated science on the dire and potentially irreversible impacts of climate change as well as the urgency to reduce GHG emissions to avoid the worst of those impacts further underscores the need to have an up-to-date federal assessment of the Goldboro LNG Project. Until an assessment is completed, the myriad of adverse impacts arising from the Project’s GHG emissions will remain unassessed.

In May 2021, the International Energy Agency (“IEA”), of which Canada is a member, released its “Net Zero by 2050: A Roadmap for the Global Energy Sector” report. It is the first comprehensive study of how to transition to a net-zero energy system globally by 2050. The report notes that there is no place for investment in new fossil fuel supply, including natural gas, in its net zero pathway, and that between now and 2050 gas demand would need to decline by 55% concurrently with a reduction in coal demand by 98%.⁴⁰ Therefore, it is not acceptable to justify this Project, or any other, based on the replacement of coal use with natural gas, since use of both coal and natural gas must dramatically decrease in coming years. Canada and other developed countries must lead the way if the world is to be on a credible pathway to net-zero.

Further, a recent study found there is no room for new fossil fuel investment. The study found that to be within the 1.5°C carbon budget, some developed oil and gas reserves must stay in the ground, assuming coal mines cannot be quickly closed.⁴¹ The study came to this conclusion because developed oil and gas reserves make up four fifths of the 1.5°C carbon budget and six years of coal production accounts for the other fifth.⁴²

Additionally, a November 2021 report from Climate Analytics provided the first quantification of key takeaways for natural gas in a world that implements the Paris Agreement and limits global warming to 1.5°C. One of the main findings of the report is that:

Analysis of 1.5°C compatible scenarios from the IPCC Special Report on 1.5°C shows unabated use of natural gas in primary energy supply globally should already have peaked and be declining globally, and that it needs to drop by more than 30% below 2020 levels by 2030, and 65% below 2020 levels by 2040.⁴³

Therefore, there is no “green” or “sustainable” role for natural gas in any pathway that is consistent with global warming of 1.5°C. The report also notes that the role of gas in these scenarios consistent with 1.5°C is “inextricably tied to the viability of a massive expansion of

³⁹ Intergovernmental Panel on Climate Change, “[Summary for Policy Makers](#)” in *Climate Change 2021: The Physical Science Basis*, V Masson-Delmotte, P Zhai & A Pirani et al, eds (Cambridge University Press: Cambridge and New York 2021) at 14.

⁴⁰ International Energy Agency, “Net Zero by 2050: A Roadmap for the Global Energy Sector” (October 2021) at 21, online (pdf): https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf.

⁴¹ Kelly Trout et al, “[Existing fossil fuel extraction would warm the world beyond 1.5 °C](#)” (2022) 17:6 *Envtl Research Letters* at 9 [Kelly Trout].

⁴² Kelly Trout, *supra* note 41 at 7.

⁴³ Bill Hare et al, “Why gas is the new coal” (November 2021) at 6, online (pdf): *Climate Analytics* https://climateanalytics.org/media/gas_is_new_coal_nov_2021_1_1.pdf [Bill Hare].

Carbon Capture and Storage (CCS) - a technology whose future is highly uncertain.”⁴⁴ Indeed, as revealed by ATI documents, the proponent Pieridae and the Minister of Natural Resources discussed at different times using CCS in Alberta to support assertions of the Goldboro LNG Project’s sustainability.⁴⁵ However, in the midst of a climate crisis, it is contrary to the precautionary principle to purport to justify something as concrete and clear as a project’s contribution to global GHG emissions and climate change on the basis of uncertain technology and facilities that exist only on paper.

The Climate Analytics report goes on to directly address the premise that LNG is a cleaner alternative to coal. As noted in the report, “LNG is a very carbon intensive fuel source and taking into account emissions in production, manufacture distribution and gasification, including methane leakages, may have a greater GHG footprint than coal-fired generation when used for power production.”⁴⁶ Overall, the report found that existing data disqualified natural gas as a viable bridge fuel from coal, and should be targeted for phase-out like other fossil fuels.⁴⁷ This disqualification is even more apparent with respect to the Goldboro LNG Project, due to the potential for methane leakage over the thousands of kilometers of pipelines, as discussed above.

In documents received through FOI requests, Nova Scotia government employees have recognized that LNG projects are significant contributors of GHG emissions and may disrupt the achievement of emissions reduction goals. For instance, in a presentation and in a memorandum to the Executive Council of the Nova Scotia government on potential amendments to the *Environment Act* in relation to LNG and GHG emissions, it was recognized that LNG production is energy intensive, that facilities are very large sources of GHG emissions and that “LNG facilities are expected to be large emitters of GHGs on the scale of coal-fired electricity generation plants.”⁴⁸ Furthermore, it was recognized that while Nova Scotia was on track to make significant emissions reductions by 2030, “the introduction of a major new emitter, such as an LNG facility, would significantly change the province’s emission trajectory.”⁴⁹ A graph supporting this assertion showed an increase of emissions after 2020 due to the start of LNG plants such as Goldboro LNG, resulting in only a small decrease in emissions by 2030.⁵⁰ This directly contradicts assertions that the Goldboro LNG Project contributes to global climate action through the displacement of coal and to stated commitments by the federal and Nova Scotia governments to reach their respective targets by 2030 and net-zero emissions by 2050.

⁴⁴ Bill Hare, *supra* note 43 at 6.

⁴⁵ Pieridae Energy, “A Path to Net Zero: Carbon Capture and Storage (CCS) at Caroline, Alberta”, **Appendix 2, Tab 18**; Letter from Seamus O’Regan (Minister of Natural Resources) to Alfred Sorensen (Pieridae) (1 April 2021), **Appendix 2, Tab 14**.

⁴⁶ Bill Hare, *supra* note 43 at 7.

⁴⁷ Bill Hare, *supra* note 43 at 7.

⁴⁸ Nova Scotia, “Amendments to Environment Act: Greenhouse Gas Emissions from Liquefied Natural Gas Facilities” (27 July 2016) at 4, **Appendix 2, Tab 21** [“Amendments to Environment Act”]; Nova Scotia Environment, “Memorandum to the Executive Council: Liquefied Natural Gas (LNG) Greenhouse Gas Policy - Consultation” (31 March 2016), **Appendix 2, Tab 19**.

⁴⁹ Nova Scotia Environment, “Memorandum to the Executive Council: Request for Legislation: Amendments to the *Environment Act* (2016): Liquefied Natural Gas Greenhouse Gas Amendments” (27 June 2016), **Appendix 2, Tab 20**.

⁵⁰ “Amendments to Environment Act”, *supra* note 48 at 5, **Appendix 2, Tab 21**.

b. The Project will not respond to projected demand for LNG

The demand for natural gas is expected to drop quickly within the next ten years. Under the International Energy Agency's Net Zero Pathway, a rapid collapse of the LNG trade is predicted globally, beginning in 2025.⁵¹ However, Pieridae predicts gas will start flowing from Goldboro LNG sometime in 2028, 3 years after the demand for natural gas begins to decrease, putting into question the Goldboro LNG Project's economic viability.⁵² Moreover, the decision of some EU countries to increase their coal output is based on conserving natural gas supplies for the winter months, due to concerns that Russia will cut off the EU's access to Russian natural gas.⁵³ The brief switch to coal is only until the EU countries can increase their deployment of renewable power.⁵⁴ Therefore, increased coal use in Europe will be replaced with increased renewable energy use, not natural gas use from non-Russian sources, such as Canada.

Additionally, while Europe is predicted to purchase any additional LNG on the market for the next few years, Europe is also committed to transitioning away from fossil fuels, meaning supply from the Goldboro LNG Project, which would reach the market sometime in 2028, would likely arrive on the market too late to find European buyers.⁵⁵

Also, LNG projects in Nova Scotia will face increasing challenges to their viability over the next ten years due to expanding US competition and a growing supply of LNG that will likely decrease the price of LNG.⁵⁶

Further, the Goldboro LNG Project is not guaranteed to meet any hypothetical demand for non-fracked natural gas. ATI documents indicate both that "Europe prefers conventional (ie. non-fracked) gas"⁵⁷ and that natural gas for the Goldboro LNG Project may in fact come from fracked (shale) gas from Pennsylvania, New Brunswick or Nova Scotia.⁵⁸ A Pieridae presentation to the Nova Scotian government also mentions the Goldboro LNG Project would be an "excellent outlet for eastern Canadian shale gas plays".⁵⁹ If New Brunswick were to lift its moratorium on fracking in the Sussex area, and potentially province-wide, this would increase

⁵¹ Bill Hare, *supra* note 43 at 6, 15-6, 51-2.

⁵² Brent Jang, *supra* note 4.

⁵³ Inayat Singh, Jaela Bernstien & Alice Hopton, "Europe's turn back to coal a 'temporary' measure in response to Russian gas cuts" *Canadian Broadcasting Corporation* (25 June 2022), online: <https://www.cbc.ca/news/science/germany-coal-renewable-energy-climate-russia-1.6500354> [Inayat Singh]; Derek Gatopoulos, "In energy-strapped Europe, coal gets a Greek encore" *American Broadcasting Corporation* (16 June 2022), online: <https://abcnews.go.com/International/wireStory/energy-strapped-europe-coal-encore-85428322> [Derek Gatopoulos].

⁵⁴ Inayat Singh, *supra* note 53; Derek Gatopoulos, *supra* note 53.

⁵⁵ Inayat Singh, *supra* note 53.

⁵⁶ Fitch Solutions, "Canada Oil and Gas Report: Includes 10-year forecasts to 2031" (2022) at 56.

⁵⁷ "The Goldboro LNG Facility and Pipeline" (2 March 2021) at 2, **Appendix 2, Tab 13**.

⁵⁸ Email from Derek McDonald (CEAA) to Vanessa Rodrigues (CEAA) (18 January 2012), **Appendix 2, Tab 5**; Email from Derek McDonald (CEAA) to Mike Atkinson (CEAA) (23 July 2012), **Appendix 2, Tab 6**.

⁵⁹ Pieridae Energy, "Trans Atlantic LNG" (11 January 2012) at 000030, **Appendix 2, Tab 1**.

the potential for the Goldboro LNG Project to ship out fracked natural gas, contrary to European demands for non-fracked gas.⁶⁰

Further, Russia's invasion of Ukraine should not be used as justification to bypass the clear requirements of the *IAA* and move ahead with new LNG projects without an impact assessment. Rather, the crisis in Europe is a powerful motivation to move quickly towards renewable energy. Europe, and particularly Germany, was the main target market for the LNG produced through the Goldboro LNG Project approximately ten years ago.⁶¹ However, Germany does not have any LNG terminals through which to receive LNG from Canada.⁶² Additionally, both Germany and the EU have subsequently signed deals with other countries to reduce the amount of Russian oil they buy. Germany just signed an LNG deal with Qatar and the EU has just agreed to a deal with the US.⁶³ Furthermore, to wean off Russian natural gas, the EU proposes not to use the same amount of natural gas as they do now, but instead substitute some natural gas use with renewable energy.⁶⁴ Therefore, with Europe moving away from natural gas and signing deals with other countries, the theoretical new demand for Canadian LNG may be overestimated.

3. Conclusion

The lack of a valid federal environmental assessment under the *CEAA 2012* or the *IAA* means that the Goldboro LNG Project continues to be in a state of non-compliance with the *IAA*. Failure to conduct a valid federal assessment and properly consider the Goldboro LNG Project's projected GHG emissions is inexcusable when considering the climate crisis and Canada and Nova Scotia's GHG emissions reduction targets.

Rapidly developing climate science has confirmed that natural gas is unacceptable as a "transition" fuel, or at all, given it is a significant source of carbon emissions. The Goldboro LNG Project would potentially be operational by January 2027, leading to large increases in Nova Scotia's GHG emissions at a time when drastic reductions must already be well underway, and significant progress must have been made in the wholesale transition to fully renewable energy. Even considering only the facility's direct emissions, the Goldboro LNG Project is predicted to increase Nova Scotia's GHG emissions by 18% and result in Nova Scotia exceeding

⁶⁰ Jacques Poitras, "PCs give shale gas development quiet go-ahead in Sussex area" *Canadian Broadcasting Corporation* (4 June 2019), online: <https://www.cbc.ca/news/canada/new-brunswick/higgs-shale-gas-go-ahead-sussex-1.5162253>; Adam Huras, "EXCLUSIVE: Fracking moratorium needs revisiting: Higgs" *Telegraph Journal*, online: <https://tj.news/telegraph-journal/101869201>.

⁶¹ "The Goldboro LNG Facility and Pipeline" (2 March 2021), **Appendix 2, Tab 13**; Email from Derek McDonald (CEAA) to Mike Atkinson (CEAA) (23 July 2012), **Appendix 2, Tab 6**.

⁶² Patrick Wintour, "Germany agrees gas deal with Qatar to help end dependency on Russia" *The Guardian* (20 March 2022), online: <https://www.theguardian.com/world/2022/mar/20/germany-gas-deal-qatar-end-energy-dependency-on-russia> [Patrick Wintour].

⁶³ Patrick Wintour, *supra* note 62; Rob Davies, "Biden and EU agree landmark gas deal to break Kremlin's hold" *The Guardian* (25 March 2022), online: <https://www.theguardian.com/us-news/2022/mar/25/biden-and-eu-agree-landmark-gas-deal-to-break-kremlin-hold> [Rob Davies].

⁶⁴ Rob Davies, *supra* note 63.

its 2030 GHG emissions target by a third.⁶⁵ And when the Project’s full upstream, downstream and direct emissions are included, the impacts will be catastrophic. The Goldboro LNG Project would lock-in massive amounts of GHG emissions for decades, detrimentally impacting Nova Scotia’s and Canada’s abilities to meet their GHG emissions reduction targets and world-wide efforts to prevent further devastation and climate impacts.

The Supreme Court of Canada has recognized that climate change “poses a grave threat to humanity’s future” and that “[t]he only way to address the threat of climate change is to reduce greenhouse gas emissions”.⁶⁶ Canada cannot justify going forward with new fossil fuel projects due to Russia’s invasion of Ukraine. Rather, the impacts of Russia’s actions demonstrate yet again that dependence on oil and gas causes great harm, which can only be prevented by an immediate and just transition to renewable energy and ending all oil and gas development.

The federal government can and must correct years of statutory non-compliance and conduct a transparent, thorough environmental assessment of the Goldboro LNG Project. To date, there has been no evaluation of the project’s impacts on Canada’s ability to meet its GHG emissions reductions targets and the project’s cumulative effects.

A valid federal environmental assessment of Goldboro LNG is urgent and is legally required under the IAA. We request that the Minister recognize this reality, and respond accordingly to this letter, with reasons, within 90 days.

Sincerely,



James Gunvaldsen Klaassen
Barrister and Solicitor



Danielle Gallant
Barrister and Solicitor

cc: Minister of Natural Resources, NRCan.Minister-Ministre.RNCan@Canada.ca

⁶⁵ “Amendments to Environment Act”, *supra* note 48 at 4-5, **Appendix 2, Tab 21**; Nova Scotia Environmental Assessment Review Panel, “The Review of the Environmental Assessment Report Goldboro LNG Project Natural Gas Liquefaction Plant and Marine Terminal by Pieridae Energy (Canada) Ltd.” (3 March 2014) at 26, online (pdf): <https://novascotia.ca/nse/ea/goldboro-lng/goldboro-panel-report-2014-03-07.pdf>.

⁶⁶ *References re Greenhouse Gas Pollution Pricing Act*, 2021 SCC 11 at para 2.

4. Information on the organizations participating in this letter

Ecology Action Centre

The Ecology Action Centre is a Nova Scotia-based environmental organization established in 1971 with over 5000 members across the province. The Centre aims to create a society in Nova Scotia that respects and protects nature and provides environmentally and economically sustainable and just solutions for its citizens. The Centre works with its partners to provide current environmental information, promote researched solutions, and act as a watch-dog for the environment. The Centre has participated in numerous provincial and federal environmental assessments including many reviews of onshore and offshore fossil fuel projects.

The EAC was an active intervenor and participant in the 1997 review of the Sable Offshore Energy Project, the 2006 review of the Keltic Petrochemicals Inc. LNG and Petrochemical Facility proposed for Goldboro, Nova Scotia, the 2014 provincial government review of the Goldboro LNG Project and the 2021 review of the highway realignment project at the site. In reviewing these projects, the Centre focused on the impacts of these projects on the climate, plants and wildlife, aquatic systems, marine and fresh, and on local communities and Indigenous Peoples' rights.

Nova Scotia Fracking Resource and Action Coalition

The Nova Scotia Fracking Resource and Action Coalition (NOFRAC) comprises over 100 individual members and 15 environmental and community organizations. The Coalition was formed in December 2010 to share information about the risks of hydraulic fracturing and the development of shale gas in Nova Scotia, and to raise public awareness about the risks of these practices. It is guided by a steering committee of dedicated long-term members who meet regularly to discuss local, provincial and regional issues around fracking and shale gas.

Since 2014, its members have played a leading role in highlighting the potential impacts of the proposed Goldboro LNG project. The Coalition also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Sierra Club Canada Foundation

The Sierra Club Canada Foundation empowers people to be leaders in protecting, restoring and enjoying healthy and safe ecosystems. The Foundation is a grassroots organization with a “think globally, act locally” philosophy. Members are encouraged to actively contribute to environmental causes that engage or inspire them, in a capacity that best suits their capabilities. The Foundation has four regional Chapters, including an Atlantic Chapter based in Halifax, and a youth-led Chapter, Sierra Youth. It engages in projects designed to connect children to nature, protect wildlife and wild spaces, and to offer solutions to climate change. The Foundation also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Council of Canadians

Since 1985, the Council of Canadians has brought people together through collective action and grassroots organizing to challenge corporate power and advocate for people, the planet, and our democracy. Alongside opposing new fossil fuel infrastructure, the Council has also been working for a just transition and a just recovery at a community level.

The request by Pieridae for \$1 billion in public funds to support the Goldboro LNG project would amount to a massive fossil fuel subsidy. The federal government has promised to phase out these types of subsidies by 2025 and the Council of Canadians is working to hold them to this promise. To build awareness and action, the Council has been working with our Nova Scotia chapters, as well as local, national, and international allies, to stop the Canadian government from making this ill-advised financing agreement. The Council has written analysis, hosted a webinar and so far, more than 5,000 people have written letters of opposition, targeting MPs and federal ministers including Chrystia Freeland and Marc Miller.

New Brunswick Anti-Shale Gas Alliance

The New Brunswick Anti-Shale Gas Alliance (NBASGA) is an umbrella organization representing both Anglophone and Francophone groups, of all types, across the province. Its mandates are to keep unconventional fossil fuels out of the province, and to promote the move to a clean energy economy in light of the climate emergency. In the past, the group has filed suit against the province leading to a moratorium on fracking, and recently it has successfully intervened in two provincial appeals courts cases supporting federal carbon pricing, and intervened on the same issue at the Supreme Court. NBASGA and its member groups work closely with First Nations on the shale gas and climate issues.

NBASGA became involved in the Goldboro project because New Brunswick was initially designated as a potential source for shale gas in Pieridae's original plans. Pieridae still possesses gas leases in New Brunswick, despite there being a moratorium against fracking. The province has indicated it may lift the moratorium under certain conditions. NBASGA also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Environnement Vert Plus

Environnement Vert Plus (EVP) is an environmental advocacy group that has been present in Gaspésie and based in the Baie-des-Chaleurs for over 30 years. EVP's resistance to the invasion of the territory by oil and gas drilling companies led it to closely watch Pieridae following its merger with Petrolia in the fall of 2017. Since then, EVP has been busy weaving a web of international solidarity to prevent the disbursement of a US\$4.5 billion loan guarantee from the German commercial bank KfW. The web now extends to broad-based opposition to all aspects of the proposed liquefaction terminal project in Goldboro, Nova Scotia.

Citizens' Oil & Gas Council

Calgary based Citizens' Oil & Gas Council (COGC) has a 30-year history of advocacy with respect to oil and gas and most recently LNG issues, provincially, nationally and internationally. Its advocacy has focused on science-based public outreach and education, regulatory interventions and litigation. The COGC has participated in numerous provincial and federal regulatory proceedings and has appealed flawed regulatory decisions to both provincial and federal Courts of Appeal.

Greenpeace Canada

Created in 1971, Greenpeace is a global, independent campaigning organization that uses peaceful protest and creative communication to expose global environmental problems and promote solutions that are essential to a green and peaceful future. It has offices in over 55 countries, including Canada. Greenpeace has been closely following the LNG file, in particular the GNL-Quebec/Gazoduc project, for over two years. It has participated in all stages of the evaluation of the project by the *Bureau d'audiences publiques sur l'environnement* (BAPE) and has written a brief that it presented and that dealt, among other things, with the climate impact of this project. Greenpeace is also collaborating with organizations in Quebec, Canada (particularly in the East) and overseas that are working on the Goldboro LNG file.

Appendix 1 – Letter to Minister of the Environment and Climate Change and Impact Assessment Agency of Canada, dated May 10, 2021

Appendix 2 – ATI/FOI Documents

DOCUMENT	DATE	DETAILS	TAB
Access to Information Documents			
Pieridae Energy, Trans Atlantic LNG Powerpoint	January 11, 2012	Presentation to Nova Scotia Environment on the proposed Goldboro LNG project. Presentation describes the project, including potential NG sources and project timeline.	1
Email from Thom Dawson (Pieridae) to Janet E Blackadar (AM EC)	January 16, 2012	Email contains powerpoint presentation Pieridae gave to the Nova Scotia government on the proposed Goldboro LNG project.	2
Email from Janet E Blackadar (AM EC) to Mike Atkinson (CEAA)	January 16, 2012	Email references that the DFO authorization was just for the Keltic portion of the site, not the Maple portion.	3
Email from Mike Atkinson (CEAA) to Derek Mc Donald (CEAA)	January 16, 2012	Email references that the Goldboro LNG project appears to have new project components and a new proponent, compared to the Keltic project. Email contains a statement that a federal screening is likely required.	4
Email from Derek McDonald (CEAA) to Vanessa Rodrigues (CEAA)	January 18, 2012	Referencing that the Goldboro LNG project will occur on site of previous Keltic project and ship LNG out versus import LNG. The email also references that the Goldboro LNG project plans to ship out shale gas.	5
Email from Derek McDonald (CEAA) to Mike Atkinson (CEAA)	July 23, 2012	Email stresses that a comparison document between Goldboro and Keltic is key for the CEAA's decision to proceed or not proceed with a federal EA. Email also references that shale gas may be used for the Goldboro LNG project.	6
Email from Derek McDonald (CEAA) to Alfred Sorensen (Pieridae)	October 26, 2012	Gap analysis document requested, comparing the Goldboro LNG project with the previous Keltic project. Comment in email that the document could be used to determine whether a federal EA is necessary.	7
Email from Uwe Wittjugel (AMEC) to Derek McDonald (CEAA)	November 2, 2012	References the proposed content for the gap analysis/comparison document.	8
Goldboro LNG versus Keltic	November 2012	Document comparing the Goldboro LNG and the Keltic projects prepared for the Canadian	9

DOCUMENT	DATE	DETAILS	TAB
Petrochemicals - Comparative Description Draft Report		Environmental Assessment Agency by AMEC, Pieridae's consultant.	
Email from Vanessa Rodrigues (CEAA) to Alfred Sorensen (Pieridae) and Thom Dawson (Pieridae)	December 20, 2012	The Agency determined that the Goldboro LNG Project did not require a federal EA and that subsection 128(1)(c) of the <i>CEAA 2012</i> applies to the Goldboro LNG Project.	10
Email from Derek McDonald (CEAA) to Mike Atkinson (CEAA)	January 15, 2014	Highlights the point that there are challenges with Keltic and Goldboro project comparison.	11
Email from Heinie Brunner (Pieridae) to Melanie Smith (Agency), Barb Bryden & Andy Mukherjee	February 2, 2021	Providing a document that details out the Goldboro LNG project and compares the Goldboro and Keltic projects.	12
The Goldboro LNG Facility and Pipeline	March 3, 2021	Government document provides summary of the Goldboro LNG pipeline's status (ie. investments and plans) as of the date of the document.	13
Letter from Seamus O'Regan (Minister of Natural Resources) to Alfred Sorensen (Pieridae)	April 1, 2021	Letter is in response to Pieridae Energy's request for federal funding for the Goldboro LNG project.	14
Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes	Unknown	Compares three proposed LNG projects in NS and NB that are not approved but are proposed on land where there were previously approved projects. The document compares each proposed project with their respective previously approved projects.	15
Natural Resources Canada - Meeting Note to Minister: Minister Meeting with Alfred	Unknown	At the meeting Pieridae planned to provide an update on the Goldboro LNG project's status. The government notes that the project would help reduce emissions via a transition away from coal.	16

DOCUMENT	DATE	DETAILS	TAB
Sorensen, Pieridae Energy			
Natural Resources Canada - Memorandum to Deputy Minister: Pieridae Energy Limited's Proposed Goldboro LNG Export Facility	Unknown	Memorandum asks the Deputy Minister to approve or not approve something, possibly funding, in regards to the Goldboro LNG project.	17
Pieridae Energy, A Path to Net Zero: Carbon Capture and Storage (CCS) at Caroline, Alberta	Unknown	Discusses how carbon capture could make the Goldboro LNG project net zero.	18
Freedom of Information Documents			
Nova Scotia, Memorandum to Executive Council: Liquified Natural Gas (LNG) Greenhouse Gas Policy - Consultation	March 31, 2016	Memorandum requests approval to consult about developing sector-specific regulation for LNG facilities.	19
Nova Scotia, Memorandum to Executive Council: Amendments to the <i>Environment Act</i> (2016): Liquified Natural Gas Greenhouse Gas Amendments	June 27, 2016	Memorandum discusses the development of sector-specific regulations for LNG facilities.	20
Nova Scotia, Amendments to Environment Act: Greenhouse Gas Emissions from Liquefied Natural Gas Facilities Presentation	July 27, 2016	Presentation discusses the development of sector-specific regulations for LNG facilities and that LNG facilities are large sources of GHGs.	21

Appendix 3 – Non-Publicly Accessible Media Cover

DOCUMENT	DATE	DETAILS	TAB
Ottawa open to East Coast LNG plans, subject to meeting climate goals <i>(The Globe and Mail)</i>	May 27, 2022	Federal Government says that LNG projects could fit into the transition to a cleaner economy https://www.theglobeandmail.com/business/article-ottawa-open-to-east-coast-lng-plans-subject-to-meeting-climate-goals/	22
Pieridae considers plan for full-scale Nova Scotia LNG project to export gas to Germany <i>(The Globe and Mail)</i>	June 28, 2022	Pieridae is attempting to revive their Goldboro LNG project and Repsol is considering converting their Saint John LNG import facility to an export facility https://www.theglobeandmail.com/business/article-pieridae-considers-plan-for-full-scale-nova-scotia-lng-to-export-gas/	23
Ottawa seeking private-sector solution for export of East Coast LNG to Europe <i>(The Globe and Mail)</i>	July 3, 2022	Federal Government willing to assist in conversations with Germany, but not provide federal funding to Goldboro LNG https://www.theglobeandmail.com/business/article-ottawa-seeking-private-sector-solution-for-export-of-east-coast-lng-to/	24
EXCLUSIVE: Fracking moratorium needs revisiting: Higgs <i>(Telegraph Journal)</i>	Unknown	New Brunswick Premier Blane Higgs is talking to Repsol about rebuilding the Saint John LNG facility and getting rid of New Brunswick’s fracking moratorium https://tj.news/telegraph-journal/101869201?ref	25

APPENDIX 1



James Gunvaldsen Klaassen &
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May 10, 2021

Sent via email to:

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ceaa.information.acee@canada.ca

The Honourable Jonathan Wilkinson MP
Minister of Environment and Climate Change
House of Commons,
Ottawa, Ontario K1A 0A6

Impact Assessment Agency of Canada
200-1801 Hollis Street
Halifax, NS B3J 3N4

Dear Minister Wilkinson,

Re: Goldboro LNG – Request for federal assessment under the *Impact Assessment Act*

We write to request that an impact assessment be conducted in respect of the proposed Goldboro Liquefied Natural Gas export facility project (Goldboro LNG) under the *Impact Assessment Act* (IAA).¹ The construction of a new liquefied natural gas facility, including the one proposed for Goldboro, is expressly designated as an activity under the *Physical Activities Regulations*.² As a designated activity, Goldboro LNG cannot lawfully proceed without a federal impact assessment. The project must therefore undergo the planning phase under sections 10 through 15 of the IAA, with an ultimate decision made by the Impact Assessment Agency under section 16. The project's current status constitutes a continuing failure to comply with the requirements of the IAA. This non-compliance is based on an error that was made under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012)³ in December 2012. At that time, the then Canadian Environmental Assessment Agency (the "Agency")⁴ purported to make an unauthorized decision to allow the project to proceed without an assessment under the CEAA 2012. As set out in this letter, there was no statutory authority for such a decision. Consequently, if it proceeds, the project will do so without lawful authority, and in violation of sections 7 and 8 of the IAA.⁵ The Agency and the Minister had, and have, an ongoing obligation to remedy this non-compliance and require that an impact assessment be conducted. This non-compliance is not rectified by the passage of time and remains unlawful, and subject to judicial

¹ *Impact Assessment Act*, S.C. 2019, c. 28 (IAA).

² *Physical Activities Regulations*, SOR/2019-285, Schedule, subsection 37(d).

³ *Canadian Environmental Assessment Act, 2012*, S.C. 2012, c. 19, section 52 (CEAA 2012).

⁴ The Canadian Environmental Assessment Agency and its successor, the Impact Assessment Agency of Canada, will both be referred to herein as the "Agency".

⁵ IAA, sections 7 and 8.

review. Until the statutory process has been completed and a decision made, the project cannot proceed.

This request is made on behalf of our clients Ecology Action Centre, Nova Scotia Fracking Resource and Action Coalition, Sierra Club Canada Foundation, Council of Canadians, New Brunswick Anti-Shale Gas Alliance, Environnement Vert Plus, Citizens' Oil & Gas Council and Greenpeace Canada. Please see Appendix A for further information on these organizations.

The *IAA* requires that the Goldboro LNG project undergo an impact assessment. It will result in adverse environmental effects within federal jurisdiction as well as adverse and incidental effects, and it meets the criteria for public concern. Among other things, if and when it becomes operational, the facility will produce over 3.7 megatons of CO₂e emissions per year, constituting a massive, dangerous and entirely unacceptable increase in greenhouse gas (GHG) emissions. These adverse environmental effects are a matter of significant public concern. Also of significant public concern is the fact that the Goldboro LNG Project is proceeding unlawfully, and without this project ever having received a federal impact assessment.

Under subsection 9(4) of the *IAA*, if there is a request that a project be designated, the Minister must respond, with reasons, within 90 days. Similarly, under subsection 97(1) of the *IAA* and the *Information and Management of Time Limits Regulations*, the Minister must respond, with reasons, within 90 days, to any request that an assessment in sections 92, 93, or 95 be conducted. Due to the similarities between our request and those made under subsections 9(4) and 97(1) of the *IAA*, we request that the Minister respond to this letter, with reasons, within 90 days.⁶

Overview of the project:

Goldboro LNG is a proposed liquefied natural gas (LNG) export facility that Pieridae Energy Ltd. (Pieridae) seeks to develop on Nova Scotia's Eastern Shore. The Pieridae proposal envisions natural gas sourced in Alberta being delivered via pipelines to Nova Scotia, where it will be liquefied at the Goldboro plant and exported by ship to international markets. The target markets are Europe, South America and Asia.⁷

Goldboro LNG received a provincial environmental assessment and approval in 2014 under Nova Scotia's *Environment Act*. In its report on that assessment, the Nova Scotia Environmental Review Panel states:

To facilitate that review and assist in the Agency's decision making, Pieridae submitted a comprehensive comparative description of the two projects in November 2012 (AMEC, 2013a). This document followed the federal guide to preparing a project description (the Agency, 2012), and compared the two projects with an emphasis on the EA requirements established by the Agency (2012). The Agency reviewed the document and in an e-mail dated December 20, 2012, the Agency informed Pieridae that it determined that the Project does not require a federal EA pursuant to section 128(1)(c) of CEAA [2012].⁸

⁶ *Supra* note 1, subsections 9(4), 97(1) and *Information and Management of Time Limits Regulations*, SOR/2019-283.

⁷ Goldboro LNG Company site, accessed April 19, 2021, online: <http://goldborolng.com/>

⁸ *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)* (September 2013), online: <http://goldborolng.com/wp-content/uploads/2013/03/04-Regulatory-Environment.pdf> at Section 4.0 Regulatory Environment, p 4-1.

We have been unable to find any published statement or notice to that effect on any federal government website or any indication that public consultation took place in any form. The only public information in this regard is contained in a brief summary within the report of the Nova Scotia review panel within the provincial process. The Agency's rationale, as reported second-hand by the Nova Scotia review panel, was that a federal assessment was not required as the federal government had assessed a previous proposal for the same site which had not gone forward. This earlier proposal was known as the Keltic Project, which was said to be "very similar in nature" to the Goldboro LNG project.⁹ The Keltic Project was proposed in 2005 (sixteen years ago) by Keltic Petrochemicals Inc. and proposed the construction and operation of a petrochemical and LNG importation facility in Goldboro, Nova Scotia. The Keltic Project did not proceed. Seven years later in 2012, instead of conducting a review specific to the Goldboro LNG Project, the Agency purported to rely on environmental review documentation submitted years earlier, in respect of a different project, to justify its refusal to assess the environmental implications of the currently proposed Goldboro LNG Project.¹⁰

To the best of our clients' knowledge, these decisions were made behind closed doors, without the knowledge of the public or any opportunities for public participation. It appears that, in November 2012, Pieridae submitted a comparative description of the two projects, Goldboro LNG and Keltic.¹¹ Email correspondence dated December 20, 2012, from a Project Manager at the Agency, states:

Based on the information provided by Pieridae Energy Ltd, and in particular the analysis of the project and its components against those assessed during the comprehensive study (under the former Canadian Environmental Assessment Act) of the Keltic LNG Project (Goldboro LNG Versus Keltic Petrochemical and LNG Tanker Terminal Comparative Description, November 2012), the Agency has determined that this project would not require a federal EA. We consider that section 128(1)(c) of *CEAA 2012* applies to this project. However, it is important to contact us again should there be any changes to the project and its components from the information that has been provided.¹²

As discussed below, the Agency did not have statutory authority under section 128 of *CEAA 2012*, or under any provision of that Act, to make this determination.

We submit that an impact assessment must be undertaken for the following reasons:

⁹ *Ibid.*

¹⁰ AMEC Earth & Environmental, *Keltic Petrochemicals Inc. Liquefied Natural Gas Facilities and Marginal Wharf Goldboro, Nova Scotia – Final Comprehensive Study Report*, (October 2007) online: <https://www.ceaa-acee.gc.ca/052/document-html-eng.cfm?did=23949>; Canadian Environmental Assessment Agency, *Keltic Liquefied Natural Gas Facilities and Marginal Wharf Project Isaacs Harbour* (March 2008), online: <https://www.ceaa-acee.gc.ca/052/document-html-eng.cfm?did=25805>; and Nova Scotia Canada, *Keltic Petrochemicals* (accessed April 11 2021) online: <https://www.novascotia.ca/nse/ea/kelticpetro.asp>

¹¹ *Supra* note 8. To our knowledge, this "comparative analysis," which was apparently submitted to the Agency, was never made public. The public was never notified of its existence and was not consulted on any issue regarding a decision not to conduct a federal assessment of Goldboro LNG.

¹² The December 20, 2012 email was located only because of a submission made in 2015 to a US Agency regarding the project: Norton Rose Fulbright, *Pieridae Energy (USA) LTD., Second Supplement to application for long-term, multi-contract authorization to export natural gas into Canada for consumption and through Canada to free trade and non-free trade agreement nations after conversion into LNG and motion to lodge* (August 7, 2015), online: https://www.energy.gov/sites/prod/files/2015/08/f25/14-179-LNG%20Pieridae%20nd%20supp%20to%20App%2008_10_15.pdf

1. There has been no valid federal assessment for the Goldboro LNG Project under *CEAA 2012*, and the project does not comply with the requirements of the *CEAA 2012* and the *IAA*;
2. There have been substantial changes in the understanding of the potential adverse impacts of the Goldboro LNG Project on climate change, methane and GHG emissions reduction commitments and the economic benefits associated with LNG projects; and
3. There is significant public concern regarding the Project and its impacts.

Each of these will be discussed in turn below.

1. No valid federal assessment was conducted for the Goldboro LNG Project under CEAA 2012, and the project does not comply with CEAA 2012 and the IAA

Again, instead of conducting the required environmental assessment of the Goldboro LNG Project under the *CEAA 2012*, the Agency relied on environmental review documentation submitted by another proponent relating to the Keltic Project to avoid assessing the Goldboro LNG Project’s anticipated environmental impacts. This was unreasonable and unlawful because (a) there is no statutory basis in section 128 of *CEAA 2012* (in force when the Goldboro LNG Project was proposed) to not require a federal assessment for a separate and distinct project, proposed by a different proponent; and (b) there are substantial differences between the Goldboro LNG and the Keltic Projects. On this basis, there has never been a valid federal assessment for Goldboro LNG which, as a designated activity under the *Physical Activities Regulations*, must be submitted for an impact assessment under the *IAA*. Until this unlawful situation is remedied, no federal decisions or authorizations can be granted, and the *IAA* prohibits the project from proceeding.

a. Lack of statutory basis to not require a federal assessment

The Agency purported to rely on subsection 128(1)(c) of the *CEAA 2012*, which states:

128 (1) This Act does not apply to a project, as defined in the former Act, that is a designated project as defined in this Act, if one of the following conditions applies:

- (a) the proponent of the project has, before the day on which this Act comes into force, initiated the construction of the project;
- (b) it was determined by the Agency or a federal authority under the former Act that an environmental assessment of the project was likely not required;
- (c) the responsible authority has taken a course of action under paragraph 20(1)(a) or (b) or subsection 37(1) of the former Act in relation to the project; or
- (d) an order issued under subsection (2) applies to the project.¹³ [emphasis added]

Section 128 of *CEAA 2012* was never meant to apply to two different project applications, made by two entirely distinct and separate proponents, as is clear from the applicable case law and rules of statutory interpretation. As discussed below, none of the above factors set out in subsection 128(1) applied to the Goldboro LNG project. More specifically, despite the Agency’s reliance on subsection

¹³ *CEAA 2012* at section 128. As discussed below, the reference in section 128 to the “former Act” is a reference to the *CEAA 1992*.

128(1)(c), no course of action under any of subsections 20(1)(a) or (b), or section 37, was taken in relation to the project under the former Act.¹⁴

i) Applicable caselaw

Section 128 has only been considered in one decision, *Minnova Corp v Canada (Attorney General)*, 2015 FC 898. This was an application for judicial review of an Agency decision to characterize the applicant's gold mine (PL Mine) as a "new" mine when it resumed operations after more than two decades of inactivity. On that basis, the Agency found that the mine was subject to subsection 16(c) of the Schedule to the then *Regulations Designating Physical Activities* (the 2012 *Regulations*) and therefore required a new environmental assessment.¹⁵ The Agency took the position that subsection 128(1)(a) of the *CEAA 2012* did not apply because the proposed project was separate and distinct from the existing mine and facilities.

The Federal Court found that the Agency's decision was unreasonable, as a purposive construction of the terms "new mine" and "existing mine", in the context of the *CEAA 2012* and the 2012 *Regulations*, led to the conclusion that the proposed resumption of operations for the PL Mine was an existing mine, not a new mine. Although the judicial review application was deemed premature, the Court also found that the mine did not require a new environmental assessment since it was an existing mine previously in operation and under care and maintenance as a non-operating mine under valid provincial laws for the past 26 years. The Court found as follows:

[30] Simply put, what is old cannot be new again, and if one purposively interprets the *CEAA 2012* and Schedule to the *Regulations* as a whole, the meaning of "new" mines as distinguishable from "existing" mines contextually makes it clear that a pre-existing mine still in existence cannot be determined to be a new mine under the *CEAA 2012* and Schedule to the *Regulations*.

While *Minnova Corp* addresses the applicability of subsection 128(1)(a) of *CEAA 2012* rather than subsection 128(1)(c), the decision turns on the finding that the PL Mine was one single project and the proponent simply sought to revive the same operation. *Minnova Corp* demonstrates that the term "the project" in section 128, can only refer to the same project and not to another project. Unlike the PL mine, the Keltic Project was neither constructed nor operated, and existed only on paper. It involved different processes and activities from the Goldboro LNG Project. As discussed in detail below, the Goldboro LNG project is a distinct and different project which required a separate assessment and was not exempted from the operation of *CEAA 2012* under section 128.

ii) Application of the rules of statutory interpretation

Although there is only one instance of judicial consideration of section 128, we can also look to the modern rules of statutory interpretation to discern its meaning.¹⁶ These rules require that the words of a statute be read "in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament."¹⁷ The phrase "in relation to the project", interpreted in its grammatical and ordinary sense, may only apply to the same

¹⁴ *Ibid.*

¹⁵ *Regulations Designating Physical Activities*, SOR/2012-147 at section 16 (the 2012 *Regulations*).

¹⁶ *Rizzo & Rizzo Shoes Ltd (Re)*, [1998] 1 SCR 27.

¹⁷ *Ibid* at para 21.

project: not two separate projects with key differences and different proponents, as will be further discussed below.

Provisions must also be interpreted purposively and contextually. Prior to the *CEAA 2012*, federal environmental assessments were governed by the *Canadian Environmental Assessment Act, S.C. 1992, c. 37 (CEAA 1992)*.¹⁸ In April 2012, with the passage of Bill C-38, the 1992 Act was repealed and replaced with *CEAA 2012*. Under *CEAA 2012*, even if a project was designated by regulation, thereby making it subject to federal environmental assessment, an assessment may still not occur in two scenarios:

- (1) The Agency may make a decision under subsection 10(b) that no environmental assessment of the designated project is required and post that decision on the Internet site. The Agency may make such a determination only after the requirements of subsection 10(a) are met. It must be established through the review of the project description and public comments received on the project description following posting of a notice regarding the project, that the designated project has no potential to cause adverse environmental effects, or has the potential to cause minor environmental effects that can be adequately managed through other existing legislative or regulatory processes; or
- (2) The federal government may decide not to conduct its own environmental assessment of a designated project on the basis that the project is being, or has been, assessed provincially, only after following the process set out in sections 32 through 37 of *CEAA 2012*. These sections provide for substitution of the process for an environmental assessment, if a province requests such a substitution.¹⁹

Neither of the above scenarios appear to have occurred with respect to the Goldboro LNG project.²⁰ There was no public consultation regarding an exercise of discretion not to require an environmental assessment under *CEAA 2012*, and there is no evidence on any public registry that the requirements of section 10 of *CEAA 2012* were met. Likewise, there is no request or notice regarding substitution, or of a Ministerial approval of such substitution, appearing anywhere on the Agency's internet site, and consequently no compliance with the requirements of sections 32-37 of the *CEAA 2012*.

The transitional provisions in *CEAA 2012*, including section 128, dictated what happened to assessments which were started but not yet completed under *CEAA 1992*. For instance, under sections 124-126 of *CEAA 2012*, any screening, comprehensive study or assessment by a review panel of a project commenced under *CEAA 1992* before *CEAA 2012* came into force was to be continued and completed as if the former Act was not repealed. Additionally, section 127 provided

¹⁸ *Canadian Environmental Assessment Act, S.C. 1992, c. 37 (CEAA 1992)*.

¹⁹ *CEAA, 2012* at section 10, and sections 32 – 37.

²⁰ We note that both options are no longer available to the Agency, since *CEAA 2012* has now been replaced with the *IAA* and none of the *IAA*'s transitional provisions would apply to these scenarios. Both the decision that no environmental assessment of the designated project is required pursuant to section 10 of *CEAA 2012* and the decision for the substitution of the process upon the request of a province pursuant to section 32 of *CEAA 2012* must have occurred prior to the new Act coming into force, which is not the case here, for sections 185 and 185.1(1) of the *IAA* to apply to those decisions. The Agency or Minister would therefore have to pursue the relevant processes set out within the *IAA* (ss. 16 and 32), including ensuring compliance with the new Act's preconditions regarding providing notice, ensuring an opportunity for public participation, considering certain factors and comments from the public as well as ensuring that certain conditions will be met.

for substitution of a process under the former Act approved prior to *CEAA 2012* coming into force, under which an environmental assessment of a project commenced under *CEAA 1992* before the day on which *CEAA 2012* comes into force was also continued and completed as if the former Act had not been repealed. It is clear that all of these provisions, which immediately precede section 128, could only have applied to one singular project. They referred to the continuation and completion of specific assessments of particular discrete projects that had been started but were not completed under *CEAA 1992*. There is no basis to conclude that the term “project”, as used in subsection 128(1)(c), should be interpreted differently.

Similar provisions are found within the *IAA*. The *IAA* contains transitional provisions that dictate what happens to assessments which are started but not yet completed under *CEAA 2012* and *CEAA 1992* prior to the *IAA* coming into force. Sections 178 to 185 of the new Act refer to either ‘a project’ or ‘a designated project’. There is nothing to indicate that the transitional provisions in the *IAA* could apply to exempt a new and different project from assessment if an assessment of that new project had not already begun under *CEAA 2012*. If a new project is proposed, a new assessment is required.²¹

iii) No actions under subsections 20(1)(a), (b) or 37 CEAA 2012 were taken in relation to the Goldboro LNG Project for subsection 128(1)(c) to apply

As stated above, subsection 128(1)(c) of *CEAA 2012* could not be relied upon to exempt the Goldboro LNG project from assessment. Subsection 128(1)(c) dictated what occurs for assessments for which a decision was already made under *CEAA 1992*. Again this subsection stated:

128 (1) This Act does not apply to a project, as defined in the former Act, that is a designated project as defined in this Act, if one of the following conditions applies: ...

