

**BOUNDARY BAY CONSERVATION COMMITTEE**

**Box 1251, Delta, B.C. V4M 3T3**

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July 16, 2020

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The Honourable Carla Qualtrough, Minister of Employment, Workforce  
Development and Disability Inclusion <email address removed>

Cc: The Honourable John Horgan, Premier of B.C., <email address removed>

Cc: The Honourable George Heyman, Minister of Environment and Climate Change  
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**Re: Tilbury Phase 2 LNG Expansion Project (#80496)**

Thank you for the opportunity to give input from the Boundary Bay Conservation  
Committee (BBCC) on the *Tilbury Phase 2 LNG Expansion Project*.

We have submitted comments on these projects by Fortis and WesPac on Tilbury Island  
in Delta over the last five years: to the Canadian Environmental Assessment Agency  
(CEAA) and to BC Environmental Assessment Office (BCEAO). More recently on 17 May  
2019, we wrote to both BCEAO and CEAA on the *Federal Environmental Assessment of  
the WesPac Tilbury Marine Jetty (Registry #80105)*.

We have not received any answers to the questions we have raised over the five years.

**Process:**

Members of the BBCC strongly object to:

1. The **dangerous piecemealing of the reviews of these projects on Tilbury Island**  
(Fortis - Phase 1 - the enormous LNG storage tank and huge infrastructure for  
the liquefaction production of LNG are nearly complete, the WesPac Tilbury  
Marine Jetty Project, and now the Fortis Tilbury Phase 2 LNG Expansion Project).
2. The **split accountabilities between the National Energy Board, CEAA now the  
Impact Assessment Act Canada (IAAC) and BCEAO and the BC Utilities Comm.**

3. The moving of the **limits on production and storage of the whole project** with each project application over the last 7 years of ongoing review processes.
4. The **failure of both levels of government to fully assess the “upstream” and “downstream” cumulative effects of methane emissions on global warming.**

#### Recommendation 1

BBCC recommends that all the FortisBC Projects from fracking LNG (its cumulative environmental effects e.g. methane leaks, water contamination and earthquake generation), to liquefaction process pollutants, estuary storage, jetty loading, then transport in the Fraser River, through the Salish Sea (including the, Fraser Estuary, Georgia Strait, Boundary Bay, Boundary Pass, Haro Strait and Juan de Fuca Strait) and the end burning of the LNG and its cumulative contribution to global warming must be comprehensively reviewed at the highest level possible in Canada by an Independent Expert Review Panel through the IAAC.

#### Questions on Past Reviews:

1. Members of the BBCC have not seen any notification for public input into a review process for the ***Tilbury Phase 1 LNG Expansion Project***. (1) When was the Phase 1 review conducted? - and (2) by which level of government?
2. Further members of the BBCC did not see any notification for public input into the **National Energy Board’s decision to grant an export license to WesPac Texas** in the first place. (3) When was this held? (4) Was there an opportunity for Public Input?
3. Given that The National Energy Board ***“is an independent federal regulator of several parts of Canada’s energy industry with the safety of Canadians and protection of the environment as its top priority ...”***, (5) How can they give approval to such a potentially dangerous project for Canadians living in the Lower Mainland of BC, especially in the communities of Richmond and Delta, without any public assessment of risks (Figure 1)?
4. And if ***“protection of the environment”*** really is such a ***“top priority”*** (6) how can the National Energy Board give approval to a project that could have disastrous consequences for Canada’s most significant environmental areas: including the internationally acclaimed and designated Fraser River Estuary, the Fraser River itself, the Salish Sea home to endangered Orcas etc. without a full environmental review by both levels of government and their International Partner nations in the Salish Sea.

**Figure 1. Hazard Zones for LNG Tanker Ships** (Courtesy Real Hearings)

**KEY: Hazard Zones RED - 500m, DARK BLUE – 1600m, PALE BLUE - 3,500m**



### **Tilbury Phase 2 LNG Expansion Project**

Now we have another piecemeal application by FortisBC Holdings Inc. (FortisBC). It proposes “to expand its existing liquefied natural gas (LNG) facility on Tilbury Island to increase the LNG storage capacity of the facility up to 162,000 cubic meters (4.0 petajoules). Through the construction of a storage tank and supporting infrastructure and the addition of liquefaction trains, this expansion would increase the LNG production capacity of the facility by up to 11,000 tonnes per day.” (BCEAO)

The Proponent claims under “Nature” of the project that this is a “Modification of Existing”. BBCC asks (1) how can such an enormous expansion (over 50%) and the accompanying infrastructure for liquefaction be considered “a modification”? (2) Surely this is LNG storage for export from WesPac’s Jetty? All must be reviewed together.

