

JOINT COMMENTS OF ÉQUITERRE AND THE DAVID SUZUKI FOUNDATION ON THE GAZODUQ PROJECT INITIAL PROJECT DESCRIPTION DOCUMENTS

Submitted to the Impact Assessment Agency of Canada, 22 November 2019

Introduction

The present comments are presented jointly by Équiterre and The David Suzuki Foundation to the Impact Assessment Agency of Canada (“IAAC” or “Agency”) in response to IAAC’s October 22, 2019 invitation for public comment on the initial project description documents tabled by Gazoduq Inc. (“Proponent”) for the Gazoduq Project (“Project”). Équiterre and The David Suzuki Foundation thank the Agency for this opportunity to provide comments as part of the Planning Phase in the new IAAC Integrated Assessment process. We are two non-governmental organizations engaged deeply in environmental and energy issues locally, regionally and nationally. In briefest form, our key missions are described below.

Équiterre

Équiterre is the largest environmental organization in Québec, with offices in Montréal, Quebec City and Ottawa. As a non-profit, charitable organization, Équiterre has worked for over 25 years to raise awareness and advocate for sound environmental and energy policies in Quebec, Canada and on the international scene as well. Since its creation in 1993, Équiterre’s primary mission has been to help build a social movement by encouraging individuals, organizations and governments to make ecological and equitable choices, in a spirit of solidarity. Our organization includes 27,000 members and more than 120,000 supporters located largely in Eastern Canada, and also manages the world’s largest community supported agriculture program, with over 120 organic farms in Quebec.

The David Suzuki Foundation

Founded in 1990, the David Suzuki Foundation is a national, bilingual non-profit organization headquartered in Vancouver, with offices in Toronto and Montreal. Through evidence-based research, education and policy analysis, we work to conserve and protect the natural environment, and help create a sustainable Canada. We regularly collaborate with non-profit and community organizations, all levels of government, businesses and individuals.

Scope and Organization of these Comments

We are aware that through the present comment period, the Agency seeks to identify the various issues and concerns of the public and other parties, in addition to those raised by any local or provincial jurisdiction, Indigenous jurisdiction or group, or federal authorities, in order to prepare the Summary of Issues, which we understand to mean *content* issues, the Proponent will be expected to address when it prepares its Detailed Project Description in the next phase of the assessment process. As such, the present comments aim to identify the key, common

concerns of our organizations, although we reserve the right to identify additional issues and concerns as more information becomes available from the Proponent.

In addition to highlighting key concerns, however, we also wish to convey our concerns about the sufficiency of the information provided in the documentation filed to date. While IAAC's current call for public input specifically invites comments on the summary of the Initial Project Description, we reviewed and refer as well in these comments to the full version of the Initial Project Description, and its associated Appendices. Reference to these additional documents is important, in our view, for the purpose of offering more valuable input to the Agency on issues of concern as well as issues relating to the sufficiency of the information provided. Specifically, we have identified what we believe to be serious lacunae in the summary and full initial project description documents and we believe that this is the appropriate time and context for conveying such observations.

Our comments are organized as follows:

- **General Comments on Process and the Scope of the Assessment**
- **Specific Comments on the Proponent's Documents and related Issues of Concern**
- **Additional Considerations for the Preparation of the Summary of Issues**
- **Conclusions**

General Comments on Process and the Scope of the Assessment

Équiterre and The David Suzuki Foundation believe it is essential to understand the proposed Gazoduq Project and its impact assessment in the larger context of the raison d'être for the project – namely, to supply the natural gas liquefaction and export terminal project known as Énergie Saguenay. As such, we begin our comments by outlining several key process concerns related to the impact assessments of these two projects.

The evaluation of Gazoduq Inc.'s natural gas pipeline project separately from GNL Québec Inc.'s Énergie Saguenay liquefaction/marine export complex that it is designed to serve, is highly unfortunate. Équiterre discusses this situation in its June 17, 2019 submission to CEAA on the Environmental Impact Assessment of the Énergie Saguenay project, and refers the Agency to that filing for more detail,¹ but certain key points are reiterated here.

