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BC Environmental Assessment Office, EA of Tilbury Phase 2 LNG Expansion Project
https://projects.eao.gov.bc.ca/p/5df7f1bfb7434b002164961c/commenting

Canadian Impact Assessment Agency, #80496 Tilbury Phase 2 LNG Expansion Project
IAAC.TilburyLNG-GNLTilbury.AEIC@canada.ca

The Honourable Jonathan Wilkinson, Minister of Environment and Climate Change Canada
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The Honourable George Heyman, B.C. Minister of Environment <email address removed>

The Honourable Carla Qualtrough, MP, Delta, B.C. <email address removed>

Members of Parliament, Government of Canada

Members of the Legislative Assembly, Government of British Columbia

Re: Governments of Canada and B.C.: Environmental Assessment of Tilbury Phase 2 LNG Expansion

The Governments of British Columbia and Canada should terminate the environmental assessment of the Tilbury Phase 2 LNG Expansion Project which will increase LNG production 196 times the original operation and 15 times the current permitted production. Phase 2 expansions will increase onsite storage of LNG 8.4 time the original capacity and more than triple the current capacity. As a result the Tilbury Island LNG plant will produce 1.4 times more LNG than the Woodfibre LNG plant in Squamish.

Phase 2 LNG expansion should be flagged as a non-starter because:

- The location of the Project endangers human lives and the globally significant ecosystems of the lower Fraser River and Salish Sea in violation of international safety standards
- The costs to taxpayers for LNG projects outweigh the outdated projections and mythical benefits of jobs and royalties in today's economy
- With toxic pollutants, emissions, high-energy and water use, the Project is NOT green, clean energy

The Tilbury Phase 2 LNG Expansion Project should be terminated due to serious concerns:

1. The early engagement process fails to inform and provide meaningful participation
2. Covid shutdown and summer holidays prevent meaningful sharing of information and feedback
3. Project-Splitting of interdependent Projects fails to provide credible environmental assessments
4. The substitution process fails to provide the public with sufficient information
5. The increase of LNG production by a factor of 196 times makes the plant very dangerous
6. Siting of the Tilbury expansion and transport plans fail to meet international safety standards
7. The large-scale LNG plant endangers human lives and globally-significant ecosystems
8. FortisBC will avoid liability for accidents beyond the footprint of the LNG Plant
9. Viability of this large-scale LNG plant is questionable and FortisBC customers will foot the bill
10. There are significant residual adverse environmental effects from upstream fracking

1. The early engagement Process fails to inform and provide meaningful participation

The Canadian Environmental Assessment Agency and the B.C. Environmental Assessment Office have not provided substantive information to the public. The only information provided is the promotional material of the Proponent, FortisBC. A flyer was mailed to households in the lower mainland claiming the purpose of the Project was to provide backup gas supply to the lower mainland in times of shortages or pipeline failures. This lacks full disclosure as the Tilbury Plant already has more than sufficient capacity to offer this backup service. The flyer failed to disclose that the true purpose of producing and storing large volumes of LNG is for export:

> "The Tilbury Phase 2 LNG Expansion Project (the Project) is being proposed to increase the production and storage of LNG to improve security of supply to FortisBC's approximately 1.1 million natural gas customers in BC and to supply incremental LNG to the marine transportation and export markets." [1]

In response to concerns raised by a citizen in a letter to the Delta Optimist[2], FortisBC responded with a letter accusing the citizen of misinformation. While repeating promotional statements, Fortis BC accused the citizen of misinformation 3 times without any evidence[3]. This is a clear example of the Proponent "shooting the messenger" instead of addressing legitimate concerns. The lack of respect and failure to provide full and accurate information prevents meaningful public participation.

It is unfair to ask the public to respond when only promotional materials are provided. It is also unfair of Government agencies to wait for the public to provide the basic scope and issues of this serious environmental assessment. This unsophisticated laissez faire approach is unprofessional. It means the public will be facing yet another long, drawn-out, fragmented process with numerous input periods, limited or no information from government scientists, and lip-service responses to concerns.