### **Process:**

**Again, where is the Environmental Accountability for this project?** From the BCEAO site it appears that the provincial EAC status of the project is “In Progress” with the federal IAAC role listed as “Coordination”.

BBCC notes that previously, CEAA in Ottawa on **July 6, 2015** stated it had decided that a federal environmental assessment is required for the *WesPac Tilbury Marine Jetty Project* pursuant to the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). In making it’s decision, the Agency considered the following factors as indicated in section 10 of CEAA 2012: the description of the project provided by the proponent on May 11, 2015; the possibility that the carrying out of the project may cause adverse environmental effects; and, comments received during the comment period.

**Then just 4 days later: July 10, 2015** – CEAA “commenced an environmental assessment and the **Minister of the Environment approved the substitution** of the federal environmental assessment process by that of the Government of British Columbia for this project.”

From the statements above from the BCEAO website, it appears that the decision has already been made for a provincial process before any public comments have been received. (3) Has the level of review been decided?

Members of the BBCC did not know about the “Virtual Open Houses” in June 2020. This is a poor oversight given our continuing interest in all projects on Tilbury Island in Delta over the years. It also means we have had very limited exposure to the project. Further, a “Virtual Open House” is a very limited way of informing the public in general.

## **Recommendation 2**

**Therefore, BBCC recommends that the public input period on the Phase 2 Project be delayed until a proper Public Open House with the displays and person-to-person questions, answers and discussions can be scheduled.**

## **Environment - Global Warming**

BBCC notes that a year ago experts worldwide said that the booming LNG industry could be as bad for the climate as coal and that LNG developments were on a collision course with the Paris Agreement.

1. **Canada is warming at 2X** the rate of most of the world; so we must be responsible let alone mindful of global initiatives such as the Paris Agreement.
2. We must recognize that **over a 20-year period methane is at least 84X worse** than carbon dioxide as a global warming gas and 25X worse over 100 years.
3. **Methane emissions from natural gas operations** in the BC Peace Region alone are 2.5X greater than previously reported by industry and government.
4. **Leaks, fugitive and vented emissions of methane upstream and downstream** must be measured at all facilities. E.g. a recent study found that **BC gas wells are leaking 14,000 cubic meters of methane per day in just four shale gas areas.**
5. **More than 11,000 inactive fracking wells in BC** have yet to be decommissioned and cleaned up and leakage of methane stopped.
6. The **fossil fuels burnt to deliver the LNG overseas** must be included in the total emissions for the LNG industries.
7. Finally BC must take responsibility for the **burning of LNG at point of delivery** to accurately calculate the full cumulative contribution of LNG to global warming.

BBCC understands that IAAC assessments now consider climate change resulting from greenhouse gas emissions. IAAC also says its analysis “should reflect jurisdictional

climate change policies and regulations.” (4) What does this mean? Surely it must be the best regulations possible to achieve Paris Agreement targets?

BBCC asks (5) How can this be applied when B.C.’s climate change policy, known as Clean BC, which “incorporates increased LNG production”? (6) This nonsense surely disqualifies any BC environmental review process? (7) What is the role of the BC Utilities Commission?

But the BBCC has learned that **the B.C. government has asked the federal Minister of Environment and Climate Change (at the request of FortisBC) that it conduct the entire review of the Tilbury expansion, instead of having it also go through the federal impact assessment process.** This is outrageous. It makes a bad joke of BC’s commitment to reducing global warming and if allowed it is a global disgrace to Canada’s commitments to the Paris Agreement.