(c) the responsible authority has taken a course of action under paragraph 20(1)(a) or (b) or subsection 37(1) of the former Act in relation to the project... [emphasis added]

Subsection 128(1)(c) of *CEAA 2012* does not apply if a responsible authority took a course of action under any of subsections 20(1)(a) or (b) or 37(1) of *CEAA 1992*. No such course of action was taken in relation to the Goldboro LNG project.

The only decision taken under subsection 37(1) of *CEAA 1992* was with respect to the Keltic Project. That decision read, in part:

taking into account the mitigation measures described in the comprehensive study report, is not likely to cause significant adverse environmental effects; and the mitigation measures and follow-up program described in the comprehensive study report are appropriate for the proposed project.²²

²¹ It should be noted that section 185.1 of the *IAA*, which sets out the limited situations under which the new Act does not apply to a ‘designated project’, does not exempt the Goldboro LNG Project from the application of the *IAA*. Subsection 185.1(1) *IAA* does not apply to the Project because there was no lawful determination from the former Agency that no environmental assessment was required pursuant to section 10 of *CEAA 2012*. The Agency’s informal determination that section 128 of the *CEAA 2012* applied to the project lacked any basis in fact and law, as discussed herein. Subsection 185.1(2) *IAA* does not apply because the Project is a ‘designated project’ under both Acts.

²² Canadian Environmental Assessment Agency, *Archived - Environmental Assessment Decision Statement, Keltic Liquefied Natural Gas Facilities and Marginal Wharf Project* (March 7, 2008), online: <https://IAAc-aeic.gc.ca/052/document-html-eng.cfm?did=25805>

As this decision was made regarding the Keltic Project, it does not engage the exemption in subsection 128(1)(c) of the *CEAA 2012* with respect to Goldboro LNG. For subsection 128(1)(c) to apply, the responsible authority must have taken a course of action with respect to Goldboro LNG. As will be described more below, there are substantial differences between the Goldboro LNG and the Keltic Projects which demonstrate the illogic of the Agency's purported determination under section 128. In any event, mere similarity to another project does not exempt a subsequent project from the requirements of either *CEAA 2012* or the *IAA*.

b. Differences between Goldboro LNG and the Keltic Project

There are key differences between Goldboro LNG and the Keltic Project which undermine the logic of relying on the federal assessment of Keltic Project to accurately assess the impacts of the Goldboro LNG Project.

i. Differences between the components of the projects

The Goldboro LNG Project focuses on liquefying natural gas for export to overseas markets and its facility will have a capacity to receive, liquefy and export nominal 10 million tonnes of natural gas per annum (Mtpa) (about 1575 million cubic feet per day).²³ Goldboro LNG will receive natural gas by a dedicated pipeline, liquefy the gas, store the LNG on site, load it onto carriers and export and ship it around the world. This process requires massive refrigeration compressors and their associated carbon dioxide emissions.

The Keltic Project underwent provincial and federal environmental assessments and obtained EA approvals in 2007 (provincial) and 2008 (federal), although it was never built.²⁴ The Keltic Project was a proposed petrochemical complex supported by an LNG importation and vaporization facility and an electrical co-generation plant.²⁵ The stated purpose of the Keltic proposal was "to increase petrochemical production in North America."²⁶ Keltic was an integrated facility, which would receive LNG by ship and re-vaporize it. The facility proposed to use the natural gas for the production of polyethylene and polypropylene pellets for shipment to customers across North America. These pellets would be used to manufacture plastic products elsewhere in Canada and the US. A co-generation plant was also included to supply power and process heat. Gas would also be delivered to North American markets via the Maritimes and Northeast Pipeline (MN&P). As an overview, some of the key components of the Keltic project included:

- The LNG facility, including a marine terminal and marine transfer pipelines: This facility would have provided feedstock for the petrochemical plant and natural gas to the M&NP system. The heat required for the regasification of LNG would be supplied by low-pressure fuel and/or waste heat from the petrochemical plant and co-generation unit. The product of the regasification section was to be natural gas transported to the local end-users, the co-

²³ Nova Scotia Canada website, *Goldboro LNG Project* (accessed May 5 2021), online: <https://novascotia.ca/nse/ea/goldboro-lng.asp>; and *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)*, (September 2013), online: <https://novascotia.ca/nse/ea/goldboro-lng/00-Executive-Summary.pdf> at Executive Summary, page i.

²⁴ Pieridae Energy (Canada) Ltd., *Goldboro LNG, Registration Document: Class 2 Undertaking* (February 2013) online: <http://goldborolng.com/wp-content/uploads/2013/03/Goldboro-LNG-Registration1.pdf> at p 1, 8.

²⁵ Nova Scotia Government, *Keltic Petrochemicals*, online: <https://www.novascotia.ca/nse/ea/kelticpetro.asp>

²⁶ AMEC Earth & Environmental, *Keltic Petrochemicals Inc. Liquid Natural Gas Facilities and Marginal Wharf, Goldboro Nova Scotia, Final Comprehensive Study Report* (October 2007), online: [https://files.pca-cpa.org/pcadocs/bi-c/2.%20Canada/3.%20Exhibits/Exhibit%20R-348%20-%20Keltic,%20Final%20CSR,%20excerpt%20to%202-3%20\(October%202007\).pdf](https://files.pca-cpa.org/pcadocs/bi-c/2.%20Canada/3.%20Exhibits/Exhibit%20R-348%20-%20Keltic,%20Final%20CSR,%20excerpt%20to%202-3%20(October%202007).pdf) at p ES-1.

generation plant and the petrochemical plant, and the M&NP by pipeline for further distribution to customers.

- The Petrochemical Facilities: The facility was to be fed by ethane and propane obtained from the LNG Terminal and the Sable Offshore Energy Inc. plant. The facility would have produced primarily ethylene and propylene using steam cracking. Polyethylene and polypropylene pellets would subsequently be produced for shipment to external markets.
- Marginal Wharf: The marginal wharf was required for receipt and shipment of products and by-products in support of the petrochemical plant and for receiving supplies and equipment during construction of the complex.
- Co-Generation Plant: This power plant was to incorporate gas turbines and heat recovery steam generators with a capacity of approximately 200 megawatts (MW). The co-generation plant would be fuelled by spent LNG with any remaining spent LNG injected into the existing M&NP pipeline in Goldboro.²⁷

Even based on these project descriptions, there are fundamental differences between Goldboro LNG and the Keltic Project. First, unlike the Keltic Project, no component of Goldboro LNG is comparable to the Keltic facility's primary focus on petrochemical production using imported LNG, and its goal to increase such production in North America. Goldboro LNG would not involve the manufacturing of plastic products. Goldboro LNG focuses solely on liquefying natural gas for export to overseas markets and would not have the capability to synthesize other petrochemical products. This was a key component of the Keltic Project but is completely absent in the Goldboro LNG proposal. The Keltic Petrochemicals report claims that:

The large scale industrial production of polyethylene and polypropylene is the key element of the proposed undertaking with respect to its character as a value-added energy project. This Project component aims at an economic return through the supply of polyethylene and polypropylene to the North-American market and its increasing demand for plastic resins.²⁸ [emphasis added]

There are also fundamental differences in the cumulative GHG emissions associated with the two project proposals. The federal assessment of the Keltic Project assessed cumulative GHG emissions as a "minor contribution to Nova Scotia's total GHG" emissions.²⁹ The Keltic Project was intended to implement energy-efficiency measures throughout its facilities, including the use of low pressure fuel or waste heat. The federal assessment stated that while the Keltic facilities' main contributor to GHG emissions would be the 200 MW co-generation plant, regasification of LNG would also be a

²⁷ *Comprehensive Study Report – Keltic Petrochemicals, Liquid Natural Gas Facilities and Marginal Wharf* (October 2007), online: https://www.ceaa-acee.gc.ca/050/documents_staticpost/pdfs/23818-02E.pdf at section 2.0: Project Description and Scope of Assessment at p 2-5 – 2-17.

²⁸ AMEC Earth & Environmental, *Environmental Assessment: Keltic Petrochemicals, Petrochemicals and Liquefied Natural Gas Facility* (July 2006), online: https://novascotia.ca/nse/ea/kelticpetro/eareport/KelticPetro_Section02-07.pdf at section 5.4, p 5-2.

²⁹ *Keltic Petrochemicals Inc. Comprehensive Study Report – Final Report* (October 2007), online: https://IAAc-aeic.gc.ca/050/documents_staticpost/pdfs/23818-08E.pdf at Section 8.0: Cumulative Environmental Effects Assessment, p 8-18 & 8-50.

source.³⁰ The report states that the release of CO₂ would be greatly minimized when compared to the alternative of taking power off the NSPI grid.

In contrast, the provincial assessment of the Goldboro LNG Project recognized that it would increase the province's GHG emissions by almost 20% (above 2010 levels) and that the Goldboro LNG facility would be the largest single GHG emitter in the province. The provincial report recognizes that Nova Scotia had committed to reducing GHG levels to 10% below 1990 levels by 2020 as part of the *Environmental Goals and Sustainable Prosperity Act (EGSPA)*. The report states that despite the commitment to developing a GHG management plan and contributing to carbon offset programs, "it is still likely that the province's ability to achieve the goals laid out in the *EGSPA* would be compromised."³¹ As the 2020 *EGSPA* target has passed, this increase in emissions will also threaten Nova Scotia's intended minimal targets for 2030 and 2050, set out in the *Sustainable Development Goals Act (SDGA)*,³² as discussed further below. The provincial environmental effects assessment also provides an inventory of Project emissions of the proposed Goldboro LNG plant, demonstrating that the highest CO₂ emissions stem from the refrigerant compressor gas turbines and the power generation gas turbine.³³ These components, which are sources of very high projected emissions associated with the Goldboro LNG project, were not present or even contemplated in the Keltic Project proposal. There was also no equivalent to the Keltic 200MW co-generation plant within the Goldboro LNG proposal.

ii. Differences between the conditions relating to the projects

Although the Keltic Environmental Assessment could be considered in a review of Goldboro LNG, they remain separate and distinct projects. If the projects were truly identical, or so similar that the assessment of one could automatically be applied to the other, one would expect to see all, or virtually all, of the approval conditions for Keltic being applied as conditions for Goldboro LNG. In reality, there is no indication that the federal approval conditions which applied to the Keltic Project are currently being applied to Goldboro LNG. The only mention of a federal assessment within the Goldboro LNG provincial review are statements that "the Canadian Environmental Assessment Agency has determined that no federal environmental assessment is required."³⁴ The Nova Scotia Environmental Assessment report for Goldboro LNG states, on the applicability of *CEAA 2012*:

³⁰ *Ibid* at p 8-17: "The Keltic facilities main contributor to GHG will be the 200 MW co-generation plant however, regasification of LNG is also a source."

³¹ Nova Scotia Environmental Assessment Review Panel, *The Review of the Environmental Assessment Report Goldboro LNG Project Natural Gas Liquefaction Plant and Marine Terminal by Pieridae Energy (Canada) Ltd.*, (March 2014) online: <http://goldborolng.com/wp-content/uploads/2014/03/Goldboro-panel-report-2014-03-07.pdf> at p 26.

³² Nova Scotia Government webpage, *Sustainable Development Goals Act*, (online): <https://novascotia.ca/nse/sustainable-development-goals-act/>

³³ *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)*, (September 2013), online: <https://novascotia.ca/nse/ea/goldboro-lng/10-Environmental-Effects-Assessment.pdf> at Section 10.0: Environmental Effects Assessment, p 10-29.

³⁴ Pieridae Energy, *Goldboro LNG - Environmental Assessment*, (accessed April 11 2021) online: <http://goldborolng.com/reviews-assessments/> & Nova Scotia Environmental Assessment Review Panel, *The Review of the Environmental Assessment Report Goldboro LNG Project Natural Gas Liquefaction Plant and Marine Terminal by Pieridae Energy (Canada) Ltd.*, (March 2014) online: <http://goldborolng.com/wp-content/uploads/2014/03/Goldboro-panel-report-2014-03-07.pdf> at p 12.

As per section 13 (d) of the new “Regulations Designating Physical Activities” an LNG facility requires an EA pursuant to CEAA 2012 – Goldboro LNG has been exempt due to similarity with CEAA approved Keltic Project.³⁵

The federal Environmental Decision Statement for the Keltic Project said that the project was not likely to cause adverse environmental effects, and that the mitigation measures and follow-up programs described in the federal comprehensive study were appropriate for the proposed project.³⁶ The Keltic comprehensive study report sets out various mitigation measures, including those for air quality and environmental effects.³⁷ The report states that the project’s operational air emissions would not result in exceedances of the provincial and CCME ambient air quality objectives and regulations. This would be confirmed through monitoring programs, as would any modifications to mitigation plans and/or operations to prevent unacceptable environmental effects. There would also be a follow-up program with a project air monitoring program. The report states that air emissions from the LNG facility would mainly concern NOx, CO, and CxHy (unburned hydrocarbons) caused by flue gas combustion in the submerged combustion vaporizers. To suppress NOx emissions, the submerged combustion vaporizers would be fitted with low NOx burners, and the Proponent would include energy efficient measures and emissions control technologies.

The above mitigation and follow-up programs with respect to air emissions and environmental effects cannot, and do not, logically apply to Goldboro LNG. Although the provincial environmental approval conditions for Goldboro LNG provides for a GHG Management Plan, including GHG emissions monitoring and reporting, identical conditions for air quality and environmental effects cannot apply to both projects when there are differences in both (a) the total anticipated GHG emissions and (b) the components which will generate the highest levels of GHG emissions.

The federal comprehensive study report³⁸ for the Keltic Project also sets out specific mitigation measures for species at risk. Some species that require specific monitoring plans under the Keltic Assessment are claimed to not be disturbed in the Goldboro LNG assessment. For instance, the Keltic study report sets out specific monitoring and mitigation measures for both the Roseate Tern and Greater Yellowlegs, which do not appear within the Goldboro LNG assessment.³⁹ Under the Keltic report, there are also specific timelines under which construction and maintenance activities

³⁵ *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)*, (September 2013) online: <http://goldborolng.com/wp-content/uploads/2013/03/04-Regularatory-Environment.pdf> at section 4.0: Regulatory Environment, Table 4.1-1 Preliminary List of Relevant Legislative and Regulatory Requirements.

³⁶ Canadian Environmental Assessment Agency, *Archived – Environmental Assessment Decision Statement* (March 7 2008), online: <https://iaac-aeic.gc.ca/052/document-html-eng.cfm?did=25805>. Note: the Minister recommended that the responsible authorities ensure the implementation of the mitigation measures and the follow-up program described in the comprehensive study report, in order to determine the effectiveness of the measures taken to mitigate any adverse environmental effects, and to verify the accuracy of the environmental assessment of the project.

³⁷ AMEC Earth & Environmental, *Environmental Assessment: Keltic Petrochemicals, Petrochemicals and Liquefied Natural Gas Facility* (July 2006), online https://iaac-aeic.gc.ca/050/documents_staticpost/pdfs/23818-05E.pdf at section 5.0: Environmental Effects, Mitigation, Residual Environmental Effects and Follow up.

³⁸ *Ibid* at p 5-57 - 5-60 and p 5-67 - 5-70.

³⁹ *Ibid* at p 5-60; *Supra* note 33; and *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)*, (September 2013), online: <https://novascotia.ca/nse/ea/goldboro-lng/14-Summary-and-Conclusion.pdf> at Section 14.0: Assessment Summary and Conclusion.

should be avoided to minimize effects on endangered species, which also do not appear within the approval conditions for Goldboro LNG.⁴⁰

The Keltic assessment also includes specific mitigation measures for wetlands, including a wetland mitigation plan and site-specific protection plans for the wetlands.⁴¹ Identical wetland mitigation plans are not provided for within the Goldboro LNG assessment. Instead, the Goldboro LNG assessment provides for a wetland compensation plan.⁴²

The above paragraphs do not constitute an exhaustive list of differences between the conditions which apply to the Keltic Project and Goldboro LNG. They do demonstrate that approval conditions which would have applied to the Keltic Project (had it proceeded) are not being applied to Goldboro LNG.

Further, the Goldboro LNG Environmental Effects Assessment (Section 10 of the Report) does not reference the federal comprehensive study report for the Keltic Project. It only references the provincial Keltic Project EA Conditions⁴³ once, when considering mitigating the effects of ambient lighting. The Goldboro Assessment states:

A lighting plan was developed by Jacques Whitford (2008) for the Keltic Project to satisfy EA Condition 1.6. The lighting plan addressed: Similar lighting needs will be required for this Project, consequently it is recommended that a lighting plan be developed post FEED.⁴⁴

While the Keltic Project is referenced at times in the assessment of the Goldboro LNG project, and the two projects had some similarities, it is clear that the Keltic Project was not viewed as identical or even similar in all material aspects.

As a result of the misapplication of subsection 128(1)(c) of *CEAA 2012* to Goldboro LNG, this project is proceeding without a necessary federal assessment and/or federal conditions for approval.

c. Goldboro LNG is a designated project under the IAA

On the basis of the above, there has never been a valid federal assessment for the Goldboro LNG Project. We therefore submit that it must undergo an impact assessment under the *IAA*. Projects involving the construction of new LNG facilities, including the one proposed for Goldboro, which involve liquefaction of more than 3,000 tonnes per day⁴⁵ of natural gas, and/or with storage capacity of more than 136,000 m³,⁴⁶ are expressly designated as activities under subsection 37(d) of the Schedule to the *Physical Activities Regulations*, for the purposes of impact assessment under the *IAA*.

While an impact assessment is required in respect of Goldboro LNG, in other situations, where appropriate the Agency may decide under section 16 of the *IAA* that an impact assessment of another designated project may not be required. However, even in that scenario, the *IAA* requires that the

⁴⁰ *Supra* note 37. For instance, the Keltic assessment states that in order to minimize effects on potential nesting by Greater Yellowlegs in the Dung Cove area, avoid construction, maintenance activities at the pipeline during the sensitive nesting period (June to August) at p 5-60. Also see mitigation measures for vertebrate animal reproduction at p 5-67-8.

⁴¹ *Ibid* at p 5-75.

⁴² *Supra* note 33 at 10-78, 10-81-84.

⁴³ Nova Scotia, *Environmental Assessment Approval – Keltic Petrochemicals LNG and Petrochemicals Plant Facilities*, online: https://novascotia.ca/nse/ea/kelticpetro/KelticPetro_Conditions.pdf at Condition 1.6.

⁴⁴ *Supra* note 33 at 10-62 - 10-63.

⁴⁵ The Goldboro LNG is projected to process 10,000,000 tonnes of LNG per year, which averages to over 27,000 tonnes per day.

⁴⁶ The project is to have total storage capacity of 690,000 tonnes of LNG.

Agency provide the public with opportunities to participate meaningfully. To make a section 16 determination, the Agency would be required first to take into consideration various factors such as: public comments, comments from any jurisdiction or Indigenous group consulted with under section 12, the possibility that the designated project would cause adverse effects in federal jurisdiction or adverse direct or incidental effects, and “any other factor” that it considers relevant. The Agency would also be statutorily required to post a notice of its decision and the reasons for it on the Registry, so that it is publicly available. In contrast, the process described above not only unlawfully purported to exempt Goldboro LNG from federal assessment, but also unlawfully and unreasonably excluded the public from knowing that such a determination would be made, and from providing any submissions and commenting as to whether a federal assessment should take place.

As noted above, there was no statutory basis under *CEAA 2012* to bypass federal assessment due to marginal and superficial similarities between two different projects. Therefore, no operative legal decision exempts Goldboro LNG from federal assessment. If no federal assessment of Goldboro LNG is now undertaken under the *IAA*, legal remedies may be available to our clients.

d. Current and anticipated construction by Pieridae contravenes section 7 of the IAA

We also write to alert you to potential contraventions of section 7 of the *IAA*. Under subsection 7(1), a proponent of a designated project must not do any act or thing in connection with carrying out the designated project, in whole or in part if that act or thing may cause effects such as changes to the environment within legislative authority of Parliament and changes on federal lands. Subsection 7(3) sets out the exception to subsection (1), whereby the proponent may do an act or thing in connection with carrying out the designated project under specified conditions. None of these conditions apply in this context.

Again, there has been no lawful decision under subsection 16(1) of the *IAA*, or under *CEAA 2012*, exempting Goldboro LNG from federal assessment. Yet Pieridae has already begun clearing the site of its planned Goldboro LNG project. In March 2021, Pieridae also registered for a provincial environmental assessment for permanent realignment of Highway 316 to re-route the highway around the plant’s proposed site. The Nova Scotia Environment Minister very recently approved the project under the province’s *Environment Act* on April 29, 2021. As stated above, despite this provincial approval, the proponent may not move forward until full compliance with the *IAA* has been confirmed.

e. Financial assistance would contravene section 8 of the IAA

Pieridae has said publicly that it is seeking federal financial assistance for the Goldboro LNG project. If such financial assistance is under consideration by any Minister, Department or Agency of the Government of Canada, granting it without an assessment would contravene section 8 of the *IAA*:

8. A federal authority must not exercise any power or perform any duty or function conferred on it under any Act of Parliament other than this Act that could permit a designated project to be carried out in whole or in part and must not provide financial assistance to any person for the purpose of enabling that designated project to be carried out, in whole or in part, unless

(a) the Agency makes a decision under subsection 16(1) that no impact assessment of the designated project is required and posts that decision on the Internet site; or

(b) the decision statement with respect to the designated project that is issued to the proponent of the designated project under section 65 sets out that the effects that are indicated in the report with respect to the impact assessment of that project are in the public interest. [emphasis added]

The IAA requires that an impact assessment of this designated activity be conducted in respect of the project before it can be determined that any such financial assistance may be granted. Alternatively, there must be a publicly accessible statutory decision that no federal assessment was required.⁴⁷ In the context of Goldboro LNG, there is no operative decision that the designated project is exempted from federal assessment.

2. There have been substantial changes in the understanding of the potential adverse impacts of the Goldboro LNG Project on climate change, methane and GHG emissions reduction commitments and the economic benefits associated with LNG projects

It is also crucial that there be a federal assessment of Goldboro LNG due to substantial changes in climate science, advances in understanding the need to reduce methane emissions, new GHG emissions reduction commitments and concern regarding the viability of economic benefits of LNG projects, all of which have changed significantly since the assessment of the Keltic Project. The provincial environmental assessment for Goldboro LNG recognized in 2014 that “the Project would increase Nova Scotia’s greenhouse gas emissions by approximately 18% (above 2010 emission levels)” and “would be the largest single GHG emitter in the province.”⁴⁸ This estimated increase in GHG emissions does not take into account several factors, such as upstream and downstream emissions, the combustion of the gas itself, methane loss, and methane emissions at the plant.

Climate change was not a significant factor in the provincial environmental assessment. The project was said to have several positive effects for the community economically, creating thousands of jobs. These alleged benefits, which did not take into account the social cost of the associated GHG emissions which would have allowed for a more realistic and accurate evaluation of the economic impacts,⁴⁹ were given more significance than the emissions themselves. The provincial environmental assessment from 2014 included only a cursory assessment of cumulative effects and impacts of the Project on climate change. The report states that:

Overall impact on GHG emissions for the province will be negative, with emissions increasing as a result of the Goldboro LNG Project and any other regional LNG projects... The cumulative effects of increased GHG emissions of the Goldboro LNG Project, in combination with other proposed or planned regional LNG facilities or other power generation facilities, on provincial GHG emissions and targets must be carefully considered. NSE has noted that 2011 GHG emission levels were 20.4 million tonnes (Mt), while the provincial target by 2020 is 10% below 1990 levels, or 17.1 Mt. The Goldboro LNG Project alone is expected to increase the present emission level for Nova Scotia by 18%...Other than for GHG emissions, there will not likely be other significant cumulative effects with other planned or foreseeable projects.⁵⁰

⁴⁷ IAA, section 8, and the *Physical Activities Regulations*, SOR/2019-285, Schedule, subsection 37(d).

⁴⁸ *Supra* note 31 at p 26.

⁴⁹ Government of Canada, *Pricing Carbon Pollution*, (2021) online: https://www.canada.ca/content/dam/eccc/documents/pdf/climate-change/climate-plan/annex_pricing_carbon_pollution.pdf; and Government of Canada, *Technical Update to Environment and Climate Change Canada’s Social Costs of Greenhouse Gas Estimates* (March 2016), online: http://publications.gc.ca/collections/collection_2016/eccc/En14-202-2016-eng.pdf

⁵⁰ *Supra* note 31 at p 60.

To address these impacts, the panel recommended that the proponent work with Nova Scotia Environment in order to comply with provincial and federal GHG emissions regulations and proposed new federal regulations for the oil and gas sector.⁵¹ Under the approval conditions, Pieridae must submit a GHG Management Plan, developed in consultation with Nova Scotia Environment.⁵² A draft plan was prepared in 2016, but there has been no federal assessment of the cumulative GHG emissions of the Goldboro LNG Project. The draft plan was never made public and there is no indication of any public consultation or opportunity for public comment on the plan. A federal assessment must evaluate whether its cumulative emissions could ever be compatible with Canada's environmental obligations and commitments in respect of climate change, especially in light of the province's stated commitment to reduce emissions to 53% of 2005 levels,⁵³ and the recently announced increased federal target of 40-45% of 2005 levels,⁵⁴ both by 2030. As well, both jurisdictions have committed to, or expressed their intention to commit to, reaching net-zero GHG emissions by 2050.⁵⁵ As stated above, the panel recognized that, despite the GHG Management Plan, the Project would likely compromise even the now obsolete GHG reductions goals laid out in the *EGSPA*.⁵⁶ It stands to reason that the Project is likely to threaten the even more stringent 2030 and 2050 targets.

It is essential that the public receive an overall, comprehensive assessment of the environmental impacts of Goldboro LNG. Seven years have passed since the provincial assessment of Goldboro LNG, and thirteen years have passed since the federal assessment of the Keltic Project. Climate change science and commitments as well as the economic implications of further investments in LNG infrastructure have rapidly evolved in the last decade.

a. The evolution of climate science

The Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C was released in 2019 within a timeline of unprecedented severity. The IPCC made several key findings with respect to the urgency of climate change, including the fact that limiting warming to 1.5°C requires major and immediate transformation because the world is currently not on track to limit temperature rise. The report found that achieving a 1.5°C target is possible but would require deep emissions reductions in all sectors and unprecedented transitions in all aspects of society.⁵⁷ It also stated that making this unprecedented shift requires substantial new investments in low-carbon

⁵¹ *Ibid.*

⁵² Nova Scotia, Minister of Environment, *Environmental Assessment Approval* (March 21, 2014), online: <https://novascotia.ca/nse/ea/goldboro-lng/conditions.pdf>

⁵³ Government of Nova Scotia website, *Climate Change Nova Scotia - What Nova Scotia is Doing* (accessed May 5, 2021), online at: <https://climatechange.novascotia.ca/what-ns-is-doing>.

⁵⁴ Prime Minister of Canada, *Prime Minister Trudeau announces increased climate ambition* (April 22, 2021), <https://pm.gc.ca/en/news/news-releases/2021/04/22/prime-minister-trudeau-announces-increased-climate-ambition>

⁵⁵ Government of Canada, *Net-Zero Emissions by 2050* (April 6 2021), online: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html>; Bill C-12, *An Act respecting transparency and accountability in Canada's efforts to achieve net-zero greenhouse gas emissions by the year 2050*, 43rd Parl, 2nd Sess, Federal, 2020 online: <https://www.parl.ca/LegisInfo/BillDetails.aspx?Language=E&billId=10959361>; and *Sustainable Development Goals Act*, SNS 2019, c 26, online:

<https://nslslegislature.ca/sites/default/files/legc/PDFs/annual%20statutes/2019%20Fall/c026.pdf>

⁵⁶ *Supra* note 31 at p 26.

⁵⁷ IPCC, 2018: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (2019), online: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf at Foreword.

technologies and efficiency.⁵⁸ The report emphasized the urgent need global cooperation for “rapid and profound” near-term decarbonization of energy supply in order to meet a 1.5°C pathway. Lack of global cooperation was identified as a barrier to achieving a 1.5°C or 2°C global temperature reduction goal.⁵⁹ The report also stated that net CO₂ emissions will on average need to be reduced to zero by mid-century to avoid 1.5°C of warming.⁶⁰

The evidence is clear that urgent action is needed to keep global average temperature rise to 1.5°C. Deep impacts of climate change are already evident in many parts of Canada, and are projected to intensify. Canada’s Changing Climate Report,⁶¹ released in 2019, demonstrates that Canada is warming at twice the rate of the rest of the world and that northern Canada is warming even more quickly, at nearly three times the global rate. At the time of the report (2019), the years 2015 – 2017 were the warmest on record. This report demonstrated the potentially devastating effects of climate change. Adapting to climate change is both urgent and imperative.

To proceed with Goldboro LNG, without a federal assessment or cumulative assessment of the project’s GHG emissions, is fundamentally inconsistent with the recent Supreme Court decision, *Reference re Greenhouse Gas Pollution Pricing Act, 2021 SCC 11*. This decision emphasized the growing urgency of climate change mitigation in Canada. The Supreme Court held:

[2] Climate change is real. It is caused by greenhouse gas emissions resulting from human activities, and it poses a grave threat to humanity’s future. The only way to address the threat of climate change is to reduce greenhouse gas emissions.

...

[167] ...To begin, this matter’s importance to Canada as a whole must be understood in light of the seriousness of the underlying problem. All parties to this proceeding agree that climate change is an existential challenge. It is a threat of the highest order to the country, and indeed to the world...

...

[190] While each province’s emissions do contribute to climate change, there is no denying that climate change is an “inherently global problem” that neither Canada nor any one province acting alone can wholly address. This weighs in favour of a finding of provincial inability. As a global problem, climate change can realistically be addressed only through international efforts. Any province’s failure to act threatens Canada’s ability to meet its international obligations, which in turn hinders Canada’s ability to push for international action to reduce GHG emissions. Therefore, a provincial failure to act directly threatens Canada as a whole.

The Supreme Court recognized that to date, significant emissions reductions in some provinces have failed the goals of any cooperative scheme because they were offset by increased emissions in other provinces.⁶² The Court recognized that each province’s emissions are clearly measurable and

⁵⁸ *Ibid.*

⁵⁹ *Ibid* at vi, p 32, and Chapter 2: *Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development*, see p 129 at section 2.4.1.

⁶⁰ *Ibid* at p 33.

⁶¹ Government of Canada, *Canada’s Changing Climate Report* (2019), online: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/Climate-change/pdf/CCCR_FULLREPORT-EN-FINAL.pdf

⁶² *Reference re Greenhouse Gas Pollution Pricing Act, 2021 SCC 11* at para 184.

contribute to climate change.⁶³ The emissions of Goldboro LNG in Nova Scotia would impact not only Nova Scotia's GHG emissions, but also risk threatening Canada's commitments to reducing its GHG emissions by 40-45% below 2005 levels by 2030 and to net-zero by 2050.

b. LNG projects are incompatible with methane emissions reduction targets

Goldboro LNG would not only increase carbon dioxide emissions, but would also be a significant contributor to methane emissions. Methane emissions are the second largest cause of climate change⁶⁴ and we now have an updated understanding of the importance of addressing them. Several experts have recently stated that unexpected growth in methane has significantly negated the impact of progress in terms of controlling carbon dioxide emissions and that methane is contributing significantly to acceleration of global warming. If this continues, experts state that it will become impossible to meet the Paris Agreement targets⁶⁵ and that methane mitigation is essential to slow the rate of warming and achieve those targets.⁶⁶ This is, in part, due to the fact that although methane is more short-lived than carbon dioxide, it is many times more potent at trapping heat in the atmosphere.⁶⁷

In November 2020, the Government of Canada announced that reducing methane pollution from the oil and gas sector "is an essential pillar of Canada's climate plan."⁶⁸ The Government is committed to reducing methane emissions from the oil and gas sector by 40 to 45 percent below 2012 levels, by 2025. Regulations supporting this target came into effect in early 2020.⁶⁹

Goldboro LNG will contribute significantly to carbon and methane emissions now and in the future. A significant amount of methane is emitted in the extraction and transportation of natural gas,

⁶³ *Ibid* at para 188.

⁶⁴ E.G. Nisbet, *Methane Mitigation: Methods to Reduce Emissions, on the Path to the Paris Agreement* (January 2020), *Reviews of Geophysics*, 58, online: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2019RG000675> [Nisbet: 2020].

⁶⁵ *Ibid* [Nisbet: 2020]; Nisbet et al, *Very Strong Atmospheric Methane Growth in the 4 Years 2014–2017: Implications for the Paris Agreement* (February 2019), *Global Biogeochemical Cycles*, 33 318-342, online: <https://doi.org/10.1029/2018GB006009>; Marielle Saunois et al, *The Global Methane Budget 2000-2017*, *Earth Syst. Sci. Data*, 12, 1561–1623, 2020, online: <https://doi.org/10.5194/essd-12-1561-2020>; Haustein, et al. *A real-time Global Warming Index*, (2017) *Scientific Reports* 7, 15417, online: <https://doi.org/10.1038/s41598-017-14828-5>; and Global Carbon Budget, *Global Methane Budget 2020* (July 15 2020), online: <https://www.globalcarbonproject.org/methanebudget/>

⁶⁶ *Supra* note 64 [Nisbet: 2020], & IEA, *Methane Tracker 2021: Helping tackle the urgent global challenge of reducing methane leaks* (January 2021), online: <https://www.iea.org/reports/methane-tracker-2021> & Illisa Bonnie Ocko et al, *Acting rapidly to deploy readily available methane mitigation measures by sector can immediately slow global warming* (2021), *Environmental Research Letters*, online: <https://iopscience.iop.org/article/10.1088/1748-9326/abf9c8/pdf>

⁶⁷ United States Environmental Protection Agency, *Importance of Methane* (October 2020), online: <https://www.epa.gov/gmi/importance-methane#:~:text=Methane%20is%20more%20than%202025, trapping%20heat%20in%20the%20atmosphere.&text=Be cause%20methane%20is%20both%20a, effect%20on%20atmospheric%20warming%20potential>

⁶⁸ Government of Canada, *Government of Canada working with provinces to reduce methane emissions from oil and gas operations* (November 5, 2020), online: <https://www.canada.ca/en/environment-climate-change/news/2020/11/government-of-canada-working-with-provinces-to-reduce-methane-emissions-from-oil-and-gas-operations.html>

⁶⁹ *Ibid.*, and *Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector)*, SOR/2018-66, online: <https://pollution-waste.canada.ca/environmental-protection-registry/regulations/view?Id=146>

especially in the liquefaction process.⁷⁰ Methane leaks during drilling for natural gas also directly contribute to climate change. One study found that methane losses must be kept below 3.2 percent for natural gas power plants to have lower life cycle emissions than new coal plants over short time frames of 20 years or fewer.⁷¹ The significant increase in methane emissions which would result from the Goldboro LNG project is inconsistent with the Government of Canada's publicly stated goals of reducing those emissions and fighting climate change.

c. LNG projects will prevent Canada and Nova Scotia from achieving GHG emissions reduction targets

The Nova Scotia Government has also demonstrated its commitment to fighting climate change by setting the “most ambitious targets in the country” for reducing GHG emissions.⁷² Nova Scotia's *Sustainable Development Goals Act (SDGA)*,⁷³ passed over a year ago⁷⁴ but not yet in force, mandates minimum targets for future GHG emissions in the province: at least 53% of 2005 levels by 2030 and net zero with offsets by 2050, to be set within regulations. The *SDGA* also mandates the creation of a strategic plan called the “Climate Change Plan for Clean Growth”, which must address the means to achieve these GHG targets. While public consultation has already occurred on the *SDGA*,⁷⁵ further consultation required for the regulations has been delayed due to Covid-19, which is said to be the obstacle to the *SDGA* being proclaimed in force.⁷⁶ Although its proclamation has been delayed, the Act will ultimately come into force and is already referred to by the province as part of its action on fighting climate change.⁷⁷

The *SDGA* embodies Nova Scotia's clear commitment to setting ambitious GHG emissions reduction targets. These targets will be threatened if Goldboro LNG goes forward. As stated above, the provincial environmental assessment process found that Goldboro LNG would increase Nova Scotia's emissions by about 20%, and would represent the largest single GHG emitter in the

⁷⁰ Union of Concerned Scientists, *Environmental Impacts of Natural Gas* (January 19, 2014), online: <https://www.ucsusa.org/resources/environmental-impacts-natural-gas>; and Myhre, G., et al. *Anthropogenic and natural radiative forcing*, *Climate change 2013: The physical science basis: Contribution of Working Group I to the fifth assessment report of the Intergovernmental Panel on Climate Change*, p 659–740, online: www.climatechange2013.org/images/report/WG1AR5_Chapter08_FINAL.pdf

⁷¹ Alvarez, R.A., et al, *Greater focus needed on methane leakage from natural gas infrastructure. Proceedings of the National Academy of Sciences* (2012) 109:6435–6440, online: <https://doi.org/10.1073/pnas.1202407109>; IEA, *The environmental case for natural gas* (October 2017), online: <https://www.iea.org/commentaries/the-environmental-case-for-natural-gas>. Note: Recent studies have found that the level of methane emissions, and methane leakage, in both United States and Canada's oil and gas sector are higher than previously thought: GreenPath Energy Ltd, *GreenPath 2016 Alberta Fugitive and Vented Emissions Inventory Study*, online: <https://www.methanealliance.com/documents/alberta-fugitive-and-vented-emissions-inventory-study.pdf>; and Alvarez et al, *Assessment of methane emissions from the U.S. oil and gas supply chain* (July 2018), online: <https://science.sciencemag.org/content/361/6398/186>

⁷² *Supra* note 53.

⁷³ Bill No 213, *An Act to Achieve Environmental Goals and Sustainable Prosperity*, 2nd Sess, 63rd General Assembly NS, 2019: <https://nslegislature.ca/fr/sites/default/files/legc/PDFs/annual%20statutes/2019%20Fall/c026.pdf>

⁷⁴ Nova Scotia Legislature website, *Sustainable Development Goals Act – Bill 213* (accessed April 12th 2021), online: <https://nslegislature.ca/legislative-business/bills-statutes/bills/assembly-63-session-2/bill-213>

⁷⁵ Nova Scotia Government website, *Sustainable Development Goals Act*, (online): <https://novascotia.ca/nse/sustainable-development-goals-act/>

⁷⁶ CBC News, *New emissions reduction bill won't be ready by end of year as planned* (October 2020), online: <https://www.cbc.ca/news/canada/nova-scotia/covid-19-gordon-wilson-environment-emissions-legislation-1.5782627>

⁷⁷ *Supra* note 53.

province.⁷⁸ One source indicates that if Goldboro LNG begins operations as planned in 2026, Nova Scotia's emissions will exceed the 2030 cap set out in the *SDGA* by about one third if Pieridae does not reduce the terminal's emissions.⁷⁹ It is difficult to see how the projected 3.78 Mt of GHGs emitted annually by the project⁸⁰ would be compatible with the province's medium- and long-term targets.

Canada also has a long history of failing to meet climate targets. After failing to meet its commitments under multiple United Nations Framework Convention on Climate Change (UNFCCC) agreements, including the Kyoto Protocol and the Copenhagen Accord, Canada agreed to the Paris Agreement in 2015. Recognizing that "climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries", the participating states agreed to hold the global average temperature increase to well below 2.0°C above pre-industrial levels and to pursue efforts to limit that increase to 1.5°C.⁸¹ Canada ratified the Paris Agreement in 2016, and it came into force that same year.⁸²

Under the Paris Agreement, Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030. This requires a reduction in emissions of 142 Mt CO₂e.⁸³ Very recently, Canada has committed to even more significant reductions of 40-45% below 2005 levels by 2030.⁸⁴ Canada has also committed to moving to net-zero emissions by 2050⁸⁵ and indicated its intention to enshrine this target in legislation through Bill C-12. If passed by Parliament, it will become *The Canadian Net-Zero Emissions Accountability Act*.⁸⁶ Building this facility would be incompatible with directives from international climate scientists to lower emissions and fossil fuel production in order to meet climate targets.

The UNEP Emissions Gap Report 2020⁸⁷ found that the world is still heading for catastrophic temperature rise in excess of 3°C this century – far beyond the Paris Agreement goals of limiting global warming to well below 2°C and pursuing 1.5°C. The report states that Canada's projected emissions are 15 percent or more above the NDC target, and Canada will miss targets, unless policies are strengthened.⁸⁸ Goldboro LNG risks locking in fossil fuel-based infrastructure for decades to come, adding significantly to GHG emissions in both Nova Scotia and Canada and making it even more difficult to make essential emissions reductions over time. Canada's continued expansion of

⁷⁸ *Supra* note 31.

⁷⁹ Larry Hughes, *Nova Scotia's Sustainable Development Goals and Pieridae Energy* (October 2020), online: http://dclh.electricalandcomputerengineering.dal.ca/enen/2020/201020_CH_Pieridae_in_Goldboro.pdf

⁸⁰ *Ibid*, and *Goldboro LNG – Natural Gas Liquefaction Plant and Marine Terminal, Environmental Assessment Report (Class 2 Undertaking)*, (September 2013), online: <https://novascotia.ca/nse/ea/goldboro-lng/10-Environmental-Effects-Assessment.pdf> at Section 10.0: Environmental Effects Assessment, p 10-29.

⁸¹ United Nations, Framework Convention on Climate Change, Report of the Conference of the Parties on its twenty-first session, U.N. Doc. FCCC/CP/2015/10/Add.1, January 29, 2016, at p 2; and Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104, at art. 2(1)(a).

⁸² *Reference re Greenhouse Gas Pollution Pricing Act*, 2021 SCC 11 at para 13.

⁸³ Environmental Commissioner of Ontario, *2018 Greenhouse Gas Emissions Report*, (2018) <http://docs.assets.eco.on.ca/reports/climate-change/2018/Climate-Action-in-Ontario.pdf> at p 116.

⁸⁴ *Supra* note 54.

⁸⁵ Government of Canada, *Net-Zero Emissions by 2050* (April 6 2021), online: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html>.

⁸⁶ Bill C-12, *An Act respecting transparency and accountability in Canada's efforts to achieve net-zero greenhouse gas emissions by the year 2050*, 2nd Sess, 43rd Parl, Federal, 2020, online: <https://www.parl.ca/LegisInfo/BillDetails.aspx?Language=E&billId=10959361>

⁸⁷ UN Environment Programme, *Emissions Gap Report* (2020), online: <https://wedocs.unep.org/bitstream/handle/20.500.11822/34438/EGR20ESE.pdf> at p 10, 15, & Table 2.3 at p 16.

⁸⁸ *Ibid*.

LNG production and exportation of large quantities of LNG contradicts and negates its promises to scale up climate action in order to achieve net zero emissions by 2050.

Without a federal impact assessment, it will not be known if the project could be compatible with Canada's climate change commitments or what the impact of the project would be on the long-term ability of Canada to meet its climate targets. On this basis, we strongly urge the federal government to conduct a comprehensive assessment of Goldboro LNG, including a full assessment of the cumulative effects of the Project, and impacts on Canada's climate targets.

It is increasingly evident that LNG Projects are incompatible with climate change targets, and that LNG industry could be as disastrous for the climate as coal.⁸⁹ Recently, the Quebec *Bureau d'audiences publiques sur l'environnement* (BAPE) conducted an inquiry and public hearing of the Énergie Saguenay LNG project and recently published a report including its recommendations to the provincial government (the "Report").⁹⁰ The BAPE found that the sum of the risks related to the LNG project outweigh its advantages:

Dans toute l'histoire du BAPE, l'audience sur le projet Énergie Saguenay a suscité la plus forte participation citoyenne, notamment en matière de mémoires déposés. Cela reflète l'intérêt et la grande mobilisation que ce projet a entraîné, tant chez ses détracteurs que chez ceux qui l'appuient... Ainsi, considérant ce débat fortement polarisé dans le milieu d'accueil, mais aussi dans l'ensemble du Québec, la commission n'a pas été en mesure de se prononcer sur l'acceptabilité sociale à l'égard du projet Énergie Saguenay même si globalement, selon l'analyse qu'elle en a faite, la somme des risques afférents au projet dépasse celle de ses avantages.⁹¹

Unofficial translation:

In the entire history of the BAPE, the hearing on the Énergie Saguenay project attracted the highest level of citizen participation, particularly with regard to the briefs submitted. This reflects the interest and the great mobilization that this project has generated, both among its critics and among those who support it ... Therefore, considering this strongly polarized debate in the host community, but also in Quebec as a whole, the commission was not in a position to comment on the social acceptability of the Énergie Saguenay project even if overall, according to its analysis of the project, the sum of the risks associated with the project exceeds that of its advantages.