2. Covid shutdown and summer holidays prevent meaningful sharing of information and feedback

Virtual Open Houses work for a limited number of people. As a result, many people are not being appropriately informed of the Project. As some local newspapers are controlled by vested interests, many opinions and letters do not appear in printed editions and can only be found online. Many people do not even own computers so are not informed and have no opportunity to participate. People are not able to meet and discuss issues due to the Covid shutdown.

3. Project-Splitting of interdependent Projects fails to provide credible environmental assessments

The plan to produce, store, and export LNG from Tilbury Island was publicized in 2013. The plan was to expand the FortisBC LNG production and storage and build a LNG marine terminal on the adjacent property to transport 3.5 million tonnes of LNG down the Fraser River for export, and to fuel local vessels.

Instead of undertaking an appropriate cumulative effects environmental assessment of this clearly large-scale plan, the Governments of Canada and B.C. began piecemeal approvals without due process. The overall plan should have flagged our governments to apply the highest level of environmental assessment by a federal Review Panel and a separate BC assessment.

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[1] B.C. EAO, FortisBC, Tilbury Phase 2 LNG Expansion Project, Engagement Plan, June 2020, Scrolled page 6/25

[2] OPINION: FortisBC's expansion plans for Tilbury LNG not a good idea, Delta Optimist, June 20, 2020

[3] OPINION: Tilbury LNG expansion supports B.C.'s lower-carbon energy future, Delta Optimist, June 26, 2020

Without an environmental assessment or public input, the B.C. Government passed Orders in Council 557, 2013 and 749, 2014 permitting Fortis BC to expand LNG production 12.6 time from 60 tonnes per day to 760 tonnes per. The Orders also permitted a 2.6 increase in LNG storage from 28,000 cubic metres to 75,000 cubic metres. Tilbury Phase One LNG Expansion is still under construction. Now this Phase 2 expansion seeks to expand LNG production another 15 times and more than triple LNG storage.

As the Marine Jetty Project and the Phase 2 Tilbury LNG expansion are interdependent, it is unacceptable that the Governments of Canada and B.C. are assessing them as separate Projects. The federal and provincial websites and posted descriptions identify the interdependence of the Projects yet claim they are separate.

A provincial environmental assessment of the Proposed WesPac Tilbury Marine Jetty for the transport of LNG on the Fraser River was initiated in 2015:

> "…to receive processed LNG for transfer to marine vessels and safety and process control systems."[4]

A joint federal/provincial environmental assessment of the WesPac Project was announced on July 6, 2015.[5] The Canadian Environmental Assessment Agency (CEAA) posted the 'Project Description CEAA Summary, presented under the *Canadian Environmental Assessment Act* and the *B.C. Environmental Assessment Act*, May, 2015:

> "Storage and processing of LNG are not part of this Project. The Project will receive processed LNG for transfer to LNG carriers and barges from the Tilbury LNG Plant"[6]

At the same time, in May 2015, the National Energy Board approved a licence application to an American-based company, WesPac Midstream, to export 3.5 million tonnes of LNG annually for 25 years. The licence was issued on May 26, 2016. With this undemocratic 'cart before the horse' approach, FortisBC has already been given permission to export this planned increase in LNG production.

This Tilbury Phase 2 LNG Expansion still maintains that the Projects are separate in a convoluted statement that lacks transparency:

> "WesPac is proposing to construct a marine jetty next to the Project Site to supply LNG to the marine transportation sector and for export. WesPac's project is separate and distinct from the proposed Project. The WesPac project is currently undergoing a combined Federal and Provincial EA, under a substituted Provincial process that is led by the BC EAO that includes assessments for shipping and loading activities that considers the Phase 1 and Project LNG production and distribution capacities." [7]

To add to the confusion, on June 11, 2020, WesPac Marine Midstream sent a letter to the environmental agencies announcing a change of name and ownership of the LNG marine terminal Project.