When projects that are inextricably linked become the subject of separate impact assessments, all the risks normally associated with piecemeal environmental assessment come into play. Piecemeal assessment – the term used to describe the approach whereby infrastructure components of a problem (e.g. a facility and a pipeline serving the facility) are assessed separately rather than together – can and will lead to a poor understanding of the of the full impacts of the larger endeavor.

¹ Comments on the Environmental Impact Assessment of the Énergie Saguenay LNG Liquefaction and Export Terminal Project Proposed by GNL Québec inc., submitted to the Canadian Environmental Assessment Agency, June 17, 2019, <https://www.ceaa-acee.gc.ca/050/documents/p80115/130692E.pdf>.

Furthermore, separate evaluation of the gas pipeline and liquefaction/marine export projects could effectively result in four separate review processes in Québec alone: two federal and two provincial evaluations. This situation will not only hinder the understanding of the true impacts of the entire endeavor (pipeline, liquefaction and marine export), but will also pose substantial obstacles to effective public participation, notwithstanding that it will double the burden on the resources of public agencies and institutions responsible for the evaluation, as well as the citizens and organizations partaking in the process.

At the core of the problem is the fact that the Énergie Saguenay liquefaction and marine export terminal project is entirely connected to and not viable without the pipeline that would supply all of the natural gas destined for liquefaction and marine export. Similarly, the 750-km pipeline that would supply the Énergie Saguenay project with the natural gas to be liquified would not be a viable project but for its supply of gas to the liquefaction plant. Put bluntly, neither project serves a purpose without the other. An LNG plant located on the Saguenay River cannot liquify gas without a pipeline supplying the gas and the Gazoduq pipeline's promoters have indicated that new gas pipeline has been proposed in order to feed the LNG plant.

We observe that the former agency, CEAA, already recognized, to some extent, the important connection between the two components and the implication for understanding project impacts. In its March 22 questions and comments for the proponent of the Énergie Saguenay project, CEAA asked that it provide information on the pipeline that would serve as the gas supply for the liquefaction complex.² The purpose was to complement the assessment of cumulative effects on key environmental attributes such as species at risk, migratory birds, wetlands and water quality. In our view, information should also be gathered on the GHG emissions associated with construction and operation of the gas supply pipeline for the same reason: use in preparing an assessment of cumulative effects in relation to GHGs.

While we recognize that the federal government has already chosen to proceed on separate tracks for these two tightly-linked projects, we would be remiss in pointing out the problems that this causes, both for ensuring a full understanding and accounting of the impacts of the two projects, and for public participation. We hope that the Agency will find a way to address these problems.

Specific Comments on the Proponent's Documents and related Issues of Concern

Our review of the Proponent's initial project description documents, as well as our general understanding of the project and its role in relation to the Énergie Saguenay project, lead us to identify a number of key issues of concern about the Gazoduq Project as described by the proponent in the documents it has filed with the Agency thus far. We present these concerns below, in summary form.

² CEAA, letter to GNL Québec inc., March 22 re Section 3.1. Project Components, <https://www.ceaa-acee.gc.ca/050/documents/p80115/128083F.pdf>.

Lack of information on potential GHG impacts beyond emissions during construction, such as upstream emissions; wholly unbalanced framing of downstream GHG impacts

Obviously, this is extremely problematic, particularly in the presence of a full-blown climate crisis, which is where we find ourselves at present. As the subtitle above suggests, there are two kinds of problems in the Proponent's documents with respect to GHG emissions: one is a lack of information and the other is unbalanced information.

With respect to the lack of information, both the summary and full documents make a passing mention that the Proponent is "aware that the strategic assessment [ECCC's Strategic Assessment of Climate Change for projects assessed under the *Impact Assessment Act*] would include requirements regarding greenhouse gas (GHG) and climate change information, and that it is expected to be published in early 2020." In the Initial Project Description documents, however, the Proponent says nothing about how it plans to respond to and/or integrate that knowledge into its full Impact Assessment.