The 501-page Report covers all of the points covered in information and consultation sessions, including opinions expressed in 2580 briefs submitted by the public and organizations. The authors express reservations with respect to any environmental benefits of the project. The Report cites a study published in the journal *Nature*, to which the Secretariat of the UNFCCC refers, finding that a third of all oil reserves, half of gas reserves and more than 80% of coal reserves would need to remain in the ground for the international community to meet its goal of limiting global warming to

⁸⁹ The Guardian, *Booming LNG industry could be as bad for climate as coal, experts warn* (July 2019), online: <https://www.theguardian.com/environment/2019/jul/03/booming-lng-industry-could-be-as-bad-for-climate-as-coal-experts-warn>; & Canadian Centre for Policy Alternatives, *Why LNG exports doom emissions-reduction targets and compromise Canada's long-term energy security* (July 9 2020), online: <https://www.policyalternatives.ca/bc-carbon-conundrum>; and Bureau d'audiences publiques sur l'environnement, *Rapport 358, Projet de construction d'un complexe de liquéfaction de gaz naturel à Saguenay* (March 2021), online: <https://voute.bape.gouv.qc.ca/dl?id=00000241203>

⁹⁰ Bureau d'audiences publiques sur l'environnement, *Rapport 358, Projet de construction d'un complexe de liquéfaction de gaz naturel à Saguenay* (March 2021), online: <https://voute.bape.gouv.qc.ca/dl?id=00000241203>

⁹¹ *Ibid* at p 320.

below two degrees Celsius.⁹² The International Energy Agency (IEA) confirms that the combustion of all untapped fossil fuel reserves would result in three times more CO₂ emissions than the CO₂ budget remaining to meet the Paris Agreement target. According to the IEA, it would be necessary to leave large volumes of hydrocarbon reserves in the ground, even in the most conservative scenarios.⁹³ Citing this study, the BAPE states:

La commission d'enquête note, en tenant compte de l'approvisionnement en gaz naturel du projet Énergie Saguenay, que celui-ci contribuerait au maintien ou à la croissance du secteur pétrolier et gazier de l'Ouest canadien alors qu'il serait nécessaire, selon l'Agence internationale de l'énergie que d'importantes quantités de réserves d'hydrocarbures demeurent non exploitées pour atteindre l'objectif central de l'Accord de Paris.⁹⁴

Unofficial translation:

The commission of inquiry notes, taking into account the natural gas supply of the Énergie Saguenay project, that it would contribute to the maintenance or growth of the oil and gas sector in Western Canada when it is in fact necessary, according to the International Energy Agency, that significant quantities of hydrocarbon reserves remain untapped to achieve the central objective of the Paris Agreement.

The Report also discusses the natural gas paradox and the lock-in of energy choices. The report states:

Le projet Énergie Saguenay s'inscrit dans un paradoxe. Les engagements des pays signataires de l'Accord de Paris commandent un déclin nécessaire du recours aux hydrocarbures et une accélération de l'utilisation des énergies renouvelables et, dans ce contexte, le gaz naturel apparaît comme une source d'énergie complémentaire efficace, flexible et moins polluante que d'autres sources d'énergies fossiles.

Ce constat permet à GNLQ d'affirmer qu'il offrirait une énergie de transition qui vise à soutenir les efforts de lutte aux changements climatiques en Europe, en Asie et ailleurs dans le monde. La commission est d'avis que si cette affirmation peut apparaître vraie à court ou moyen termes, le temps que les technologies de stockage et de production d'énergies renouvelables soient économiquement accessibles, elle serait difficilement soutenable à long terme.

En effet, la commission considère que la mise en place de nouvelles infrastructures d'échange de GNL pourrait constituer un frein à la transition énergétique sur les marchés visés par le projet Énergie Saguenay. L'adhésion à cette chaîne d'approvisionnement, suivant le modèle d'affaires de GNLQ, aurait pour conséquence de verrouiller à long terme les choix énergétiques des pays clients et, conséquemment, les émissions de GES associées à la combustion du gaz naturel qui y serait livré. Ce faisant, la transition de ces pays vers une économie sobre en carbone pourrait en être retardée.⁹⁵ [emphasis added]

Unofficial translation:

The Énergie Saguenay project is part of a paradox. The commitments of the signatory countries of the Paris Agreement demand a necessary decline in the use of hydrocarbons and an acceleration of the use of renewable energies. In this context, natural gas appears to be an

⁹² *Ibid* at p 112-113, and section 3.6 « le projet Énergie Saguenay et la transition énergétique ».

⁹³ *Ibid*.

⁹⁴ *Ibid* at p 114.

⁹⁵ *Ibid* at p ix, and p 113.

efficient, flexible and less polluting complementary energy source than other fossil energy sources.

This observation allows GNLQ to assert that it would offer transitional energy that aims to support efforts to fight climate change in Europe, Asia and elsewhere in the world. The commission is of the opinion that while this statement may appear to be true in the short or medium term, while renewable energy storage and production technologies become economically accessible, it would be difficult to support in the long term.

Indeed, the commission considers that the establishment of new LNG trading infrastructures could hinder the energy transition in the markets targeted by the Énergie Saguenay project. Joining this supply chain, following the GNLQ business model, would have the consequence of locking in the energy choices of client countries over the long term and, consequently, the GHG emissions associated with the combustion of the natural gas that would be delivered. As a result, the transition of these countries to a low-carbon economy could be delayed. [emphasis added]

The report also discusses the GHG emissions of the Énergie Saguenay Project:

...Dans ce contexte, la commission est d'avis, en vertu des principes précaution et prévention de la Loi sur le développement durable, que la prise de décision gouvernementale relative au projet Énergie Saguenay ne peut s'appuyer sur une réduction nette des émissions de GES à l'échelle mondiale. Elle est plutôt d'avis qu'en vertu de ces principes, la valeur de référence associée au projet qui devrait être retenue pour la prise de décision serait celle de l'ajout net d'émissions de GES, bien que la commission ne puisse l'établir précisément.⁹⁶

Unofficial translation:

In this context, the commission is of the opinion, in accordance with the precaution and prevention principles of the Sustainable Development Act, that government decision-making on the Énergie Saguenay project cannot be based on a net reduction in global GHG emissions. Rather, the commission believes that under these principles, the baseline value associated with the project that should be used for decision-making would be the net addition of GHG emissions, although the commission cannot determine this precisely.

This is an example of a sound environmental assessment, desperately needed in 2021. A sound environmental assessment must consider long-term effects of a Project, including the protection of the environment in a manner that benefits both present and future generations.

d. Investing in LNG infrastructure has negative economic consequences

Additionally, the now-dated environmental assessment from 2014 must necessarily include a substantially different cost-benefit analysis than an assessment in the year 2021, as our understanding of the costs of climate change and the risks of continued investment in fossil fuel infrastructure such as LNG has evolved dramatically since 2014. For instance, the 2020 report from the Canadian Institute for Climate Choices entitled *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change* acknowledged that “[p]ublic and private-sector decision-making has yet to fully reflect climate-related risks” due in part to “the absence of a current and comprehensive understanding of the future costs and risks associated with climate change.”⁹⁷ The report sets out the

⁹⁶ *Ibid* at “Les émissions de gaz à effet de serre” at p x. and p 314.

⁹⁷ Canadian Institute for Climate Choices, *Tip of the Iceberg, Navigating the Known and Unknown Costs of Climate Change for Canada* (December 2020), online: https://climatechoices.ca/wp-content/uploads/2020/12/Tip-of-the-Iceberg_-CoCC_-Institute_-Full.pdf at p 1.

extensive economic costs and risks to Canada such as weather-related disasters, for which insured catastrophic losses were calculated at \$20.1 billion between 2010 and 2019. This was nearly double the costs of the three previous decades combined.⁹⁸ This increased understanding of the full economic impacts of climate change should be factored into any cost-benefit analysis of a project which will have implications for Canada's economy for decades.

New analysis by the Global Commission on the Economy and Climate discusses the global benefits of a decisive shift to a low-carbon economy. The Commission found that transitioning to low-carbon, sustainable growth could deliver a direct economic gain of US \$26 trillion through to 2030 compared to business-as-usual. Taking ambitious climate action could also generate over 65 million new low-carbon jobs in 2030, equivalent to today's entire workforces of the UK and Egypt combined, as well as avoid over 700,000 premature deaths from air pollution compared with business-as-usual.⁹⁹ The Commission states, "the benefits of climate action are greater than ever before, while the costs of inaction continue to mount. It is time for a decisive shift to a new climate economy."¹⁰⁰

These benefits are in stark contrast with recent findings regarding the risks of investing in fossil fuel infrastructure such as LNG at a time when Canada and the world are committing to deep GHG emissions reductions. For instance, the recent BAPE Report on the Énergie Saguenay LNG project found that there is already significant global competition for LNG production and export and the project may not be needed by the time construction is finished and the plant is up and running.¹⁰¹ The report states that some observers are of the opinion that new LNG capacity, to meet the global demand, would not be necessary before 2030. For instance, the report states:

De nombreux projets concurrents partout dans le monde, mais notamment en Amérique du Nord, cherchent à satisfaire la nouvelle demande en GNL et le projet de GNLQ en fait partie. Un nombre record de décisions finales d'investissement ont été prises en 2019 par des initiateurs de projets concurrents. Une partie de ceux-ci sont déjà en phase de construction ou devraient l'être sous peu. Conséquemment, certains observateurs du marché sont d'avis qu'une nouvelle capacité de production de GNL, pour répondre à la demande mondiale, ne serait pas nécessaire avant 2030... Dans ce contexte concurrentiel et considérant l'incertitude quant à la demande mondiale de GNL à moyen et long termes ainsi que la frilosité croissante des investisseurs pour ce type de projets, la commission considère que la fenêtre d'opportunité pour le projet Énergie Saguenay semble s'être considérablement réduite depuis l'annonce initiale du projet, en 2014...¹⁰²

Unofficial translation:

Many competing projects around the world, but particularly in North America, seek to meet the new demand for LNG and the GNLQ project is one of them. A record number of final investment decisions were made in 2019 by initiators of competing projects. A part of these are already in the construction phase or should be soon. Consequently, some market observers are of the opinion that new LNG production capacity, to meet the global demand, would not be necessary before 2030... In this competitive context and considering the uncertainty regarding global LNG demand in the medium and long term as well as the

⁹⁸ *Ibid.*, at p 10.

⁹⁹ The Global Commission on the Economy and Climate, *Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times* (August 2018), online: https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE_2018_FULL-REPORT.pdf at p 22.

¹⁰⁰ *Ibid.*

¹⁰¹ *Supra* note 90.

¹⁰² *Ibid.* at « Énergie Saguenay et ses concurrents » at viii & see discussion at p 101-104.

growing reluctance of investors for this type of project, the commission considers that the window of opportunity for the Énergie Saguenay project seems to have been considerably reduced since the initial announcement of the project in 2014...

Recent analysis published on the website of the *Institut de recherche et d'informations socioéconomiques* (IRIS) identified several similarities between the Énergie Saguenay and the Goldboro LNG projects. Both LNG project are dependent on public funds and would face the highest production costs in North America due to additional natural gas transportation costs and the high cost of infrastructure compared to competitors.¹⁰³

For further illustration, a recent study from Simon Fraser University estimated that Canada's investment in the Trans Mountain pipeline expansion project would be at a loss of \$11.9 billion due in part to the creation of excess pipeline capacity in relation to demand and that it would be more economically advantageous to stop construction altogether.¹⁰⁴ The study also concluded that there is no likely scenario under which the expansion project would provide a net benefit to Canada in light of significantly weaker oil markets and new climate change policies announced by Canada that lower the need for new pipeline capacity and reduce global demand and prices for oil products.¹⁰⁵

The cost-benefit analysis of LNG projects should not rely on stale, outdated information that has significantly evolved in the past decade. A contemporary federal assessment of the Goldboro LNG Project is required to take into account the heightened understanding of the economic risks involved.

3. There is significant public concern regarding the Project and its impacts

There is significant and growing public concern regarding the Goldboro LNG project and its impacts, and in respect of the growth of LNG Projects within Canada.

In August 2018, the Nova Scotia Fracking Resource and Action Coalition (NOFRAC) and Guysborough Communities Coalition wrote to two German ministers asking that the German government not award Pieridae a financial guarantee to build the LNG terminal in Goldboro, Nova Scotia.¹⁰⁶ Then, in the same month, 26 additional groups, from Canada and Germany, sent an open letter to German ministers expressing concerns about the Goldboro project.¹⁰⁷ The groups were concerned about negative impacts on the transition to renewable energy, tackling the climate crisis, that the gas to be liquefied in Goldboro might be largely obtained by hydraulic fracturing (fracking), as well as "sharp criticism from [I]ndigenous and other affected groups, human rights and environmental organizations."¹⁰⁸

¹⁰³ Institut de recherche et d'informations socioéconomiques, *Exportation de gaz naturel liquéfié en Nouvelle-Écosse : Les projets se suivent et se ressemblent* (May 2021) online: <https://iris-recherche.qc.ca/blogue/exportation-de-gaz-naturel-liquefie-en-nouvelle-ecosse-les-projets-se-suivent-et-se-ressemblent>

¹⁰⁴ Thomas Gunton et al, *Evaluation of the Trans Mountain Expansion Project* (March 2021) online: <https://www.documentcloud.org/documents/20534119-tmx-cba-report-final-march-21> at p 68-69.

¹⁰⁵ *Ibid.*, and at p 16-19, 96-99.

¹⁰⁶ NOFRAC & Guysborough Communities Coalition, *Undertaking Financial Guarantee for Goldboro LNG Financially Risky for Germany* (August 27 2018), online: <https://www.foodandwatereurope.org/wp-content/uploads/2018/09/NOFRACLettertoGermanyAug272018.pdf>

¹⁰⁷ NOFRAC et al., *Open Letter : No German support for the import and promotion of fracked gas* (August 2018), online: <https://www.foodandwatereurope.org/wp-content/uploads/2018/09/OpenlettertopreventtheLNGterminalinGoldborofin.pdf>

¹⁰⁸ *Ibid.*; & Daniel Schwartz & Mark Gollom, *N.B. fracking protests and the fight for aboriginal rights* (October 2013), online: <https://www.cbc.ca/news/canada/n-b-fracking-protests-and-the-fight-for-aboriginal-rights-1.2126515>

existing pipelines and that existing pipelines are already at full capacity. Activist Alexandre Ouellet founded the environmental group *Goldboro, parlons-en* in 2019 to raise concerns about the potential need for a new gas pipeline, and the impacts this would have on the environment. From information sessions to press releases, this environmental collective has been raising awareness among Quebecers of the impact of the Goldboro LNG project, particularly in Estrie.¹¹⁶ The group has held public information sessions, issued press releases and posted an online petition expressing concerns with the Goldboro project. The petition has at least 2121 signatures. The petition notes that the planned pipeline is already operating at full capacity and unfractured gas reserves in Alberta are in decline.¹¹⁷ Public concern has also been growing public concerns around LNG Projects more broadly in Canada. As noted above, there has been strong public opposition in Quebec to the Énergie Saguenay project, a proposed natural gas liquefaction, storage and transshipment facility that proposed the export of 11 million tons of LNG per year.¹¹⁸ The BAPE Report demonstrates that the project is highly contested. It received the highest response of any BAPE review, with more than 2,500 briefs presented at the hearings. Of the 2,500 public submissions to the BAPE, over 90% opposed the project. This was the strongest showing on record in such environmental consultations.¹¹⁹

Conclusion

There has been no valid federal assessment for the Goldboro LNG Project under *CEAA 2012* or the *IAA*, and the project remains out of compliance with the requirements of the *IAA*. This situation is untenable in light of the global climate crisis and both Nova Scotia and Canada's climate commitments.

Seven years have passed since the provincial assessment of Goldboro LNG. Thirteen years have passed since the federal assessment of the Keltic Project. Climate evidence and the urgency of climate change has rapidly evolved in the last decade. The cumulative effects of increased GHG emissions of the Goldboro LNG Project, in combination with all other existing, proposed or planned sources of emissions, on provincial and federal GHG emissions and targets must be carefully considered. The Goldboro LNG Project alone is expected to increase the present GHG emissions level for Nova Scotia by 18% and projected to cause the province to exceed its 2030 emissions cap by a third.

The potential GHG emissions associated with Goldboro LNG may seriously hinder the ability of both the Government of Nova Scotia and the Government of Canada to meet their commitments in respect of climate change, including in the context of Canada's newly increased 2030 and soon-to-be legislated 2050 GHG emissions reduction targets. The environmental assessment of the project to

¹¹⁶ Radio Canada, *Flou entourant la possible construction d'un pipeline en Estrie* (March 7 2020), online : <https://ici.radio-canada.ca/nouvelle/1653778/environnement-goldboro-pipeline-pieridae-energy-estrie> and Change.Org, *Pétition contre le projet Goldboro LNG de Pieridae Energy Ltd.*, online: <https://www.change.org/p/contre-le-projet-de-gaz-naturel-goldboro-lng>; and Daniel Campeau, *Un pipeline de gaz naturel contesté en Estrie* (February 13, 2020), online : <http://estriepius.com/contenu-gazoduc-goldboro-coalition-environnementale-estrie-1355-47740.html>

¹¹⁷ *Ibid.*

¹¹⁸ *Supra* note 90. Note: Similarly, Goldboro is anticipated to produce approximately **ten million** metric tonnes of LNG per year.

¹¹⁹ *Ibid.*; & CTV News, *Risks from LNG Quebec project far outweigh benefits: environmental review board* (March 24 2021), online: <https://montreal.ctvnews.ca/risks-from-lng-quebec-project-far-outweigh-benefits-environmental-review-board-1.5360592>

date has not adequately considered the potential for the project to cause significant increases in GHG emissions and further delay the transition to a low-carbon economy.

There is now an opportunity for the federal government to conduct a thorough and balanced environmental assessment. In the absence of a federal impact assessment process there will be no assessment of the cumulative effects of the project nor an assessment of the impacts of this project on Canada's ability to meet its climate change commitments. Though we do not have a mandate to represent any Indigenous communities or groups in this matter and so we do not purport to speak on their behalf, we note that any decision taken in response to this letter must respect any and all consultation and accommodation obligations that the law imposes upon the Crown.

Climate change was recently deemed a "grave threat to humanity's future" by the Supreme Court of Canada.¹²⁰ Today, in 2021, a comprehensive assessment of Goldboro LNG is both urgent and critical. On this basis, we request that an impact assessment be conducted of the Goldboro LNG Project under the *IAA*. We request that the Minister respond to this letter, with reasons, within 90 days.

Sincerely,



James Gunvaldsen Klaassen
Barrister and Solicitor



Danielle Gallant
Barrister and Solicitor

cc: Minister of Natural Resources, NRCan.Minister-Ministre.RNCan@Canada.ca

¹²⁰ *Reference re Greenhouse Gas Pollution Pricing Act*, 2021 SCC 11, at para 2.

APPENDIX A

Ecology Action Centre

The Ecology Action Centre is a Nova Scotia-based environmental organization established in 1971 with over 5000 members across the province. The Centre aims to create a society in Nova Scotia that respects and protects nature and provides environmentally and economically sustainable and just solutions for its citizens. The Centre works with its partners to provide current environmental information, promote researched solutions, and act as a watch-dog for the environment. The Centre has participated in numerous provincial and federal environmental assessments including many reviews of onshore and offshore fossil fuel projects.

The EAC was an active intervenor and participant in the 1997 review of the Sable Offshore Energy Project, the 2006 review of the Keltic Petrochemicals Inc. LNG and Petrochemical Facility proposed for Goldboro, Nova Scotia, the 2014 review of the Goldboro LNG Project and the 2021 review of the highway realignment project at the site. In reviewing these projects, the Centre focused on the impacts of these projects on the climate, plants and wildlife, aquatic systems, marine and fresh, and on local communities and Indigenous Peoples' rights.

Nova Scotia Fracking Resource and Action Coalition

The Nova Scotia Fracking Resource and Action Coalition (NOFRAC) comprises over 100 individual members and 15 environmental and community organizations. The Coalition was formed in December 2010 to share information about the risks of hydraulic fracturing and the development of shale gas in Nova Scotia, and to raise public awareness about the risks of these practices. It is guided by a steering committee of dedicated long-term members who meet regularly to discuss local, provincial and regional issues around fracking and shale gas.

Since 2014, its members have played a leading role in highlighting the potential impacts of the proposed Goldboro LNG project. The Coalition also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Sierra Club Canada Foundation

The Sierra Club Canada Foundation empowers people to be leaders in protecting, restoring and enjoying healthy and safe ecosystems. The Foundation is a grassroots organization with a “think globally, act locally” philosophy. Members are encouraged to actively contribute to environmental causes that engage or inspire them, in a capacity that best suits their capabilities. The Foundation has four regional Chapters, including an Atlantic Chapter based in Halifax, and a youth-led Chapter, Sierra Youth. It engages in projects designed to connect children to nature, protect wildlife and wild spaces, and to offer solutions to climate change. The Foundation also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Council of Canadians

Since 1985, The Council of Canadians has brought people together through collective action and grassroots organizing to challenge corporate power and advocate for people, the planet, and our democracy. Alongside opposing new fossil fuel infrastructure, the Council has also been working for a just transition and a just recovery at a community level.

The request by Pieridae for \$1 billion in public funds to support the Goldboro LNG project would amount to a massive fossil fuel subsidy. The federal government has promised to phase out these types of subsidies by 2025 and the Council of Canadians is working to hold them to this promise. To build awareness and action, the Council has been working with our Nova Scotia chapters, as well as local, national, and international allies, to stop the Canadian government from making this ill-advised financing agreement. The Council has written analysis, hosted a webinar and so far, more than 5,000 people have written letters of opposition, targeting MPs and federal ministers including Chrystia Freeland and Marc Miller.

New Brunswick Anti-Shale Gas Alliance

The New Brunswick Anti-Shale Gas Alliance (NBASGA) is an umbrella organization representing both Anglophone and Francophone groups, of all types, across the province. Its mandates are to keep unconventional fossil fuels out of the province, and to promote the move to a clean energy economy in light of the climate emergency. In the past, the group has filed suit against the province leading to a moratorium on fracking, and recently it has successfully intervened in two provincial appeals courts cases supporting federal carbon pricing, and intervened on the same issue at the Supreme Court. NBASGA and its member groups work closely with First Nations on the shale gas and climate issues.

NBASGA became involved in the Goldboro project because New Brunswick was initially designated as a potential source for shale gas in Pieridae's original plans. Pieridae still possesses gas leases in New Brunswick, despite there being a moratorium of fracking. The province has indicated it may lift the moratorium under certain conditions. NBASGA also participated in the 2021 review of the highway realignment project at the Goldboro LNG site.

Environnement Vert Plus

Environnement Vert Plus (EVP) is an environmental advocacy group that has been present in Gaspésie and based in the Baie-des-Chaleurs for over 30 years. EVP's resistance to the invasion of the territory by oil and gas drilling companies led it to closely watch Pieridae following its merger with Petrolia in the fall of 2017. Since then, EVP has been busy weaving a web of international solidarity to prevent the disbursement of a US\$4.5 billion loan guarantee from the German commercial bank KfW. The web now extends to broad-based opposition to all aspects of the proposed liquefaction terminal project in Goldboro, Nova Scotia.

Citizens' Oil & Gas Council

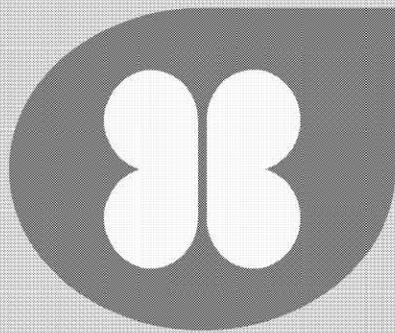
Calgary based Citizens' Oil & Gas Council (COGC) has a 30-year history of advocacy with respect to oil and gas and most recently LNG issues, provincially, nationally and internationally. Its advocacy has focused on science-based public outreach and education, regulatory interventions and litigation. The COGC has participated in numerous provincial and federal regulatory proceedings and has appealed flawed regulatory decisions to both provincial and federal Courts of Appeal.

Greenpeace Canada

Created in 1971, Greenpeace is a global, independent campaigning organization that uses peaceful protest and creative communication to expose global environmental problems and promote solutions that are essential to a green and peaceful future. It has offices in over 55 countries, including Canada. Greenpeace has been closely following the LNG file, in particular the GNL-Quebec/Gazoduc project, for over two years. It has participated in all stages of the evaluation of the project by the *Bureau d'audiences publiques sur l'environnement* (BAPE) and has written a brief that it presented and that dealt, among other things, with the climate impact of this project. Greenpeace is also collaborating with organizations in Quebec, Canada (particularly in the East) and overseas that are working on the Goldboro LNG file.

APPENDIX 2

Tab 1



Pieridae Energy Limited

Trans Atlantic LNG

NS Environment

January 11, 2012

Confidential

Agenda

- 1) Project Overview**
- 2) Project Proponent**
- 3) LNG Markets**
- 4) Market Drivers for Project**
- 5) Project Location Drivers**
- 6) Project Competition and Risks**
- 7) Project Timelines**
- 8) Project Benefits**
- 9) Action Plan and Requirements with Guysborough**



Project Overview



Project Overview:

North American LNG Export Opportunity

- **An opportunity exists to participate in export of North American natural gas to Europe and Asia, as liquefied natural gas (LNG)**
- **The opportunity has arisen due to the structural changes in North American natural gas markets from development of shale gas technologies**
- **Nova Scotia is well placed because of its location and due to the existing gas pipeline infrastructure**



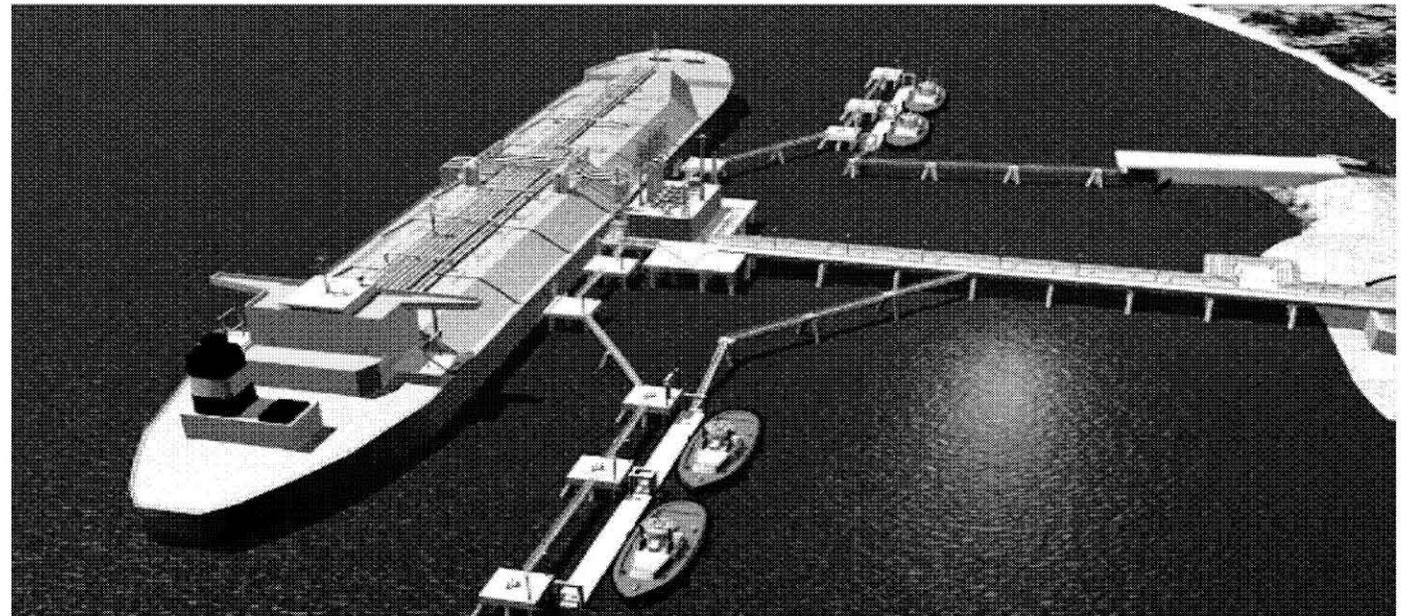
Project Overview:

Facility Proposed

The LNG Plant will be located in Goldboro Industrial Park, with water access for jetty

Facility Overview

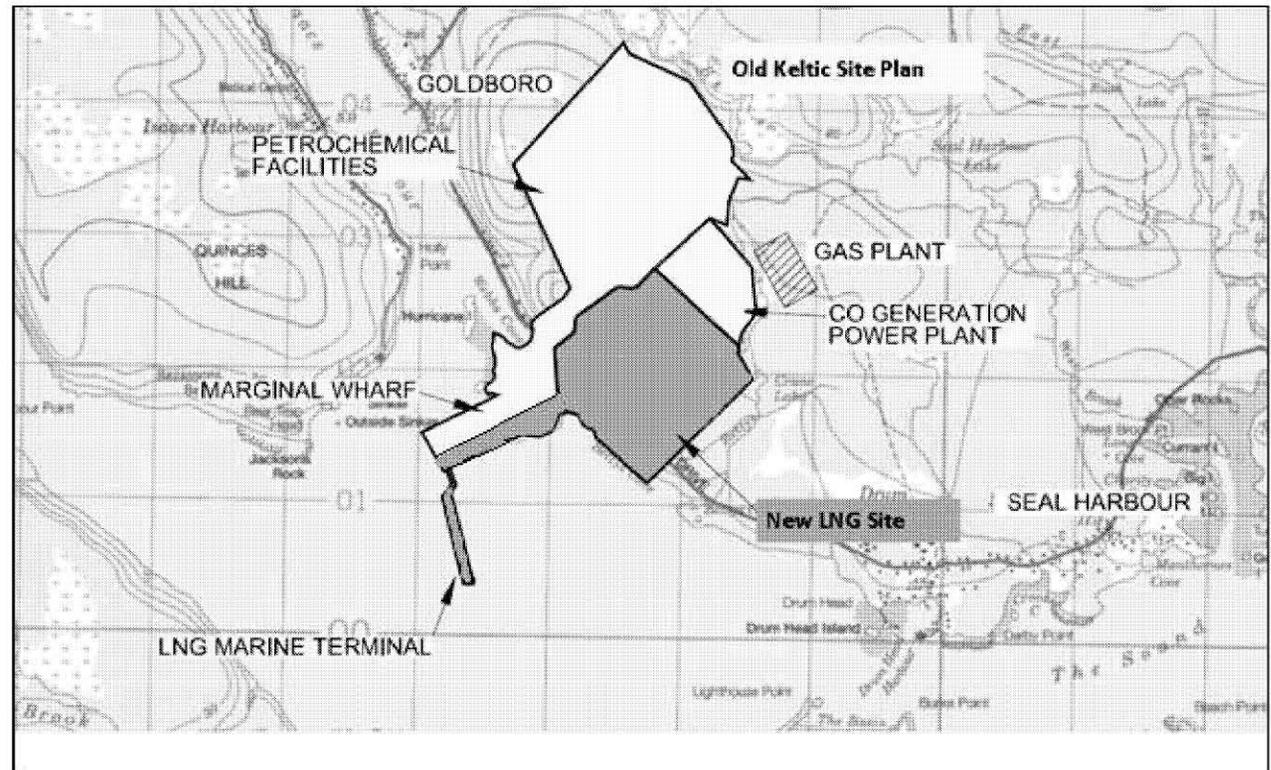
Send-out Capacity:	5.0 mmtpa (~700 mmcf/d)
Max LNG Carrier Capacity:	1 x 250,000 m ³
Storage Tanks:	2 x 210,000 m ³
Shipments Expected:	7-8 shipments / month
Other Project Components:	Access Road / Berthing for Tug Boats / Construction Jetty
Commercial Operations Begin:	2017-18
Capital Expenditures:	~\$5.0 billion



Project Overview: Land Location

Site Requirements

- 500 Acres
- Water access for jetty
- Unimpeded right of way to Maritimes & Northeast Pipeline
- Pieridae proposing the LNG portion of the Keltic project



Pieridae Energy



Project Proponent

Pieridae Energy

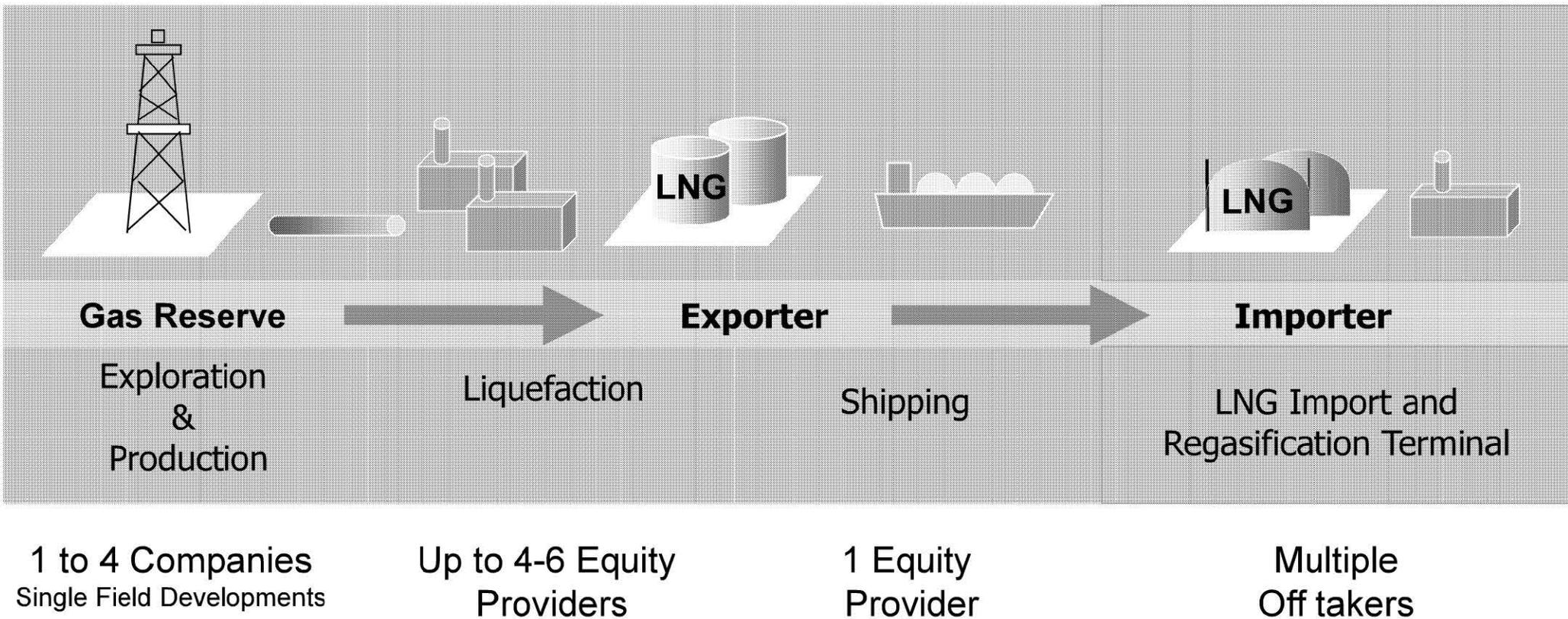
- **UK based company**
- **Office in London**
- **Satellite office in Calgary**
- **Project development company**
- **Created specifically for LNG infrastructure opportunities**
- **Small, focused management team**
- **Management has LNG background and deep connections to the LNG industry world wide**
- **Operates as project lead in the initial phases of development of the project**



LNG Markets

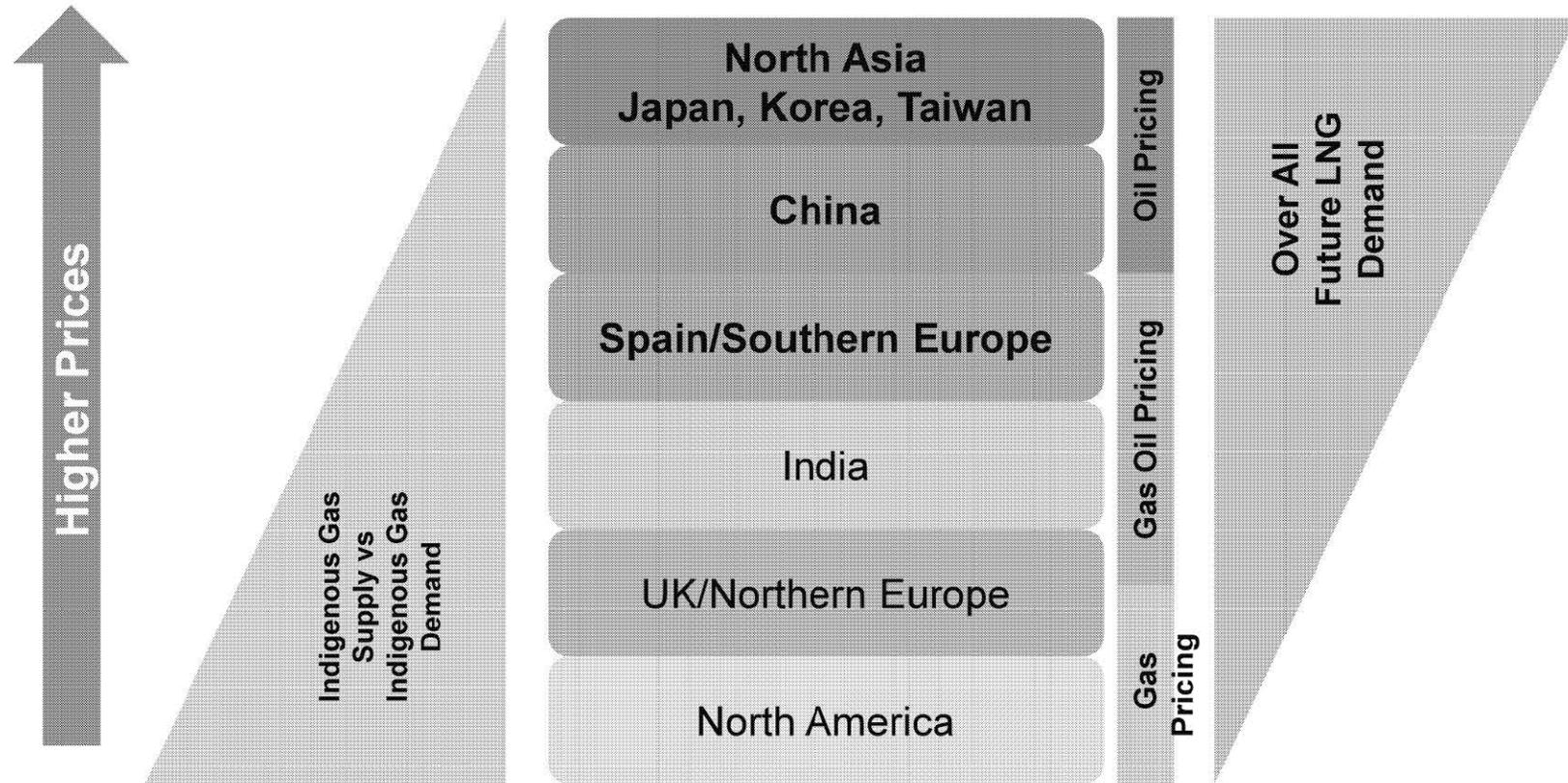


LNG Markets: Typical LNG Value Chain (Integrated)



LNG Markets: LNG Demand

Long Term LNG Pricing

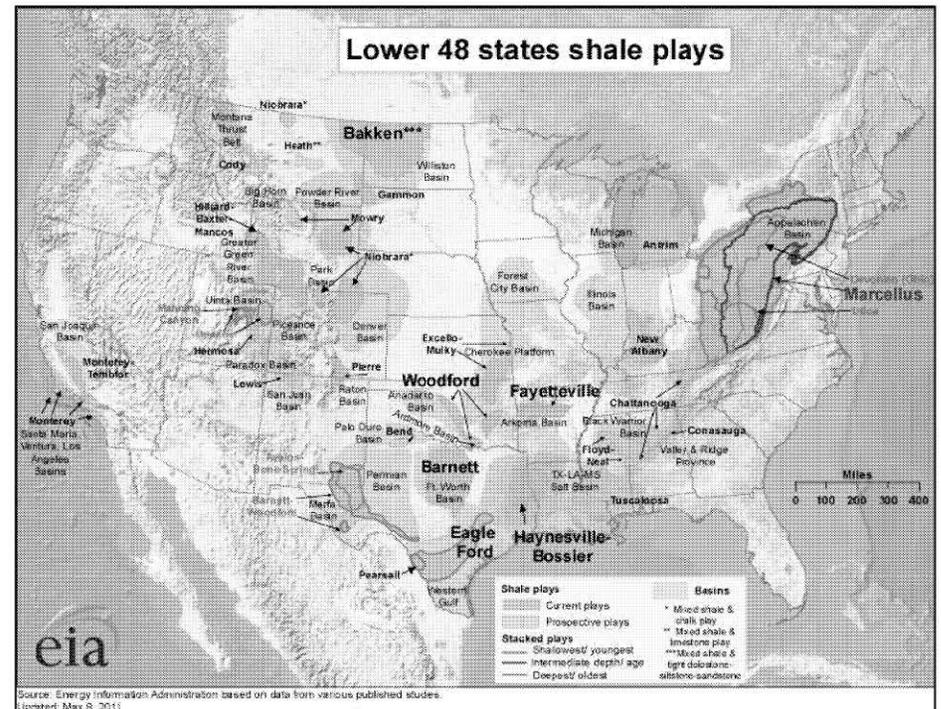
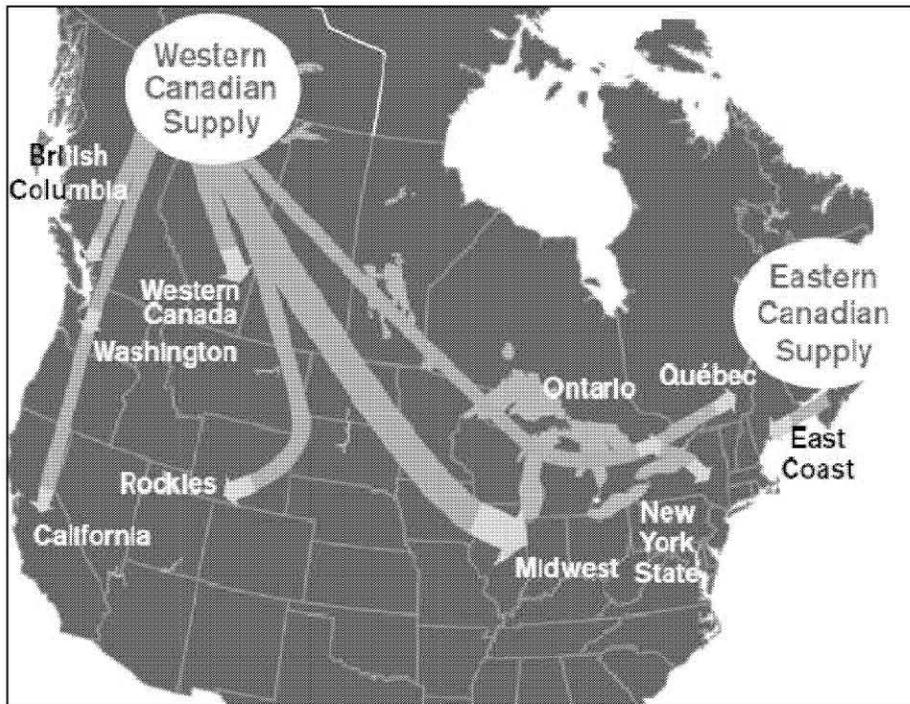


North American Supply



Market Drivers for Project: Increasing North American Shale Gas Plays

- Increasing U.S. shale gas production will compete with traditional Canadian export market areas
- Traditional imports of Canadian natural gas into the U.S. will likely be reduced;
 - causing more gas on gas competition within Canada

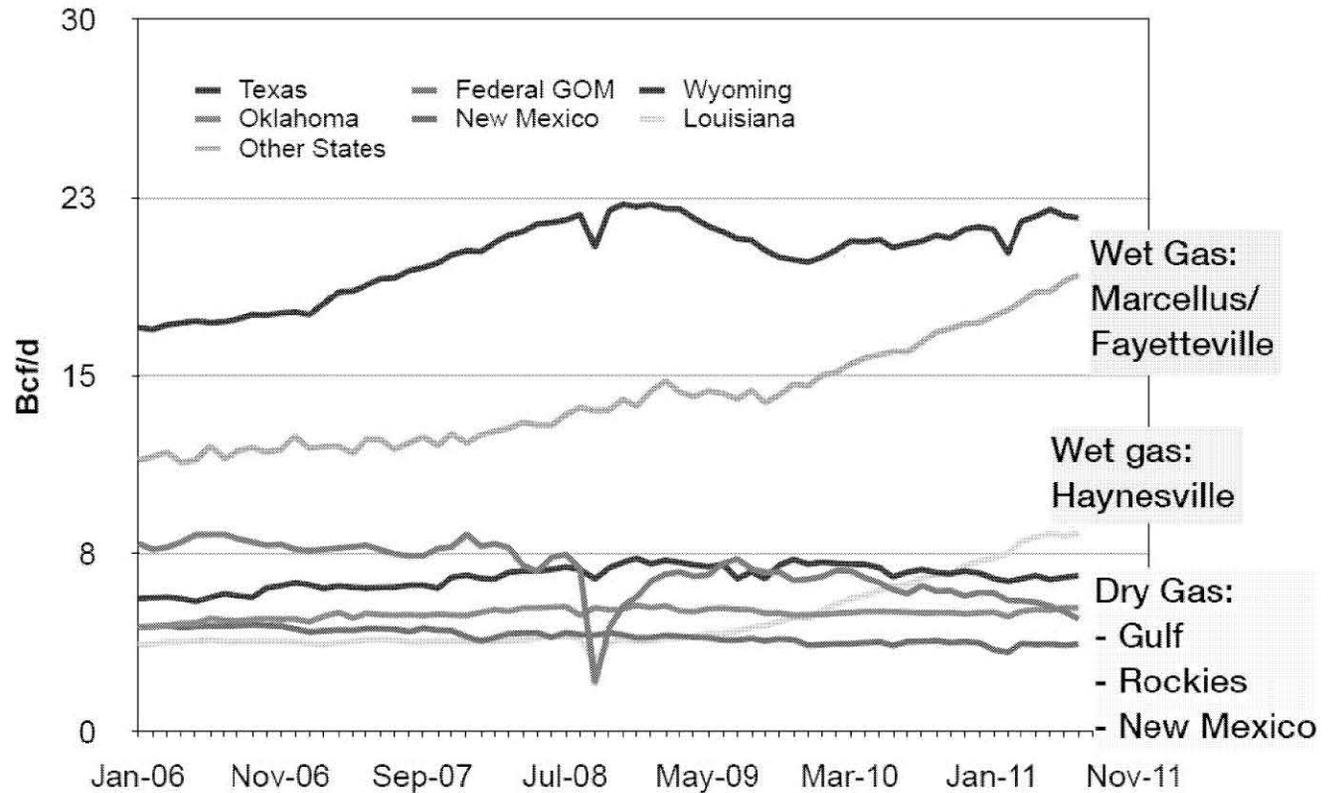


Project Drivers: Shale Gas Liquids Production

Natural Gas Liquids

- North American natural gas pricing is becoming inversely correlated with crude oil – driven by wet gas economics
- This creates a structural natural gas surplus as wet gas economics provide incentive to expand production due to crude oil pricing

U.S. Natural Gas Gross Production



Market Drivers for Project: US Shale Gas Plays

North American Gas Supply

- North East US has seen some of the largest supply increases
- Plans are already being made to export gas into central Canada
- Such a large supply increase has had a very large impact on North American gas pricing

Table 1 U.S. Shale Gas Unproved Discovered Technically Recoverable Resources Summary

Play	Technically Recoverable Resource		Area (sq. miles)		Average EUR	
	Gas (Tcf)	Oil (BBO)	Leased	Unleased	Gas (Bcf/well)	Oil (MBO/well)
Marcellus	410.34	...	10,622	84,271	1.18	...
Big Sandy	7.40	...	8,675	1,994	0.33	...
Low Thermal Maturity	13.53	...	45,844		0.30	...
Greater Siltstone	8.46	...	22,914		0.19	...
New Albany	10.95	...	1,600	41,900	1.10	...
Antrim	19.93	...	12,000		0.28	...
Cincinnati Arch*	1.44	...	NA		0.12	...
Total Northeast	472.05	...	101,655	128,272	0.74	...