> "Please accept this letter as official notice to the British Columbia Environmental Assessment Office (EAO) and to the Impact Assessment Agency of Canada (IAAC) that:
> - The name of the Project has been changed from WesPac Tilbury Marine Jetty to Tilbury Marine Jetty Project; and
> - Tilbury Jetty Limited Partnership is replacing WesPac Midstream-Vancouver LLC as the Proponent."[8]

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[4] B.C. Order Under Section 10(1)(c), An Environmental Assessment of the Proposed WesPac Tilbury Marine Jetty Project, May 6, 2015
[5] Notice of Environmental Assessment Determination, CEAA, July 6, 2015
[6] Canadian Environmental Assessment Agency, Project #80105, WesPac Tilbury Marine Jetty Project, May 2015, Scrolled Page 5/80
[7] B.C. EAO, Tilbury Phase 2 LNG Expansion Project, Initial Project Description, February 2020, Scrolled Page 13/88
[8] B.C. EAO, Tilbury Marine Jetty Project, Letter from WesPac Midstream, June 11, 2020.

WesPac Midstream announced the new owners of the LNG marine terminal are FortisBC and Seaspan.

> "June 16, 2020: WesPac Midstream-Vancouver announced today that the proponent of the WesPac Tilbury Marine Jetty Project is now Tilbury Jetty Limited Partnership, to be jointly owned by Fortis LNG and Seaspan."[9]

So at the 11th hour of the LNG marine terminal environmental assessment that began 5 years ago, FortisBC steps in as the owner of 2 interdependent Projects that they claim to be "separate and distinct".

Bottom line: In fairness to the public and credibility with environmental protection, the full-scale plan and incremental expansion of LNG production, storage and transport on the Fraser River and Salish Sea should have been appropriately assessed as one Project from the beginning 7 years ago.

As so many years have passed with undemocratic piecemeal approvals, and with the rapidly diminishing viability of the LNG industry, the two Projects should be identified as one Project and a new cumulative environmental effects assessment by a federal Review Panel should be initiated including upstream and downstream impacts.

4. The substitution Process fails to provide the public with sufficient information

The Tilbury Phase 2 LNG Expansion is being assessed under the substitution environmental assessment process with the B.C. Environmental Assessment Office taking the lead on behalf of BC and the Government of Canada. This is the weakest possible environmental assessment as federal agencies provide little or no information for the public. The federal role is to rubber-stamp hundreds, to thousands, of pages of wordy, biased reports from the Proponent. No credible scientific evidence is provided from independent scientists. There are well-known environmental companies who are richly rewarded by Proponents to prepare so-called scientific reports. The science is not peer-reviewed and often lacks credibility. It is up to the public to critique numerous questionable reports which is an impossible task due to layer-upon-layer of verbiage, without acceptable science.

So there will be no credible cumulative environmental effects assessment of the large project of increasing LNG production from the small Tilbury operation of 60,000 tonnes per day in 2013 to 11,760 tonnes per day with the Phase 2 expansion. It is obvious the expansion is for LNG export but that part of the plan has been inappropriately separated from this environmental assessment.

5. The increase of LNG production by a factor of 196 makes the plant very dangerous

FortisBC plans to expand Tilbury LNG production from a small-scale plant to a large-scale plant with an increase of 15 times the current permitted production and 196 times greater than the original small-scale production of 60 tonnes per day. The chances of a dreadful accident increase exponentially.

Unfortunately LNG accidents worldwide are underreported:

> "Nearly two years ago, an explosion and massive gas leak at a liquid natural gas (LNG) facility in Plymouth Washington, thirty miles south of the Tri-Cities, injured five workers and forced hundreds of people to evacuate their homes. To this day, state and federal oversight agencies have not published

[9] Tilbury Pacific Website, WesPac names new Proponent for EA process, June 16, 2020.

the findings of their investigations into the accident, and the facts about what happened are almost completely unknown to the public.
Sightline's research into the Plymouth LNG explosion reveals that the LNG industry is creating a false safety record, and current regulations allow the industry to do so. Though the accident released a dangerous LNG vapor cloud into residential areas, it didn't meet the definition of "a threat to public safety," and federal rules did not classify it as an LNG spill. Furthermore, facility owner Williams Pipeline Company (Williams) is still withholding key details about the accident."[10]

There is no record of the impact of the Plymouth Washington accident on the Columbia River where the Project is sited. As Tilbury LNG is on the Fraser River, there is no indication of how the river is being protected now or in the future.