With respect to the unbalanced information, the Proponent claims that the project will reduce global GHGs, and for this claim it reaches far downstream to its potential buyers in overseas markets:

"The Project is designed to be compatible with provincial, Canadian, and international energy and climate policies, as it is anticipated to facilitate an energy transition using natural gas, away from higher emitting sources of energy (e.g., coal, fuel oil, and diesel) currently used in international markets and locally in northern Ontario and Québec. This transition is expected to help support the fight against world-wide climate change by reducing global greenhouse gas (GHG) emissions in the international markets."³

Statements such as this by the Proponent do not belong in Project Description documents because they present an unbalanced and unjustified view due to certain presumptions taken as fact. It simply cannot be stated with certainty that the LNG ultimately provided to export destinations like Asia and Europe – the apparent destination for most of the LNG to be shipped from the Énergie Saguenay complex – will replace more GHG-intensive fossil fuels. If the exported LNG ultimately replaced renewable energies, then the Gazoduq project would in fact contribute to an increase in global emissions. An October 15, 2019 Open Letter from 25 economists and economic researchers who examined the GHG issues around the Énergie Saguenay Project makes this very point.⁴

We must also point out that in its documentation, a no-build scenario is not presented at all, which means the GHG impacts of the project are being viewed only from a framework that is favourable to the interests of the Proponent.

Additionally, the Proponent cannot have it both ways: if does not wish to cover downstream GHGs due to combustion, or the additional GHGs attributable to increased production upstream, then it should not talk about claimed "benefits" that the project may have on global

³ Initial Project Description – Summary, p.2, <https://iaac-aeic.gc.ca/050/documents/p80264/132884E.pdf>.

⁴ "An open letter on GNL Québec: A pipe dream of another Québec pipeline, National Observer, October 15, 2019.

GHG emissions. If the Proponent wishes to discuss claimed upsides, which as we have just explained above are not factually clear, then it must also talk about the downsides i.e., environmental and atmospheric impacts both upstream during production and downstream at combustion.

Lack of explanation that methane, a major component of natural gas, is a potent GHG

There are zero mentions of "methane" and its relation to GHGs in any of the Initial Project Description documents for the Gazoduq Project: nothing in the summary, nothing in the full document, nothing in the Appendices. This omission represents an unacceptable lacuna in the description of the operation, maintenance and potential environmental impacts of a natural gas pipeline project.

Methane, of course, comprises the primary component of natural gas, and is also a potent greenhouse gas (GHG). Methane causes a far greater warming effect in the atmosphere than does carbon dioxide – on the order of 86 times more over the span of 20 years.⁵ Marc Zondlo, a researcher at Princeton University who studies methane stated recently:

The fastest way to reduce the effects of greenhouse gases significantly is by decreasing methane emissions. If we improve our practices right now and lower methane emissions, it will pay off quickly because the half-life of methane in the atmosphere is about a decade, and it wouldn't take long for the current build up to begin to clear. Methane today accounts for about one-quarter of the greenhouse gas warming, so reducing its emissions can have a significant and fairly quick impact on climate.⁶

No quantification of anticipated methane leakage once the pipeline is operational, from accidental leaks, fugitive emissions or releases during maintenance

Neither the summary nor full Initial Project Description documents include information about anticipated methane emissions from the pipeline, compressors, metering stations, or other components during operation or maintenance. There is no information provided at all indicating that methane emissions can occur both intentionally, for example during line purges necessary for maintenance, and unintentionally, as in the case of incident-related leaks or fugitive emissions.

As further indication that the topic of methane emissions was insufficiently covered in the Initial Project Description documents, we note that the word "purge" appears just once in both the summary and full documents, and thus no meaningful details on potential risks from purges are provided. Similarly, the term "fugitive emissions" appears just twice in the summary and full version of these documents. This is absolutely inexcusable given that there is plenty of easily

⁵ Steven Schultz, Office of Engineering Communications, Princeton University, "Controlling methane is a fast and critical way to slow global warming, say Princeton experts", September 19, 2019, <https://www.princeton.edu/news/2019/09/19/controlling-methane-fast-and-critical-way-slow-global-warming-say-princeton-experts>.