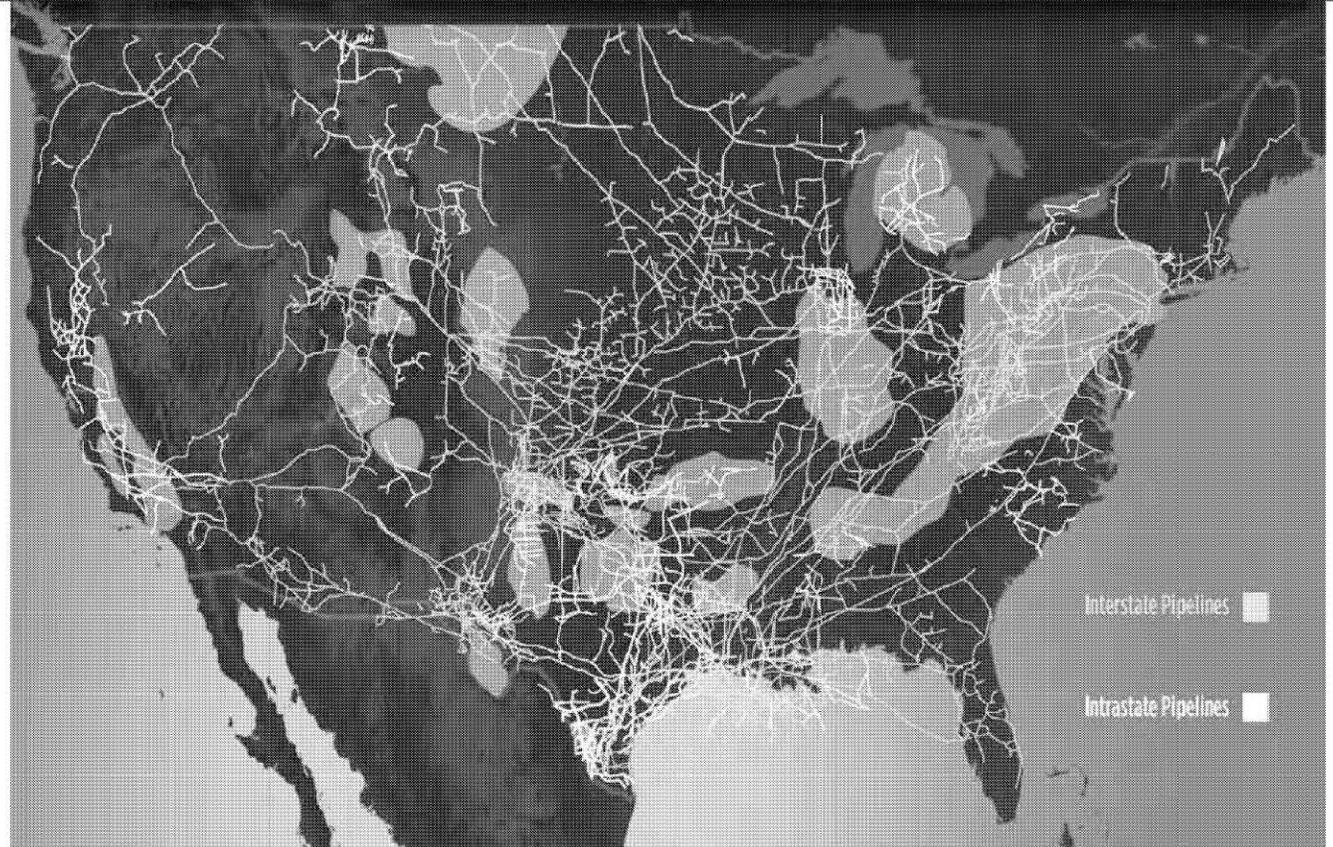


Project Location Drivers



Project Location Drivers: New Gas Production and Pipeline Infrastructure

U.S. Natural Gas Shale Basins Align with Pipeline Grid



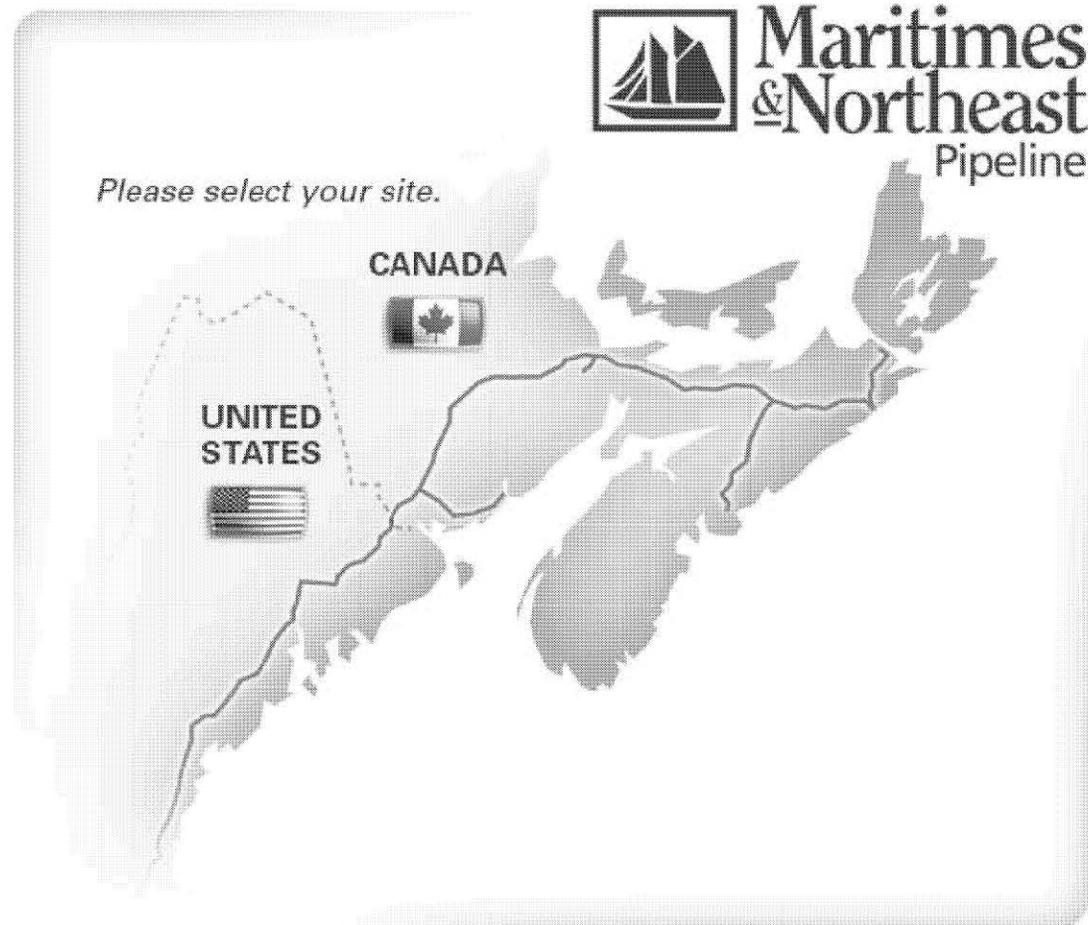
Sources: EIA, US Natural Gas Pipeline



Project Location Drivers: Existing Pipeline Infrastructure

Pipeline System

- The existing Maritimes & Northeast Pipeline system provides the opportunity to utilize existing infrastructure
- This existing pipeline removes permitting risk, which can accelerate the project timeline
- Such a large supply increase has had a very large impact on North American gas pricing



Project Site Drivers

Geographic Location to Markets

Location Advantage

Goldboro provides a shipping advantage over the US Gulf coast or Middle East supply

Shipping Days

	US Gulf Coast	Goldboro	Qatar
Belguim	10.9	6.5	14.5
UK	10.8	6.5	14.5
France	10.4	6.2	14.1
Spain	10.7	6.0	13.5
Italy	12.5	8.3	10.2
Japan	22.0	24.0	15.0



Project Competition and Risks



Project Competition and Risks:

Overview

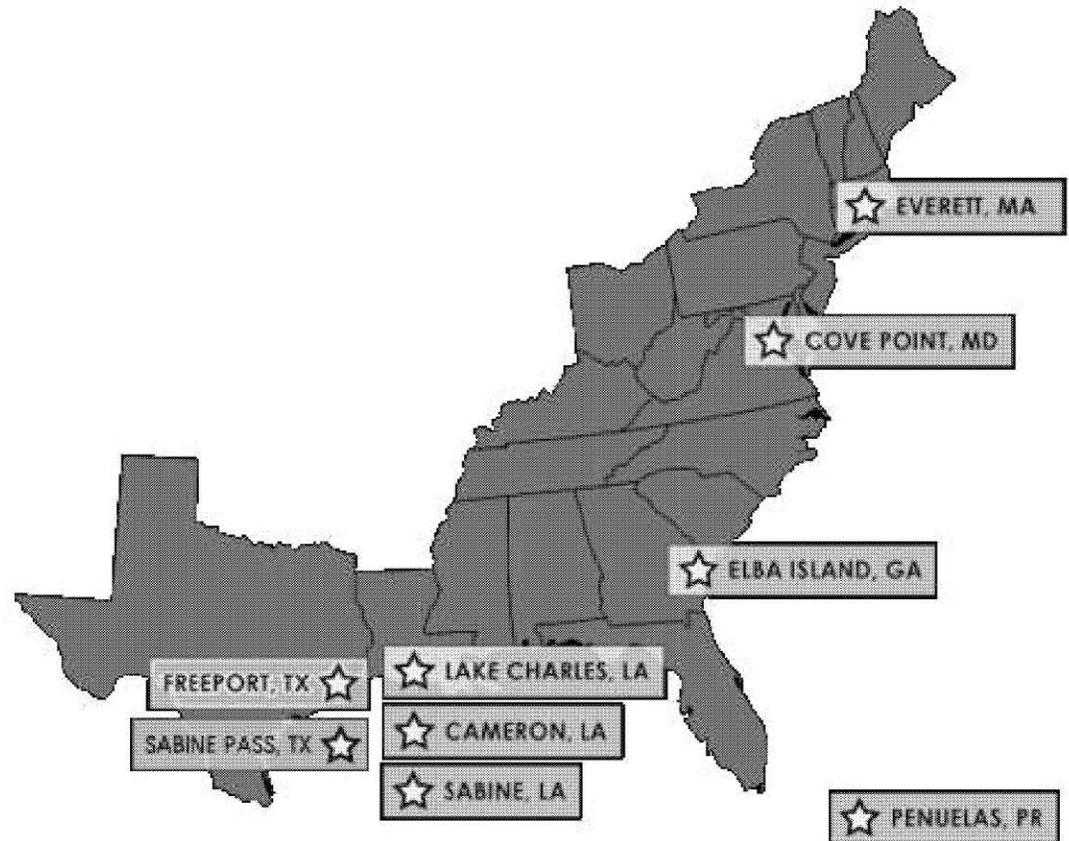
- **Commercial Risks**
 - Building integrated value chain from Gas Supply to End User
- **Oil Prices (which LNG prices are usually linked to)**
 - Price competitive with oil at \$70 Brent oil price
- **Capital Markets Volatility**
 - Project heavily dependent upon debt markets
- **European Economic Activity**
 - Slow down in Europe could cause project delay
- **Regulatory Permitting Risks**
- **Competitive Risk**
- **Timing Risks**



Project Competition and Risks: US Regas Terminal Conversions

Competing Terminals

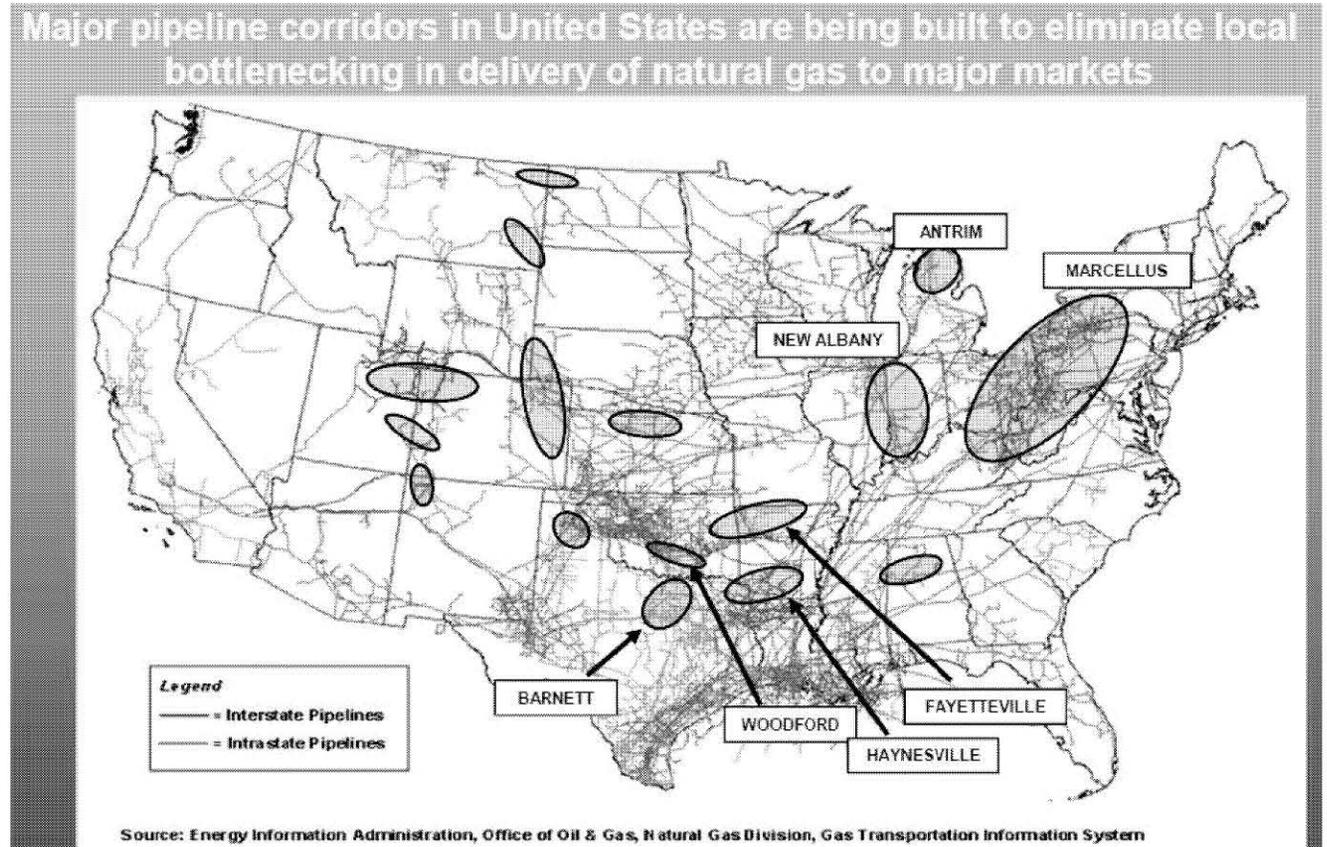
- Two regas terminals in the US have already applied to export LNG
- Cove Point has announced plans to look at exporting
- There will likely be at least two more entrants
- Majority of the competing terminals will be in Gulf Coast
- Permitting of these export terminals has been a very political process
- Bear Head site and the existing Canaport terminal will be competitors
- *Speed to market will be crucial to achieving success in Goldboro*



Project Competition and Risks: Pipeline Infrastructure Planning

Pipeline Planning

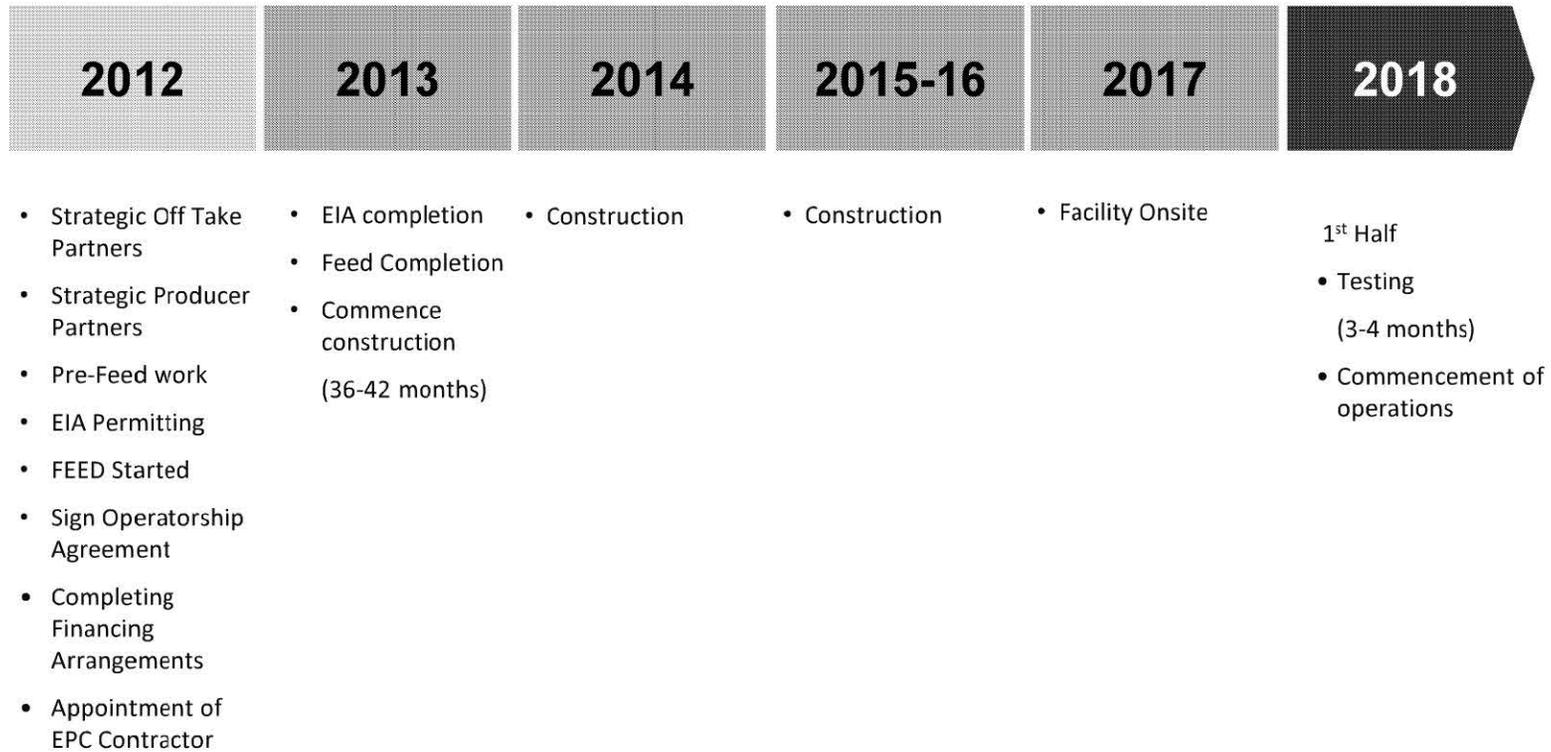
- Producers in the North East US are already planning for pipeline expansions in 2014-15 to move the surplus gas from the Marcellus
- It is crucial to get the project in the planning mix of producers to be able to build feeder pipelines to the Maritimes & Northeast Pipeline system



Project Time Lines



Project Timeline



Project Benefits



Project Benefits

Significant Benefits for Area

I. Construction Phase

- I. Approximately 4 years construction
- II. Construction workers peak at 1,500 during construction
- III. Considerable amount of marine support service requirements during construction phase

II. Operational Phase

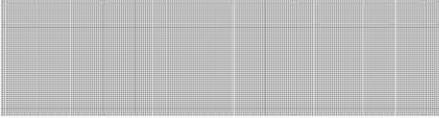
- I. Approximately 80 full time jobs once operational
- II. Capital base of approximately \$5 billion for property tax purposes
- III. Spin off jobs for marine terminal, tug service

III. Spin Off Benefits

- I. Provides an excellent outlet for eastern Canadian shale gas plays in which are currently trapped into a low price environment
- II. Provide gas outlet for off shore development



Tab 2



From: Blackadar, Janet E [<mailto:janet.blackadar@amec.com>]
Sent: Monday, January 16, 2012 10:28 AM
To: Atkinson, Mike [CEAA]
Subject: FW: Pieridae Energy Presentation to NS Environment

Hi Mike,

Please find attached the presentation for the potential development we discussed last week. I hope this helps clarify the project as it stands at this point. Please let me know what you think will be required in terms of process from your end.

I did find out from Mark MacLean (he is going to review and verify for me) that, to his recollection, the DFO authorisation was only for the Keltic part of the site. There was none required for the Maple portion of the site as the wharf was to be built on piles. Kevin LeBlanc from TC has advised that I contact Jon Prentiss regarding the Nav Waters authorisation, although his sense is that the permit would not be valid at this time. Finally, the proposed site is fully within the Goldboro Industrial Park and is already zoned for this use.

If I can provide anything further, please let me know.

Regards,
Janet

Janet Blackadar, M.Sc.F., EP

Manager, Environmental Sciences - Maritime Provinces
AMEC Earth and Environmental,
a Division of AMEC Americas Limited
495 Prospect St., Suite 1,
Fredericton, NB E3B 9M4

Mobile: 
Direct Tel: +1.506.450.8855
Direct Fax: +1.506.450.0829
email: janet.blackadar@amec.com

From: Thom Dawson [<mailto:thom.dawson@pieridaeenergy.com>]
Sent: January-16-12 10:08 AM

To: Blackadar, Janet E
Subject: Pieridae Energy Presentation to NS Environment

Hello Janet,

Please find attached the presentation which we gave to NS Environment. If you have any questions please call or email me.

Regards,

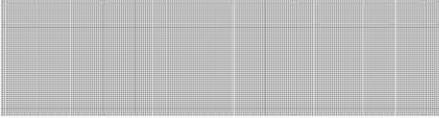
Thom

Thomas Dawson
VP Origination


thom.dawson@pieridaeenergy.com

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Tab 3



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Fredericton, NB E3B 9M4

Mobile: 
Direct Tel: +1.506.450.8855
Direct Fax: +1.506.450.0829
email: janet.blackadar@amec.com

From: Thom Dawson [<mailto:thom.dawson@pieridaeenergy.com>]
Sent: January-16-12 10:08 AM

Tab 4

Sawyer, Claire (IAAC/AEIC)

From: McDonald,Derek [CEAA]
Sent: January 18, 2012 11:01 AM
To: Rodrigues,Vanessa [CEAA]
Cc: Atkinson,Mike [CEAA]
Subject: FW: Pieridae Energy Presentation to NS Environment
Attachments: NS Environment Presentation.pdf

Hi again Vanessa. Sorry to load you up, but the stuff keeps coming in. This is an LNG project at the site of the former Keltic proposal. Compared to Keltic, there's no petrochemical facility, and they want to ship out LNG as opposed to bringing it in. Depending on how some other projects play out (e.g. a possible gold mine that I just handed to Micheline), we may have to shift some work around, but I'd like you to take the lead for now.

Based on the very scanty project details in the presentation (slide 4), it is a possible comp study (13(d) of CSL), although it's not clear how "send-out capacity" relates to "processing capacity". On the storage side, I don't know the relationship between storage volume (given in cubic metres in the presentation) and storage mass (tonnes) mentioned in the CSL.

I believe the terminal may exempt from CS due to recent zoning by the Municipality of Guysborough.

Since they seem to staking their prospects on shale gas development as their gas source, it may be a while before we see this turn into a serious proposal.

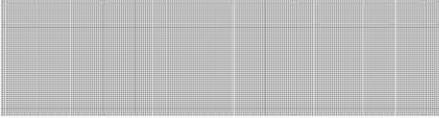
Thanks,
Derek

From: Atkinson,Mike [CEAA]
Sent: Monday, January 16, 2012 11:51 AM
To: McDonald,Derek [CEAA]
Subject: FW: Pieridae Energy Presentation to NS Environment

Derek

Could we assign this to a PM? My read on this is that the area looks like it is zoned appropriately and therefore not be a comp study, although we'd have to see if there was any public consultation. There appears to be new project components, as well as a new proponent, and therefore possible new permits even if the old ones are still valid. If the zoning issue is resolved, then the project is likely a federal screening. We will want to get a read from MPMO to see if it will be adopted under the initiative. The province will require a Class 1 assessment I believe.

A meeting with the proponent, MPMO and likely RAs will be in order.



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Mobile: 
Direct Tel: +1.506.450.8855
Direct Fax: +1.506.450.0829
email: janet.blackadar@amec.com

From: Thom Dawson [<mailto:thom.dawson@pieridaeenergy.com>]
Sent: January-16-12 10:08 AM

Tab 5

Sawyer, Claire (IAAC/AEIC)

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Derek

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To: McDonald,Derek [CEAA]
Subject: FW: Pieridae Energy Presentation to NS Environment

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A meeting with the proponent, MPMO and likely RAs will be in order.

Tab 6

Sawyer, Claire (IAAC/AEIC)

From: McDonald,Derek [CEAA]
Sent: July 23, 2012 10:59 AM
To: Atkinson,Mike [CEAA]
Cc: Rodrigues,Vanessa [CEAA]; Cogle,Betty Ann [CEAA]
Subject: Update on Pieridae (Trans-Atlantic) LNG

Mike,

I met with Alfred Sorensen on Mon, Jul 23. I have to say he is an impressive guy.

He advised me that, on Friday, they signed their "anchor tenant", a large German concern, which he expects will precipitate other buyers joining in. [REDACTED]

A public launch is planned in about three weeks; Aboriginal leaders will be informed prior to going public.

AMEC will soon begin working on a PD and scope. We also discussed the need for the comparison/gap analysis with the Keltic/Maple LNG project; I stressed that this would be a key document to support an Agency decision on the need for a federal screening/EA. This will be produced.

He is thinking of a meeting in September between us, NS and the proponent team. They also plan to soon establish a local office to manage the project.

A 2018 start-up is anticipated, which I suggested could accommodate a federal EA, if required. I informed him that CEAA 2012 is in force, and told him the timelines for a screening and Standard EA.

They are looking at three sources: the Marcellus shale field in Pennsylvania (as was mentioned in our earlier meeting), offshore NL (he mentioned Hibernia and White Rose, where they are currently re-injecting produced NG; I suspect Terra Nova, too, although I don't think he mentioned that one) and NS/NB Shale Gas. Given the amount of off-site infrastructure and operations that is implied by this scenario, it sounds like scope will be a key consideration in any review, as well as in the decision on the need for federal EA. Also sounds like multiple jurisdictions will be involved, although they might be at different times.

Derek McDonald, P.Eng.

Project Manager | Gestionnaire de projets Canadian Environmental Assessment Agency - Atlantic Region | Agence canadienne d'évaluation environnementale - région de l'Atlantique Suite 200, 1801 Hollis Street | 1801, rue Hollis, bureau 200 Halifax, NS | Halifax, N-É B3N 3J4

mailto: derek.mcdonald@ceaa-acee.gc.ca

902.426.9458

Tab 7

Hi Derek:

Thanks for your note. I have included Uwe on this note. Uwe is with AMEC and they will be leading the environmental process for us. We have begun working on the project description and will commence the preliminary engineering work next week which will take about six weeks. Perhaps Uwe you could call Derek to address his concerns. Derek we look forward to working with you and the department. Have a good weekend.

Alfred

Sent from my BlackBerry® smartphone

-----Original Message-----

From: "McDonald,Derek [CEAA]" <Derek.McDonald@ceaa-acee.gc.ca>

Date: Fri, 26 Oct 2012 11:17:47

To: <alfred.sorensen@pieridaenergy.com>

Cc: <Mike.Atkinson@ceaa-acee.gc.ca>

Subject: Trans-Atlantic LNG

Good Morning Mr. Sorensen.

I read with interest the articles that appeared in the Chronicle-Herald this week about Pieridae's announcement of the project in Goldboro. Congratulations on reaching this significant milestone.

At this point, I believe it is appropriate to seek an update on your plans and timing.

You may recall that when we met back in July, we discussed the need for a "gap analysis", providing a comparison of the new proposal, and its potential environmental effects, with the previous Keltic/Maple LNG one that was assessed previously. This will enable the Agency to determine whether or not the submission of a federal Project Description (PD) is required for the new proposal. If a PD is required, and a federal EA under the Canadian Environmental Assessment Act, 2012 ensues, the gap analysis will also influence the scope of the federal review, likely focusing it on aspects that differ substantially from the previous proposal.

When could we expect to see the gap analysis? And if you know, I would also appreciate an estimate of when a Nova Scotia EA Registration might be submitted. This timing information would be helpful when contemplating opportunities for coordinating the federal and provincial EA processes. If a federal EA will be required, starting both processes at the same time would provide the maximum flexibility to coordinate. We would need some lead time to allow for discussions between the Agency and NS EA staff, so we'd need the gap analysis in advance, in order to arrive at a conclusion about the need for federal PD before initiating those discussions.

In the event that a PD is required, and if possible, we'd like to avoid the Christmas period falling in a critical phase of the review, such as during the Agency's 10-day review of the PD, or during the 20-day public comment period on the project summary.

Any information you can provide that would aid our planning would be appreciated.

Best Regards,

Derek McDonald, P.Eng.

Project Manager | Gestionnaire de projets Canadian Environmental Assessment Agency - Atlantic Region | Agence canadienne d'évaluation environnementale - région de l'Atlantique Suite 200, 1801 Hollis Street | 1801, rue Hollis, bureau 200 Halifax, NS | Halifax, N-É B3N 3J4 derek.mcdonald@ceaa-acee.gc.ca
902.426.9458

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Tab 8

Sawyer, Claire (IAAC/AEIC)

From: McDonald,Derek [CEAA]
Sent: November 5, 2012 1:41 PM
To: Wittkugel, Uwe
Cc: Mike Atkinson (Mike.Atkinson@ceaa-acee.gc.ca); Blackadar, Janet E
Subject: RE: Goldboro LNG

Hi Uwe,

I think your summary captures it fairly well.

Derek

From: Wittkugel, Uwe [mailto:uwe.wittkugel@amec.com]
Sent: November 2, 2012 3:15 PM
To: McDonald,Derek [CEAA]
Cc: 'Atkinson, Mike'; Blackadar, Janet E
Subject: Goldboro LNG

Derek:

Thank you for taking the time to discuss our approach to the Goldboro LNG Project Description. Below a few bullet points summarizing my interpretation of the outcome of our discussion from this morning. Based on your recommendations, AMEC should:

- Develop a document separate from the formal CEAA Project Description. That document should focus on the comparison of the Keltic Project proposal with the Goldboro LNG proposal.
- The focus of the comparison should be on Project location, features/components, and potential environmental changes related to Federal Legislation (Fisheries Act, SARA, MBCA).
- The document could be structured along the key headings used for the formal CEAA Project Description to the extent that the subjects are relevant to the comparison (e.g., project organization, schedule information etc are not relevant).
- The information can be presented as much as possible in table and graphic format (e.g., graphic for location and footprint).
- A detailed description of the existing setting (environmental conditions) is not required; the text should mention though notable changes if they occurred (in particular those relevant to the above federal legislation).

- A discussion on engagement of aboriginal communities and consultation with the general public should focus on feedback received to date and identified / anticipated differences in concerns raised on the two projects.
- The stand-alone comparative document will enable CEAA to assess/verify the need for a formal Project Description and/or to focus the requirements on selected project or environment components.
- CEAA is available to provide further guidance and feedback as the comparative report is being developed; i.e. AMEC is encouraged to forward early draft text versions to ensure CEAA expectations are met.

Please confirm or let me know if I missed anything. Thank you again for your input.

Have a good weekend.

Uwe

Uwe Wittkugel, Dipl. Ing., M.E.Des., MCIP, CSLA

Senior Environmental Planner

AMEC Environment & Infrastructure

50 Troop Ave., Unit 300

Dartmouth, NS, B3B 1Z1

Tel (direct): [REDACTED]

Tel (switchboard): 902 468 2848

Mobile: [REDACTED]

Fax: 902 468 1314

Em: uwe.wittkugel@amec.com



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Tab 9



**Goldboro LNG
Versus
Keltic Petrochemical and LNG Tanker Terminal
Comparative Description**

Draft Report

Submitted to:
Goldboro LNG LP / Pieridae Energy Ltd.
2626 28 St SW
Calgary, Alberta
T5A 2A8

Submitted by:
**AMEC Environment & Infrastructure,
A Division of AMEC Americas Limited**
50 Troop Avenue, Unit 300
Dartmouth, NS
B3B 1Z1

November 2012

TV121039

SUMMARY

Pieridae Energy Ltd. proposes to construct a liquefied natural gas (LNG) tanker terminal in Goldboro, Guysborough County, NS, referred to as Goldboro LNG Project. The project is proposed to be developed on the same project site for the formerly planned Keltic Petrochemicals and LNG Facility Project (Keltic Project).

The Keltic Project obtained provincial and federal EA approvals in 2007 and 2008 respectively. The project however was never implemented and all approvals obtained to date have expired. Given similarities between the Goldboro LNG Project and Keltic's LNG component, the federal environmental assessment requirements and scope for the Goldboro LNG Project pursuant to the new Canadian Environmental Assessment Act (CEAA 2012) are now being reviewed.

A comparison between the two projects has been conducted to facilitate that review and assist in the Canadian Environmental Assessment Agency's decision making.

The key findings of the comparison have been summarized in the following table

	Goldboro LNG	Keltic Petrochem / MapleLNG
Designated activities	<ul style="list-style-type: none"> • Liquefaction Facility (for LNG export) 	<ul style="list-style-type: none"> • Regasification facility (for LNG import) • Petrochemical plant
Major Project Components	<ul style="list-style-type: none"> • LNG tanker terminal, • Gas storage facility • Marginal wharf • 180 MW power plant 	<ul style="list-style-type: none"> • Same plus • Petrochemical plant • Meadow Lake reservoir / dam
	<ul style="list-style-type: none"> • 100-200 employees (operation) 	<ul style="list-style-type: none"> • 624 employees (operation)
	<ul style="list-style-type: none"> • 160 tankers/year 	<ul style="list-style-type: none"> • 210 tankers/year
Supporting Components	<ul style="list-style-type: none"> • Short connecting pipelines • Road realignment • Wastewater treatment plant • Incinerator. 	<ul style="list-style-type: none"> • Same
Physical works	<ul style="list-style-type: none"> • Site clearing, cut and fill • Marine in-water works • Water crossings • Wetland alteration 	<ul style="list-style-type: none"> • Same plus • Dam construction (Meadow Lake Reservoir) incl. water supply pipeline
Emissions and Discharges	<ul style="list-style-type: none"> • Air emissions (e.g.: NO_x, SO_x, PM, GHG) • Noise 	<ul style="list-style-type: none"> • Similar plus • Air and noise emissions from Petrochemical plant
Project Location	<ul style="list-style-type: none"> • Goldboro Industrial Park 	<ul style="list-style-type: none"> • Identical site/ wharf location
Federal Involvement	<ul style="list-style-type: none"> • Regulatory 	<ul style="list-style-type: none"> • Regulatory
Environmental Setting	<ul style="list-style-type: none"> • Coastal environment 	<ul style="list-style-type: none"> • Same (as described in EA)

	Goldboro LNG	Keltic Petrochem / MapleLNG
	<ul style="list-style-type: none"> • Site disturbed (former mining activities) • Fish habitat at wharf • Some on-site wetlands 	
Potential Changes Related to Federal Legislation: <ul style="list-style-type: none"> • Fish and Fish Habitat • Aquatic Species • Migratory Birds • Effects on Aboriginal People 	<ul style="list-style-type: none"> • yes 	<ul style="list-style-type: none"> • same
Engagement and Consultation with Aboriginal Groups	<ul style="list-style-type: none"> • Engagement program has been initiated 	<ul style="list-style-type: none"> • EA included comprehensive engagement program • MEK Study completed
Consultation with the Public and other Parties	<ul style="list-style-type: none"> • Consultation program is being initiated 	<ul style="list-style-type: none"> • EA included comprehensive consultation program

The Keltic project site environment has experienced little if any change since the federal EA approval (verified via site visit by AMEC in September 2012). Consequently, the existing environment presented in the Keltic CSR Report remains largely valid and the list of VEC's identical.

No data gaps have been identified with respect to VECs relevant to federal legislation. However, some of these VECs may require updating:

- Species at Risk;
- Migratory Birds;
- Wetlands;
- Use of Lands and Resources for Traditional Purposes by Aboriginal Persons; and
- Fisheries (incl. aquaculture).

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1.0 INTRODUCTION AND BACKGROUND

1.1 Background, Objective

Pieridae Energy Ltd. is proposing to develop and operate a liquefied natural gas (LNG) tanker terminal in Goldboro, Guysborough County, Nova Scotia. The proposal, referred to as Goldboro LNG Project, encompasses the development and operation of an LNG terminal with a capacity of 8 mmtpa (~1260 mmcf/d) and an LNG storage capacity of about 450,000 m³.

The Goldboro LNG facility is being proposed in the same location as the Keltic Petrochemicals and LNG Facilities Project (Keltic Project). That project was publicly announced in 2005 and was the subject of both a Comprehensive Study pursuant to CEAA (2006) (Registry # 05-03-10471), as well as a Nova Scotia Class 2 Environmental Assessment (Keltic Petrochemicals and Liquefied Natural Gas Facility). The Keltic Project obtained EA approvals, however the Keltic Project was never implemented and all approvals obtained to date have expired.

Given similarities between the Goldboro LNG Project and Keltic's LNG component, the federal environmental assessment requirements and scope for the Goldboro LNG Project pursuant to the new Canadian Environmental Assessment Act (CEAA 2012) are now being reviewed. This document has been developed to facilitate that review and assist in the Canadian Environmental Assessment Agency's decision making.

This document compares the two projects with emphasis on the EA requirements established by CEAA 2012. The text has been structured to follow the federal guide to preparing a project description (CEAA 2012: *Guide To Preparing A Description Of A Designated Project Under The Canadian Environmental Assessment Act*, 2012. CEAA, July 2012). The report is not intended to replace a formal Project Description pursuant to CEAA 2012, Section 8 (1). A Project Description pursuant to CEAA 2012 will be developed and submitted should the CEAA review of the project comparison identify the need for such a step.

1.2 Approval Status

Goldboro LNG Project

The Goldboro LNG project is in the early planning stages. No formal planning process has been initiated with provincial and or federal regulators and no approvals have been obtained as of yet.

Keltic Project

The Keltic Project obtained approvals pursuant to the respective provincial and federal EA legislation. Following the EA approvals further provincial approvals were obtained for parts of the Keltic Project and include. In March, 2006, the LNG component was purchased by MapleLNG Limited; however, the federal (CSR) and provincial assessment processes continued under the Keltic title. MapleLNG Ltd. subsequently obtained a provincial permit to construct for a Gas Plant (June, 2008) and a Send Out Pipeline (September, 2009). Maple LNG Ltd. formally terminated the permits in March, 2011 following a decision not to proceed with the Project.

This approval history is presented in Table 1.1 below:

Table 1.1: Keltic Project Approval History and Status

Date	Approval	Prov.	Fed.
14 Oct 2009	The Nova Scotia Minister of Environment and Labour authorizes extension for the commencement of work effective November 7, 2009 and expiring November 7, 2011	✓	
March 7, 2008	Federal Minister of the Environment reviewed the federal environmental assessment (Registry # 05-03-10471) of the Keltic Liquefied Natural Gas Facilities and Marginal Wharf Project proposed by Keltic Petrochemicals Inc. and MapleLNG Limited. A follow-up program has been implemented and completed on November 5, 2010.		✓
18 Dec 2007	The Nova Scotia Minister of Environment and Labour has approved a request from MapleLNG Limited to transfer terms and conditions of environmental assessment approval for the LNG portion of the Petrochemical Plant and LNG Project to Maple LNG Ltd.	✓	
14 March 2007	The Nova Scotia Minister of Environment and Labour has approved Keltic Petrochemicals' Liquefied Natural Gas and Petrochemicals Facility Project at Goldboro subject to terms and conditions	✓	
23 February 2007	The Nova Scotia Environmental Assessment Board has completed its review and submitted its report to the Minister of Environment and Labour. In the report the Panel recommends that the proposed project should proceed subject to recommendations presented in the report;	✓	
11 June 2008	The Nova Scotia Utility and Review Board issued a Permit to Construct a Gas Plant (including the LNG terminal).	✓	
14 September 2009	The Nova Scotia Utility and Review Board issued a Permit to Construct a 2.2 km long Send Out Pipeline connecting to the M&NP system.	✓	
Other Provincial approvals	TBD	TBD	

1.3 LNG Goldboro Proponent Contact Information

Contact information for the Goldboro LNG Project is listed below. The project is proposed by Pieridae Energy Limited. This proponent has no affiliation with the Keltic Project proposal and its proponents.

Name of Designated Project: Goldboro LNG
Name of Proponent: Pieridae Energy Limited / Goldboro LNG
Address: Goldboro LNG LP / Pieridae Energy Ltd 2626 28 St SW Calgary, Alberta, T5A 2A8
Telephone: 403-399-7587
E-mail: Alfred.sorensen@pieridaeenergy.com
Goldboro LNG President: Alfred Sorensen
Principal contact: Thom Dawson – VP Origination (Thom.dawson@pieridaeenergy.com)

2.0 PROJECT INFORMATION

2.1 Context and Objectives of the Project

Goldboro LNG

The increasing demand for natural gas in the world markets, particularly in Asia, fosters the exploration of new gas supplies. In North America, there is an increasing supply of natural gas, much of it from shale gas developments. The Goldboro LNG facility is intended for the export of said natural gas supplies to consumers in Europe, Asia, or other developing markets.

The Goldboro LNG facility is proposed for a coastal location with direct access to the M&NP pipeline, which is connected to multiple US American pipelines. The facility's objective is to receive gas via the existing M&NP pipeline in Goldboro and to then liquefy, store, and load the gas onto LNG vessels for export to markets in Europe and Asia.

Keltic Project

Objective of the Keltic Project was to develop an integrated import and production facility that receives LNG by ship at a new LNG tanker terminal. The gas was planned to be regasified and then delivered to the M&NP pipeline. Some of the gas was also to be utilized for the on-site production of polyethylene and polypropylene pellets for shipment from a new marginal wharf development to customers across North America.

2.2 Designated Activities

Goldboro LNG

The CEAA 2012 "*Regulation Designating Physical Activities*" (Environment Canada 2012) identifies the physical activities that constitute the designated projects that could require completion of a federal EA. For the Goldboro LNG, the designated activity that is subject to CEAA 2012 is the construction of the LNG liquefaction and storage facility as per Section 13 of the Regulation:

- *The construction, decommissioning and abandonment, or an expansion that would result in an increase in production capacity of more than 35%, of ... (d) a facility for the liquefaction, storage or re-gasification of liquefied natural gas, with a liquefied natural gas processing capacity of more than 3,000t/d or a liquefied natural gas storage capacity of more than 50,000t.*

The proposed marine tanker terminal is likely not subject to CEAA. The relevant Section 27 of the Regulation designates "...a marine terminal designated to handle vessels larger than 25,000 DWT..." as an activity requiring a federal EA only if such use is not permitted in the land use plan for the project site and if this plan was not subject to public consultation.