In 2015, without any public input or environmental assessment, the National Energy Board permitted WesPac Midstream Vancouver LLC to export 3.5 million tonnes per year of LNG from Tilbury and lower mainland locations. This Project is now owned by FortisBC and Seaspan.[11]

The planned LNG marine terminal on the adjacent property has been undergoing another weak substitution environmental assessment since 2015. As mentioned above, incremental expansions and project-splitting of environmental assessment fail to provide the appropriate high-level environmental assessment of this massive project.

6. Siting of the Tilbury expansion and transport plans fail to meet international safety standards

The plans for the Tilbury Jetty Limited Partnership fail to meet international standards of LNG Terminal Siting Standards:

"There is no acceptable probability for a catastrophic LNG release
LNG ship berths must be far from the ship transit fairway;"

Numerous ships and barges transport the Fraser River servicing Surrey Fraser Docks and major industrial operations along the river.

"LNG ports must be located where they do not conflict with other waterway uses— now and into the future."

The Fraser River has numerous waterway uses, container ships, freighters, tugs, fishing vessels and recreational boating.

"Long, narrow inland waterways are to be avoided, due to greater navigation risk;"

The Fraser River is long and narrow at this section. The ship turning from the planned marine terminal will require most of the width of the river. This is highly dangerous.

"Waterways containing navigation hazards are to be avoided as LNG ports;"

Just across the river, the Port of Vancouver is building a Jet Fuel Facility for importing and storing jet fuel. Upriver is a cement plant and there are several industrial operations all along the lower Fraser.

Human error potential always exists, so it must be taken into consideration when selecting and designing an LNG port.[12]

[10] How Industry and Regulators kept public in the dark after 2014 LNG explosion in Washington, Sightline Institute, February 8, 2016
[11] WesPac names new proponent for EA process, June 16, 2020

The B.C. Wilderness Committee has created a risk map of the lower Fraser based on a U.S. Coast Guard document that outlines "zones of concern" in the event an LNG tanker accident.

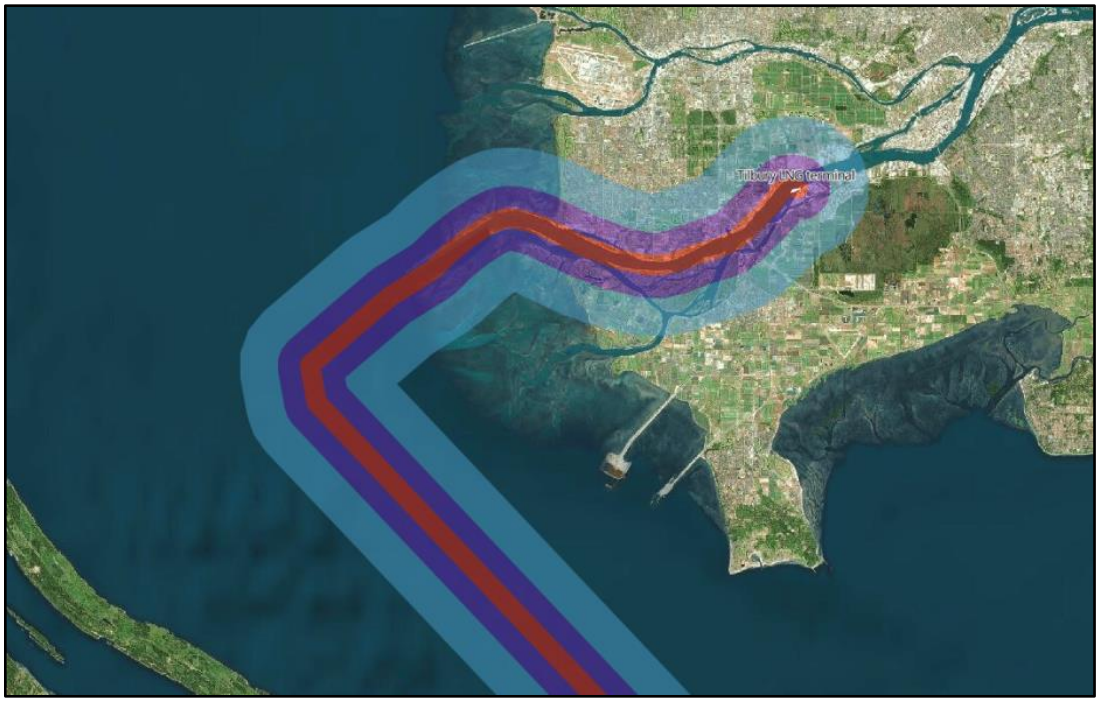
Zone 1, within 500 metres of a ruptured LNG tanker, is "where an LNG spill could pose severe public safety and property hazard and could damage or significantly disrupt critical infrastructure and key assets," according to the U.S. document.