⁶ Ibid.

accessible information available these days on fugitive emissions. To cite a recent Canadian example, in July 2019, the B.C. Oil and Gas Commission published online, a 32-page "Fugitive Emissions Management Guideline."⁷

Lack of information on plans for detecting and mitigating methane leaks across the entire pipeline system (all components), emergency shut-off procedures, and ensuring compliance with government-mandated incident reporting and notification

Given that the documents make no mention of methane, it is also unfortunately the case that they do not provide information that addresses plans and methods for monitoring, detecting and mitigating methane leaks and fugitive emissions. This is simply unacceptable, even for an initial project description, in that controlling emissions should be a top-of-mind concern for operators of a natural gas pipeline, from both a safety and environmental point of view.

To underscore the fact that information on detecting, monitoring and mitigating methane leaks on natural gas pipelines is readily available, we have provided in the **Appendix** to this submission, a sampling of sources published online by governments, industry associations and others.

Équiterre and The David Suzuki Foundation believe strongly that the track-record to date of gas pipelines in Canada indicates that incidents involving emissions are not at all uncommon and therefore present a serious issue that must be addressed by the proponent at the earliest stages of its project development and documentation. To illustrate the problem, we include below two graphics, generated from Canada Energy Regulator (CER) pipeline incident data from 2008 to present. In Figure 1, one can see at a glance that incidents on natural gas pipelines are far more than those on pipelines transporting or distributing liquid hydrocarbons such as crude or refined oil. As well, it is unmistakable that most incidents on gas pipelines involve releases of natural gas, rather than other problems (e.g., operating outside engineering parameters).

Figure 2 illustrates that from 2008 to present, there were 582 incidents involving gas pipelines. The data on which this graphic is based indicates that of the 582 incidents, 157 occurred on the pipelines themselves, 164 occurred on compressors and related components, 92 occurred at metering stations and 33 occurred at processing plants (the remainder happened in other contexts).

⁷ B.C. Oil and Gas Commission, "Fugitive Emissions Management Guideline", July 2019, <https://bcogc.ca/node/15539/download>.

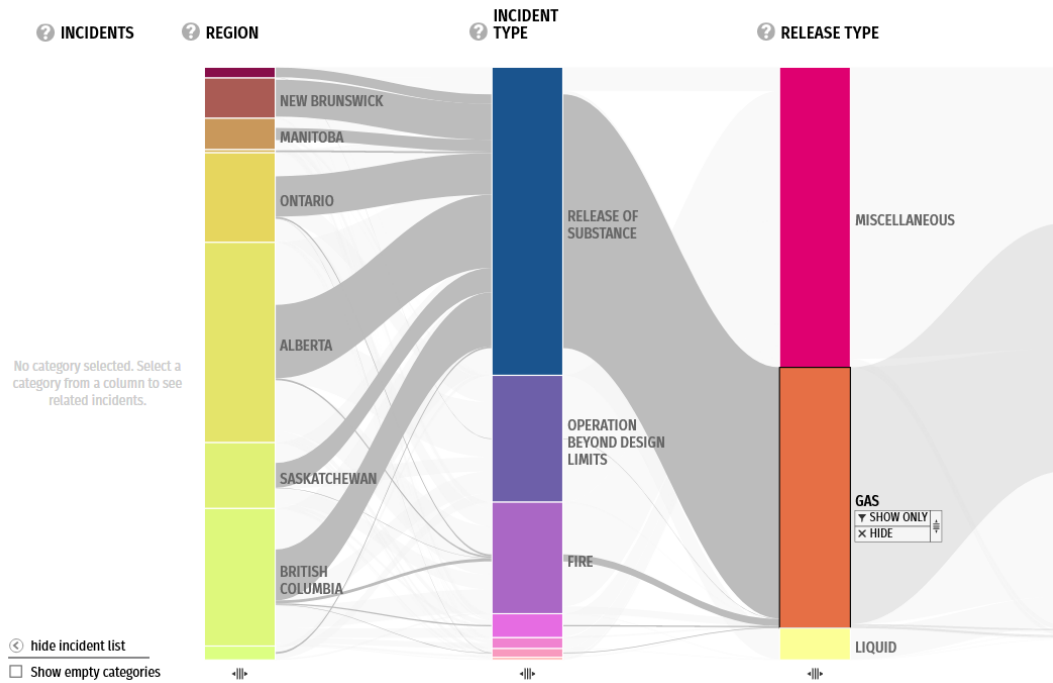


Figure 1. Incidents at CER-Regulated Pipelines and Facilities: Gas releases vs Liquids and Other⁸