The Goldboro LNG project is proposed for a location within the Goldboro Industrial Park. The zoning for the Goldboro LNG project site does permit a marine terminal. The land use zoning was subject to public consultation. As such, the marine terminal itself is NOT an activity for which CEAA 2012 applies.

Keltic Project

The Keltic Project was subject to CEAA applicable in 2006. As such the Regulation Designating Physical Activities mentioned above was not applicable. Instead, in accordance with the applicable CEAA legislation, the federal EA was triggered since the project required federal approvals under the *Navigable Waters Act* and the *Fisheries Act*. In addition, the Comprehensive Study List Regulation that was in force at that time determined that the Project was to undergo a Comprehensive Study.

2.3 Project Components

2.3.1 Physical Works

The key components of the Goldboro LNG Project and the Keltic Project are listed in Table 2.1. The table also includes information on size and capacity as well as temporary or permanent infrastructure components.

Table 2.1: Project Components Goldboro LNG vs Keltic Project

Item	Facility Components	Goldboro LNG Project	Keltic Project
	Temporary Facility Components		
	Work Camp/workforce	✓ (up to 3500)	✓ (up to 4772)
	Power Plant (Construction)	✓ (16 MW)	✓ (16 MW)
	Permanent Principal Facility Components		
	LNG tanker terminal	✓	✓
	LNG liquefaction	✓	No
	LNG Re-gasification	No	✓
	LNG storage	✓ (450,000 m ³)	✓ (initial 500,000 m ³ , with future expansion up to 975,000 m ³)
	Flare stack	✓	✓
	Petrochemical plant	No	✓
	Power Plant (Operation)	✓ (180 MW)	✓ (180 MW)
	Power Line (345kV or more)	?	No
	Marginal wharf	✓	✓
	Pipeline (marine transfer)	✓	✓
	Pipelines (connection to M&NP and to power plant)	✓	✓

Item	Facility Components	Goldboro LNG Project	Keltic Project
	LNG tankers	✓ (100 to 160 per year)	✓ (105 to 210 per year)
	Vessels for Product Shipment (Polyethylene and Polypropylene Pellets)	No	✓
Support Components, Utilities, Infrastructure			
	Meadow Lake dam and reservoir (incl. freshwater intake structure)	No	✓ (process & cooling water, fire water, potable water)
	Raw marine water intake (if required for back-up firewater)	?	No
	Waste Water Treatment Plant and discharge structure	✓	✓
	Tugs	✓	✓
	Road realignment	✓ (Route 316)	✓ (Route 316)
	Water course diversion	No	✓
	Administration building	✓	✓
Key Construction Activities			
	Site clearing	✓ (200 ha) – check vs site purchase?	✓ (350 ha)
	Blasting, on-shore cut and fill	✓	✓
	In water works (marine)	✓	✓
	Sheet piling and infill (marginal wharf)	✓	✓
	Stream crossing (on-shore for pipeline construction and road realignment)	✓	✓

Notes:

1. Preliminary Project Description (Internal Document)
2. Comprehensive Study Report (Keltic, 2007).

2.3.2 Emissions, Discharges and Waste

Goldboro LNG Project

The Goldboro LNG project will produce the following general types of emissions, discharges, and waste:

- Solid waste (construction & domestic);
- Air emissions, including volatile organic compounds (VOC's), sulphur compounds (SO_x), nitrogen oxides (NO_x), particulate matter (PM), and greenhouse gasses (GHG));
- Wastewater (construction, process, and domestic); and
- Noise.

There are some potential waste types that could be produced if historic mining contaminated soils or acid generating bedrock is encountered. Accidental spills are also a potential source of LNG, petroleum-oil-lubricants (POL), and small quantities of other hazardous chemicals.

Keltic Project

In comparison, the Keltic Project was expected to produce similar waste types but in larger volumes.

Further details for both projects are listed for direct comparison in Table 2.2. The table also includes information on volume and frequency as well as disposal (where applicable).

Table 2.2: Emissions, Discharges and Waste Comparison

Source	Type	Description	Goldboro LNG	Keltic
Construction Phase				
All activities	Solid waste	Solid waste separated into recyclable and non-recyclable on site and stored temporarily for transport off-site to disposal at an approved facility. Expected magnitude relative to number of employees during peak construction.	✓ (3500 employees)	✓ (4772 employees)
Clearing, grubbing, grading and excavation for all activities	Dust	Temporary dust emissions locally above regulatory guidelines to be controlled by standard best management practices. Expected magnitude relative to total area of site.	✓ (200 ha site)	✓ (350 ha site)
Construction vehicle operation & transportation	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's. Expected magnitude relative to number of vehicles per day during peak construction.	✓ (300 vehicles)	✓ (400 vehicles)
Temporary concrete and asphalt batch plants	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's.	✓	✓
General machinery operation (all activities)	Noise	Minor noise production (below provincial guidelines at site boundary).	✓	✓
Pile driving (LNG Terminal) & blasting	Noise	Temporarily loud noise and acoustic vibration in the aquatic environment that may carry for large distances.	✓	✓
Power generating station	NOx, SOx, PM, and GHG (CO2)	Construction of 16 MW generator for Construction Phase energy needs and to provide backup generator for Operation Phase.	✓	✓
Marine vessels (cargo), tugs	VOC's & ballastwater	Minor VOC's in local airshed and very small contribution to GHG's. Marine vessels conduct ballastwater operations off-shore in accordance with Canadian and US guidelines. No impacts on local environment.	✓	✓
Domestic wastewater system	Sanitary wastewater	On-site use of sewage treatment "package plant" during construction. Discharge of treated effluent (complies with regulatory requirements) into Isaacs Harbour. Expected	✓ (3500 employees)	✓ (4772 employees)



Source	Type	Description	Goldboro LNG	Keltic
		magnitude relative to number of employees during peak construction.		
Site run-off	Sedimentation	Potentially significant sedimentation from stormwater run-off to be controlled by standard best management practices. Expected magnitude relative to total area of site.	✓ (200 ha site)	✓ (350 ha site)
Marine construction	Siltation	Potentially significant siltation during construction of marine terminal and shoreline protection activities to be controlled by silt curtain and boom.	✓	✓
Excavation / dredging (All activities)	Contaminated soil/sediment	May encounter historic mine tailings on land or in marine sediments, containing high metals contamination. Preconstruction survey proposed to confirm presence/absence and management plan.	✓	✓
Blasting / excavation in bedrock	Acid rock drainage	May encounter acid generating bedrock, to be managed, treated and/or disposed of in accordance with acid generating rock management plan and provincial guidelines.	✓	✓
Operation Phase				
All activities	Solid waste	Solid waste separated into recyclable and non-recyclable on site and stored temporarily for transport off-site to disposal at an approved facility. Expected magnitude relative to number of permanent employees.	✓ (100-200 employees)	✓ (624 employees)
Maintenance vehicle operation & transportation	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's. Expected magnitude relative to number of permanent employees.	✓ (100-200 employees)	✓ (624 employees)
LNG Storage & handling (flaring & pressure valves), Boil Off Gas (BOG)	VOC's, NOx, CO, NG	Small production of gasses from infrequent unplanned flaring and pressure relief valves. Also some minor release of fugitive natural gas from leakage and very minor release of VOC's from POL & seal oils. Expected magnitude relative to total storage volume.	✓ (450,000 m3)	✓ (500,000 m3)

Source	Type	Description	Goldboro LNG	Keltic
LNG Liquefaction	VOC's, NOx, CO, NG Refrigerants?	Relatively large amount of gas emissions during LNG production. Also some minor release of fugitive natural gas from leakage. Need to characterize <u>refrigerants</u> ; type, volume, potential for leakage.	✓	NOT APPLICABLE
Flaring & pressure release valves (all project components)	Noise	Infrequent and unpredictable loud noise production up to 110 dBA at the base of the flare and 145 dB(Lin) for blow down valves measured at 1m from the source.	✓	✓
LNG Re-gasification & Petrochemical Plant	NOx, CO, VOC's, NG	Relatively large production of gasses during NG conditioning process and petrochemical production. Also some minor release of fugitive natural gas from leakage.	NOT APPLICABLE	✓
Incinerator	NOx, SOx, PM, GHG	Relatively minor production of gasses during incineration of waste hydrocarbon, spent caustic (Keltic only), waste polymer (Keltic only), bio-sludge, and lab waste.	✓	✓
Power Generating Station	NOx, SOx, PM, and GHG (CO2)	Construction of 180 MW generator for Operation Phase energy needs with backup 16 MW unit from Construction Phase. Expected to produce relatively large emissions volumes but significantly less GHG than "grid" sourced electricity.	✓	✓
LNG Tankers, Tugs	VOC's & ballast water	Minor VOC's in local air shed and very small contribution to GHG's. Marine vessels conduct ballast water operations off-shore in accordance with Canadian and US guidelines. No impacts on local environment. Expected magnitude relative to number of tankers per year.	✓ (160 per year)	✓ (210 per year)
Wastewater Treatment System	Multiple liquid waste streams	On-site wastewater treatment plant for multiple wastewater streams including sanitary wastewater, contaminated wastewater (run-off from paved areas), oily water, fire water, and benzene & toluene contaminated water. Discharge of treated effluent (to comply with regulatory requirements) into Isaacs Harbour. Process water products not specified but could include high BOD. Expected magnitude relative to number of permanent employees and total area of site.	✓ (100-200 employees and 200 ha site)	✓ (624 employees and 350 ha site)

Source	Type	Description	Goldboro LNG	Keltic
LNG Re-gasification	Process water	490,000 m ³ per year of "uncontaminated" process water to be released directly into Isaac's Harbour.	NOT APPLICABLE	✓
Utilities Effluents	Cooling water and saline water	Relatively large volume of "clean" process water but requiring pre-treatment for high salt content prior to disposal through the on-site wastewater treatment plant.	NOT APPLICABLE	✓
Site run-off	Sedimentation	Uncontaminated site run-off separated from potentially contaminated run-off and directed to ditch drainage system for "settling" and discharge directly into the environment.	✓	✓
Accidental Events				
Spills (on land)	LNG, POL & other hazardous chemicals	Potential for containment failure and accidental spills during transportation of large volumes of LNG and minor volumes of POL and other hazardous chemicals. Risk to be minimized through double containment, leakage monitoring systems, development of comprehensive contingency plans, and employee training.	✓	✓
Spills (in the marine environment)	LNG, POL & other hazardous chemicals	Potential for marine accidents to release large volumes of LNG and minor volumes of POL and other hazardous chemicals. Risk to be minimized through implementation of TERMPOL recommendations and development of comprehensive contingency plan. Potential risk relative to number of tankers per year.	✓ (160 per year)	✓ (210 per year)

3.0 PROJECT LOCATION

3.1 Designated Project Location

The Goldboro LNG Project Site is located at the Atlantic Ocean coast, approximately 2 km each way from the communities of Goldboro in the west, and Drum Head and Seal Harbour in the east (Figure 1).

The LNG facility component of the Keltic Project was proposed to be developed on the same parcel of land as the Goldboro LNG Project (Figure 2). Since completion of the Environmental Assessments for the Keltic Project in 2007 and 2008, very little development, if any, has taken place on the Keltic Project Site and adjacent lands.

The information below is written specifically for the Goldboro LNG Project Site. However, the descriptions of existing key natural and land use features of the site equally apply to the Keltic LNG Project Site as very little change has occurred since the Keltic EA approval in 2008.

Project Coordinates

Goldboro LNG LC proposes to build an LNG facility in Goldboro, Guysborough County, Nova Scotia (Figure 1). The centre of the Goldboro LNG Project Site project area is located approximately at:

- Latitude: 116°14'28.86"W; and
- Longitude: 43°38'19.39"N.

Site Plan

A preliminary site layout for the Goldboro LNG Project is presented in Figure 3a. It identifies the approximate location of key project components within the project site. Also included is the proposed diversion of Route 316, the proposed pipeline connection from the site to the M&NP pipeline, and the planned power transmission line into the site.

For comparison, a site layout for the Keltic Project as presented in the Comprehensive Study Report (Keltic 2007) is shown in Figure 3b.

Existing Features

Key features at and in the vicinity of the Goldboro LNG Project site are depicted within several figures. This includes:

- Water courses, water bodies (Figure 1)
- Linear infrastructure components (Figures 1, 3a, and 4)
 - Route 316
 - SOEI pipeline
 - M&NP pipeline
 - M&NP metering station

- Existing Land Use (Figure 4)
 - Goldboro Industrial Park (Figure 5)
 - Heritage Resources, Archaeological Sites (Figure 6)
 - Natural gas plant of Sable Offshore Energy Inc. (SOEI) (Figures 1, 3a, and 4)
 - Residences/residential areas (Figures 1, 3a, and 4)

- Location of Aboriginal groups (Figure 4)
- Federal lands (none nearby) (Figure 4)
- Nearby communities (Figure 1 and 4)
- Nearby residences (Figures 1, 3a, and 4)
- Fishing and Aquaculture (Figure 8)
- Fish Habitat in Vicinity of LNG Facilities (Figure 9)
- Fish Habitat in Stormont Bay (Figure 10)
- Environmentally Sensitive Areas (Figure 11)
- Wetlands (Figure 12)

Photographs of Work Locations

Appendix A includes a photographic series with images characterizing the Project site and adjacent lands and waters.

Description of Land

The Goldboro LNG Project Site is currently owned by the Municipality of the District of Guysborough. The parcel encompasses a total of 200 ha.

Proximity to Other Aspects

Proximity of the Goldboro LNG Project to key land use features are communicated via Figures 1 and 4. Figure 4 includes First Nation Reserve lands and federal lands.

3.2 Land and Water Use

Unless otherwise mentioned, the information related to Land and Water Use refers to the Goldboro LNG proposal. For the most part, it equally applies to the Keltic LNG Project Site as very little change has occurred since the Keltic EA approval in 2007.

Zoning Designation

The Goldboro LNG Site is located in the Goldboro Industrial Park. The land is zoned *Industrial Heavy I-3* (Figure 5) (Municipality of the District of Guysborough, Land Use By-law, 2011). I-3 zoning allows for uses such as natural gas processing, including liquefaction, gasification facilities as well as marine terminals, including wharfs and storage facilities.

Land Ownership incl. Subsurface Rights

The Goldboro LNG Project Site is currently owned by the Municipality of the District of Guysborough. Several exploration licenses had been issued by 2005 which include the Keltic Project Area (Keltic, 2006), and more recent mapping shows that several licenses for mineral rights have been issued which include the Goldboro LNG Project Site (NSDNR, Mineral

Resources Branch, 2012). It should be noted that mineral rights holders must obtain permission of the landowner to access the site for mineral exploration.

Land Use

Current land use on the Goldboro LNG Project Site is apparently forestry as indicated by regenerating clear-cuts and a network of logging roads of various age. Abandoned mine workings and licenses for mineral rights issued for the area (see above) indicate the potential for mineral resource extraction. However, no such activities are currently taking place at or near the site.

Water Use Including Groundwater

The seasonal and permanent residences which are located outside but adjacent to the Goldboro LNG Project Site are known to derive their water from wells (Keltic, 2006).

Surface water uses at Project Site include recreational fishing (e.g., Dung Cove, Bettys' Cove Brook) and commercial fishing in the near-shore area and several fish farm operations in Isaac's Harbour.

The marine waters of Isaac's Harbour are not administered by a Port Authority under the *Canada Marine Act*.

Lands and Resources and Aboriginal People

As part of the federal and provincial environmental assessments for the Keltic Project, a Mi'kmaq Ecological Knowledge (MEK) Study was conducted by Membertou Geomatics Consultants (October, 2005):

"The study found that Mi'kmaq continue to undertake traditional activities throughout the study area...As well, the data gathered regarding the various resources which are harvested by Mi'kmaq found that although these resources play an important role to Mi'kmaq, the high majority of them are found in other areas either within the study area, or in other areas of Nova Scotia...The study also found various references to a burial ground at Isaac's Harbour and as well at Upper Country Harbour...". (p.ii, Executive Summary, Membertou Geomatics Consultants. 2005).

The significance of the area identified by the MEK Study equally applies to the Goldboro LNG Project site and current uses are assumed to remain similar.

It is of note that the Goldboro LNG Project has commenced with a comprehensive Aboriginal Community Engagement Strategy. That engagement is expected to confirm or up-date the significance of the Project Site and surrounding lands for Aboriginal communities.

4.0 FEDERAL INVOLVEMENT

4.1 Federal Financial Support

To date, Goldboro LNG does not anticipate financial support from the Federal Government for the Goldboro LNG project.

4.2 Federal Land Requirements

No federal lands are part of the Project Site, nor are any easements or right of ways involving Federal lands required or proposed.

4.3 Federal (and other) Legislative or Regulatory Requirements

A preliminary list of key federal, provincial and municipal and other legislation and regulations likely applicable to the Goldboro LNG Project are listed in Table 4.1 including a preliminary list of permits, licenses and authorizations.

If the LNG portion of the Keltic Project would have been realized, it would have had to comply with the same regulatory framework to the extent that this was in place during project application.

Table 4.1: Preliminary List of Legislative and Regulatory Requirements

Act or Regulation	Requirement	Goldboro LNG	Keltic
		● - Permit Required ○ - No Permit Required	
<i>PROVINCIAL</i>			
<i>Environment Act</i>	Prohibits designated activities without holding appropriate approval.	○	○
Environmental Assessment Regulation	Project cannot proceed without Minister's approval under this Regulation.		
	Storage facility for liquid or gaseous substances including hydrocarbons with total capacity greater than 5000 m ³ designed as a Class I undertaking requiring registration for Environmental Assessment.	●	●
	Petrochemical Manufacturing Plant is a Class II undertaking (Keltic only).		
	A corridor for one or more electric power transmission lines with a cumulative voltage rating which equals or exceeds 345 kV is a Class II undertaking.		
Activities Designation Regulations	The withdrawal or diversion of greater than 23,000 L per day requires approval (under the Nova Scotia Guide for Surface Water Withdrawal Approvals).	●	●
	The installation of certain culverts, a bridge, or other watercourse alteration requires an approval.	●	●
	The construction of a wharf requires approval.	●	●
	The construction or operation of a site with a chemical storage tank in excess of 2000 L or 2000 kilograms (kg) requires approval. For Keltic this was anticipated to be combined with industrial approvals for the petrochemical facility and LNG facility.	●	●
	The construction or operation of a petrochemical manufacturing facility in which organic chemical substances produced from natural organic or petroleum-based material are produced, processed, or handled (Keltic only).	N/A	●
	The construction or operation of a natural gas processing facility.	●	●
	The construction or operation of a plant in which hot water, steam, or thermal electric power is produced with a total rated thermal input of 25 MW or more requires an approval.	●	●
	The treatment or processing of wastewater or wastewater sludge is designated as an activity. For Keltic this was anticipated to be combined with industrial approvals for the petrochemical facility and LNG facility.	●	●
Air Quality Regulation	Establishes maximum permissible ground level concentrations of contaminants.	○	○
Petroleum Management Regulation	Storage tank systems must be registered.	●	●
Dangerous Goods Management Regulation	Written approval required to store waste dangerous goods.	●	●
Water and Wastewater Facility Regulation	Creates classification system for wastewater treatment system and operation certification requirements.	●	●
<i>Energy Resources Conservation Act – Gas Plant</i>	Requires a permit to construct and licence to operate to be obtained from the NSURAB	●	●

Act or Regulation	Requirement	Goldboro LNG	Keltic
		● - Permit Required ○ - No Permit Required	
Facility Regulations			
<i>Pipeline Act – Pipeline Regulations</i>	Requires permit or licence to construct or operate a pipeline. Establishes standards for design and construction.	●	●
<i>Endangered Species Act</i>	Prohibits harm to or interference with an endangered or threatened species or the destruction, disturbance or interference with the specific dwelling place or area occupied or habitually occupied by one or more individuals or populations of an endangered or threatened species, including the nest, nest shelter, hibernaculum or den of an endangered or threatened species.	●	●
<i>Special Places Protection Act</i>	A Heritage Research Permit must be obtained prior to conducting Archaeological Resources Impact Assessment (ARIA).	●	●
<i>Beaches Act</i>	Construction activities including trenching and infilling below the ordinary high water mark require permission (permit) from the Nova Scotia Department of Natural Resources (NSDNR).	●	●
<i>Crown Lands Act</i>	Governs the use and activities on lands owned by the province. Through the Act the province can make crown lands available for the Project through the use of easements, conveyances, leases, or licenses.	●	●
<i>Forests Act – Forest Protection Regulations</i>	Requires fire suppression equipment as per the regulation when operating within 305 m of the woods.	○	○
FEDERAL			
<i>Navigable Waters Protection Act (NWPA)</i>	Approval of Minister of DFO to construct “work” in navigable waters.	●	●
<i>Fisheries Act</i>	Approval required for HADD of fish habitat, specifically the marine construction components. For Keltic this also included the Meadow Lake water supply impoundment.	●	●
	Fish passage must be maintained. Applies to water supply impoundment and needs to be considered for pipeline and road crossings.	○	○
	Minimum flows must be maintained for fish and fish eggs. Applies to water supply impoundment.	○	○
	Prohibits destroying fish by any means other than fishing. Most relevant if blasting is required in or near waters containing fish or fish habitat.	○	○
	Prohibits deposit of deleterious substance in waters frequented by fish.	○	○
<i>CEAA (2006)(Keltic)</i>	EA required before federal authority may issue “approval”/transfer land.	N/A	●
	• Law List Regulation S.5 of the NWPA and s. 22 (2), and s.35 of the <i>Fisheries Act</i> are “triggers” for application of CEAA.		●
	• Comprehensive Study Regulation Specifies whether or not a comprehensive study is required.		●
<i>CEAA (2012)</i>	As per Section 13 (d) of the new “Regulations Designating Physical Activities” an LNG facility requires an EA pursuant to CEAA 2012 (<i>...a facility for the liquefaction, storage or re-gasification of liquefied natural gas, with a liquefied natural gas processing capacity of more than 3 000 t/d or a liquefied natural gas storage capacity of more than 50 000</i>)	●	N/A
NBCC	National Building Code applied by municipality.	●	●

Act or Regulation	Requirement	Goldboro LNG	Keltic
		● - Permit Required ○ - No Permit Required	
<i>Species at Risk Act (SARA)</i> .	Provides protection to listed species and their habitat.	○	○
Petroleum Refinery Effluent Regulation	Sets minimum standards for effluent quality from "petroleum refinery" as therein defined.	○	○
<i>Canadian Environmental Protection Act (CEPA)</i>	Regulates the manufacturing and handling of "toxic substance".	○	○
Environmental Emergency Regulations	Requires notification to EC that Proponent has control of a scheduled substance. Also requires an environmental emergency plan for the facility that stores or uses the substance.	○	○
<i>Canada Marine Act</i>	Regulation of marine transportation.	○	○
<i>Transportation of Dangerous Goods Act</i>	Documenting handling and placard requirements for transport of dangerous goods.	○	○
<i>Pilotage Act - Atlantic Pilotage Authority Non-Compulsory Area Regulations</i>	Establishes pilotage authorities and requirements outside areas where pilots are compulsory.	○	○
<i>Canada Shipping Act</i>	Detailed code for all aspects of shipping in Canada.	○	○
<i>Canada Transportation Act</i>	Applies to transportation matters under federal jurisdiction.	○	○
<i>Migratory Birds Convention Act</i>	Enacts international treaty for protection of migratory birds.	○	○
<i>Marine Transportation Security Act</i>	Regulatory measures for Marine and port security.	○	○

5.0 ENVIRONMENTAL EFFECTS

5.1 Physical, Biological and Human Environment Setting

The Goldboro LNG Project footprint lies within the site of the former Keltic Petrochemicals and LNG Project site (Figure 2). Since the federal EA approval of the Keltic Project in 2008, the site environment experienced little if any change. This was verified via a site visit by AMEC staff in September 2012. As a consequence, the description of the existing environment presented in the Keltic CSR Report (Keltic 2007) remains largely valid. Key features from that characterization have been presented in Section 3 of this Comparative Study Report. Table 5.3 provides an overview of all VECs characterized in the Keltic Project CSR. Key environmental components that likely have experienced change have been identified and are briefly discussed below.

Table 5.1: Environmental Setting - VECs Characterized in the Keltic Project CSR

VECs ¹⁾	Relevant to Goldboro LNG Project 1)	Described in Keltic Project CSR 2)	Likely in need of updating
BIOPHYSICAL ENVIRONMENT			
Hydrology	✓	✓	NO
Freshwater Quality/Quantity	✓	✓	NO
Groundwater Quality/Quantity	✓	✓	NO
Marine Water Quality	✓	✓	NO
Soil/sediment Quality (terrestrial and marine)	✓	✓	NO
Air Quality	✓	✓	NO
Climate Conditions	✓	✓	NO
Vegetation (terrestrial and marine)	✓	✓	NO
Species at Risk	✓	✓	YES
Fish and Fish Habitat (marine and freshwater)	✓	✓	NO
Marine Mammals	✓	✓	NO
Wildlife and Wildlife Habitat	✓	✓	NO
Migratory Birds and Migratory Bird Habitat	✓	✓	YES
Wetlands	✓	✓	YES
SOCIO-ECONOMIC ENVIRONMENT			
Lighting Conditions	✓	✓	NO
Atmospheric and Underwater Acoustic Environment	✓	✓	NO
Use of Lands and Resources for Traditional Purposes by Aboriginal Persons	✓	✓	YES

VECs ¹⁾	Relevant to Goldboro LNG Project 1)	Described in Keltic Project CSR 2)	Likely in need of updating
Physical and Cultural Heritage	✓	✓	NO
Structures/Sites of Archaeological, Paleontological or Architectural Significance	✓	✓	NO
Navigation	✓	✓	NO
Marine Safety and Security	✓	✓	NO
Human Health and Safety	✓	✓	NO
Fisheries	✓	✓	YES
Aquaculture	✓	✓	YES
Land Use & Visual Landscape	✓	✓	NO
Local Economy	✓	✓	YES
Traffic Circulation	✓	✓	NO
Tourism	✓	✓	NO

Note:

1. VECs as per Comprehensive Study Report (Keltic, 2007)

5.1.1 Species at Risk

Since the completion of the Keltic EA numerous species have been added to the species listed under SARA Schedule 1 (see Table 5.2). As discussed in Table 5.2, for the Goldboro LNG only two of these additional species are expected to require assessment pursuant to CEEA 2012.

Currently, there are 42 species listed under SARA (Schedule 1) for Nova Scotia (SARA, 2012). However, SARA applies only to Federal Lands (including internal waters and territorial sea), as well as migratory species as defined under the Migratory Bird Convention Act (MBCA) and aquatic species as defined under SARA (fish, mollusks, crustaceans, marine mammals, other marine animals), unless an order is issued by the Governor in Council that they apply beyond these limits (SARA, Section 34(1)).

SARA prohibitions apply to species listed in Schedule 1 as extirpated, endangered or threatened species, but not to Species of Concern (SARA Section 32 and 33).

Table 5.2: Species at Risk (SARA Schedule 1)

SARA Species (Schedule 1) Listed Nov. 2012		Number of Species Assessed by Keltic CSR	Goldboro LNG : Likely Require Re-Assessment pursuant to CEAA 2012	Comment ¹
Type	Number of Species			
Lichens	3	1	NO	Only 1 species (<i>Erioderma pedicellatum</i>) assessed via modeling (Keltic 2006) and confirmed present by onsite surveys (MapleLNG, 2009). Species protection & management under provincial jurisdiction.
Vascular plants	12	0	NO	No SARA species discussed (Keltic 2006). Species protection & management under provincial jurisdiction.
Mollusks	1 (Freshwater mussel)	0	YES	Not assessed (Keltic 2006)- aquatic Species
Arthropods	1 (Butterfly)	0	NO	Not assessed (Keltic 2006); however, species (Monarch) protection & management under provincial jurisdiction.
Reptiles	4	1	NO	Only 1 species (Wood Turtle) assessed via modeling (Keltic 2006) and confirmed present by onsite surveys (MapleLNG, 2009). Species protection & management under provincial jurisdiction.
Fisheries Marine	1	0	NO	Atlantic Salmon Inner Bay of Fundy population range does not include the Project area.
Fishes freshwater	1	0	NO	Atlantic Whitefish not assessed – however, not present at Project Site (fish surveys, Keltic 2006)
Marine Mammals	1	0	NO	Atlantic Walrus (extirpated) not assessed-however, not observed in the project footprint or within 100 km radius (ACDC 2012)
Terrestrial Mammals	0	1	NO	Mainland Moose (<i>Alces americanus</i>) was discussed in Keltic 2006, but is not currently listed under SARA (or by COSEWIC). Species protection & management under provincial jurisdiction.
Birds	18	2	YES	2 Species assessed (Roseate Tern, Short-eared Owl) (Keltic 2006). Roseate Tern follow-up surveys conducted by BSC (2009) indicate...? Short-eared Owl confirmed absent by onsite surveys (MapleLNG, 2009). Some of the newly listed species require specialized survey methods (e.g. Common Nighthawk)
Mosses, Amphibians	0	1	NO	None listed under SARA for Nova Scotia

Note 1. SARA listed species on provincial land are protected and managed by provincial agencies.

5.1.2 Wetlands

The Keltic CSR (2007) identified only one wetland in the footprint of the Project's LNG component. AMEC conducted a site visit in September 2012 to verify/complement that information. Several additional wetlands were found and the wetland data base updated/completed. The data review revealed the potential for additional one or two wetlands.

5.1.3 Use of Lands and Resources by Aboriginal Persons

As mentioned in Section 3.2, the federal and provincial environmental assessments for the Keltic Project included a Mi'kmaq Ecological Knowledge (MEK) Study (Membertou Geomatics Consultants, 2005). Given the rapidly expanding knowledge of traditional uses of lands and resources by aboriginal people, an updating of that information is recommended.

5.1.4 Fisheries and Aquaculture

Near-shore fisheries and aquaculture activities along the Nova Scotia East Shore have undergone significant changes. This may involve the near shore fishery and aquaculture near the Goldboro Project site. An updating of that information therefore is recommended.

5.1.5 Local Economy

Changes in the regional, national, and global economies since the 2007, and possible changes in local demographics will necessitate an update of available data in order to confirm the validity of the EA predictions.

5.2 Potential Changes Related to Federal Legislation

Table 5.2 provides an overview of all potential environmental effects assessed in the Keltic CSR. The table also demonstrates that, based on the preliminary project description, the majority of these interactions also applies to the Goldboro Project.

Of particular relevance for the effects assessment pursuant to CEAA 2012 are those changes that relate to environmental components protected under federal legislation:

- Fish and fish habitat (protected by *Fisheries Act*);
- Aquatic species (protected by *Fisheries Act*); and
- Migratory birds (protected by *Migratory Birds Convention Act*).

5.2.1 Fish and Fish Habitat

As demonstrated by Table 5.1 fish and fish habitat at and near the proposed Goldboro Project Site have been characterized in the Keltic CSR. The report also assessed potential impacts of project works and activities similar or identical to those proposed for the Goldboro LNG Project (see Table 5.3). As far as fish species protected pursuant to SARA Schedule 1 are concerned, no need for an additional effects assessment pursuant to CEAA 2012 has been identified (Table 2).

Valued Environmental Component's (VEC's)

	Hydrology	Freshwater Quality/Quantity	Groundwater Quality/Quantity	Marine Water Quality	Soil/sediment Quality (terrestrial and marine)	Air Quality	Climate Change (GHG)	Vegetation (terrestrial and marine)	Species at Risk	Fish and Fish Habitat (marine and freshwater)	Marine Mammals	Wildlife and Wildlife Habitat	Migratory Birds and Migratory Bird Habitat	Wetlands	Lighting Conditions	Atmospheric and Underwater Acoustic Environment	Current Use of Lands and Resources for Traditional Purposes by Aboriginal Persons	Physical and Cultural Heritage	Structures/Sites of Archaeological, Paleontological or Architectural Significance	Navigation	Marine Safety and Security	Human Health and Safety	Fisheries	Aquaculture	Tourism	Land Use & Visual Landscape	Local Economy	Traffic Circulation	
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concept design.
 Assessment (AMEC, 2006); Comprehensive Study Report (Keltic, 2007).
 screening (AMEC, 2008).

5.2.2 Aquatic Species

As demonstrated by Table 5.1 aquatic species in the waters at and near the proposed Goldboro Project Site have been characterized in the Keltic CSR. The report also assessed potential impacts of project works and activities similar or identical to those proposed for the Goldboro LNG Project (see Table 5.3). As far as aquatic species protected pursuant to SARA Schedule 1 are concerned, one freshwater mollusk species has been identified that was not included in the Keltic CSR, thus requiring an assessment pursuant to CEAA 2012 (Table 2).

5.2.3 Migratory Birds

As demonstrated by Table 5.1 migratory birds at and near the proposed Goldboro Project Site have been characterized in the Keltic CSR. The report also assessed potential impacts of project works and activities similar or identical to those proposed for the Goldboro LNG Project (see Table 5.3). As far as migratory bird species protected pursuant to SARA Schedule 1 are concerned, 18 additional species have been identified that were not included in the Keltic CSR, thus requiring an assessment pursuant to CEAA 2012 (Table 2).

It is also noted that there are several generalities with regard to migratory bird mortality and lighted structures, including lights on high towers to ground level window lights. Most birds migrate at night and for unknown reasons are attracted to light, especially red light. Birds of all taxa, including waterfowl, are susceptible to mortality from collision with lighted objects. As such, Project specifics related to facility lighting are of particular importance and should be reviewed/updated for the effects assessment on migratory birds.

5.3 Changes on Federal Lands Outside of the Province / Canada

The Goldboro LNG Project is not expected to cause changes to the environment on federal lands, in a province other than Nova Scotia, or outside Canada.

No such changes have been identified by the environmental assessments for the Keltic Project proposal.

5.4 Effects on Aboriginal People

Mi'kmaq Ecological Knowledge (MEK) Study

As part of the federal and provincial environmental assessments for the Keltic Project, a Mi'kmaq Ecological Knowledge (MEK) Study was conducted by Membertou Geomatics Consultants (October, 2005). The study identified potential for adverse effects as follows (extracted from Membertou Geomatics Consultants 2005, p.22):

- "...it is probable that the activities proposed by the project will impact on some of the lands and resources that Mi'kmaq utilize but that such impacts should be minimal."
- "Some hunting areas will be crossed by the proposed highway, but these areas are primarily for small game animals and other species that are commonly found in adjacent areas".

- *“...construction activities will also take place on areas which are considered to be fishing sites, but if the river crossings are implemented properly in accordance with environmental regulations and assessment guidelines, then the overall effects on such fishing areas should be minimal.”*
- *“Some plant resources that Mi'kmaq harvest and which are located along the highway route may be destroyed, but these are minimal and none of these resources are considered rare.”*

Given the similarities between the two project proposals and the fairly recent date of the MEK Study, the above listed effects on the environment are expected to also apply to the Goldboro LNG.

5.5 Archaeological Resources

The initial Archaeological Resource Impact Assessment (ARIA) for the Keltic Project Site was conducted in 2004. The 2004 ARIA made recommendations, accepted by the provincial regulator, which included a limited pre-construction visual field survey of the five archaeological sites identified in Sculpin Cove and the area identified as “Buckley’s Farm”. It is possible that an additional ARIA study was conducted subsequently, as part of the Maple LNG proposal; which will be verified through an ongoing application under the “Freedom of Information” regulations.

Potential adverse effects can be avoided and minimised by procuring a Heritage Research Permit from the provincial regulator and a visual survey prior to any construction activities.

If excavation becomes necessary in areas of identified archaeological sensitivity, during construction or operation, then mitigation must include digging with a small excavator while monitoring by a qualified archaeologist.

6.0 PROPONENT ENGAGEMENT AND CONSULTATION WITH ABORIGINAL GROUPS

6.1 Aboriginal Communities and Stakeholder Groups

Aboriginal communities and stakeholder groups identified as potentially affected and/or having a direct interest in the Goldboro LNG Project are listed in Table 6.1. Included in the table are those communities and stakeholder groups that were engaged in the Keltic Project proposal.

Table 6.1: Key Aboriginal Communities and Stakeholder Groups

Key Aboriginal Communities and Stakeholder Groups Engaged in EA Process	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Paq'tnkek First Nation	•	
Millbrook Band	•	
Shubenacadie Band	•	
Kwilmu'kw Maw-klusuaqn (KMK)	•	
Membertou Band	•	
Confederacy of Mainland Mi'kmaq (CMM)	•	•
Union of Nova Scotia Indians (UNSI)	•	
Unama'ki Economic Benefits Office	•	
Assembly of Nova Scotia Mi'kmaq Chiefs	•	•
Nova Scotia Department of Aboriginal Affairs	•	•
Native Council of Nova Scotia	•	•

Notes:

1. Identified in the Project's Preliminary Aboriginal Community Engagement Strategy
2. Comprehensive Study Report (Keltic, 2007).

6.2 Aboriginal Community Engagement Activities

The Aboriginal Community Engagement Strategy for Goldboro LNG Project proposes a series of engagement activities. These are listed in Table 6.2. Engagement activities that took place during the Keltic Project Environmental Assessment are also included.

Table 6.2: Engagement Activities

Aboriginal Community Engagement and Consultation Activities	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Notification letters	•	•
Provision of draft report copies for review and comment	•	•
Face to face contacts with Chiefs	•	•
Presentations / meetings with communities	•	
MEK Study	•	•
Participation in regional Tribal Council/Provincial Tribal Organization meetings	•	

Notes:

1. Identified in the Project's Preliminary Aboriginal Community Engagement Strategy.
2. Comprehensive Study Report (Keltic, 2007).

6.3 Key Comments and Concerns of Aboriginal Communities

The Aboriginal Community Engagement Strategy for Goldboro LNG Project is now being implemented. Initial contacts have been made with Chiefs of several communities and initial meetings have been held with the KMK (Kwilmu'kw Maw-klusuaqn, also known as Mi'kmaq Rights Initiative). Discussion points during these initial contacts focused on the project proposal and opportunities for engagement in the Environmental Assessment and planning process (Table 6.3).

Based on the Environmental Assessment document for the Keltic Project (Keltic 2007), the key comments and concerns raised by Aboriginal communities are listed in Table 6.3.

Table 6.3: Key Comments and Concerns Raised by Aboriginal Communities

Key Comments and Concerns Related to...	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Opportunities for engagement	•	
Crowns efforts to consultation with Mi'kmaq about project	tbd	•
MEK Study	tbd	•
Adverse effects on cultural features	tbd	•
Potential effects on traditional uses, hunting and fishing at/near the project site	tbd	•
Other	tbd	

Notes:

1. Engagement activities started in end of September 2012 and focussed on engagement program; further issues are expected to be identified as the project unfolds.
2. Comprehensive Study Report (Keltic, 2007).

7.0 CONSULTATION WITH THE PUBLIC AND OTHER PARTIES

A Preliminary Stakeholder Engagement Plan has been developed which combines a number of activities including:

- defining communities, stakeholders, and the public;
- project/scoping backgrounder (hand out material);
- public meetings/ open houses; and
- continued consultation.

7.1 Communities and Stakeholder Groups

Key local communities and stakeholder groups identified as potentially affected and/or having a direct interest in the Goldboro LNG Project are listed in Table 7.1. Included in the table are those communities and stakeholder groups that were engaged in the Keltic Project proposal.

Table 7.1: Key Communities and Stakeholder Groups

Key Communities and Stakeholders Engaged in EA Process	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Regulatory Stakeholders		
Environment Canada (EC)	•	•
Fisheries & Oceans Canada (DFO)	•	•
Health Canada	•	•
NRCan	•	•
Transport Canada (TC)	•	•
NS Environment	•	•
NS Economic and Rural Development and Tourism	•	•
NS Communities, Culture, and Heritage	•	•
NS Natural Resources	•	•
NS Agriculture	•	•
NS Fisheries, and Aquaculture	•	•
NS Health and Wellness	•	•
Communities		
Country Harbour	•	•
Drum Head	•	•
Goldboro	•	•
Isaac's Harbour	•	•
Erinville	•	•
Salmon River Lake	•	•
Fraser Mills	•	•
Lower Springfield	•	•
Rural residents of Stormont Bay from Port Hilford through Port Bickerton to the west, and Coddles Harbour to Tor Bay to the east (in the Municipality of the District of Guysborough)	•	•
Economic Stakeholders		
GCRDA	•	•

Key Communities and Stakeholders Engaged in EA Process	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Goldboro-Isaac's Harbour Community Development Authority	•	•
Guysborough County Inshore Fisherman Association (GCIFA)	•	•
Eastern Shore Fishermen's Protective Association	•	•
individual fishers and aquaculture interests in the Study Area	•	•
The Antigonish Area Partnership	•	•
Antigonish Chamber of Commerce	•	•
Antigonish Regional Development Authority	•	•
Local mining industry (traffic circulation and exploration rights)	•	•
Environmental Stakeholders		
Goldboro and Area Marine Protection Society	•	•
Ecology Action Centre, particularly their Coastal Issues and Marine committees	•	•
Canadian Parks and Wilderness Society, Nova Scotia Chapter	•	•
The Aquaculture Association of Nova Scotia	•	•
Eastern Mainland Field Naturalists (based in Antigonish)	•	•
The Sierra Club, Nova Scotia Chapter	•	•
Coastal Communities Network (based in Pictou)	•	•
Nova Scotia Salmon Association	•	•

Notes:

1. Identified in the Project's Preliminary Stakeholder Engagement Plan.
2. Comprehensive Study Report (Keltic, 2007).

7.2 Stakeholder Engagement Activities

The Preliminary Stakeholder Engagement Plan for Goldboro LNG Project proposes a series of engagement activities. These are listed in Table 7.2. Engagement activities that took place during the Keltic Project Environmental Assessment are also included.

Table 7.2: Engagement Activities

Stakeholder Engagement and Consultation Activities	Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Provincial/federal coordination	•	•
Public media announcement (radio, newspapers)	•	•
Notification letters	•	•
Provision of draft EIA report for review and comment	•	•
Presentations / meetings with communities	•	•
Website Notifications and Email Outreach	•	

Notes:

1. Identified in the Project's Preliminary Stakeholder Engagement Plan
2. Comprehensive Study Report (Keltic, 2007).

7.3 Key Comments and Concerns Identified

The Preliminary Stakeholder Engagement Plan for Goldboro LNG Project is now being implemented. Initial contacts have been made with provincial and federal regulators and public consultation in key communities will be conducted in the Fall of 2012. A list of key discussion points and likely concerns and issues are presented in Table 7.3, based on previous experience from extensive consultation carried out during the Keltic Project in the Environmental Assessment and planning process.