Consequences would be "less severe" in a wider hazard zone band up to 1.6 kilometres away.

Zone 3 would extend up to 3.5 kilometres – which according to the map would encompass all of Steveston and much of Ladner – and is considered the maximum distance a cloud of escaped LNG vapour could drift without dispersing. If it ignited, the cloud could burn back to the tanker and result in a "pool fire."

LNG Hazard Zones

Zone 1 Red – 500 metres Zone 2 Purple – 1.6 kilometres Zone 3 Blue – 3.5 kilometres.



7. The large-scale LNG plant endangers human lives and globally-significant ecosystems

The environmental effects of this Project will be far-reaching for public health and safety. LNG is classified as a hazardous and noxious substance. There is a serious risk to irreversibly pollute the Fraser River with toxins and temperature-changing effluent from cooling water, cold water streams, discharge streams, and waste management. Most serious is the danger of toxic spills into the Fraser.

[12] LNG Terminal Siting Standards, Society of International Gas Tanker and Terminal Operators (SIGTTO)

Air emissions of pollutants from liquefaction activities, flaring, venting and fugitive sources are significant. They also present safety issues in the event of power or equipment failure.

The risks from fires, explosions, roll-overs, and toxic chemicals are ongoing occupational health and safety issues. The risks from a large-scale LNG plant in a large urban area are unacceptable.

Tilbury LNG is located in the lower Fraser River a few kilometers from Burns Bog, 21 kilometres from the estuary. The lower Fraser, Burns Bog, the estuary and Salish Sea are ecosystems of international significance for Southern Resident Killer Whales, salmon runs, sturgeon, eulachons, migratory birds of the Pacific Flyway and numerous endangered species. This LNG Project will degrade the unique interactive, interdependent ecosystems of this region and has the potential to irreparably destroy them.

8. FortisBC will avoid liability for accidents beyond the footprint of the LNG Plant

It is unclear exactly which branch of FortisBC will own this Project as there is more than one company and Projects are often owned by joint ventures. So, when there is an accident outside the LNG Tilbury Plant related to the transport of LNG or related business, accountability will be vague. Canadians will be killed or injured and Canadians will pay for the inevitable accidents. Air and water pollution are inevitable and Canadians will pay.

If the onsite Project is owned by non-Canadians, there is a chance even onsite accidents will have to be paid by Canadians.

9. Viability of this large-scale LNG plant is questionable and FortisBC customers will foot the bill

The viability of investing in LNG has become questionable over the past few years due to overproduction worldwide. At least 10 LNG Projects worldwide have been put on hold over the past few months. LNG prices were falling even before the pandemic due to oversupply and less demand.