⁸ Canada Energy Regulator, “Incidents at CER-Regulated Pipelines and Facilities” (based on CER data from 2008 to current for incidents reported under the *Onshore Pipeline Regulations* and the *Processing Plant Regulations*. Last update was: 2019-09-30, <https://apps2.cer-rec.gc.ca/pipeline-incidents/>. Note: For release type “Miscellaneous” refers to substances such as mechanical pulp slurry, steam, effluent, processed water and fresh water. Canada Energy Regulator, “Incident Data: Methodology”(undated), http://apps2.cer-rec.gc.ca/pipeline-incidents/data/Incident%20Data%20Methodology_EN.pdf.

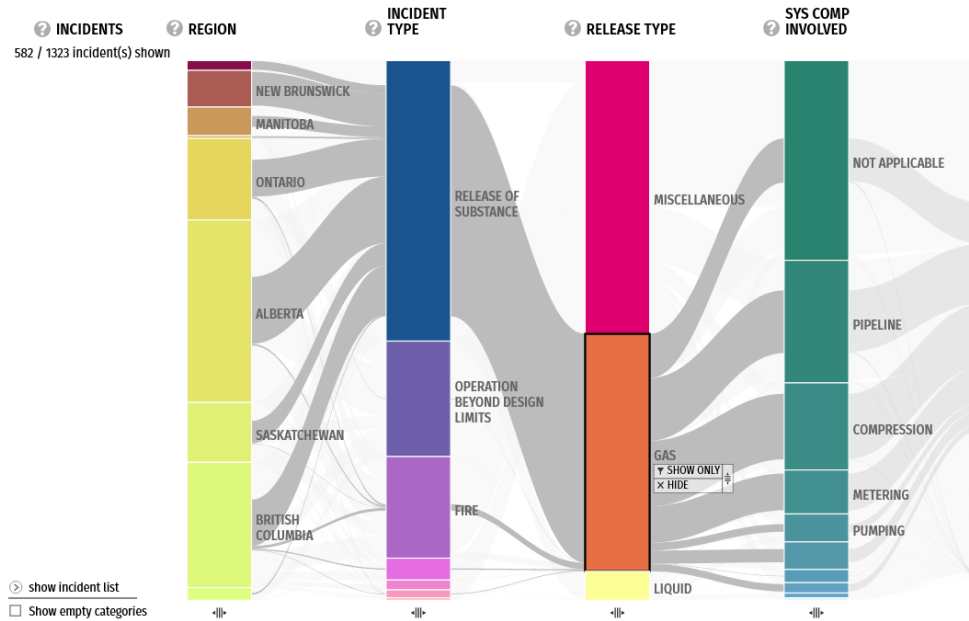


Figure 2. Incidents at CER-Regulated Pipelines and Facilities: Gas releases and system component involved⁹

Lack of information on the implications of Gazoduq Project’s new supply of the Énergie Saguenay Project, including possible need to expand TC Energy’s Mainline

The “Mainline” owned and operated by TC Energy (formerly TransCanada) is a large bundle series of pipelines running in parallel that transport gas west-to-east in Canada. This past year, there was an NEB proceeding that quietly paved the way for increased gas transported on the line from the west, and Gazoduq’s partner and the proponent of the Énergie Saguenay liquefaction and marine terminal project, GNL Québec inc., intervened in that proceeding and at one point argued in favour of TC Energy expanding its services in order to ensure supply for the LNG project via the Mainline’s connection to the Gazoduq pipeline. It seems to be the case that TC Energy has found a way to increase flows westward without actually building new capacity – for now. The proceeding culminated in a June 13, 2019 NEB ruling that paved the way for more gas flowing eastward, a ruling that was accompanied by a statement of approval from GNL Québec inc.¹⁰

Nowhere in either the summary or full Project Description for Gazoduq are these issues discussed, and it is important, particularly for issues of GHG emissions due to any potential increase in gas production, that Gazoduq be transparent and explain more completely it’s position on potential expansions of the TC Energy Mainline.