Table 7.3: Key Comments and Concerns Raised By Stakeholders

Key Comments and Concerns	Likely Relevant to Goldboro LNG Project ¹⁾	Keltic Project ²⁾
Valued Environmental Components (VEC's) Identified: <ul style="list-style-type: none"> • Acoustic environment • Existing and planned land uses • Commercial fisheries • Community resources • Fish and fish habitat (marine) • Human health and safety • Marine safety and security • Navigation • Quality of life • Transportation 	•	•
Project Description: <ul style="list-style-type: none"> • Eco-efficiency • Cumulative Effects • Meteorological and climatological effects on Project • Specify habitat impacts to each source in Project 	•	•
Additional Documents Requests: <ul style="list-style-type: none"> • EMP (Environmental Management Plan) • EPP (Environmental Protection Plan) • EMS (Environmental Management System) • FEED (Front End Engineering Design) 	•	•
Alternatives to the Project: Extent of consideration of alternatives	NA	•
Land Use: <ul style="list-style-type: none"> • Licenses, easements and permits for construction of facilities and Highway 316 • Habitat displacement (mapping requested) • Potential effects on hunting and fishing 	•	•
Population, Economic Conditions, Employment, Tourism: <ul style="list-style-type: none"> • Age of educational attainment statistics • Training requirements and institutions • Employment opportunities to Guysborough residents • Inconsistencies between training and construction duration • Number employed per phase 	•	•

Key Comments and Concerns	Likely Relevant to Goldboro LNG Project ¹⁾	Keltic Project ²⁾
<ul style="list-style-type: none"> • Impacts to property values 		
Fisheries, Aquaculture, and Harvesting: <ul style="list-style-type: none"> • Impact of mercury tailings disturbance to recreational fisheries • Compensation to fishermen (earnings) • Invertebrates harvesting 	•	•
Human Health & Safety: <ul style="list-style-type: none"> • Mercury tailings disturbance and management 	•	•
Air Quality and Climate: <ul style="list-style-type: none"> • Emissions characterization and monitoring • Ambient air quality • Emissions from vehicles and cargo ships • Effects of emissions on surface waters • Legislation • Dust • Odour • Mercury tailings disturbance (volatization) 	•	•
Noise: <ul style="list-style-type: none"> • Frequency, Duration, Limits • Guidelines • Cumulative effects • Monitoring • Receptors 	•	•
Light: <ul style="list-style-type: none"> • Effects of sky-glow to human health • Flare stacks and aviation safety • Impacts to birds • Monitoring and mitigation 	•	•
Chemicals: <ul style="list-style-type: none"> • Inventory of imported, stored and produced chemicals • Containment concerns • Dangerous goods • Federal identifications and recognitions 	•	•
Solid Waste Management: <ul style="list-style-type: none"> • Characterization • Potential impacts 	•	•
Surface Water: <ul style="list-style-type: none"> • Mercury characterization and monitoring in sediments and waters • Mitigation and protection • Fisheries resources • Acid leaching from rocks • Blasting impacts • Flow peaks 	•	•
Groundwater: <ul style="list-style-type: none"> • Mitigation and protection • Awareness of nearby resident well-owners 	•	•

Key Comments and Concerns	Likely Relevant to Goldboro LNG Project ¹⁾	Keltic Project ²⁾
<ul style="list-style-type: none"> • Contingency plans • Guidelines • Lab analysis • Temporary on-site water use approval 		
Geology, Soil: <ul style="list-style-type: none"> • Soil and marine sediments survey • Soil and sediments pollution • Underlying rock groups 	•	•
Watercourses: <ul style="list-style-type: none"> • Existing uses • Crossings and alterations permits • Mapping • Protection 	•	•
Meadow Lake impoundment (Keltic only): <ul style="list-style-type: none"> • Mercury characterization and monitoring in waters and sediments • Risk assessment of mercury exposure to fish • Maps of nearby mercury exceedances • Pond habitat loss • Maintenance stream flows • Wetland habitat loss • Wetland protection and mitigation measures 	NA	•
Effluent Management: <ul style="list-style-type: none"> • Characterization and monitoring • Treatment • Disposal location • Impacts to fish • Cooling water and hydrostatic test water releases • Protection of facilities access from birds 	•	•
Marine Use: <ul style="list-style-type: none"> • Public right of navigation assessment • NWPA • TERMPOL • Meteorological and climatological impacts on navigation • Wave propagation and shoreline impacts • Seabed characteristics • Fuel tanks • Permit for infilling during wharf construction • Disposal at sea permits if dredging becomes necessary 	•	•
Marine Species and Habitat: <ul style="list-style-type: none"> • Compensation plan for wharf infill and construction impacts • Habitat loss • Effects of wharf construction on siltation, erosion, aquaculture and migration 	•	•

Key Comments and Concerns	Likely Relevant to Goldboro LNG Project ¹⁾	Keltic Project ²⁾
<ul style="list-style-type: none"> • Time of year construction will occur • Benthic studies • Shoreline stabilization • Impacts of disturbing contaminated marine sediment • Biota analyses 		
<p>Birds and Wildlife:</p> <ul style="list-style-type: none"> • Data collection methods of wildlife and bird surveys • Mitigation and protection • Previous survey reports • Abundance and fecundity • Distance of known colonies from Project Area • Breeding season disturbances • Sensitive bird habitat disturbances • Migratory birds • Habitat restoration and relocation • SARA • Cumulative Effects with nearby Project Areas • Species mentioned include deer, Rusty Blackbird, Northern Commandra, Blue Heron, Roseate Terns, Greater Yellowlegs, Common Loon, Short-eared Owl, and Wood Turtle 	•	•
<p>Vegetation:</p> <ul style="list-style-type: none"> • Rare species • Surveys and monitoring • Effects of air emissions on boreal felt lichen • Field expertise • Area loss • Invasive species 	•	•
<p>Accidents & Malfunctions:</p> <ul style="list-style-type: none"> • Spill control plan, equipment and employee training • Well monitoring • Protection of birds • Environmental Contingency Plan • Clean-up and disposal procedures • LNG release modelling • Deluge system • Extreme weather and climate change • Containment • Seismic activity • Power failure • Port and Marine Safety 	•	•

Notes:

1. Based on professional judgement/experience with Keltic Project.
2. Comprehensive Study Report (Keltic, 2007).

8.0 REFERENCES

- ACCDC. 2012. Data report 4882- Response to a data request; Septemeber14, 2012.
- AMEC, 2008. Environmental Assessment Screening Report, Meadow Lake Dam and Intake Structure, Keltic Petrochemicals Inc. February, 2008.
- AMEC. 2006. Petrochemicals and Liquefied Natural Gas Facility Environmental Assessment, Goldboro, Nova Scotia. Final Report (dated July 2006).
- CEAA, 2012. Canadian Environmental Assessment Act.
- Keltic 2007. Proposed Liquefied Natural Gas Facilitiy and Marginal Wharf, Comprehensive Study Report, Goldboro, Nova Scotia. Final Report (dated June 2007). Prepared by AMEC Earth & Environmental for Keltic Petrochemicals Inc. Halifax. Nova Scotia.
- Membertou Geomatics Consultants. 2005. Mi'kmaq Ecological Knowledge Study.
- Municipality of the District of Guysborough. 2001. Land Use By-law, 2011. Guysborough.
- NSDNR. Mineral Resources Branch, 2012. (Mineral Rights info).
- NSESA, 2012. Nova Scotia Endangered Species Act. Species at Risk Regulations made under Sections 10 and 12 of the Endangered Species Act S.N.S 1998, c.11; Order dated June5, 2000, N.S.Reg. 109/2000, as amended up to N.S.Reg.393/2007 (September 6, 2007). Available at <http://www.gov.ns.ca/just/regulations/regs/eslist.htm>; Accessed November 14, 2012.
- SARA. 2012. Species at Risk Public Registry. Available at www.sararegistry.gc.ca; Accessed November 8 and 11, 2012.

APPENDIX A
Figures

- Figure 1: Project Location (Overview)**
- Figure 2: Keltic and Goldboro LNG Project Footprints**
- Figure 3a: Goldboro LNG Site Lay Out**
- Figure 3b: Keltic Proejct Site Lay Out**
- Figure 4: Land Use**
- Figure 5: Land Use Zoning Map**
- Figure 6: Location of Heritage Resources**
- Figure 7: Abandoned Mine Workings**
- Figure 8: Fishing and Aquaculture**
- Figure 9: Fish Habitat in Vicinity of LNG Facilities**
- Figure 10: Fish Habitat in Stormont Bay**
- Figure 11: Significant Habitats**
- Figure 12: Wetlands**
- Figure 13: Read Head Peninsula – Surface Water Features**
- Figure 14: Roseate tern Foraging Sites**

APPENDIX B

Photographs of Goldboro LNG Project Site Location

Tab 10

Sawyer, Claire (IAAC/AEIC)

From: Rodrigues, Vanessa [CEAA]
Sent: December 20, 2012 10:04 AM
To: alfred.sorensen@pieridaenergy.com; Thom Dawson (Thom.dawson@pieridaenergy.com)
Cc: Steve Sanford (sanforsl@gov.ns.ca); Wittkugel, Uwe (uwe.wittkugel@amec.com); Atkinson, Mike [CEAA]; McDonald, Derek [CEAA]; 'janet.blackadar@amec.com'
Subject: Goldboro LNG

Good morning Alfred and Thom,

Based on the information provided by Pieridae Energy Ltd, and in particular the analysis of the project and its components against those assessed during the comprehensive study (under the former Canadian Environmental Assessment Act) of the Keltic LNG Project (Goldboro LNG Versus Keltic Petrochemical and LNG Tanker Terminal Comparative Description, November 2012) , the Agency has determined that this project would not require a federal EA. We consider that section 128 (1) (c) of CEAA 2012 applies to this project. However, it is important to contact us again should there be any changes to the project and its components from the information that has been provided.

Feel free to contact me should you have any questions and please acknowledge receipt of this e-mail.

Happy Holidays!
Vanessa

Vanessa Rodrigues, MES

Project Manager | Gestionnaire de projets
Canadian Environmental Assessment Agency, 1801 Hollis Street, Suite 200, Halifax NS B3J 3N4
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902.426.9460 | facsimile / télécopieur 902.426.6550
E-mail: vanessa.rodrigues@ceaa-acee.gc.ca
www.ceaa-acee.gc.ca

Tab 11

Sawyer, Claire (IAAC/AEIC)

From: McDonald,Derek [CEAA]
Sent: January 15, 2014 7:36 AM
To: Atkinson,Mike [CEAA]
Cc: Kirstein,Friederike [CEAA]
Subject: RE: Trans Atlantic LNG

OK. I can see the logic that if it's the same project for the purposes of deciding that CEAA 2012 does not apply, then it's the same project that was already assessed and therefore the terms of the previous EA continue to apply. It can't be the same project for one purpose then be a different project for another purpose. My initial thinking did not consider this.

From a practical perspective, the change of proponent might create a gray area over the status of commitments made by the previous proponent(s), especially ones that cannot easily be made conditions of federal and provincial approvals. But perhaps this is the price the new proponent must pay in order to be consistent with the decision to exempt the project from CEAA 2012.

I will pass this along to Kevin.

Derek

-----Original Message-----

From: Atkinson,Mike [CEAA]
Sent: January 15, 2014 8:18 AM
To: McDonald,Derek [CEAA]
Cc: Kirstein,Friederike [CEAA]
Subject: RE: Trans Atlantic LNG

Derek

A new EA was not required because one was already done. RAs are responsible for ensuring the implementation of mitigation and follow-up identified during the EA (sections 37 and 38 of the former Act). How they do that is up to them i.e. proponent commitment, province, authorizations etc.

I had the same discussion with EC.

Mike

Tab 12

Sawyer, Claire (IAAC/AEIC)

From: Heinie Brunner <heinie.brunner@pieridaenergy.com>
Sent: February 2, 2021 12:24 PM
To: Smith, Melanie (IAAC/AEIC); Barb Bryden; Andy Mukherjee
Cc: Adams, Jill (IAAC/AEIC)
Subject: RE: Goldboro Power Generation - Follow Up
Attachments: IAAC response to questions Jan 2021 power gen Rev 5.docx

Melanie,

Please find our comprehensive responses to all your requests below in the attached document.

As stated previously, the requested 10 MW additional power generation from the previously approved 180 MW generation is an increase of only 5.56%, for a maximum generation capacity of 190 MW. This is below the increase of 50% and over 200 MW which would be a requirement for a Detailed Project Description submission required under the Impact Assessment Act and therefor we are requesting for exemption.

Regards,

Heinie Brunner, P.Eng.

Project Manager Goldboro LNG



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PEA.V

From: Smith, Melanie (IAAC/AEIC) <melanie.smith@canada.ca>
Sent: Wednesday, January 20, 2021 9:40 AM
To: Barb Bryden <barb.bryden@pieridaenergy.com>; Heinie Brunner <heinie.brunner@pieridaenergy.com>; Andy Mukherjee <Andy.Mukherjee@pieridaenergy.com>
Cc: Adams, Jill (IAAC/AEIC) <jill.adams@canada.ca>
Subject: Goldboro Power Generation - Follow Up

Good Afternoon (and Good Morning in Calgary),

Thank you for the information provided during our call yesterday – it was very helpful. As discussed, the first step is for the Agency to review the project information to determine if any of the items in the *Physical Activities Regulations* and/or the transition provisions outlined under section 185.1 of the *Impact Assessment Act* apply to the project. To support this review, the Agency is requesting the following information:

- A general description of the project, as proposed today.
 - Include information on the new additions to the power generation station proposed and the amount of MW that would be required in addition to what was previously approved. Include information on the maximum capacity of the power generation station that was already assessed and approved in any federal or provincial processes.
 - Include the maximum capacity of the power generation and provide a description of any operational controls that will be implemented to limit production capacity.
- A timeline of federal and provincial environmental assessments completed for the project, including for the assessment completed when the project was known as “Keltic” that underwent a federal Comprehensive Study.
- A comparison of the primary project components included in each of the environmental assessments completed, including but not limited to the marine terminal, LNG plant, and power generation facility.
 - The comparison should note component sizes/capacities, as appropriate, and highlight any differences from what was previously reviewed and approved to what is being proposed now.
- A list, with dates, of any federal permits already obtained for the project.
- Confirmation that the province determined that a new EA or amendment is not required.
- A brief description of any pre-construction activities that have been completed to date, specifically highlighting any that apply to the power generation portion of the project.

If you have any questions regarding the above, please don’t hesitate to contact me.

Best Regards,
Melanie

Melanie Smith
(she/her|elle)

Team Lead, Atlantic Region
Impact Assessment Agency of Canada / Government of Canada
Melanie.Smith@canada.ca / Tel: 902-426-6623

Chef d'équipe, Bureau régional de l'Atlantique
Agence d'évaluation d'impact du Canada / Gouvernement du Canada
Melanie.Smith@canada.ca / Tél. : 902-426-6623



via email

January 29th, 2021

Team Lead, Atlantic Region
Impact Assessment Agency of Canada / Government of Canada
Tel: 902-426-6623

Attention: Melanie Smith (Melanie.Smith@canada.ca)

Dear Melanie

Re: Goldboro LNG follow-up from January 19th, 2021 meeting regarding power generation plant increase from 180 MW to 190 MW, by adding one gas turbine generator.

Please find Pieridae Energy's responses to your follow-up questions. Do not hesitate in contacting myself for further clarification or additional information.

We are requesting a response by Friday, 12th Feb 2021.

Regards,

Heinie Brunner, P.Eng.
Project Manager Goldboro LNG


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1.0 GENERAL DESCRIPTION OF THE PROJECT

The Goldboro LNG Project is being developed by Pieridae Energy (Canada) Ltd. (the general partner of Goldboro LNG Limited Partnership) and Pieridae Energy (USA) Ltd. (the general partner of Goldboro LNG Limited Partnership II).

Pieridae Energy is the proponent of the proposed Goldboro LNG Facility that is to be constructed in Guysborough County, Nova Scotia, approximately 270 km by road northeast of Halifax, approximately 70 km south of the town of Antigonish. Pieridae Energy completed the FEED stage and is embarking on the engineering, procurement, construction, and commissioning (EPCC) phase. Bechtel will deliver the Class 2 estimate and schedule which will form the basis of the EPCC contract with Final Investment Decision expected on June 30th, 2021.

EPCC high level scope:

- 2 x Air Cooled, APCI Split MR® liquefaction trains
- Process Design life 25 years
- 2 trains each 4.8 MTPA nominal
- Two full containment LNG storage tanks (190,000 cubic meters each)
- Power Generation for startup and operation

Company will undertake engineering and construction of certain elements of the project:

- Feed gas pipeline
- Fresh water supply pipeline from Meadow Lake
- Highway 316 road diversion
- Site and laydown areas civil preparation, including terracing, causeway and heavy haul road for modules transportation to final position in process areas.
- Temporary workers lodge during construction phase
- Marine Offloading Facility (MOF) for two ship simultaneous berthing for modules roll off and load off.
- Jetty substructure and mooring dolphins for two ship berthing (one loading at a time)

2.0 NEW ADDITION TO POWER GENERATION PLANT AND OPERATIONAL CONTROLS

The Nova Scotia Department of Environment (NSE) determined that, due to the proposed 180 MW power plant Project component, the Project is a Class II undertaking pursuant to the Nova Scotia Environmental Assessment Regulations and the project was approved with conditions on March 21st, 2014. [Ref: Goldboro Panel Report Section 3 – Background page 15].

Engineering evaluation determined the electrical peak power demand will be approximately 180 MW for design ambient conditions at 18 C and approximately 190 MW during high ambient temperatures of 21C. Generation capacity, approved earlier is 180 MW from six Gas Turbine Generators (GTG). It is proposed to make up the deficit of approximately 10 MW by adding a seventh GTG for additional power generation for days over 18 C ambient temperatures.

The proposed additional power generation expansion will result in an increase production capacity of about 5.6% (10 MW) and is below 200 MW (~ 190) total capacity. Item 31 under the physical activities' regulations SOR/2019-285 under the Impact Assessment Act states the following: "The Expansion of an existing fossil fuel-fired power generating facility, if the expansion would result in an increase in production capacity by 50 % or more and a total production capacity of 200 MW or more". Pieridae Energy is considered an existing facility and the increased generation capacity should not require a Detailed Project Description submission.

The Electrical Generation and Distribution Systems of the Goldboro LNG Project will be equipped with a plant-wide "Power Management System (PMS)", the purpose of which is to monitor and control the electrical generation and distribution systems. The main features and functions of the PMS will be:

- Limit the total power generation to approximately 190 MW (less than 200MW) with operational controls.
- Adjustment of gas turbine speed and generator excitation to maintain steady-state voltage and frequency variations and ensure generator kW and kVAr load sharing.
- Control and monitoring of the distribution breakers throughout the plant, feeding:
 - Transformers feeders
 - Transformer incomers
 - Switchgear feeders
 - Switchgear incomers
 - Bus tie breakers
- Load shedding, aimed to maintain the plant in operation during periods of under-power (overloading, or loss of a generator), with the following three-method load shedding hierarchy:
 - Fast-acting
 - Falling frequency
 - Gradual overload

The PMS will be fully operator-programmable and will be communicating with the electrical generation and distribution as well as the ICSS using IEC61860 GOOSE protocol. Operators will be able to interface with the system via workstations installed at in each plant substation.

The PMS capability of continuously monitor the power generated by the generators, the power consumed in the plant and the fully programmable nature of the system, will enable Pieridae Energy, to program the system to limit the power demand. This can be chosen to be a manual action by operators or automatic via the ICSS. This will be discussed and developed during the EPCC phase of the project.

3.0 TIMELINE OF FEDERAL AND PROVINCIAL ENVIRONMENTAL ASSESSMENTS SINCE KELTIC

The Goldboro LNG facility has received an Environmental Assessment Approval in the same location as the Keltic Petrochemicals and LNG Facilities Project (Keltic Project). That project was publicly announced in 2005 and was the subject of both a Comprehensive Study pursuant to CEAA (2006) (Registry # 05-03-10471), as well as a Nova Scotia Class 2 Environmental Assessment (Keltic Petrochemicals and Liquefied Natural Gas Facility). The Keltic Project obtained EA approvals; however, the Keltic Project was never implemented, and all approvals obtained to date have expired.

Given similarities between the Goldboro LNG Project and Keltic's LNG component, the federal environmental assessment requirements, and scope for the Goldboro LNG Project pursuant to the new Canadian Environmental Assessment Act (CEAA 2012) was reviewed. A draft comparative description was submitted for review in November 2012 to the Canadian Environmental Assessment Agency. In an e-mail dated 20 December 2012, the Agency informed the proponent that it determined that the Goldboro LNG Project did not require a federal EA.

The comparison document reviewed the two projects with emphasis on the EA requirements established by CEAA 2012. The text was structured to follow the federal guide to preparing a project description (CEAA 2012: *Guide To Preparing A Description Of A Designated Project Under The Canadian Environmental Assessment Act*, 2012. CEAA, July 2012). The report was not intended to replace a formal Project Description pursuant to CEAA 2012, Section 8 (1). As stated above, the Canadian Environmental Assessment Agency (now called the Impact Assessment of Canada) determined that no federal EA was required. Based on that decision, a Project Description pursuant to CEAA 2012 was not required.

3.1 Goldboro LNG Project Approvals

On 21 March 2014, NSE approved the Class II Environmental Assessment (EA) for the proposed Goldboro LNG facility (NSE 2014). The EA Terms and Conditions can be found at:

<http://goldborolng.com/wp-content/uploads/2014/04/EA-Conditions.pdf>

The approval is associated with a series of Conditions of Approval. Two EA Approval extensions were granted in August 2015 and October 2017. Site clearing commenced in 2018.

3.2 Keltic Project Approvals

The Keltic Project obtained approvals pursuant to the respective provincial and federal EA legislation. Following the EA approvals further provincial approvals were obtained for parts of the Keltic Project and include. In March 2006, the LNG component was purchased by Maple LNG Limited; however, the federal (CSR) and provincial assessment processes continued under the Keltic title. Maple LNG Ltd. subsequently obtained a provincial permit to construct for a Gas Plant (June 2008) and a Send Out Pipeline (September 2009). Maple LNG Ltd. formally terminated the permits in March 2011 following a decision not to proceed with the Project.

This approval history is presented in Table 1 below:

Table 1: Keltic/Goldboro Project Approval History and Status

Date	Approval	Prov.	Fed.
14 Oct 2009	The Nova Scotia Minister of Environment and Labour authorizes extension for the commencement of work effective November 7, 2009 and expiring November 7, 2011	✓	
March 7, 2008	Federal Minister of the Environment reviewed the federal environmental assessment (Registry # 05-03-10471) of the Keltic Liquefied Natural Gas Facilities and Marginal Wharf Project proposed by Keltic Petrochemicals Inc. and MapleLNG Limited. A follow-up program has been implemented and completed on November 5, 2010.		✓
18 Dec 2007	The Nova Scotia Minister of Environment and Labour has approved a request from MapleLNG Limited to transfer terms and conditions of environmental assessment approval for the LNG portion of the Petrochemical Plant and LNG Project to Maple LNG Ltd.	✓	
14 March 2007	The Nova Scotia Minister of Environment and Labour has approved Keltic Petrochemicals' Liquefied Natural Gas and Petrochemicals Facility Project at Goldboro subject to terms and conditions	✓	
23 February 2007	The Nova Scotia Environmental Assessment Board has completed its review and submitted its report to the Minister of Environment and Labour. In the report the Panel recommends that the proposed project should proceed subject to recommendations presented in the report;	✓	
11 June 2008	The Nova Scotia Utility and Review Board issued a Permit to Construct a Gas Plant (including the LNG terminal).	✓	

14 September 2009	The Nova Scotia Utility and Review Board issued a Permit to Construct a 2.2 km long Send Out Pipeline connecting to the M&NP system.	✓	
21 March 2014	The Nova Scotia Minister of Environment approves the Goldboro LNG Project (file No. 40100-34-265) effective March 21, 2014 and expiring March 21, 2016.	✓	

4.0 COMPARISON OF PRIMARY PROJECT COMPONENTS COMPLETED IN EACH OF THE ENVIRONMENTAL ASSESSMENTS

4.1 Goldboro LNG project components

The Environmental Assessment Report (Class 2 Undertaking) of September 2013 identified the Project Description and Project Components ES-1 on page 3 of Executive Summary :

Goldboro LNG - Project Description

Project Components

The Project comprises an onshore gas processing plant, a marine jetty for loading carriers with LNG product and a wharf for component delivery during construction, and for mooring of tug boats during operation. In addition, there will be a water supply pipeline to convey fresh water from a proposed intake structure at Meadow Lake to the site. The key components of the proposed Project are listed in Table ES-1.

Table ES-1 Key Components - Goldboro LNG Project

Components	Description
Natural Gas Liquefaction Plant	A facility for converting 10 Mtpa of natural gas into LNG for export to overseas markets.
LNG Storage Tanks	Full containment LNG cryogenic storage tanks each with a net storage capacity of 210,000 m ³ (gross capacity of around 230,000 m ³).
Marine Facilities	A jetty trestle for the LNG transfer lines and access road and two LNG ship loading berths. A marine wharf for the unloading of construction equipment and materials and for mooring of the tug and pilot vessels.
180 MW Power Plant	On-site power generation to support the LNG facility and support services. Emergency diesel generator sets provided for essential loads.
Feed Gas Pipeline and Inlet Facilities	Supply pipeline from the M&NP pipeline including pigging and metering.
Potable Water Pipeline and Intake Structure	Supply pipeline from a new intake structure at Meadow Lake to the Project site.
Buildings and Utilities	Various administrative, control and maintenance buildings. Utilities units to support the liquefaction and export facilities. On-site power generation suitable for 114 kiloVolt-amperes (kVA).
Temporary Work Camp	For the duration of the construction phase, the Project will include a work camp situated along the northern site boundary.
Information Centre	At the start of the construction activities an information centre is to be operated at the Project site.

Changes from the 2013 report:

1. LNG Storage Tanks

Full containment LNG cryogenic storage tanks two each with net capacity of 190,000 cubic meters (m³). Total net storage capacity of around 380,000 m³.

Previously stated LNG storage was from 3 LNG tanks with net capacity of 210,000 m³ and total gross capacity of 690,000 m³.

2. Power Plant

180 MW peak generation, up now to 190 MW.

3. Temporary Work Camp

Previously the temporary work camp was estimated at 3500 peak manpower and located adjacent to the LNG Facility on the Northern fence. The work camp will now be 5000 peak and located at the decommissioned and reclaimed Sable Offshore Energy Inc. (SOEI) gas plant.

4.2 Keltic Project Key Project Components

Objective of the Keltic Project was to develop an integrated import and production facility that receives LNG by ship at a new LNG tanker terminal. The gas was planned to be regasified and then delivered to the M&NP pipeline. Some of the gas was also to be utilized for the on-site production of polyethylene and polypropylene pellets for shipment from a new marginal wharf development to customers across North America.

4.3 Goldboro LNG Legislative Activities

The CEAA 2012 "*Regulation Designating Physical Activities*" (Environment Canada 2012) identifies the physical activities that constitute the designated projects that could require completion of a federal EA. For the Goldboro LNG, the designated activity that is subject to CEAA 2012 is the construction of the LNG liquefaction and storage facility as per Section 13 of the Regulation:

- *The construction, decommissioning and abandonment, or an expansion that would result in an increase in production capacity of more than 35%, of ... (d) a facility for the liquefaction, storage or re-gasification of liquefied natural gas, with a liquefied natural gas processing capacity of more than 3,000t/d or a liquefied natural gas storage capacity of more than 50,000t.*

The proposed marine tanker terminal is likely not subject to CEAA. The relevant Section 27 of the Regulation designates "*...a marine terminal designated to handle vessels larger than 25,000 DWT...*" as an

activity requiring a federal EA only if such use is not permitted in the land use plan for the project site and if this plan was not subject to public consultation.

The Goldboro LNG project is proposed for a location within the Goldboro Industrial Park. The zoning for the Goldboro LNG project site does permit a marine terminal. The land use zoning was subject to public consultation. As such, the marine terminal itself is NOT an activity for which CEAA 2012 applies.

Since the completion of the first draft of the comparative description in November 2012, the Canadian Environmental Assessment Agency reviewed the draft document and determined that the Goldboro LNG Project does not require a federal EA.

4.4 Keltic Project Legislative Activities

The Keltic Project was subject to CEAA applicable in 2006. As such the Regulation Designating Physical Activities mentioned above was not applicable. Instead, in accordance with the applicable CEAA legislation, the federal EA was triggered since the project required federal approvals under the *Navigable Waters Act* and the *Fisheries Act*. In addition, the Comprehensive Study List Regulation that was in force at that time determined that the Project was to undergo a Comprehensive Study.

4.5 Key components Goldboro and Keltic Projects comparison

The key components of the Goldboro LNG Project and the Keltic Project are listed in Table 2.0. The table also includes information on size and capacity as well as temporary or permanent infrastructure components.

Table 2.0: Project Components Goldboro LNG vs Keltic Project

Facility Components	Goldboro LNG Project (2021)	Goldboro LNG Project (2014)	Keltic Project
Temporary Facility Components			
Work Camp/workforce (~30 ha)	✓ (up to 5000)	✓ (up to 3500)	✓ (up to 4772)
Power Plant (Construction)	No	No	✓ (16 MW)
Laydown Areas	✓ (~108 ha)	✓ (~23 ha)	✓ (not specified)
Permanent Principal Facility Components			
LNG tanker terminal	✓	✓	✓
LNG liquefaction	✓	✓	No
LNG Re-gasification	No	No	✓
LNG storage (gross tank volume)	✓ (380,000 m ³)	✓ (690,000 m ³)	✓ (975,000 m ³)
Flare stack	✓	✓	✓
Petrochemical plant	No	No	✓
Power Plant (Operation)	✓ (190 MW)	✓ (180 MW)	✓ (180 MW)
Marginal wharf	✓	✓	✓
Pipeline (Water Supply)	✓ (1300 m ³ /day)	✓ (1200 m ³ /day)	✓ (1200 m ³ /hour)
Pipeline (natural gas from M&NP)(2-3 km)	✓	✓	✓
LNG tankers	✓ (100 to 160 per year)	✓ (100 to 160 per year)	✓ (105 to 210 per year)
Vessels for Product Shipment (Polyethylene / Polypropylene Pellets)	No	No	✓
Support Components, Utilities, Infrastructure			
Meadow Lake dam and reservoir (incl. freshwater intake structure)	✓	✓	✓
Local groundwater wells	✓ (30 m ³ /hour)	✓ (30 m ³ /hour)	No
Waste Water Treatment Plant and discharge structure	✓	✓	✓
Tugs	✓	✓	✓
Road realignment	✓ (Route 316)	✓ (Route 316)	✓ (Route 316)
Water course diversion (Unnamed Stream)	✓	✓	✓
Administration building	✓	✓	✓
Key Construction Activities			
Site clearing	✓ (~228 ha)	✓ (~161 ha)	✓ (350 ha)
Blasting, on-shore cut and fill	✓	✓	✓
In water works (marine)	✓	✓	✓

Facility Components	Goldboro LNG Project (2021)	Goldboro LNG Project (2014)	Keltic Project
Sheet piling and infill (marginal wharf)	✓	✓	✓
Stream crossing (pipeline / road realignment)	✓	✓	✓

5.0 PROJECT EMISSIONS, DISCHARGES, AND WASTE

5.1 Goldboro LNG

The Goldboro LNG project will produce the following general types of emissions, discharges, and waste:

- Solid waste (construction & domestic);
- Air emissions, including volatile organic compounds (VOC's), sulphur compounds (SOx), nitrogen oxides (NOx), particulate matter (PM), and greenhouse gasses (GHG);
- Wastewater (construction, process, and domestic); and
- Noise.

There are some potential waste types that could be produced if historic mining contaminated soils or acid generating bedrock is encountered. Accidental spills are also a potential source of LNG, petroleum-oil-lubricants (POL), and small quantities of other hazardous chemicals.

5.2 Keltic

In comparison, the Keltic Project was expected to produce similar waste types in approximately equal or larger volumes.

Further details for both projects are listed for direct comparison in Table 3.0. The table also includes information on volume and frequency as well as disposal (where applicable).

Table 3.0: Emissions, Discharges and Waste Comparison

Source	Type	Description	Goldboro LNG (2021)	Goldboro LNG (2014)	Keltic
Construction Phase					
All activities	Solid waste	Solid waste separated into recyclable and non-recyclable on site and stored temporarily for transport off-site to disposal at an approved facility. Expected magnitude relative to number of employees during peak construction.	✓ (5000 employees)	✓ (3500 employees)	✓ (4772 employees)
Clearing, grubbing, grading and excavation for all activities	Dust	Temporary dust emissions locally above regulatory guidelines to be controlled by standard best management practices. Expected magnitude relative to total area of site.	✓ (~228 ha site)	✓ (~161 ha site)	✓ (350 ha site)
Construction vehicle operation & transportation	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's. Expected magnitude relative to number of vehicles per day during peak construction.	✓ (300 vehicles)	✓ (300 vehicles)	✓ (400 vehicles)
Temporary concrete and asphalt batch plants	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's.	✓	✓	✓
General machinery operation (all activities)	Noise	Minor noise production (below provincial guidelines at site boundary).	✓	✓	✓
Pile driving (LNG Terminal) & blasting	Noise	Temporarily loud noise and acoustic vibration in the aquatic environment that may carry for large distances.	✓	✓	✓
Power generating station	NOx, SOx, PM, and GHG (CO2)	Construction of 16 MW generator for Construction Phase energy needs and to provide backup generator for Operation Phase.	✓	✓	✓
Marine vessels (cargo), tugs	VOC's & ballastwater	Minor VOC's in local airshed and very small contribution to GHG's. Marine vessels conduct ballastwater operations off-shore in accordance with Canadian and US guidelines. No impacts on local environment.	✓	✓	✓
Domestic wastewater system	Sanitary wastewater	On-site use of sewage treatment "package plant" during construction. Discharge of treated effluent	✓	✓	✓

Source	Type	Description	Goldboro LNG (2021)	Goldboro LNG (2014)	Keltic
		(complies with regulatory requirements) into Isaacs Harbour. Expected magnitude relative to number of employees during peak construction.	(5000 workers)	(3500 workers)	(4772 workers)
Site run-off	Sedimentation	Potentially significant sedimentation from stormwater run-off to be controlled by standard best management practices. Expected magnitude relative to total area of site.	✓ (~228 ha site)	✓ (~161 ha site)	✓ (350 ha site)
Marine construction	Siltation	Potentially significant siltation during construction of marine terminal and shoreline protection activities to be controlled by silt curtain and boom.	✓	✓	✓
Excavation / dredging (All activities)	Contaminated soil/sediment	May encounter historic mine tailings on land or in marine sediments, containing high metals contamination. Preconstruction survey proposed to confirm presence/absence and management plan.	✓	✓	✓
Blasting / excavation in bedrock	Acid rock drainage	May encounter acid generating bedrock, to be managed, treated and/or disposed of in accordance with acid generating rock management plan and provincial guidelines.	✓	✓	✓
Operation Phase					
All activities	Solid waste	Solid waste separated into recyclable and non-recyclable on site and stored temporarily for transport off-site to disposal at an approved facility. Expected magnitude relative to number of permanent employees.	✓ (100-200 employees)	✓ (100-200 employees)	✓ (624 employees)
Maintenance vehicle operation & transportation	Dust & VOC's	Temporary dust emissions below regulatory guidelines to be controlled by standard best management practices. Minor VOC's in local airshed and very small contribution to GHG's. Expected magnitude relative to number of permanent employees.	✓ (100-200 employees)	✓ (100-200 employees)	✓ (624 employees)
LNG Storage & handling (flaring & pressure valves), Boil Off Gas (BOG)	VOC's, NOx, CO, NG	Small production of gasses from infrequent unplanned flaring and pressure relief valves. Also some minor release of fugitive natural gas from leakage and very minor release of VOC's from POL & seal oils. Expected magnitude relative to total storage volume (gross volumes shown at right).	✓ (380,000 m3)	✓ (690,000 m3)	✓ (975,000 m3)

Source	Type	Description	Goldboro LNG (2021)	Goldboro LNG (2014)	Keltic
LNG Liquefaction	VOC's, NOx, SOx, CO, NG, and CO ₂	Relatively large amount of gas emissions during LNG production including 150MW of gas turbines for mechanical drive per 5MMpta train. Also some minor release of fugitive natural gas and LPG from leakage. Refrigerant types tentatively identified as ethylene and propane.	✓	✓	NOT APPLICABLE
Flaring & pressure release valves (all project components)	Noise	Infrequent and unpredictable loud noise production up to 110 dBA at the base of the flare and 145 dB(Lin) for blow down valves measured at 1m from the source.	✓	✓	✓
LNG Re-gasification & Petrochemical Plant	VOC's, NOx, SOx, CO, NG, and CO ₂	Relatively large production of gasses during NG conditioning process and petrochemical production. Also some minor release of fugitive natural gas and VOCs from leakage.	NOT APPLICABLE	NOT APPLICABLE	✓
Incinerator	NOx, SOx, PM, CO ₂	Relatively minor production of gasses during incineration of waste hydrocarbon, spent caustic (Keltic only), waste polymer (Keltic only), bio-sludge, and lab waste.	✓	✓	✓
Power Generating Station	NOx, SOx, PM, and CO ₂	Construction of 190 MW generator for Operation Phase energy needs (Keltic Project retained 16 MW unit from Construction Phase as backup).	✓	✓	✓
LNG Tankers, Tugs	VOC's & ballast water	Minor VOC's in local air shed and very small contribution to GHG's. Marine vessels conduct ballast water operations off-shore in accordance with Canadian and US guidelines. No impacts on local environment. Expected magnitude relative to number of tankers per year.	✓ (160 per year)	✓ (160 per year)	✓ (210 per year)
Wastewater Treatment System	Multiple liquid waste streams	On-site wastewater treatment plant for multiple wastewater streams including sanitary wastewater, contaminated wastewater (run-off from paved areas), oily water, fire water, and benzene & toluene contaminated water. Discharge of treated effluent (to comply with regulatory requirements) into Isaacs Harbour. Process water products not specified but could include high BOD. Expected magnitude relative to number of permanent employees and total area of site.	✓ (100-200 employees and ~110 ha site)	✓ (100-200 employees and ~110 ha site)	✓ (624 employees and 350 ha site)

Source	Type	Description	Goldboro LNG (2021)	Goldboro LNG (2014)	Keltic
LNG Re-gasification	Process water	490,000 m ³ per year of “uncontaminated” process water to be released directly into Isaac’s Harbour.	NOT APPLICABLE	NOT APPLICABLE	✓
Utilities Effluents	Cooling water and saline water	Relatively large volume of “clean” process water but requiring pre-treatment for high salt content prior to disposal through the on-site wastewater treatment plant.	NOT APPLICABLE	NOT APPLICABLE	✓
Site run-off	Sedimentation	Uncontaminated site run-off separated from potentially contaminated run-off and directed to ditch drainage system for “settling” and discharge directly into the environment.	✓	✓	✓
Accidental Events					
Spills on land	LNG, POL & other hazardous chemicals	Potential for containment failure and accidental spills during transportation of large volumes of LNG and minor volumes of POL and other hazardous chemicals. Risk to be minimized through double containment, leakage monitoring systems, development of comprehensive contingency plans, and employee training.	✓	✓	✓
Spills in the marine environment	LNG, POL & other hazardous chemicals	Potential for marine accidents to release large volumes of LNG and minor volumes of POL and other hazardous chemicals. Risk to be minimized through implementation of TERMPOL recommendations and development of comprehensive contingency plan. Potential risk relative to number of tankers per year.	✓ (160 per year)	✓ (160 per year)	✓ (210 per year)

6.0 DATES, OF ANY FEDERAL PERMITS ALREADY OBTAINED FOR THE PROJECT.

- Termpol - September 2019
- Export License (National Energy Board) – May 20, 2016
- Import License (National Energy Board) – May 20, 2016
- Export Permit (US Dept Energy) – Feb 5, 2016 Order # 3768; May 22, 2015 Order # 3639

Other permits/Agreements:

- Permit to Construct - NSURB permit to construct October 31, 2018.
- Mi'kmaq Benefits Agreement February 27, 2020
- Collaborative Benefits Agreement May 3, 2017

7.0 CONFIRMATION THAT THE PROVINCE DETERMINED THAT A NEW EA OR AMENDMENT IS NOT REQUIRED.

Initially the community indicated they did not favour a proposed temporary and permanent realignments of Highway 316. Pieridae proposed a new route to the community in 2020. They were very satisfied with the new proposal. Because the new realignment has greater than 2 hectares of wetlands, it has triggered a Class 1 EA. Pieridae will be submitting the documentation shortly.

8.0 PRE-CONSTRUCTION ACTIVITIES COMPLETED TO DATE, SPECIFICALLY HIGHLIGHTING ANY THAT APPLY TO THE POWER GENERATION PORTION OF THE PROJECT.

- LNG site clearing was completed in April 2018.
- Avian Radar has been set up on site and is operational.
- A number of terms and conditions of the Environmental Assessment Approval along with other applications for approval have been completed while others are underway. This supports pre-construction activities.
- Workers camp for 5000 peak occupancy design specification developed.
- Site civil preparation specification developed.
- Waterline from Meadow Lake specification developed.
- Temporary detour road approved by TIR and ready for construction.
- Highway 316 permanent diversion in detail design phase.
- Pre-construction activities related to the power generation plant includes Front End Engineering Design and Verification. Construction and commissioning will commence once the EPCC contract is awarded at FID on June 30th, 2021.

9.0 FIRST NATIONS AND COMMUNITY ENGAGEMENT.

Pieridae continues to engage with First Nations and local community through Community Liaison and Fisheries Advisory Committees since 2012 along with regular face to face engagement with Pieridae staff. There is a First Nations Benefits Agreement along with a Mi'kmaq Communication Plan. Engagement also includes all terms and conditions of the Environmental Assessment Approval along with all other reports and applications for approval.

Tab 13

March 3, 2021

s.20(1)(b)

s.20(1)(c)

Declassified by ATIP/
Déclassifié par PAIPRP

THE GOLDBORO LNG FACILITY AND PIPELINE

Issue

- [REDACTED]
- [REDACTED]
- [REDACTED]

Key Considerations

- The fully permitted **Goldboro LNG facility** in Guysborough County, Nova Scotia, currently estimated as a CAN\$13-billion investment, plans to produce 10 million tonnes annually (MTPA) of liquefied natural gas (LNG) at full build. It would be the largest investment in Nova Scotia's history.
- The facility would consist of two 5 MT production lines ("trains") and new marine jetty infrastructure for LNG bunkering.
- Phase one (first liquefaction train) would draw conventional (non-fracked) gas from Alberta. [REDACTED]
- Pieridae notes key project benefits include regional and Indigenous economic development (particularly in Nova Scotia), and action on global climate change by displacing coal-fired electricity generation in export markets.
- Pieridae estimates that the project would create **5000-6000 jobs during phase one construction and 200 permanent jobs during operation**, plus upstream royalty revenues for Alberta, taxation revenues for Nova Scotia and Canada, and spinoff benefits across Canada.
- An LNG terminal located in Nova Scotia would be the **first east coast export infrastructure for Alberta natural gas**, and would offer the **shortest shipping route** from North America to European markets.

March 3, 2021

- Europe aims to diversify its supply sources of natural gas to enhance energy security, while meeting its Paris Agreement targets for emissions reductions. Europe prefers conventional (i.e. non-fracked) gas.
- Germany seeks conventional natural gas to replace coal- and nuclear-generated electricity.
- In 2020, France terminated Engie SA's US\$6.9 billion investment in the Texas-based Rio Grande LNG project, due to France's opposition to the use of fracked gas and concerns over emissions from production.
- Pieridae has made significant progress in advancing the project to date, and has:

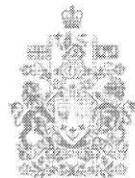
- **A project construction permit** from the Nova Scotia Utility and Review Board.
- Secured a **20-year offtake agreement** (with option for 10-year extension) with the German company **Uniper** for the entire first train's production. Pieridae is in talks with potential clients (including Uniper) for off-take from the second train.
- **Confirmed eligibility** for loan guarantees [REDACTED] including \$4.5. billion from Germany, to diversify LNG suppliers and to secure conventional gas.
- Secured **Bechtel** for engineering, procurement, construction, and commissioning (EPCC) services, with a lump-sum contract price due by May 31, 2021.

[REDACTED]

[REDACTED]

Tab 14

Minister
of Natural Resources



Ministre
des Ressources naturelles

Ottawa, Canada K1A 0E4

April 1, 2021

Mr. Alfred Sorensen
Chief Executive Officer and Director
Pieridae Energy Limited

Dear Mr. Sorensen:

I am writing to you regarding Pieridae Energy's work to advance the Goldboro liquefied natural gas (LNG) project to final investment decision by June 30, 2021, and regarding your request to the federal government for financial support.

Canadian LNG represents a significant opportunity to advance Canada's economic objectives while supporting global energy security in a sustainable manner. The Government of Canada has created the conditions for a successful LNG export sector, with low corporate tax rates, 40-year export licences, and accelerated capital cost allowance for LNG facilities until 2025. We continue to strengthen public confidence in our regulatory processes, and we are working bilaterally with international partners to promote energy trade, including for Canadian LNG.

Pieridae has conveyed that the design of the Goldboro LNG project would bring benefits to many regions and entities across Canada. The plan to leverage existing pipeline infrastructure to transport conventional natural gas from Alberta to Nova Scotia could optimize the use of that infrastructure and support economic recovery in both provinces, subject to applicable regulatory approval processes. Your team has also conveyed that the project could benefit the Atlantic region's offshore gas industry by accessing Newfoundland and Labrador gas to meet Goldboro LNG's full intake requirements to produce 10 million tonnes per annum of LNG. Development of carbon capture and storage technology in upstream natural gas operations in Alberta could also position the project to achieve its net-zero objective while contributing to new technology innovation goals.

I commend Pieridae Energy's work with Mi'kmaq Peoples in Nova Scotia throughout the project development process, securing local support through agreements that could provide tangible opportunities for long-term employment and economic benefits to those communities while mitigating environmental impacts.

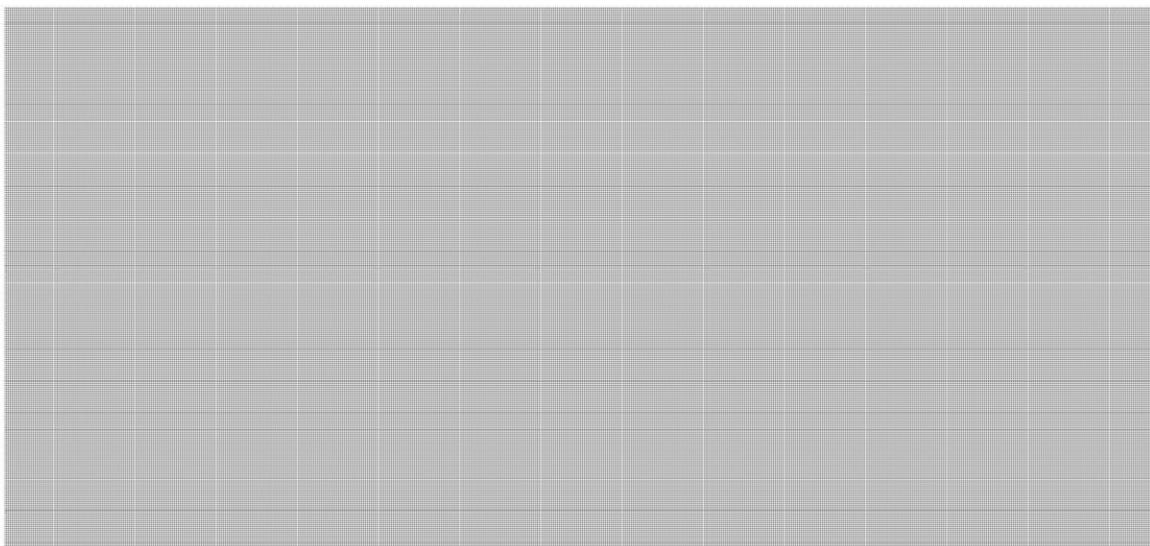
Canada

s.20(1)(b)

s.20(1)(c)

- 2 -

I also recognize the challenges that the global pandemic has created for industry across Canada to secure investment capital to advance major projects, particularly as traditional investors have retreated to reassess their respective portfolios within the changing economic landscape. The world is demanding more clean energy with a lower carbon footprint. Canadian LNG can help lower emissions, but we must ensure project investments make sense for the people of Canada.