According to Roberts Ineson, Executive Director of Global LNG for IHS Markit, Canada will be competing with other new LNG export Projects and buyers are increasingly reluctant to sign long-term contracts. [13]

FortisBC has been expanding the Tilbury LNG Plant since 2013 at a cost of $400 million which the B.C. Government permitted them to pass on to customers. Will the gas customers also be asked to pay the $3 billion cost[14] of Phase 2 expansion as well?

The public has not seen a Feasibility Study for this Project or a Cost/Benefit Analysis.

10. There are significant residual adverse environmental effects from upstream fracking

> "More than 90 per cent of all oil and gas wells in B.C. require extensive fracking, which pulverizes hydrocarbon-bearing rock with highly pressurized streams of water, sand and chemicals."[15]

[13] What rock-bottom natural gas prices mean for Canada's aspiring LNG industry, Sarah Cox, The Narwhal, May 1, 2020
[14] FortisBC plans $3 billion expansion at Tilbury, Alaska Highway News, N. Bennet, Business in Vancouver, Mar. 3, 2020
[15] Insufficient, 'unknown', 'Concerns': BCs Fracking Report Full of Apprehension, Andrew Nikiforuk, The Tyee, March 27, 2019

Citizens in B.C.'s northern communities report large quantities of water used for fracking deplete clean lakes and rivers. Air, noise and light pollution are affecting the health of local residents.

A Panel Review, 'Scientific Review of Hydraulic Fracking in British Columbia', reported

> "Regional baseline studies on surface water quality are lacking for NEBC"[16]

A commentary on the Report in the Tyee lists the lack of data, studies and regulations on fracking. There have been no credible environmental assessments and governments have failed to apply the "precautionary principle." As reported in the Tyee:

> **"The report couldn't draw conclusions about risks the industry poses to water, land and health because of insufficient data.** "The very rapid development of shale gas in [northeastern B.C.] has made it difficult to assure that risks are being adequately managed at every step. Furthermore, the panel could not quantify risk because there are too few data to assess risk…
>
> **...The fracking industry consumes rivers and lakes of water, yet data on water quantity is insufficient or unknown.** Even the panel noted that the data it cited in the report on water consumption by the industry was "outdated.
>
> "Considering the vastness of the region, alongside the increased level of industrial development, the panel considers the baseline data and the ongoing monitoring of surface water and groundwater quantity to be insufficient.
>
> "Baseline data and information on streamflow, lake levels, and wetlands are sorely lacking, particularly given the high demand for surface water for industrial use."[17]

An Opinion article in the Vancouver Sun, July 15, 2020, by physicians, Melissa Lem and Margaret McGregor warned of long-term effects on human health:

> "Brian Derfler, a third-generation farmer from Farmington, related his harrowing experiences in the summer of 2017, including midnight flaring "like a 747 taking off," dust- and smog-filled air, insomnia from incessant drilling noise, and stress over poor crops from degraded soil: "What they're doing here is affecting our health directly, but it's going to affect your climate."
>
> "Research links fracking to many human health risks. Higher leukemia rates are found among youth living near fracking operations, while more congenital heart defects and preterm births are also noted nearby. Studies also show increased hospital visits among asthmatics residing close to fracking sites".[18]

Active and abandoned wells are leaking methane and are contaminating groundwater and surface water with hydrocarbons, chemicals used in fracking fluids. Canadian taxpayers will be charged to clean up contaminated lands and water sources. Stated plans of adaptive management are a bad joke.

The Governments of Canada and British Columbia are unrealistic in believing that LNG production, storage and export on the Fraser River can benefit Canadians. This massive expansion is an out-of-date plan that makes no sense economically, environmentally or socially. The risks are too great.

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[16] Scientific Review of Hydraulic Fracking in British Columbia, February, 2019, Page 80/236
[17] Insufficient, 'unknown', 'Concerns': BCs Fracking Report Full of Apprehension, A. Nikiforuk, The Tyee, March 27, 2019
[18] Vancouver Sun, Opinion by Melissa Lem and Margaret McGregor, Page A11, July 15, 2020