⁹ Ibid.

¹⁰ To be added: cite to announcement of June 13, 2019 decision.

Claims that the project would supply "100% Canadian gas" are unsubstantiated.

Setting aside, for purposes of the present discussion, the question whether it's better or worse to include some natural gas produced in the U.S., we question the credibility of the claim. Given that TC Energy imports some volumes of natural gas from the U.S. and some of these volumes flows into its Mainline gas pipeline at several locations, including one location in Manitoba,¹¹ we fail to see how the Proponent can claim that the gas it will transport in its pipeline will be sourced 100 per cent from Canada. A report published by the Canadian Association of Petroleum Producers in 2019, indicates that "markets in Central Canada have increasingly imported U.S. natural gas as opposed to using Canadian sources".¹² Given that natural gas imports from the U.S. do happen West of Ontario, how could one separate the gas molecules originating from the U.S. from the gas molecules originating from Western Canada once it is combined in the Mainline for transport eastward?

Proponents "Planning and Design Phase Activities" contain no plans for compliance with federal and provincial policies on GHG reduction targets nor plans for detecting and mitigating leaks

The information described under the heading "Planning and Design Phase Activities" appears to contain nothing about planning for compliance with laws and regulations, or with federal or provincial policies on GHG reduction targets. Additionally, there is nothing in the Summary document description of the "Planning and Design Phase Activities" indicating that this phase would include activities such as:

- Plans for detecting leaks and fugitive emissions of methane, emergency shut-off procedure, intentional releases and releases resulting from substantial accidents (e.g., pipeline ruptures, explosions, etc.).
- Plans for mitigation of the above
- Plans for meeting government-mandated incident reporting and notification requirements

While some of these items are mentioned in the description of "Construction Phase Activities", it would seem prudent – and in fact in line with common sense – that such activities should be addressed early in the development of a pipeline, at the planning and design phase.

¹¹ See the map and description of transboundary interconnects for the TC Energy Mainline here: www.cer-rec.gc.ca/nrg/ntgrtd/ppInprtl/ppInprfls/ntrlgs/trnscndmnlIn-eng.html. and note the import/export (bi-directional) interconnect at Emerson in Manitoba.

¹² Canadian Association of Petroleum Producers, "2018 Economic Report Series: Leveraging Opportunities: Diversifying Canada's Oil and Natural Gas Markets", March 2019, <https://www.capp.ca/-/media/capp/customer-portal/publications/333595.pdf?modified=20190430190048>.

Lack of documents on community safety and emergency response planning in Proponent's "Preliminary List of Federal Studies and Plans"

The Proponent provides a "Preliminary List of Federal Studies and Plans"¹³ that "are being used, as applicable, in developing the Project and regulatory filings."¹⁴ While we recognize that, as the title suggests, the list is preliminary in nature, we are discouraged to see that it contains no documents on community safety, potential emergencies, or response planning in relation to potential incidents like explosions or gas leaks. There is simply nothing of the sort mentioned.

Lack of information on buffer zones for provincially-protected resource and wildlife areas

With respect to proximity to certain provincially-protected areas within the Project study area, including four "Zones d'Exploitation Contrôlée" (ZECs), which are public lands located throughout Québec, offering services related to the practice of recreational activities in the forest, one wildlife reserve, and two communal wildlife areas, we were unable to locate information on the establishment of buffer zones. Buffer zones are important to help mitigate the impacts of infrastructure projects on special areas.

Lack of information on impacts to flora and fauna in the pipeline corridor over time and interactions with climate change impacts factored in

The discussion of impacts to flora and fauna and the terrestrial environment is limited primarily to impacts from construction of the pipeline. We did not locate, in either the summary or full document, any discussion of potential impacts to flora and fauna or to threatened and endangered species, from the loss of biodiversity in the pipeline corridor over the life of the pipeline.