I appreciate Pieridae's ongoing dedication to the Goldboro LNG project as well as your personal efforts as you proceed toward the final investment decision date this summer. I remain committed, as do my officials, to continuing the dialogue with Pieridae regarding the Goldboro LNG project.

Yours sincerely,

Handwritten signature of Seamus O'Regan Jr.

The Honourable Seamus O'Regan Jr., P.C., M.P.

Tab 15

Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes

Project Name	Original Project Approved	Summary of Changes including key components/ activities	Potential Component on Regulations Designating Physical Activities	Considerations	Rationale for Assessment or Exclusion
Goldboro LNG (NS)	<ul style="list-style-type: none"> Regasification facility (LNG import) Petrochemical plant <p>EA Decision – March 14, 2008</p>	<ul style="list-style-type: none"> Liquefaction Facility (LNG export) (in place of the originally proposed regasification facility) Natural gas generation facility (less than 200 MW) Potential need for marine raw water intake (for fire water), if required 	s. 14(d). The construction, operation, decommissioning and abandonment of a new facility for the liquefaction, storage or regasification of liquefied natural gas, with a liquefied natural gas processing capacity of more than 3,000 t/d or a liquefied natural gas storage capacity of 50,000 t	<p>Are new components proposed that are listed in the Regulations Designating Physical Activities?</p> <ul style="list-style-type: none"> No – Proposed liquefaction facility considered to “replace” gasification facility and thus considered to be the same project <p>Is the project footprint the same?</p> <ul style="list-style-type: none"> Located on the same site, has a similar footprint <p>Are there new environmental effects on components within federal jurisdiction to be considered that were not considered in EA under the former Act?</p> <ul style="list-style-type: none"> Effects appear to be largely the same with potential minor variation (i.e., there is potential for effects on fish habitat associated with a marine firewater water intake ‘if needed’). Potential for more air emissions from the revised project, but would not be considered an environmental effects under CEAA 2012. <p>In consideration of proposed changes, is the LNG Facility the same project?</p> <ul style="list-style-type: none"> Yes - A comparison document was submitted to demonstrate that the proposed liquefaction facility was essentially the same as the originally proposal regasification facility 	<p>DECISION MADE IN 2012</p> <p>S. 128 (c) applies and submission of a PD is not required.</p> <p>The federal government will participate in the Nova Scotia EA of the Project to ensure matters of federal interest are considered.</p> <hr/> <p>s. 128. This Act does not apply to a project, as defined in the former Act, that is a designated project as defined in this Act, if one of the following conditions applies:</p> <p>(c) the responsible authority has taken a course of action under paragraph 20(1)(a) or (b) or subsection 37(1) of the former Act in relation to the project;</p>
Bear Head LNG (NS)	<ul style="list-style-type: none"> LNG (Regasification) Terminal (for import) 7.5 – 11.3 million tonnes per annum sendout capacity <p>EA Decision-</p>	<ul style="list-style-type: none"> Liquefaction Facility (LNG export) (in place of the originally proposed regasification facility) 264 MW natural gas generation 	s. 14(d). The construction, operation, decommissioning and abandonment of a new facility for the liquefaction, storage or regasification of liquefied natural gas,	<p>Are new components proposed that are listed in the Regulations Designating Physical Activities?</p> <ul style="list-style-type: none"> Yes - New 264 MW natural gas generation facility Proposed liquefaction facility considered to “replace” gasification facility and thus may be considered to be the same project (TBC) <p>Is the project footprint the same?</p> <ul style="list-style-type: none"> Located on the same site, has a similar footprint, with potential for a change in the marine footprint. It is indicated that there will be an 	<p>ANALYSIS ON-GOING</p> <p>Submission of a PD will be required for the power plant.</p> <p>If the proposed liquefaction facility is considered to be the same project as the</p>

Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes

Project Name	Original Project Approved	Summary of Changes including key components/ activities	Potential Component on Regulations Designating Physical Activities	Considerations	Rationale for Assessment or Exclusion
	August 9, 2004	facility	<p>with a liquefied natural gas processing capacity of more than 3,000 t/d or a liquefied natural gas storage capacity of 50,000 t</p> <p>s. 2(a) the construction operation, decommissioning and abandonment of a new fossil fuel fired electrical generating facility with a production capacity of 200 MW or more</p>	<p>effort to work within the approved footprint.</p> <p>Are there new environmental effects on components within federal jurisdiction to be considered?</p> <ul style="list-style-type: none"> - TBC – not anticipated. A comparison document will be requested from the proponent. - Potential for more air emissions from the revised project, but would not be considered an environmental effects under CEAA 2012. <p>Other Considerations:</p> <ul style="list-style-type: none"> - Following the 2004 EA Decision, the site was cleared and foundations poured. <p>In consideration of proposed changes, is the LNG Facility the same project?</p> <ul style="list-style-type: none"> - TBC - The project proposed is a liquefaction project rather than a regasification project 	<p>gasification facility, transition provisions (s. 128(a) and/or (c)) would apply and submission of a PD is not required for the LNG component.</p> <p>-----</p> <p>s. 128. This Act does not apply to a project, as defined in the former Act, that is a designated project as defined in this Act, if one of the following conditions applies:</p> <p>(a) the proponent of the project has, before the day on which this Act comes into force, initiated the construction of the project;</p> <p>(c) the responsible authority has taken a course of action under paragraph 20(1)(a) or (b) or subsection 37(1) of the former Act in relation to the project;</p>
Canaport LNG (NB)	<ul style="list-style-type: none"> • LNG (Regasification) Marine Terminal (for import) 7 million tonnes per annum and • Multi Purpose 	<ul style="list-style-type: none"> • Liquefaction Facility (LNG export) (in addition to the existing regasification facility) • 150 MW natural 	<p>s. 14(d). The construction, operation, decommissioning and abandonment of a new facility for the liquefaction, storage or regasification of</p>	<p>Are new components proposed that are listed in the Regulations Designating Physical Activities?</p> <ul style="list-style-type: none"> - Yes – New liquefaction facility proposed (in addition to the existing regasification facility) <p>Is the project footprint the same?</p> <ul style="list-style-type: none"> - No - The footprint of the new liquefaction facility, including temporary laydown area appears to be more than double the 	<p>ANALYSIS ON-GOING</p> <p>The LNG liquefaction facility is being proposed in addition to the existing regasification facility.</p>

Comparison of Previously Approved NB & NS LNG Facilities Proposing Project Changes

Project Name	Original Project Approved	Summary of Changes including key components/ activities	Potential Component on Regulations Designating Physical Activities	Considerations	Rationale for Assessment or Exclusion
	<p>Pier</p> <p>EA Decision – August 6, 2004</p>	<p>gas generation facility</p> <ul style="list-style-type: none"> Additional clearing and grubbing will be required for temporary laydown area and project footprint 	<p><i>liquefied natural gas, with a liquefied natural gas processing capacity of more than 3,000 t/d or a liquefied natural gas storage capacity of 50,000 t</i></p>	<p>originally approved footprint and will require additional clearing and grubbing beyond the approved footprint.</p> <p><i>Are there new environmental effects on components within federal jurisdiction to be considered?</i></p> <ul style="list-style-type: none"> Yes - Potential for effects on migratory birds, species at risk (peregrine falcon) and possibly fish and fish habitat (clarity will be sought) Potential for more air emissions from the revised project, but would not be considered an environmental effects under CEAA 2012. <p><i>Other Considerations:</i></p> <ul style="list-style-type: none"> The regasification facility is in operation. The existing Canaport LNG (regasification) Facility is owned by Repsol and Irving. The proposed Liquefaction Facility is owned by Saint John LNG Development Company Limited. Clarification on the relationship between the two companies will be sought. The proposed project would result in an LNG gasification facility located adjacent to an existing LNG liquefaction facility (Note: Bear Head and Goldboro will be liquefaction only). <p><i>In consideration of proposed changes, is the LNG Facility the same project?</i></p> <ul style="list-style-type: none"> No – A liquefaction project is being proposed <u>in addition to</u> the existing regasification facility. The project will be constructed on a new (adjacent) site, but will share use of certain components with the regasification facility (e.g., storage tanks, jetty). 	<p>Transition provisions do not apply.(TBC)</p> <p>The proposed liquefaction facility is a new facility as described in s. 14(d) of the Project List and thus submission of a PD is required (TBC).</p>

Tab 16



MEETING NOTE TO THE MINISTER

**MINISTER MEETING WITH
ALFRED SORENSEN, PIERIDAE ENERGY**

MEETING DETAILS

- **DATE/TIME:** TBC
- **LOCATION:** TBC
- **PARTICIPANTS:**
 - Alfred Sorensen, Chief Executive Officer and Director, Pieridae Energy

ISSUE

- Pieridae Energy will provide a project update, [REDACTED] to advance the proposed Goldboro LNG project in Nova Scotia to final investment decision (FID) by June 30, 2021, as per its offtake agreement with Uniper (major German utility).

KEY CONSIDERATIONS

- Pieridae Energy's proposed \$13-billion, 10 million tonne per year (MTPA) Goldboro LNG project is currently the most advanced pre-FID major liquefied natural gas (LNG) project in Canada. [REDACTED]

Conventional gas from Pieridae's resources in Alberta (AB) will supply phase one to meet Germany's requirement that it be supplied with non-fracked gas, [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

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[Redacted]

- [Redacted]

KEY BACKGROUND

- Pieridae positions Goldboro LNG as a “shovel-ready” economic project, built in two equal phases, that can help Canada’s overall post-COVID-19 economic recovery, support Indigenous economic development, and secure positive global climate change outcomes by displacing coal power in destination target markets (e.g. Germany, France, United Kingdom, India).

- [Redacted]

- [Redacted]

- Pieridae has made good overall progress in advancing the project to date and has the following:
 - Pieridae has a project construction permit from the Nova Scotia Utility and Review Board.
 - It has secured a 20-year offtake agreement (with an option for 10-year extension) with the German company Uniper SE for the entire first train’s production. Pieridae is in talks with potential clients (including Uniper) for off-take from the second train.
 - It has confirmed eligibility for loan guarantees [Redacted] including \$4.5 billion from Germany, to diversify LNG suppliers and to secure conventional gas.
 - It secured Bechtel for engineering, procurement, construction, and commissioning services, with a lump sum contract price due by May 31, 2021.

s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

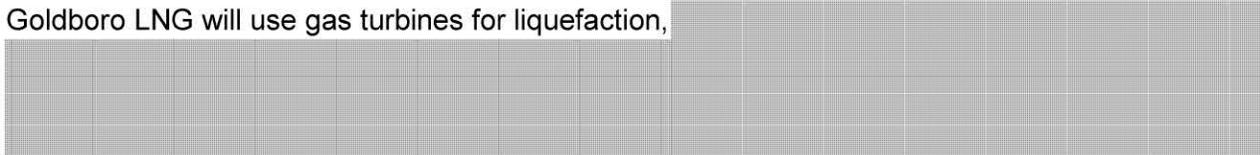
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- It acquired sufficient conventional natural gas assets in AB for the first train of LNG production at Goldboro through the August 2018 acquisition of Ikkuma Resources and the October 2019 purchase of Shell's southern AB foothills gas assets. Shell took a 10% ownership stake in Pieridae Energy Limited in the \$190-million deal, still under review by the Alberta Energy Regulator.
- It signed a benefits agreement in 2019 that establishes the framework under which the Mi'kmaq of NS will benefit economically from the project.
- Goldboro LNG will use gas turbines for liquefaction,



s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

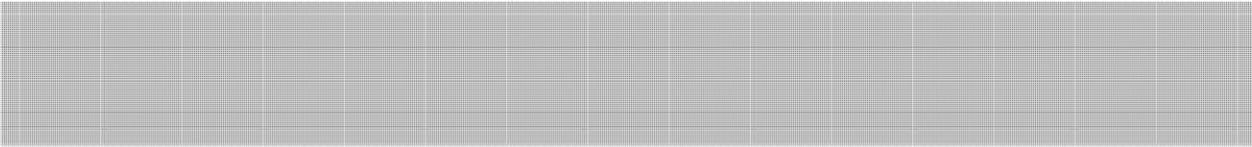
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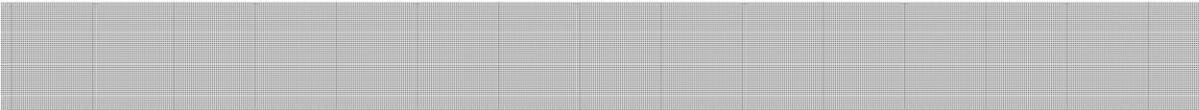
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POINTS TO REGISTER

- Express support for the development of competitive, sustainable LNG projects in Canada to create economic opportunities and reduce global emissions through the transition off coal.
- Explore the project's emissions profile and how it aligns with Canada's commitment to net-zero by 2050.

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Attachments: (3)

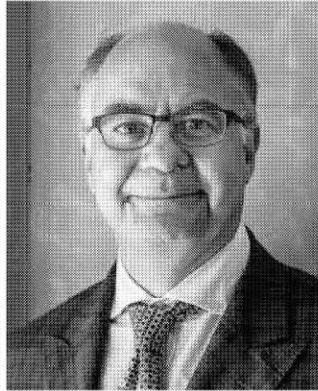
Annex A – Biography

Annex B – Supplementary Information

Annex C – Pieridae Letter to Minister O'Regan, January 18, 2021

ANNEX A – BIOGRAPHY

Alfred Sorensen
Chief Executive Officer and Director, Pieridae Energy Limited



Mr. Alfred Sorensen has been the Chief Executive Officer of Pieridae Energy Limited since its founding in 2012. He is a chartered accountant and a leader in the energy industry, with over 30 years of Canadian and international experience. Mr. Sorensen served as the Chief Executive Officer of Canadian Spirit Resources from 2013 to 2015.

From 2003 to 2010, Mr. Sorensen was the Chief Executive Officer and a founder of Galveston LNG. Galveston LNG's Kitimat LNG project was the first new liquefaction facility permitted in North America in 40 years, and it is now owned by Chevron and Woodside Energy.

Prior to Galveston LNG, he was President of Duke Energy Europe and, before that, President at Duke Energy Canada.

s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

Declassified by ATIP /
Déclassifié par PROTECTED B

189800

ANNEX B – SUPPLEMENTARY INFORMATION

1. [Redacted]

• [Redacted]

• [Redacted]

2. Reconciliation: Mi'kmaq Partnership on \$720-Million Workforce Lodge

- Pieridae has a strong relationship with the Mi'kmaq in NS and has a benefits agreement with the NS Mi'kmaq Chiefs that was ratified in February 2019. This provides a good example of reconciliation and economic inclusion that could build social licence for LNG projects.
- Thirteen NS Mi'kmaq communities own 51%, and Black Diamond Group 49%, of a partnership that will construct and provide hospitality services at the project construction work camp lodge, which Pieridae projects to cost \$720 million.
- The Mi'kmaq will be responsible for the lodge's hospitality services, deriving further contract and employment benefits.

3. [Redacted]

• [Redacted]

• [Redacted]

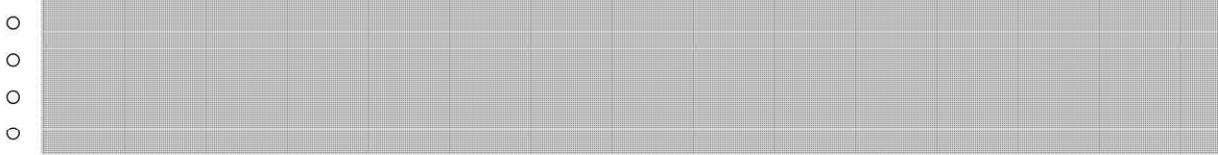
s.20(1)(b)

s.20(1)(c)

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Déclassifié par l'ATIP

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189800



4. Government of Germany and Uniper SE

- Pieridae has secured a 20-year offtake agreement (with an option for 10-year extension) with Germany's Uniper SE for the entire first train's production. Pieridae is in talks with Uniper and other potential clients for off-take from the second train.
- Germany seeks conventional natural gas to replace coal (by 2038) and nuclear-generated electricity.
- Europe aims to diversify its supply sources of natural gas to enhance energy security while meeting its Paris Agreement targets for emissions reductions.
- Competing LNG projects under construction, such as Texas-based NextDecade, are seeing European countries such as France and Ireland specifically avoiding long-term contract commitments to North American unconventional natural gas.
- Goldboro LNG would have a shorter shipping route to Europe than the US Gulf Coast LNG, providing a further emissions reduction opportunity.

Tab 17



MEMORANDUM TO THE DEPUTY MINISTER

c.c.: Shawn Tupper, Associate Deputy Minister

**PIERIDAE ENERGY LIMITED'S
PROPOSED GOLDBORO LNG EXPORT FACILITY**

(For Decision)

ISSUE

- [Redacted]

KEY CONSIDERATIONS

- Pieridae Energy's \$13B Goldboro LNG project is currently the most advanced pre-final investment decision (FID) major LNG project in Canada, [Redacted]. It has secured long-term supply and takeaway contracts, providing it a strong commercial footing.

- [Redacted]

- [Redacted]

[Redacted]

[Redacted] Pieridae is contractually obligated to take an FID by June 30, 2021 under its offtake purchase agreement with Uniper (a major gas utility in Germany, and the primary project client).

- [Redacted]

- Indigenous sentiment in NS appears to be positive, with agreements in place for local communities to participate in the project (e.g., building and operating the construction workforce lodge).

- [Redacted]

s.13(1)(c)

s.14

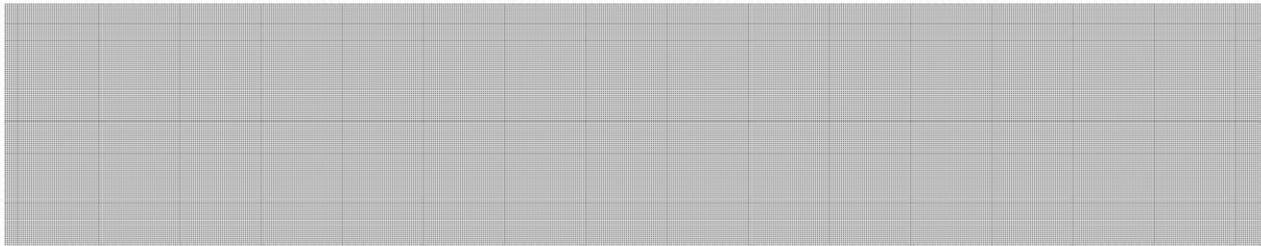
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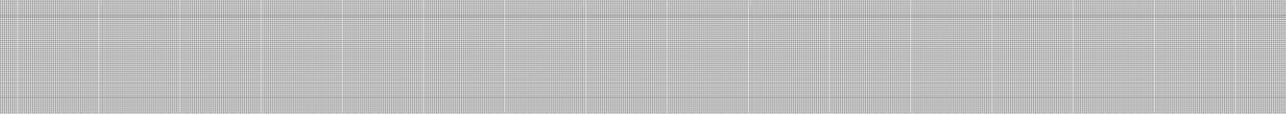
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s.21(1)(a)

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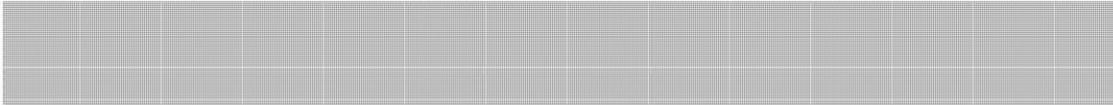
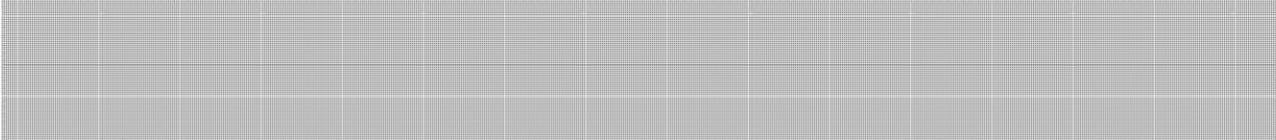
189970



- 

KEY BACKGROUND

The Project

- The Goldboro LNG project would produce 10 million tonnes per year (MTPA) of LNG, constructed in two equal phases, with the potential for a marine jetty to support LNG bunkering on the east coast. It has all of its major environmental and export permits in place.
- Conventional gas from Pieridae’s resources in AB will supply phase one, to meet Germany’s requirement for conventional fuel. 
- Pieridae and Uniper established the FID target date, and target for first exports by February 2026, within the context of European energy strategies, which include reducing coal and nuclear power use, as well as compensating for decreasing European natural gas production.
 - Uniper has a contract for the entire 5 MTPA production from phase one for 20 years, with a 10-year extension option.
- Pieridae positions Goldboro LNG as a “shovel-ready” economic project that can help Canada’s overall post-COVID19 economic recovery, supporting Indigenous economic development and positive global climate change outcomes by displacing coal power in destination target markets (e.g., Germany, France, UK, India).
 - The project would align with global energy security objectives to diversify suppliers and the types of available energy, while supporting action on climate change.
 - Germany has committed to phasing out its coal-fired power by 2038.
- Pieridae’s strategy relies on using existing infrastructure and does not require new greenfield pipelines or rights-of-way. The liquefaction facility location is adjacent to a Maritimes and Northeast pipeline terminal.
 - 
- 

s.13(1)(c)

s.14

s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

Declassified by ATIP /
PROTECTED B

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Provincial Views

- [Redacted]
- [Redacted]
 - Canada's goal of developing LNG export capacity on its west and east coasts aligns with Alberta's October 2020 *Natural Gas Vision and Strategy* that identified completion of LNG export facilities on both coasts as one of five strategy pillars.
- [Redacted]
- Federal support for LNG Canada's \$24B phase one (14 MTPA) project included \$220M for high efficiency gas turbines, \$55M to replace the Haisla bridge in Kitimat, and remission of duties on fabricated imported steel components. These, combined with amendments to BC's provincial tax measures, motivated the October 2018 project FID.

RECOMMENDATIONS / NEXT STEPS

- [Redacted]
- [Redacted]
- [Redacted]

 Glenn Hargrove
 Assistant Deputy Minister
 Strategic Petroleum Policy and Innovation Office (SPPIO)

 Date

Contacts: – Andrew Cameron, Analyst, Petroleum Resources Branch, SPPIO, 613-218-7526
 – Chris Evans, Senior Director, Petroleum Resources Branch, SPPIO, 613-697-6063

Recommendation 1:	<input type="checkbox"/>	[REDACTED]
Recommendation 2:	<input type="checkbox"/>	[REDACTED]
Recommendation 3:	<input type="checkbox"/>	[REDACTED]
<p>___ I approve. ___ I do not approve. ___ For discussion.</p>		
_____ Jean-François Tremblay, Deputy Minister		_____ Date

Attachment: (1)

Annex A: Supplementary Information – Economic Benefits

Annex B: [REDACTED]

s.20(1)(b)

s.20(1)(c)

s.21(1)(a)

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Déclassifié par l'APPB
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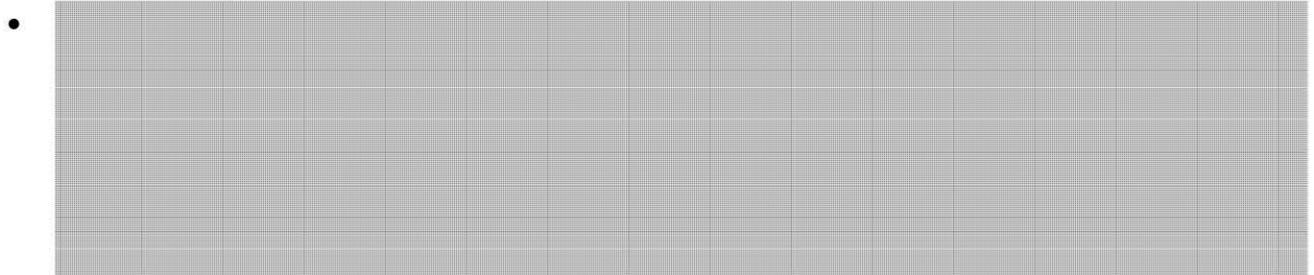
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ANNEX A

SUPPLEMENTARY INFORMATION

Economic Benefits of Goldboro LNG

- Building Goldboro LNG would result in high value, well-paying jobs and economic benefits across Canada during construction, in addition to considerable GDP and tax revenue benefits.



To Canada

- Goldboro LNG could be the first east coast export infrastructure for Alberta natural gas, and would offer the shortest shipping route from North America to European markets, where there is projected need for LNG to replace dirtier fuels. Europe has an appetite for conventional (not hydraulically fractured) natural gas, which Canada has in abundance.
- Goldboro LNG plans include new marine jetty infrastructure for LNG bunkering to service North Atlantic and Arctic-bound traffic. Newer ships powered by clean-burning LNG, [REDACTED] could displace use of heavy fuel oils, providing pollution reduction and GHG benefits to marine vessels.
- Canada would receive income tax revenues from employment and corporate taxes.

Indigenous

- Pieridae has a strong relationship with the Mi'kmaq in Nova Scotia, and signed a benefits agreement with the Nova Scotia Mi'kmaq Chiefs that was ratified in February 2019.
- Thirteen Nova Scotia Mi'kmaq communities own 51%, and Black Diamond Group 49%, of a partnership that will construct and provide hospitality services at the project's work camp. The Mi'kmaq will be responsible for the lodge's hospitality services, deriving further contract and employment benefits.
- Work with the Mi'kmaq is a good example of Indigenous reconciliation and economic inclusion that could build social licence for the project, and for other LNG ventures.

To Nova Scotia

- The \$13 B new facility would be the largest investment in Nova Scotia's history.
- Pieridae estimates that the project would create 5000-6000 jobs during phase one construction and 200 permanent jobs during operation.
- Nova Scotia would receive various taxation revenues, particularly from employment.

s.20(1)(b)
s.20(1)(c)
s.21(1)(a)

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PROTECTED B

189970

- The large facility would contribute considerable municipal taxes, and would result in public infrastructure improvements in Guysborough County.

To Alberta

- Long-term stability of upstream conventional natural gas extraction in southern Alberta, providing employment taxation and royalty revenues to the province.
- The project would provide access to trans-Atlantic markets for Alberta's conventional natural gas, produced under rigorous environment and sustainability regimes that would meet market demands.

To Newfoundland and Labrador

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

To TC Energy

- [Redacted]
- [Redacted]
- [Redacted]

To Enbridge

- [Redacted]
- [Redacted]

Tab 18

s.20(1)(b)

s.20(1)(c)

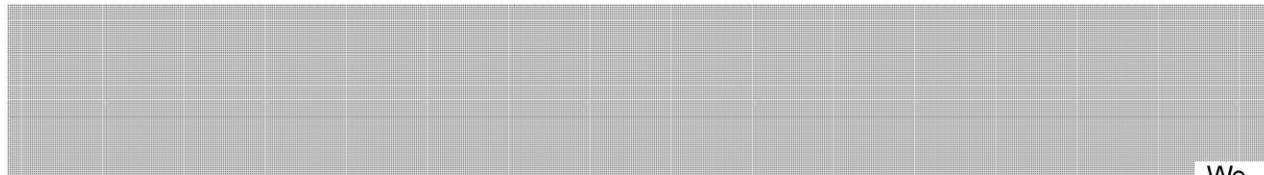


A Path to Net Zero: Carbon Capture and Storage (CCS) at Caroline, Alberta

Project Description

A “Made in Alberta” solution that would store up to three million tonnes of carbon in a depleted underground gas reservoir at Caroline, Alberta on property Pieridae owns and operates. This amount of carbon equals the emissions at our Goldboro LNG Facility effectively making it ‘net zero’.

We plan to capture carbon from three different sources: CO₂ generated as a natural by-product of the gas plant processing, CO₂ generated from power generation at the plant’s co-gen unit, and nearby third-party CO₂.



We continue to look for concentrated sources of CO₂ to capture and sequester the three million tonnes, which would be the equivalent of taking more than 650,000 cars off the road annually.



[Advice to Executive Council]

**Memorandum
to the Executive Council**



Number: 16-0288
Dept.: ENVIRONMENT
Date: March 31, 2016

Title: Liquefied Natural Gas (LNG) Greenhouse Gas Policy - Consultation

Submitted By: Hon. Margaret Miller, Minister of Environment *MM*

Prepared By: Michelle Miller, Climate Change Unit, Nova Scotia Environment
Sachi Gibson, Climate Change Unit, Nova Scotia Environment

Reviewed By: *Shawn McNutt*
Shawn McNutt, Manager, Finance and Planning, Department of Finance and Treasury Board

Deputy Minister: Frances Martin, Nova Scotia Environment *FM*

SUMMARY:

Nova Scotia Environment is proposing to consult on a regulated performance standard based on a GHG emissions intensity for LNG facilities. The new regulation would require a performance-based GHG emissions standard be met by LNG facilities, but would allow operators to choose any available method to meet that standard. If facilities cannot meet the performance standard, then compliance can be achieved by paying a set cost per tonne for excess emissions above the prescribed GHG intensity.

Objective: To ensure LNG development meets reasonable GHG emissions expectations through a fair, transparent performance standard that would apply to all LNG facilities in Nova Scotia.

Outcome sought: Nova Scotia Environment (NSE) is seeking approval to consult industry, stakeholders and the public on a proposed regulatory approach for the LNG sector, and provide an indication to the LNG industry of NSE's GHG performance expectations.

Financial impact: The cost of the consultation and required staff time will be borne by existing budgeted resources at NSE and the Department of Energy.

Considerations impacting timing of the decision: LNG developers have recognized GHG emissions as a potential significant adverse effect of LNG development and are requesting clarity on NSE's expectations for GHG performance before proceeding further with front-end engineering design in Spring 2016.

Recommendation: 13(1); 14(1)

13(1); 14(1)

CURRENT SITUATION AND PURPOSE FOR THIS REQUEST

LNG facilities are expected to be large emitters of GHGs on the scale of coal-fired electricity generation plants. Nova Scotia has electricity sector GHG regulations but there are no GHG regulations or policies applicable to LNG facilities. In the absence of a new regulation, NSE's only oversight of GHG emissions from LNG facilities will be through the Greenhouse Gas Management Plans, which are required as a condition of the environmental assessment approvals. There is no explicit minimum performance standard required in the Greenhouse Gas Management Plan.

The purpose of this request is to seek Executive Council approval to consult on the development of a sector-specific regulation for LNG facilities. The regulation will include a transparent and consistently applied performance standard (GHG intensity) that would result in facilities that are more efficient and less polluting. Facilities would meet the standard by using best available technology or by paying a set cost per tonne for excess emissions. Revenue generated from the cost per tonne charge would be used to achieve a variety of climate change and GHG reduction goals (i.e., energy efficiency, clean technology, adaptation). The standard under consideration for consultation period will be 0.24 tonnes of carbon dioxide equivalent (CO₂e) per tonne of LNG produced, and the proposed cost per tonne is \$25/tonne CO₂e. The stringency proposed for consultation is based on previous technical research on achievable GHG intensity in Nova Scotia and existing regulations in other jurisdictions.

Prior to proceeding with full regulatory design, NSE proposes to conduct public consultation on the regulatory framework. The consultation documents will consist of an overview consultation paper (Appendix A) and a report commissioned by NSE outlining GHG mitigation options at LNG facilities (Appendix B). Comments will be accepted online and via targeted stakeholder discussions.

Since most of the opportunities for GHG mitigation potential is in front-end engineering design, Nova Scotia needs to provide timely guidance to the LNG industry on our GHG mitigation expectations. This will allow LNG project developers to complete facility design and investment decisions and plan accordingly for GHG mitigation.

BACKGROUND

LNG is natural gas that has been condensed into its liquid state to allow for ease of transport to overseas markets. LNG production is an energy-intensive process, resulting in significant emissions of GHGs, which contribute to anthropogenic climate change.

Nova Scotia has legislation (*Environmental Goals and Sustainable Prosperity Act*) requiring an economy-wide GHG emission target of at least 10 percent below 1990 levels by 2020, which translates to approximately 18.2 megatonnes (Mt). Nova Scotia is currently on track to meet the 2020 target. Nova Scotia also joined other Eastern Canadian provinces and New England states in setting a non-binding regional GHG reduction target for 2030 at 35-45% below 1990 levels. ¹⁴⁽¹⁾

¹⁴⁽¹⁾

¹⁴⁽¹⁾ Nova Scotia's long-term goal to reduce GHGs by 80 percent by 2050 is shared by many jurisdictions globally and is consistent with required reductions in global GHGs to avoid runaway climate change. For Nova Scotia, this goal translates to approximately 4 Mt of GHG emissions in 2050.

Currently in Nova Scotia the electricity sector, our largest source of GHGs (approximately 40%), is the only sector of the economy that is required by law to reduce GHG emissions from its facilities. By 2030, emissions from electricity generation will be cut by more than half. Two LNG facilities, Goldboro LNG and Bear Head LNG, have submitted environmental assessments and received approval with conditions. ¹⁴⁽¹⁾

¹⁴⁽¹⁾

As a condition of their environmental assessment approvals, Goldboro LNG and Bear Head LNG must submit and receive approval for a Greenhouse Gas Management Plan, but these facilities are not currently subject to any other GHG regulations. The Plan must include an explanation of how major technology choices in the facility design are the best-available technology for GHG mitigation, and a demonstration of how the facility achieves an overall GHG intensity in line with best-in class. Bear Head LNG and Goldboro LNG submitted draft plans for review in November 2015 and February 2016, respectively.

Some jurisdictions, such as a British Columbia, expect to see significant growth in the LNG industry and have regulated GHG performance expectations based on the GHG intensity (tonne of CO₂e per tonne of LNG produced) of the facility, with compliance flexibility built in through offsets, a technology fund, and an incentive program. BC's LNG facilities are also subject to an economy-wide carbon tax at \$30/tonne CO₂e. It will be difficult for Nova Scotia facilities to match the very low emissions intensities of some proposed BC-based facilities, since the BC facilities are powered in part or in whole

by hydroelectricity, which has a very low GHG intensity. A performance standard for LNG facilities in Nova Scotia would need to be tailored to what is achievable in the current Nova Scotia context.

Few policy instruments are available to encourage the mitigation of GHG emissions from LNG facilities. No one specific technology can be identified and mandated to minimize GHG emissions.

14(1)

KEY ISSUE

13(1); 14(1)

JURISDICTIONAL REVIEW

Many provinces in Canada currently or will soon require industrial facilities that are large emitters of GHGs to pay a set price per tonne on all or a portion of their GHG emissions. British Columbia, the main potential producer of LNG in Canada, also has a regulation to improve the GHG performance of LNG facilities specifically.

Few jurisdictions currently have operating LNG facilities. Norway and Australia currently have two of the cleanest operating facilities in the world. British Columbia has several LNG proposals currently under consideration.

British Columbia requires all facilities to pay a carbon tax of \$30/tonne on all GHG emissions that result from using fossil fuels. In addition, LNG facilities have to meet an ambitious GHG intensity performance standard of 0.16 tonnes of CO₂e per tonne of LNG. Facilities that achieve a GHG intensity between 0.16 and 0.23 tonnes of CO₂e per tonne of LNG are eligible to access the LNG Environmental Incentive Program, which provides reimbursement for a portion of compliance costs. To comply with the GHG intensity requirement, LNG facilities can buy carbon offsets, or pay into a clean

technology fund at \$25/tonne CO₂e. The fund will be reinvested in innovation to reduce GHG emissions.

Alberta requires industrial emitters to comply with GHG intensity requirements, or purchase offsets or pay into a technology fund (the Climate Change and Emissions Management Fund) at a rate of \$20/tonne CO₂e in 2016 and \$30/tonne CO₂e in 2017. The fund is reinvested in projects that will reduce GHG emissions, including energy efficiency, carbon capture and storage, and greening energy production. To date, 88 projects have been funded, spending \$212 million, with expected GHG reductions of 11 Mt by 2020.

Quebec requires facilities to participate in a cap-and-trade system in which they must acquire sufficient GHG allowances to cover their total GHG emissions, through purchase at auction or trading with other emitters or offset providers. For some facilities, a portion of their GHG allowances are acquired free of charge if companies can demonstrate that carbon costs will put them at a competitive disadvantage. The price of carbon at the last auction in February 2016 closed at \$17.64/tonne.

Ontario and **Manitoba** plan to join the same cap-and-trade system.

Newfoundland and Labrador has indicated that they will release regulations to reduce GHG emissions from industrial emitters, including a carbon price, with details released in Spring 2016. **New Brunswick** and **Prince Edward Island** have indicated interest in conducting analysis on carbon pricing options, but have not released detailed plans or timelines. New Brunswick, as of July 2015, requires industrial emitters to produce GHG Management Plans as part of the industrial approval process.

Australia has a "safeguard mechanism" currently in development that will take effect on July 1, 2016. Under the mechanism, facilities that emit above 100,000 tonnes of CO₂e per year, including LNG facilities, must keep their emissions at or below a baseline set by the Clean Energy Regulator, through the government's "safeguard mechanism" policy. If facilities exceed their assigned baseline, they have the option to purchase official Australian carbon credit units to offset the exceedance. Emitters may also contribute to their own carbon abatement project, registered under Australia's Emissions Reduction Fund. Baselines will be defined as a carbon intensity of per unit of production. Baselines for new facilities will be set at a level to encourage facilities to achieve and maintain best practice.

Australian facilities also produce GHG Management Plans that outline how facilities will minimize the carbon intensity of their operations.

Norway has a carbon tax of \$63 (CAD)/tonne CO₂e for offshore oil and gas producers, which applies to the carbon emissions of their LNG facility. The Snøhvit facility in Norway uses carbon capture and storage to reduce GHG emissions.

ASSESSMENT OF ALTERNATIVES / RISK ASSESSMENT/MITIGATION

13(1); 14(1)

Page 034 to/à Page 038

Withheld

13(1) ; 14(1)

PROPOSED ACTION AND TIMING

13(1); 14(1)

FINANCIAL IMPACT

1. Does this submission require either of the following approvals under the *Finance Act*?

Section 77 requires a report from the Minister of Finance and Treasury Board before entering into a net debt obligation (formerly 59C of the *Provincial Finance Act*)

13(1); 14(1)

Section 78 requires Treasury and Policy Board approval before undertaking an operating obligation.

13(1); 14(1)

2. Is this an In-Year Funding request (is there a current year impact which cannot be absorbed in the existing appropriation)?

13(1); 14(1)

3. Briefly describe the financial request by completing the following table:

13(1); 14(1)

4. Is new operating funding required?

13(1); 14(1)

5. Is new capital funding required?

13(1); 14(1)

6. Is there third party funding associated with this request?

13(1); 14(1)

7. Will this proposal impact a Revenue stream of the Province?

13(1); 14(1)

8. Are additional FTEs required?

13(1); 14(1)

9. Provide any further comments on the financial impact that have not been covered above.

13(1); 14(1)

INFORMATION TECHNOLOGY

Is there a technology component to this request?

13(1); 14(1)

GOVERNMENT-WIDE IMPLICATIONS

13(1); 14(1)

CONSULTATION

Is Aboriginal consultation required?

- Yes. If yes, please explain the
- No

13(1); 14(1)

Indicate what consultations, if any, that were undertaken with

- Federal Government
- Other Provincial Governments

If yes to either of the above, has the Department of Intergovernmental Affairs been consulted?

- Yes
- No

EFFICIENCY/PRODUCTIVITY

13(1); 14(1)

LEGAL IMPLICATIONS

13(1); 14(1)

POLICY LENSES

13(1); 14(1)

13(1); 14(1)

RECOMMENDATION

13(1); 14(1)

Halifax, Nova Scotia

Date **MAR 3 0 2016**

Respectfully submitted,



Minister of Environment

[Advice to Executive Council]

Memorandum
To Executive Council
Request for Legislation



NUMBER: 16-0464
DEPT: Environment
DATE: June 27, 2016

Subject: Amendments to the *Environment Act* (2016): Liquefied Natural Gas Greenhouse Gas Amendments

Submitted By: Honourable Margaret Miller, Minister of Environment *mm*

Prepared By: Michelle Miller, Climate Change Unit, Nova Scotia Environment

Reviewed By: *Shawn McNutt* Shawn McNutt, Manager, Finance and Planning, Department of Finance and Treasury Board

NS Nadine Smillie, Senior Solicitor, Department of Justice

Deputy Minister: Frances Martin, Nova Scotia Environment *FM*

SUMMARY:

13(1); 14(1)

CURRENT SITUATION AND PURPOSE FOR THIS REQUEST

LNG facilities are expected to be large emitters of GHGs on the scale of coal-fired electricity generation plants. Nova Scotia has electricity sector GHG regulations but there are no GHG regulations or policies applicable to LNG facilities.

Nova Scotia Environment is developing a sector-specific regulation for LNG facilities. The regulation will include a transparent and consistently applied performance standard (GHG intensity) that would result in facilities that are more efficient and less polluting. Facilities would meet the standard by using best available technology or by paying a set cost per tonne for excess emissions into a compliance fund. The compliance fund would be administered by a non-government controlled corporation. The opportunity may exist to use an existing corporation (e.g. Efficiency One). The corporation would be

responsible for the administration of the fund while the Government of Nova Scotia would provide the broad mandate for disbursement of funds. Funds generated from the cost per tonne credit purchase would be used to achieve a variety of climate change and GHG reduction goals (i.e., energy efficiency, clean technology, adaptation).

Since most of the opportunities for GHG mitigation potential is in front-end engineering design, Nova Scotia needs to provide timely guidance to the LNG industry on our GHG mitigation expectations. This will allow LNG project developers to complete facility design and investment decisions and plan accordingly for GHG mitigation. LNG developers have recognized GHG emissions as a potential significant adverse effect of LNG development and are requesting clarity on NSE's expectations for GHG performance before proceeding further with front-end engineering design.

On April 6, 2016, Treasury and Policy Board authorized Nova Scotia Environment to initiate consultation on a sector-specific GHG performance standard for LNG facilities and include a compliance fund to be set in regulation under the *Environment Act*. Prior to proceeding with full regulatory design, NSE is conducting industry and public consultation on the performance standard and compliance fund from June 16th to July 29th, 2016. Comments will be accepted online and via targeted stakeholder discussions.

14(1)

BACKGROUND

LNG is natural gas that has been condensed into its liquid state to allow for ease of transport to overseas markets. LNG production is an energy-intensive process, resulting in significant emissions of GHGs, which contribute to anthropogenic climate change.

Nova Scotia has legislation (*Environmental Goals and Sustainable Prosperity Act*) requiring an economy-wide GHG emission target of at least 10 percent below 1990 levels by 2020, which translates to approximately 18.2 megatonnes (Mt). Nova Scotia is currently on track to meet the 2020 target. Nova Scotia also joined other eastern Canadian provinces and New England states in setting a non-binding regional GHG reduction target for 2030 at 35-45% below 1990 levels. Nova Scotia is currently projected to be 33% below 1990 levels by 2030, but the introduction of a major new emitter, such as an LNG facility, would significantly change the province's emission trajectory. Nova Scotia's long-term goal to reduce GHGs by 80 percent by 2050 is shared by many jurisdictions globally and is consistent with required reductions in global GHGs to avoid runaway climate change. For Nova Scotia, this goal translates to approximately 4 Mt of GHG emissions in 2050.

The electricity sector, our largest source of GHGs (approximately 40%), is the only sector of the economy that is required by law to reduce GHG emissions from its facilities. By 2030, emissions from electricity generation will be cut by more than half. Two LNG facilities, Goldboro LNG and Bear Head LNG, have submitted environmental assessments and received approval with conditions¹⁴⁽¹⁾

14(1)

Some jurisdictions, such as a British Columbia, expect to see significant growth in the LNG industry. BC have regulated GHG performance expectations based on the GHG intensity (tonne of CO_{2e} emitted per tonne of LNG produced) of the facility. Compliance flexibility is available for BC facilities and includes the use of offsets, a technology fund, and an incentive program. BC's LNG facilities are also subject to an economy-wide carbon tax at \$30/tonne CO_{2e}. It will be difficult for Nova Scotia facilities to match the very low emissions intensities of some proposed BC-based facilities, since the BC facilities are powered in part or in whole by non-emitting hydroelectricity. A performance standard for LNG facilities in Nova Scotia will be tailored to the Nova Scotia context.

Few policy instruments are available to encourage the mitigation of GHG emissions from LNG

facilities. No one specific technology can be identified and mandated to minimize GHG emissions.

14(1)

Nova Scotia Environment is developing a sector-specific regulation for LNG facilities. The objective is to ensure LNG development meets reasonable GHG emissions expectations through a fair, transparent performance standard that would apply to all LNG facilities in Nova Scotia. The standard under consideration

14(1)

14(1)

KEY ISSUE

13(1); 14(1)

JURISDICTIONAL REVIEW

Many provinces in Canada currently or will soon require industrial facilities that are large emitters of GHGs to pay a set price per tonne on all or a portion of their GHG emissions. British Columbia, the

main potential producer of LNG in Canada, also has a regulation to improve the GHG performance of LNG facilities specifically.

Few jurisdictions currently have operating LNG facilities. Norway and Australia currently have two of the cleanest operating facilities in the world. British Columbia has several LNG proposals currently under consideration.

British Columbia requires all facilities to pay a carbon tax of \$30/tonne on all GHG emissions that result from using fossil fuels. In addition, LNG facilities have to meet an ambitious GHG intensity performance standard of 0.16 tonnes of CO_{2e} per tonne of LNG. Facilities that achieve a GHG intensity between 0.16 and 0.23 tonnes of CO_{2e} per tonne of LNG are eligible to access the LNG Environmental Incentive Program, which provides reimbursement for a portion of compliance costs. To comply with the GHG performance standard LNG facilities can buy carbon offsets, or pay into a clean technology fund at \$25/tonne CO_{2e}. The fund will be reinvested in technology innovation to reduce GHG emissions.