Furthermore, what little discussion exists about potential impacts on flora and fauna, none of it reflects the need to factor in the impacts of climate change and how that could interact with the impacts of the project. Climate change has already begun to create new stressors for certain species of plants and animals in Canada. This adds to the stressors accompanying the presence of infrastructure projects and concomitant loss of biodiversity and segmentation of forested or rural areas. The baseline for health of flora and fauna will be changing more rapidly than before. It is upon this new backdrop – not the standard baselines of years ago – that potential impacts from projects such as pipelines must be evaluated.

Additional Considerations for the Preparation of the Summary of Issues

Équiterre and The David Suzuki Foundation presume that the Summary of Issues to be prepared by the Agency will comprise a wide-ranging and comprehensive set of issues. To that end, we hope that the Summary of Issues will reflect the scope and detail of what was

¹³ Gazoduq, Initial Project Project Description (full), October 2019, Table A-5-1, p. 21, <https://iaac-aeic.gc.ca/050/documents/p80264/132881E.pdf>.

¹⁴ Ibid, p. 20.

previously, in the context of pipeline project assessments under the *National Energy Board Act*¹⁵ as the “List of Issues”. These lists, at least for pipeline projects, frequently included topics such as the following:

- Project justification, and economic and commercial considerations
- Financial considerations
- Tolling matters
- Technical, safety and security considerations
- Accident and malfunctions considerations
- Indigenous considerations
- Landowner, Land Use, and Waterway Use Considerations
- Routing considerations
- Municipal and local community considerations
- Environmental and Socio-economic considerations
- Management system considerations
- Recommendations, terms and conditions

It would seem appropriate that a Summary of Issues should address these topics, and consequently we recommend that these topics be reflected in the Summary of Issues, along with two others that are both timely and of utmost importance for environmental quality and community well-being. We present both below, with brief rationales:

- Greenhouse gas emissions, including from incremental upstream production, and incremental downstream end-use

This category of topics typically did not appear in Lists of Issues issued in pipeline project assessments conducted by the former National Energy Board (NEB). The NEB did, however, include a separate “Indirect Greenhouse Gas Emissions” category in its List of Issues for the Energy East project that addressed upstream and downstream emissions.¹⁶ In the spirit of acknowledging that the current assessment is taking place in the climate crisis era, and the need for government action to be coherent in its response, we strongly recommend that this item be reflected in the Summary of Issues.

- Cumulative impacts, both “within” the Gazoduq Project itself and in relation to closely related projects

As discussed above, it is important – particularly in light of the climate crisis – for the public to understand the implications of the Gazoduq project for upstream production of natural gas, as well as any implications for modifications of the existing TC Energy Mainline that might be necessary in order to accommodate the increased supply

¹⁵ Add cite to *National Energy Board Act*, R.S.C., 1985, c. N-7 [Repealed, 2019, c. 28, s. 44].

¹⁶ National Energy Board, Energy East Pipeline Ltd and TransCanada Pipelines Limited, File OF-Fac-Oil-E266-2014-01 02, Ruling 23 August 2017, Appendix 3, List of Issues for Energy East, p. 9, <https://apps.neb-one.gc.ca/REGDOCS/Item/View/3322976>.

eastward, to supply the Gazoduq pipeline. Also as discussed above, it is essential that the impacts of the Gazoduq and Énergie Saguenay projects not be viewed in isolation. Consequently, cumulative impacts of the two projects, considered together, should be included under a cumulative impacts category in the Summary of Issues.

One last recommendation with respect to the Summary of Issues is that, as was done by the NEB under the List of Issues approach, the Summary should not be limitative.¹⁷ Rather, it should reflect key issues relevant to the Project, such that should other issue or topics arise during the hearing, those could potentially be added to the topics addressed in the proceeding.

Conclusions

Équiterre and The David Suzuki Foundation continue to have fundamental concerns about separating the assessment processes for the Gazoduq Project and the Énergie Saguenay project, given their interdependent relationship, because the segmentation of energy infrastructure projects such as these can lead to an inaccurate picture of the total and cumulative impacts of these projects. We encourage the Agency to find ways to ensure that its evaluation and decision-making with respect to these two projects takes each into consideration of the other, and addresses the cumulative impacts of the GHGs and other impacts produced by each.

With respect to the Summary of Issues to be prepared by the Agency, we recommend including all of the general issues identified in bullet form in the previous section, as well as the following specific issues flowing from our review of – and serious concerns about – the information provided by the Proponent in the summary and full Initial Project Description documents:

- Inclusion of GHG impacts beyond construction, to include upstream and downstream impacts
- Explanation of methane as a key component of natural gas and potent GHG
- Quantification of anticipated methane leakage to the atmosphere during operation of the project, including both accidental leaks and planned releases during maintenance
- Plans for detecting and mitigating methane leaks across the entire pipeline system (all components), including emergency shut-off procedures, and ensuring compliance with government-mandated incident reporting and notification
- The implications of Gazoduq Project's new supply to Énergie Saguenay for TC Energy's Mainline, including likelihood of expansion of the Mainline
- Explanation for claims that the Project would supply "100% Canadian gas"

¹⁷ See e.g., Energy East ruling, *ibid*, at p. 3.

- Detailed plans for complying with laws, regulations and federal and provincial policies on GHG reduction targets
- Community safety and emergency response planning (as evidenced in Proponent’s “Preliminary List of Federal Studies and Plans”)
- Specific information on buffer zones around provincially-protected areas (e.g., ZECs and wildlife reserves and areas)
- Impacts on flora and fauna beyond those expected from construction and including projected climate change impacts

Once again, Équiterre and The David Suzuki Foundation thank the Agency for the opportunity to provide comments on the Gazoduq Project and look forward to future opportunities for participation.

Appendix: Sample of Sources for Methane Monitoring and Mitigation on Gas Pipelines

B.C. Oil and Gas Commission, “Fugitive Emissions Management Guideline”, VERSION 1.0: July, 2019 <https://bcogc.ca/node/15539/download>.

Canadian Association of Petroleum Producers, Best Management Practice Pipeline Leak Detection Programs, May/2018, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwip8PiVqv_IAhXjUd8KHTwSAKqQFjABeqQIBhAC&url=https%3A%2F%2Fwww.capp.ca%2F~%2Fmedia%2Fcapp%2Fcustomer-portal%2Fpublications%2F310502.pdf%3Fmodified%3D20180920081050&usq=AOvVaw20Zo2aTITAC1K43HpEeJ3n.

Canadian Energy Pipeline Association, “What are pipeline companies doing to reduce methane emissions?”, (undated) <https://www.aboutpipelines.com/en/environmental-protection/climate-change/methane-management/>.

Interstate Natural Gas Association of America (INGAA), “Improving Methane Emissions from Natural Gas Transmission and Storage”, August 2018, <https://www.ingaa.org/File.aspx?id=34990&v=56603504>.

INGAA, “Methane Emissions Commitments”, (undated) <https://www.ingaa.org/File.aspx?id=34983&v=b9a1d252>.

E. Paranhos et al, “Controlling Methane Emissions in the Natural Gas Sector: A Review of Federal & State Regulatory Frameworks Governing Production, Gathering, Processing, Transmission, and Distribution”, Joint Institute for Strategic Energy Analysis, April 2015, <https://www.nrel.gov/docs/fy15osti/63416.pdf>.

Pipeline Research Council International, “GHG Emission Factor Development for Natural Gas Compressors,” Catalogue No. PR-312-16202-R02, April 2018, <https://www.prci.org/Research/CompressorPumpStation/CPSProjects/CPS-17-01/3523/135452.aspx>.

U.S. EPA, Natural Gas STAR Program –About EPA’s Oil and Gas Methane Partnerships, <https://www.epa.gov/natural-gas-star-program/about-epas-oil-and-gas-methane-partnerships>.

U.S. EPA, Natural Gas STAR Program – Transmission and Storage Technology Transfer Workshop: Partner Experiences in Methane Emissions Mitigation, June 7, 2018, Glen Allen, Virginia, various presentations given at the conference are available online at: <https://www.epa.gov/natural-gas-star-program/transmission-and-storage-technology-transfer-workshop-partner-experiences>.

U.S. EPA, Options for Reducing Methane Emissions From Pneumatic Devices in the Natural Gas Industry (Oct. 2006) at 7, https://www.epa.gov/sites/production/files/2016-06/documents/ll_pneumatics.pdf.