Alberta requires industrial emitters to comply with GHG intensity requirements, or purchase offsets or pay into a technology fund (the Climate Change and Emissions Management Fund) at a rate of \$20/tonne CO_{2e} in 2016 and \$30/tonne CO_{2e} in 2017. The fund is reinvested in projects that will reduce GHG emissions, including energy efficiency, carbon capture and storage, and greening energy production. To date, 88 projects have been funded, spending \$212 million, with expected GHG reductions of 11 Mt by 2020.

Quebec requires facilities to participate in a cap-and-trade system in which they must acquire sufficient GHG allowances to cover their total GHG emissions. Allowances can be acquired through purchase at auction, trading with other emitters or offset providers. For some facilities, a portion of their GHG allowances are acquired free of charge if companies can demonstrate that carbon costs will put them at a competitive disadvantage. The price of carbon at the auction in May 2016 closed at \$16.40/tonne. **Ontario** and **Manitoba** plan to join the same cap-and-trade system.

Newfoundland and Labrador recently announced that they will require industrial emitters to comply with GHG intensity requirements, or purchase offsets or pay into a technology fund (Newfoundland and Labrador Greenhouse Gas Reduction Fund). Details will be released within two years.

New Brunswick and **Prince Edward Island** have indicated interest in conducting analysis on carbon pricing options, but have not released detailed plans or timelines. New Brunswick, as of July 2015, requires industrial emitters to produce GHG Management Plans as part of the industrial approval process.

Australia has a "safeguard mechanism" currently in development that will take effect on July 1, 2016. Under the mechanism, facilities that emit above 100,000 tonnes of CO_{2e} per year, including LNG facilities, must keep their emissions at or below a baseline set by the Clean Energy Regulator, through the government's "safeguard mechanism" policy. If facilities exceed their assigned baseline, they have the option to purchase official Australian carbon credit units to offset the exceedance. Emitters may also contribute to their own carbon abatement project, registered under Australia's Emissions Reduction Fund. Baselines will be defined as a carbon intensity of per unit of production. Baselines for new facilities will be set at a level to encourage facilities to achieve and maintain best practice.

Australian facilities also produce GHG Management Plans that outline how facilities will minimize the carbon intensity of their operations.

Norway has a carbon tax of \$63 (CAD)/tonne CO_{2e} for offshore oil and gas producers, which applies to the carbon emissions of their LNG facility. The Snøhvit facility in Norway uses carbon capture and storage to reduce GHG emissions.

ASSESSMENT OF ALTERNATIVES

13(1); 14(1)

Page 005 to/à Page 009

Withheld

13(1) ; 14(1)

13(1); 14(1)

INFORMATION TECHNOLOGY

Is there a technology component to this request?

13(1); 14(1)

GOVERNMENT-WIDE IMPLICATIONS

13(1); 14(1)

CONSULTATION

Is Aboriginal consultation required?

- Yes. If yes, please explain the
- No

Indicate what consultations, if any, that were undertaken with

- Federal Government
- Other Provincial Governments

If yes to either of the above, has the Department of Intergovernmental Affairs been consulted?

- Yes
- No

13(1); 14(1)

13(1); 14(1)

13(1); 14(1); 16

13(1); 14(1); 16

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POLICY LENSES

13(1); 14(1)

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RECOMMENDATION

13(1); 14(1)

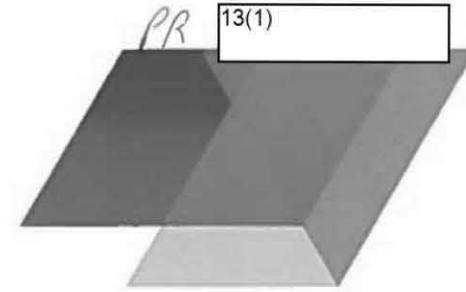
Respectfully submitted,



Minister of Environment

JUN 22 2016

Halifax, Nova Scotia
(Date)

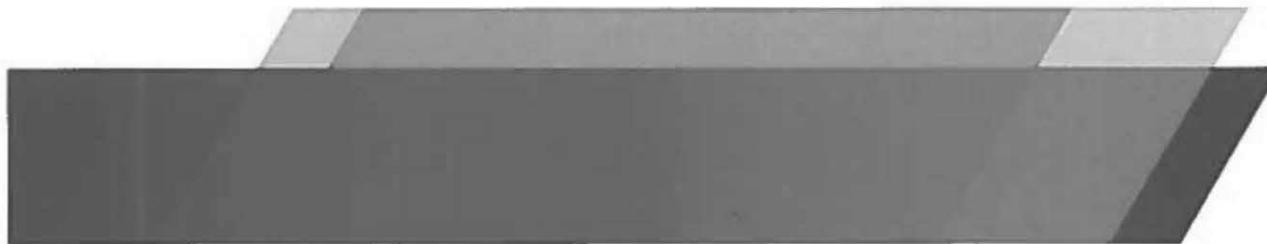


Amendments to Environment Act

Greenhouse Gas Emissions from Liquefied Natural Gas Facilities

Government Priorities and Legislation

27th July 2016

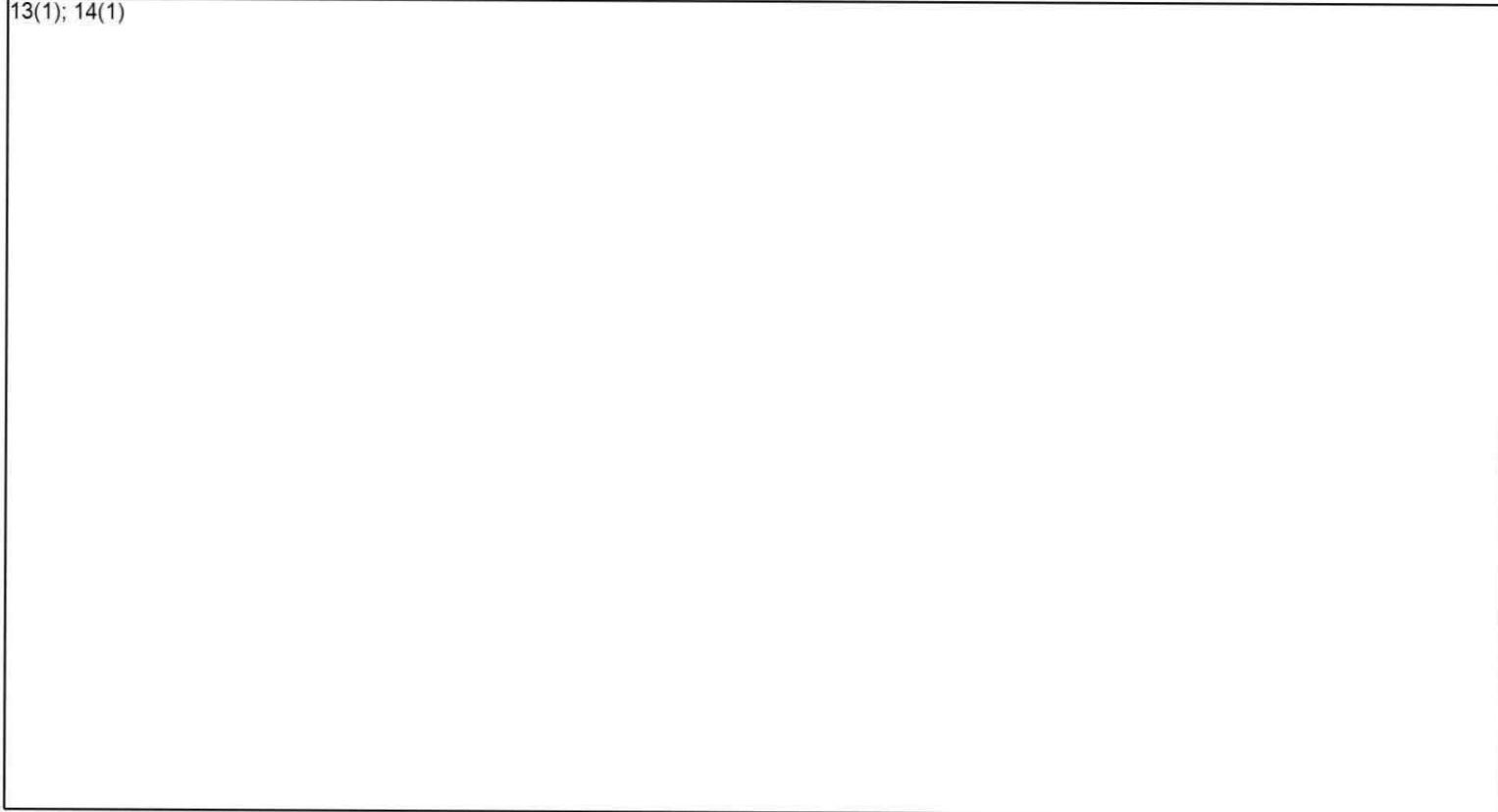


Issue

- **Nova Scotia is developing a sector-specific greenhouse (GHG) regulation for liquefied natural gas (LNG) facilities.**
- **Nova Scotia Environment proposes amendments to the *Environment Act* to:**
 - Enable the establishment a GHG Compliance Fund
 - Enable the establishment of a performance standard
 - Create regulation making authority

Objectives of the regulatory design

13(1); 14(1)



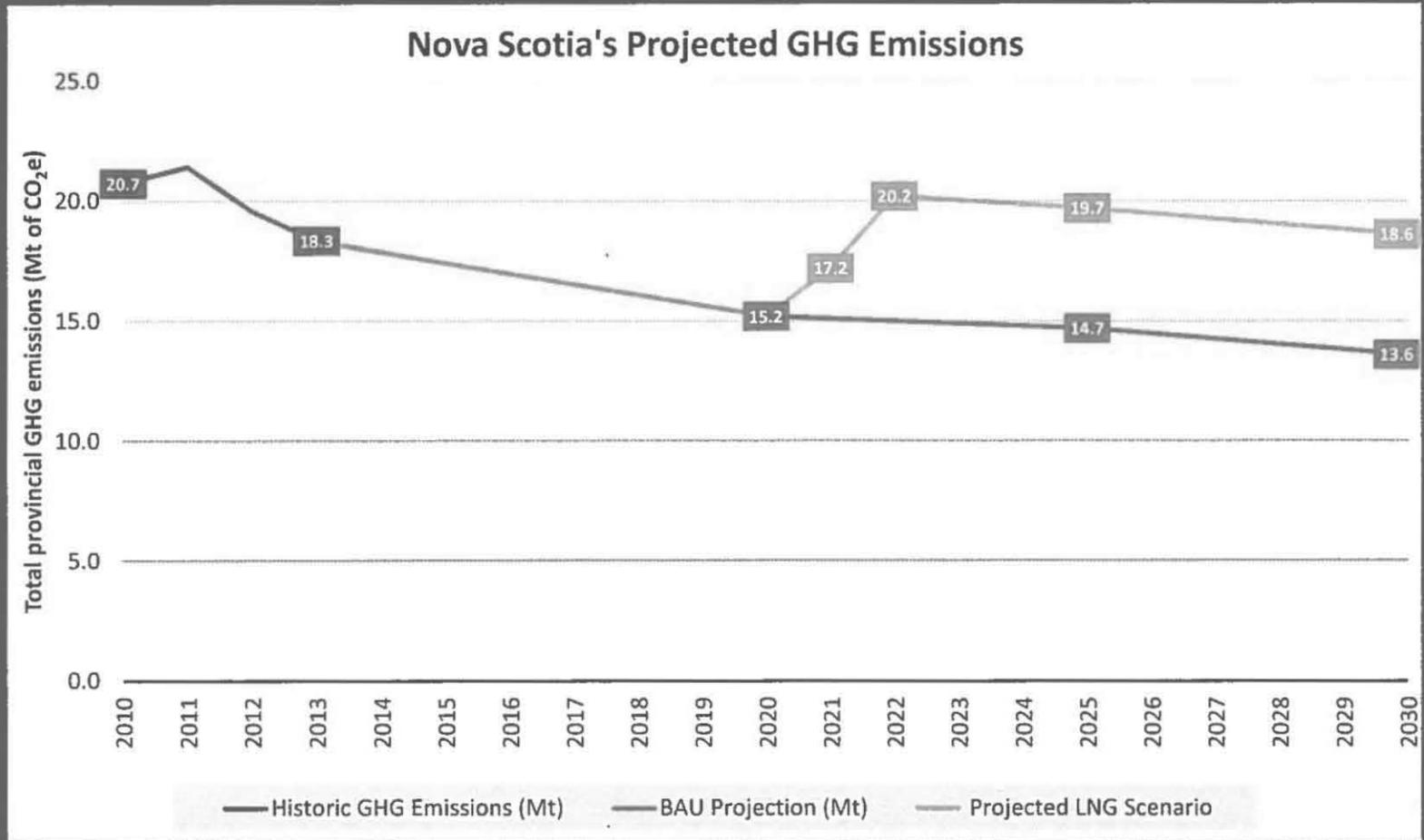
LNG context

- **LNG is natural gas that has been converted to a liquid so that it can be easily transported.**
- **Three potential LNG facilities in Nova Scotia:**
 - Goldboro LNG (Goldboro, NS) and Bear Head LNG (Point Tupper, NS) have environmental assessment approval

13(1); 14(1)

- **LNG production is energy intensive. Facilities are very large sources of GHG's.**
 - Nova Scotia's total GHGs in 2014: 16.6 Mt.
 - Goldboro LNG's estimated GHG at full capacity: ~3 Mt
 - Bear Head LNG's estimated GHG at full capacity: ~2 Mt

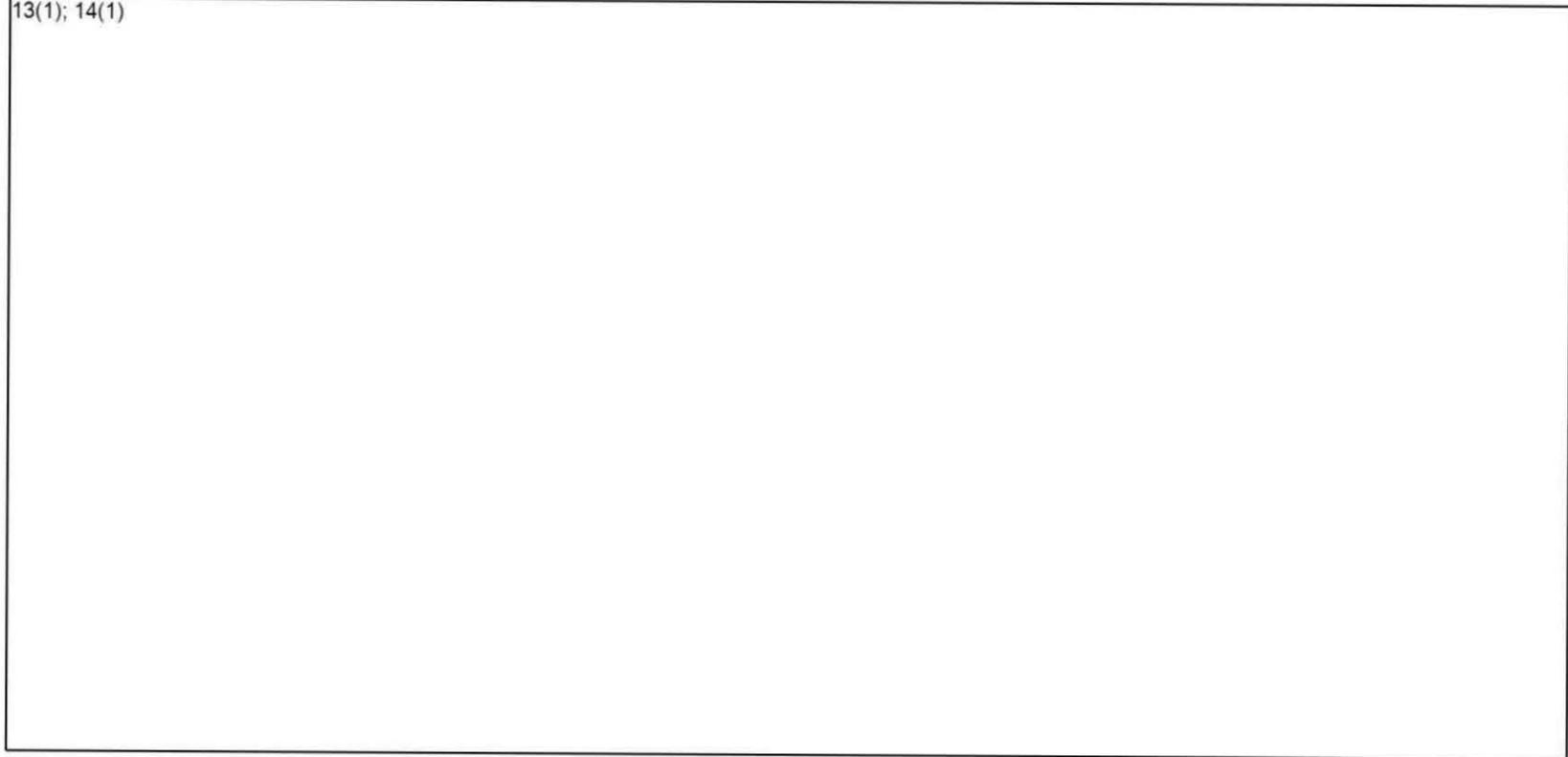
13(1); 14(1)



Assumptions: LNG facility in 2021 (2Mt) and 2022 (3Mt)

LNG GHG Regulatory Design

13(1); 14(1)



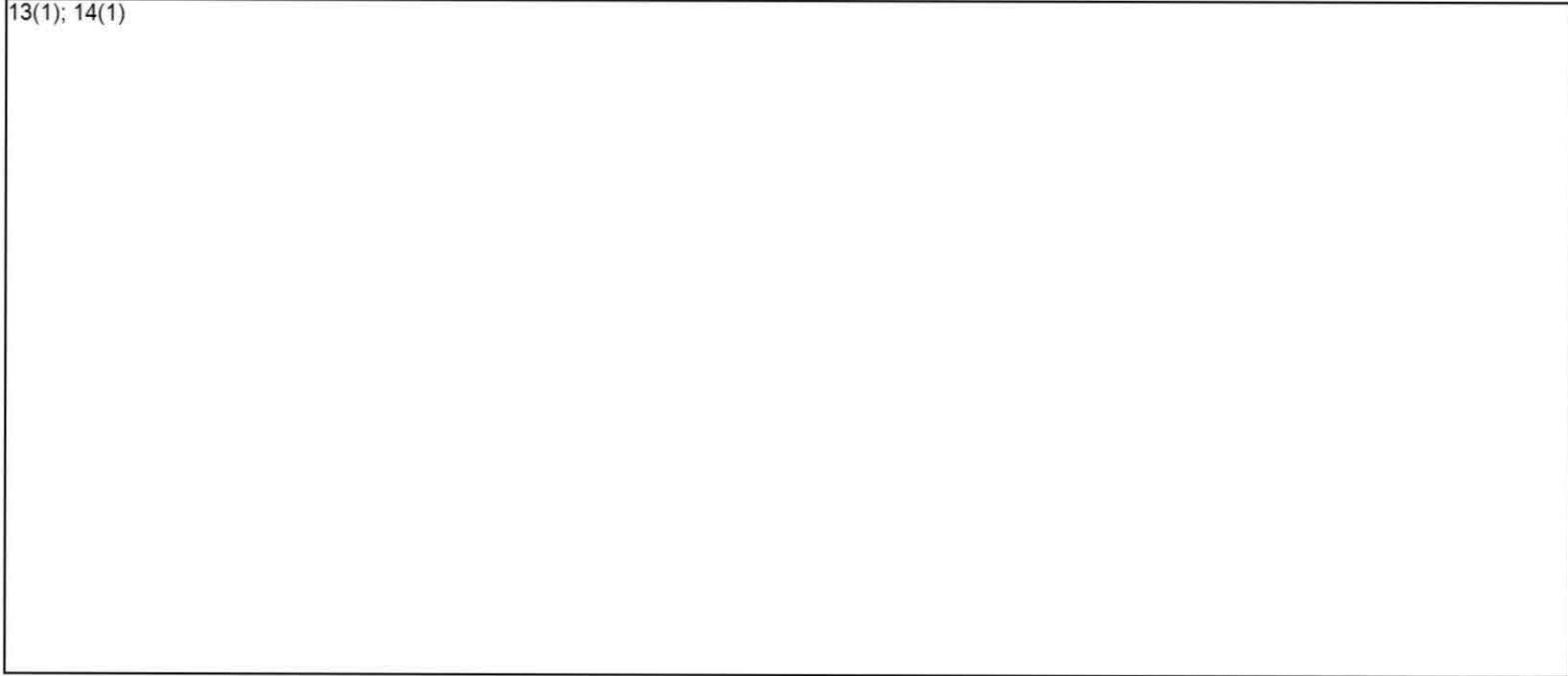
Compliance Fund

13(1); 14(1)

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Financial Implications

13(1); 14(1)



Jurisdictional review

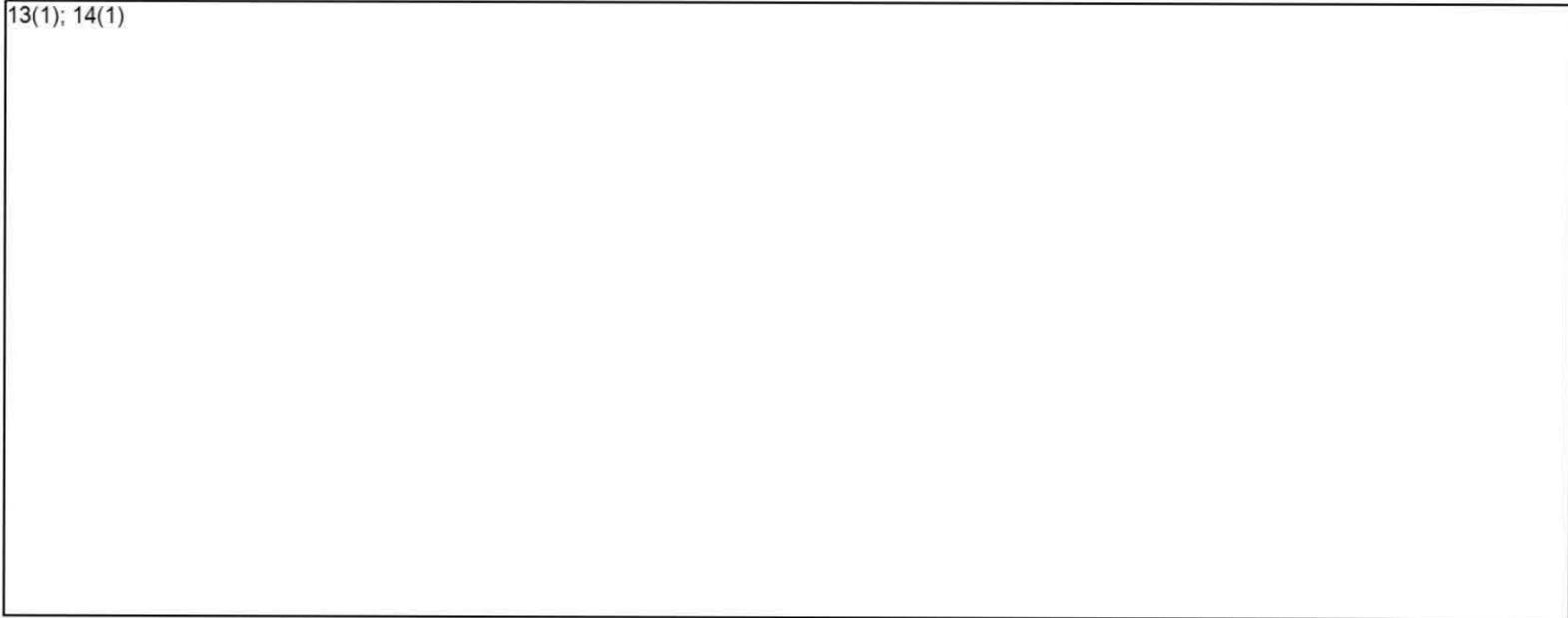
- **BC has finalized a sector-specific regulation on LNG.**
 - Performance standard: 0.16 tCO₂e/tLNG
 - LNG facilities can buy offsets or pay into cleantech fund (\$25/t) to comply
 - Facilities also pay carbon tax on all combustion GHGs: \$30/t CO₂e
- **AB requires industrial emitters to comply with GHG performance requirements.**
 - Industrial emitters can buy offsets or pay into the fund (\$20/tonne in 2016 and \$30/tonne in 2017)
- NL will require industrial emitters to comply with GHG intensity requirements and will include an offsets program and technology fund.
- Australia and Norway use carbon pricing mechanisms to reduce GHG emissions from LNG facilities.

Consultation

- On April 6, 2016, Treasury and Policy Board authorized NSE to initiate consultation on a sector-specific greenhouse gas (GHG) performance standard for liquefied natural gas (LNG) facilities and include a compliance fund to be set in regulation under the *Environment Act*.
- Industry and stakeholder consultation from June 16th to July 29th
- Feedback will inform final recommendations to Cabinet

Government Priorities

13(1); 14(1)



Timeline

- June 2016: Minister of Environment announces intention to develop a regulation for GHG emissions from LNG facilities; NSE conducts consultations on proposed policy.
- **Fall 2016: Executive Council Review of Request for Legislation for amendments to the *Environment Act***
- Fall 2016: Amendments to the *Environment Act* considered in the Nova Scotia Legislature, subject to proclamation
- Winter/Spring 2017: NSE prepares new draft LNG regulations
- Spring/Summer 2017: NSE consults on new draft LNG regulations
- **Summer/Fall 2017: Executive Council reviews new LNG regulations**
- Fall 2017/Winter 2018: Proclamation of Act to amend the *Environment Act* (same effective date as the regulations); implement regulatory changes

APPENDIX 3

Tab 22



Ottawa open to East Coast LNG plans, subject to meeting climate goals

BRENT JANG >

EMMA GRANNEY > ENERGY REPORTER

PUBLISHED MAY 27, 2022

FOR SUBSCRIBERS



Regulatory, geographic and logistical hurdles could still threaten the viability of the East Coast LNG projects.

ISSEI KATO/REUTERS

Ottawa is open to plans by two companies to export liquefied natural gas from the East Coast to Europe to help address energy-security concerns stemming from the war in Ukraine, as long as the projects comply with Canada's climate goals.

Global and regional energy issues are now intertwined with Russia's invasion, and the supply picture is undergoing a fundamental shift as European countries move to sever ties to Russian oil and gas.

Natural Resources Minister Jonathan Wilkinson said the federal government believes that LNG projects envisaged for the East Coast could fit into the energy transition toward a cleaner economy. "They would have to minimize domestic emissions so that it's consistent with our climate plan," he said during a news conference on Friday.

Mr. Wilkinson made the comments after he and Environment Minister Steven Guilbeault wrapped up meetings with their counterparts at a Group of Seven meeting in Berlin. Canada and its allies have been emphasizing energy security since Russia's invasion of Ukraine in February, with Europe scrambling to reduce its dependence on Russian energy.

Regulatory, geographic and logistical hurdles could still threaten the viability of the East Coast LNG projects.

Mr. Wilkinson mentioned two proposals as being best positioned to export LNG to Europe: Repsol SA's Saint John LNG in New Brunswick and Pieridae Energy Ltd.'s Goldboro LNG in Nova Scotia. Those two projects could begin shipping the fuel to Europe within five years.

"We're obviously listening to the proponents that have put those projects forward, one of which is the project that's been proposed by Repsol in New Brunswick," he said. "Because it's an LNG import facility at this point, a lot of the existing infrastructure that you would need is already there."

Ottawa in talks with Repsol, Pieridae Energy about speeding up proposed East Coast LNG export terminals

Still, the Canadian government's commitment to tackling climate change means that any East Coast LNG proposals will need to incorporate electric-drive technology for supercooling natural gas into liquid form. Traditionally, companies have used turbines powered by natural gas in the liquefaction process. East Coast LNG proposals would also need to eventually shift to hydrogen production as the world moves away from fossil fuels.

Yet another challenge is Canada's lack of infrastructure to any future East Coast terminals. Upgrades and expansions would be needed on TC Energy Corp.'s pipeline system through

Ontario and Quebec, in order to connect to a snaking route that leads to the Maritimes & Northeast Pipeline from New England to New Brunswick and Nova Scotia.

Mr. Wilkinson pointed out that GNL Québec Inc.'s Énergie Saguenay proposal already has been rejected by both the Quebec and federal governments. Proposals in Quebec, New Brunswick and Nova Scotia rely on transporting natural gas long distances from Western Canada.

He named LNG Newfoundland and Labrador Ltd. as a possibility, though he noted that is a longer-term prospect. LNG Newfoundland and Labrador is studying the feasibility of securing offshore natural gas from the Grand Banks, aiming to start LNG exports to Europe in 2030.

The Canadian Association of Petroleum Producers welcomed Ottawa's general support for potential LNG exports.

"Canadian LNG can provide our allies with a source of safe, secure and responsibly developed energy for decades to come while helping to lower global emissions by offsetting the dependence on coal around the world," CAPP president Lisa Baiton said in a statement. "CAPP believes there is vast untapped potential to build an LNG industry on both the West and East Coasts of the country."

LNG Canada's \$18-billion terminal is being built in Kitimat in northern British Columbia, targeting customers in Asia. The Shell PLC-led joint venture is the only LNG export project under construction in Canada. Slated to open in 2025, it would become the first LNG export terminal in Canada to ship the fuel overseas.

Russia supplied nearly 40 per cent of the European Union's total consumption of natural gas last year, according to the International Energy Agency.

Timothy Egan, president of the Canadian Gas Association, said recent energy discussions should also prompt a review of Canada's transition plans, including issues such as supply security and affordability.

"The security one has been pretty dormant as an issue until this year, until Russia invaded Ukraine, and suddenly it's top of mind," he said in an interview on Friday.

The association represents a range of industry members, from distribution and transmission companies to equipment manufacturers and others in the natural gas sector.

Mr. Egan has already met with a half-dozen ambassadors from EU member states rushing to cut their energy ties with Russia, and has more meetings in the coming weeks.

“This is about a seismic shift in the supply picture, and that’s a dramatic change in a very short period of time,” he said.

Mr. Egan has written three letters to Prime Minister Justin Trudeau this spring, the most recent on Friday, in the hopes of sparking a national conversation about Canada’s opportunities to export LNG.

While he said there have been some developments from Ottawa – including the creation of a Canada-EU working group on green transition and LNG – he said more positive signals are key to bolster investor confidence in the kinds of projects that Canada needs to increase its exports.

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Pieridae considers plan for full-scale Nova Scotia LNG project to export gas to Germany

BRENT JANG >

VANCOUVER

PUBLISHED JUNE 28, 2022

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A pier for a planned floating liquefied natural gas terminal in the harbour in Wilhelmshaven, Germany, on May 4.

STEPHANE NITSCHKE/REUTERS

Pieridae Energy Ltd. [PEA-T \(/investing/markets/stocks/PEA-T/\)](#) -7.06% ▼ is considering a revival of its plan to build a terminal in Nova Scotia to export liquefied natural gas to

Germany, but cautions that Canadian regulatory hurdles could delay any LNG proposals on the East Coast.

Pieridae cited high costs and other constraints, such as supply-chain problems caused by the COVID-19 pandemic, when it suspended plans for its Goldboro LNG project last summer.

But since the invasion of Ukraine four months ago, Europe is scrambling to reduce its dependence on natural gas from Russia.

“You can see what’s happening in Europe,” Pieridae chief executive officer Alfred Sorensen said in an interview on Tuesday as he announced a new feasibility study for exporting LNG to Germany. “The world has changed a lot.”

Prime Minister Justin Trudeau met on Monday with German Chancellor Olaf Scholz at the G7 summit in Germany. Canada and Germany have been discussing LNG opportunities, including Pieridae’s export project at Goldboro, N.S., and Repsol SA’s Saint John LNG terminal in New Brunswick.

One option is to export 10 million tonnes a year of LNG to Germany in what would be a revival of Pieridae’s original plan for a land-based terminal, while a scaled-down version calls for exports of 2.5 million tonnes annually from a floating facility.

No matter which option is chosen, Mr. Sorensen said, the chances have improved for starting construction on Goldboro LNG, given Germany’s increased demand for energy to replace Russian supplies. Pieridae has already signed a 20-year deal to supply German utility Uniper with LNG.

“We’re cautiously optimistic. It’s still a long way, so that’s why have to get the feasibility study done and we have to understand what the cost structure is going to be and then we can decide,” he said.

Pieridae hopes to make a final investment decision as early as mid-2023, the CEO said. The goal is to begin exports to Germany by 2028 under the scenario of a full-scale export terminal in Nova Scotia.

Mr. Sorensen said Canada has a time-consuming regulatory process to approve projects that is a challenge for companies to navigate. “What we’ve said to the federal government is that you’ve created this regulatory problem and you have to solve it,” he said.

If Pieridae opts for the full-scale LNG terminal, significant upgrades and expansions would be required by TC Energy Corp.'s pipeline system in Ontario and Quebec to bring natural gas from Alberta, which in turn would join a connecting line that feeds the Maritimes & Northeast Pipeline from New England to New Brunswick and Nova Scotia.

Repsol spokesman Michael Blackier said he recognizes the recent interest in Saint John LNG, which is currently operating as an import terminal.

"Repsol is continuously exploring options to maximize the value of the terminal, with a particular focus on new lower-carbon opportunities to help meet market demand and to support the energy transition," he said in an e-mailed statement. "The company will look at any/all business that enhances or creates value at Saint John LNG, including the potential to add liquefaction capabilities to the existing facility."

Goldboro LNG and Saint John LNG would need to negotiate to have TC Energy and other pipeline companies transport natural gas from Alberta to the East Coast.

Natural Resources Minister Jonathan Wilkinson said in an interview with The Globe and Mail in March that the federal government remains committed to meeting Canada's net-zero carbon emissions goals by 2050. That means LNG proponents would need to rely on electric-drive technology for liquefaction instead of the traditional natural gas-fired turbines to supercool the commodity into liquid form.

"Canada is committed to exploring options to enhance the energy security of our allies," Ian Cameron, director of communications for Mr. Wilkinson, added in a statement last month. "However, our expectation is that projects must fit within the context of our existing domestic and international climate commitments."

A third possibility for the East Coast is LNG Newfoundland and Labrador Ltd., which is studying the feasibility of securing offshore natural gas from the Grand Banks and aiming to start LNG exports to Europe in 2030.

But there could be competition from Western Canada for access to natural gas reserves if LNG Canada in Kitimat, B.C., decides to build a second phase to its export terminal that is currently under construction and if West Coast LNG projects such as Woodfibre, Ksi Lisims, Cedar and Tilbury forge ahead.

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Tab 24



Ottawa seeking private-sector solution for export of East Coast LNG to Europe

BRENT JANG >

VANCOUVER

PUBLISHED JULY 3, 2022

UPDATED JULY 4, 2022

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Minister of Natural Resources Jonathan Wilkinson rises during Question Period in the House of Commons on Parliament Hill on June 23.

JUSTIN TANG/THE CANADIAN PRESS

Natural Resources Minister Jonathan Wilkinson says two private-sector proposals to export liquefied natural gas from Canada's East Coast to European countries struggling to reduce their reliance on Russian fuel will need to move forward without federal financing.

Mr. Wilkinson said in an interview that Ottawa is aiding in discussions between Canadian energy companies and prospective German buyers of LNG. But he added that the two energy proposals will have to stand on their own merits and go through Canadian regulatory reviews to ensure they meet this country's climate goals.

"Our view is the private sector should be putting up the money for these projects, and it should be done on a commercial basis," Mr. Wilkinson said.

"We're certainly willing to assist in the conversations with our friends in Germany who are looking for these kinds of supplies to ensure that there are long-term arrangements, contractual arrangements that provide certainty for the private sector."

Following Moscow's full-scale invasion of Ukraine in February, Europe began scrambling to reduce its natural gas imports from Russia. Last week, German Vice Chancellor Robert Habeck told a crowd at an event organized by the Sueddeutsche Zeitung newspaper that Russia could begin a blockade of the Nord Stream 1 gas pipeline as soon as July 11. Germany has begun bracing for gas rationing this winter.

Pieridae considers plan for full-scale Nova Scotia LNG project to export gas to Germany

The two East Coast proposals are being made by Pieridae Energy Ltd.'s Goldboro LNG in Nova Scotia, and Repsol SA's Saint John LNG in New Brunswick. Both companies say they are studying the feasibility of building new LNG export terminals, which would be able to ship the gas directly across the Atlantic Ocean to European markets.

Last year, the federal government rejected Pieridae's request for \$925-million in financial assistance for Goldboro LNG.

Canada currently has no operational LNG export terminals. And there is only one terminal under construction: the Shell PLC-led LNG Canada project, which will ship natural gas in liquid form to Asia from Kitimat, B.C. Those exports are scheduled to start in 2025.

To make their terminal dreams into reality, Calgary-based Pieridae and Madrid-based Repsol will need to arrange transportation of natural gas from Alberta through a circuitous route to the East Coast. Doing this will require them to negotiate directly with companies that operate pipelines.

“We would expect that the proponent would be working with the pipeline provider to ensure that they actually have a business case. I mean, they don’t have a business case if they don’t have gas,” Mr. Wilkinson said.

TC Energy Corp.’s pipeline system in Ontario would require significant upgrades and expansions, as would TransQuebec & Maritimes Pipeline’s system in Quebec. Calgary-based TC Energy and Montreal-based Énergir each own a 50-per-cent stake in TQM.

TQM connects with the Portland Natural Gas Transmission System (PNGTS), a pipeline route in New England that is 61.7-per-cent owned by TC Energy. The remaining stake belongs to Northern New England Investment Co.

The PNGTS in turn connects with the Maritimes and Northeast Pipeline, which runs from New England to New Brunswick and Nova Scotia. Calgary-based Enbridge Inc. owns 77.5 per cent of Maritimes and Northeast, while the remainder is held by Emera Inc. and Exxon Mobil Corp.

TC Energy said in a statement that it believes LNG from Canada could play a vital role in helping Europe wean itself off natural gas from Russia. “We respond to the needs of customers and welcome opportunities to collaborate and develop solutions to meet those needs,” the company said. “Energy projects need the support of Indigenous groups, governments, regulators, communities and buyers to ensure projects are successfully realized.”

Mr. Wilkinson said the situation with LNG proposals on the East Coast today is much different than the case of the Trans Mountain oil pipeline four years ago.

Kinder Morgan Canada Inc. sold the Trans Mountain project, including its terminal in the Port of Vancouver and plans for expanding the pipeline, to Ottawa for \$4.5-billion in 2018, after years of failed or stalled energy proposals in Canada.

“Trans Mountain wasn’t intended to be a subsidy,” Mr. Wilkinson said. “Trans Mountain was because there was a lot of risk in the project and the proponent decided that they simply weren’t willing to take that kind of political risk.”

When it comes to the East Coast proposals, he said, the proponents will need to meet Canada’s net-zero targets for emissions of carbon dioxide by 2050. “We’re willing to try to help with the regulatory process. We’re willing to help with the counterparty in Germany or elsewhere in Europe, but our view is that the private sector should put up the capital.”

Timothy Egan, president of the Canadian Gas Association, has written four letters to Prime Minister Justin Trudeau since March in hopes of drawing more attention to Canada’s opportunities to export LNG. “While we stand ready to deliver, we require an assurance from government that the regulatory process will not delay or hamper development,” Mr. Egan wrote in his latest letter, which he sent on Thursday.

The Sierra Club Canada Foundation and the Council of Canadians, meanwhile, are urging the federal government to reject any new LNG projects in Canada. “Instead of pushing for gas expansion, Canada should be ramping up renewable energy to protect consumers’ wallets, future-proof our economy and protect our climate,” Gretchen Fitzgerald, the Sierra Club’s national programs director, said in a statement.

Mr. Wilkinson said Pieridae and Repsol still have much work to do as they examine how best to construct their respective export terminals, and how to persuade TC Energy and other companies to make the necessary upgrades to pipeline systems.

The pipeline companies would at minimum need to add compressor stations, and would likely also need to install new pipes in order to meet the additional demand the proposed terminals could create.

“We certainly are interested in seeing one of them getting to a final investment decision and we’re trying to help them to reduce the uncertainty about some of the upgrades, for example, that would be required,” Mr. Wilkinson said.

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EXCLUSIVE: Fracking moratorium needs revisiting: Higgs | TJ.news

Adam Huras | Parliament Hill
6-8 minutes

OTTAWA • Premier Blaine Higgs says the province needs to revisit its moratorium on shale gas amid signals the federal government is now backing the creation of a liquefied natural gas export facility in Saint John.

The Trudeau government has confirmed that it's in talks to see how it can speed up the building of an export terminal on the East Coast, in efforts to aid Europe in finding a new stable supply of energy amid Russia's invasion of Ukraine.

But where Repsol and its Saint John LNG import terminal would find the supply of gas has often been cited as a key stumbling block to adding export capability.

In an interview with Brunswick News, Higgs, a former Irving Oil executive who negotiated with Repsol to bring an LNG plant to Saint John, is suggesting a resurgence of shale gas development in New Brunswick.

"Could it reopen our shale gas potential here in New Brunswick? I think so, yes," Higgs said.

He added that it may be time to "look at the moratorium and say 'let's rethink how we can help the world and help ourselves.'"

Both Repsol and Pieridae Energy, which has long proposed the Goldboro LNG export facility in Nova Scotia, have confirmed the feds have engaged in talks as Europe looks for a new stable supply of energy.

Higgs said that's a significant development.

"I don't think they would have done that six months ago," Higgs said, pointing to Russia's invasion of Ukraine and the spotlight it has placed on energy security as gas prices climb. "I think there is an interest now to look at how we save our neighbours internationally, but also look internally and say 'why are we experiencing this?'"

In a joint statement on Wednesday, the Conservation Council of New Brunswick and the New Brunswick Anti-Shale Gas Alliance called the premier's words "shortsighted and unrealistic."

The groups point to an International Energy Agency report concluding that the federal Liberal target of net-zero emissions by 2050 cannot be reached if new oil, gas or coal development goes ahead.

“If New Brunswick wants to position our economy to meet future energy needs at home and globally, it should focus on investing in offshore wind, generating green hydrogen and renewable fuels, and electrifying our own energy system through renewables and energy efficiency,” said Louise Comeau, the conservation council’s director of climate and energy solutions.

Higgs suggests the feds adjust the 2050 target to be more realistic.

The premier took the opportunity inside the provincial legislature on Wednesday to further criticize federal Liberal policies he labelled “too idealistic” in a response to a question from Interim Liberal Leader Roger Melanson about the rising costs of living.

Without the further development of domestic oil, gas prices will be subject to world events, Higgs said.

Melanson alleged that the Higgs government is passing on blame instead of dealing directly with the cost of living, arguing that the province could cut the provincial gas tax if it wanted to help New Brunswickers with the price at the pump.

Meanwhile, Higgs told Brunswick News he recently reached out to Repsol as well.

“I have been talking with Repsol about this plant and the ability to convert it to an export facility,” he said. “They gave me the indication that they have looked at what it would take to do that.

“I spoke about the supply of gas and pipeline supply, but I also spoke about the gas we have right here in the province.”

Shale gas development in New Brunswick has been fraught with controversy, including a standoff with protesters in the Rexton area nearly a decade ago.

Protesters camped out in front of where SWN Resources was conducting seismic testing as part of shale gas exploration clashed with police when RCMP moved in to enforce a court-issued injunction against the blockade.

Several police vehicles were set on fire, while 40 people were arrested.

Opposition from environmental groups has continued.

“There’s a different mood right now,” Higgs said. “We find ourselves really up against the wall for no reason.”

He later added: “We have an opportunity here to energize the world from New Brunswick with our gas resources that are right here and an LNG plant that can be converted with owners who want to do that.”

At the beginning of its mandate, the Higgs government did reopen areas of the province to shale gas exploration and development, particularly in the Sussex region.

Corridor Resources had been extracting shale gas in that region since 1999, but a 2014 moratorium by then newly elected Brian Gallant stopped the development of new wells.

That said, a partial lifting of the moratorium did little to re-energize the industry with Corridor halting plans for more wells, citing regulatory uncertainty.

Higgs said several dominoes still need to fall in order for New Brunswick’s shale gas industry to return.

“Given the changes in regulations regarding fossil fuels, the appetite to invest in an uncertain climate like Canada (isn’t there),” he said.

Higgs said federal policy changes encouraging development are still needed, noting support for an export terminal is only part of that equation.

Asked if the shale gas industry in New Brunswick is too far behind to be considered part of a new export terminal, Higgs disagreed.

“It’s a timeline that could match up with the rebuild of Saint John LNG to an export facility,” he said. “I would say it would probably be a three to five year timeline.

“We could certainly match that with the development of shale gas and systems to start supplying it along with that we’re getting from the U.S. and other pipelines.”

Asked what Repsol would be looking for from Ottawa in order to see an export facility go ahead, Higgs said it isn’t money.

“It isn’t a financial discussion, it’s expediting the process of doing the environmental assessments and doing the permitting,” he said. “It ensures it’s done right, but it ensures it’s done in a timely manner.

“The federal government doesn’t need to put up any money of any kind. But they do need to make a commitment that all the rules are followed, but in an expedited fashion that warrants the situation of the world that we find ourselves in right now.”