### **Recommendation 3**

**BBCC recommends that a Moratorium be placed on all LNG expansion projects and any new LNG projects at least until the BC Methane Research Goup has completed its studies and released its report on leaks, fugitive and vented emissions of methane.**

**If and when an environmental assessment of these projects is done it must be at the highest level possible in Canada by a Panel of non-industry experts. A vital part of the assessment will be a cumulative impact assessment of all LNG methane emissions from upstream and downstream processes, storage leaks, transport and the emissions from burning LNG at the location of delivery. Only then will we see how much LNG contributes to global warming.**

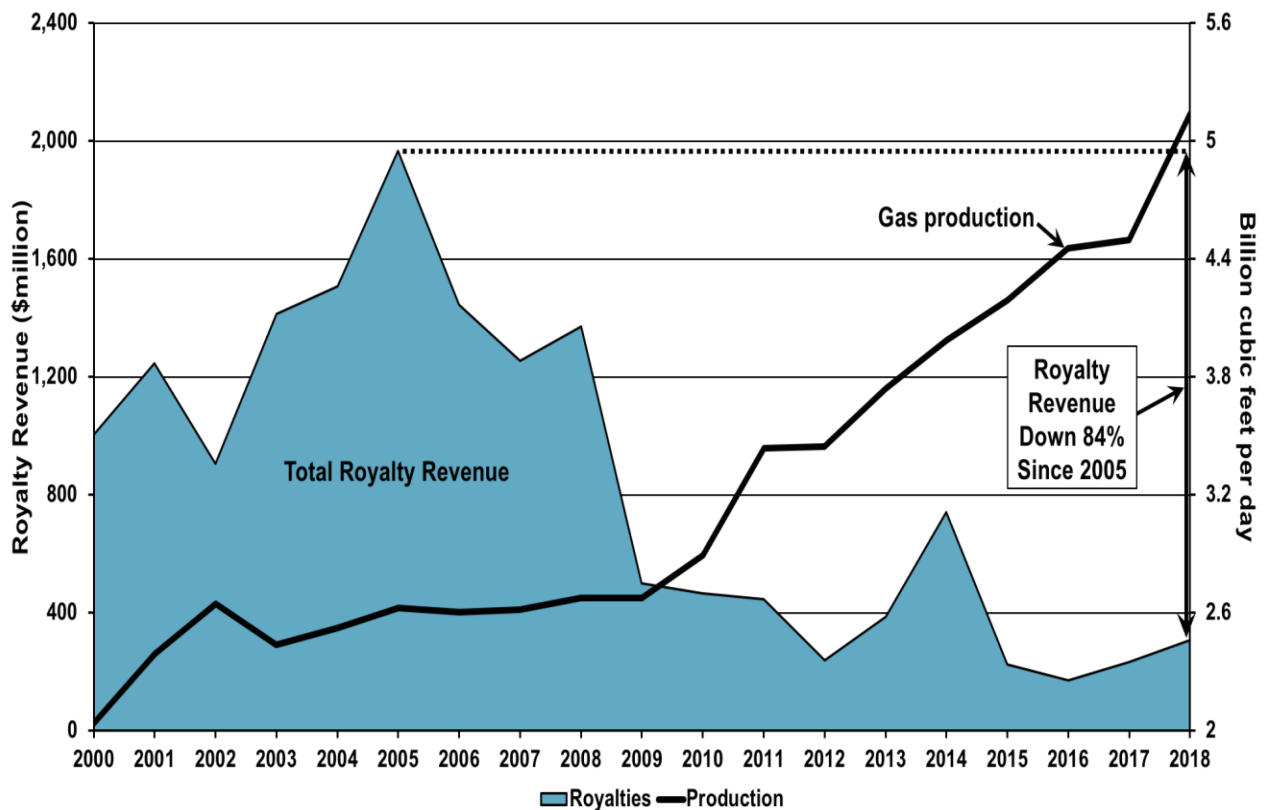
### **Environment - Carbon Tax, Subsidies, Royalties**

1. BBCC notes that **methane emissions are exempt from BC Carbon Tax** even though they are a much more potent contributor to global warming than carbon dioxide (see above).
2. Further, LNG Canada has received **government subsidies**, including carbon tax exemptions of \$150M/year.
3. But a recent study has shown that companies drilling and fracking for natural gas in northeast B.C. were being **bankrolled by the province to the tune of \$703 million** last year, a 45% increase over the previous year when companies were handed more than \$485 million in credits.
4. **BC has no monitoring program in place** for the inspection of gas wells that have already been abandoned.
5. There are serious **consequences to public health and the environment from wellbore leakage so BC has massive liability** now and into the future from orphaned wells that since 2016 have increased by a staggering **770%**. Taxpayers

should not be paying these costs, monitoring and cleanup must be regulated and cleanup costs covered by a bonding system with industry.

6. The BC government claims that LNG exports are providing “new resources for health care, schools, child care and other government-supported services.” But the record of government revenue from natural gas production has been the opposite because of a huge decline in royalties (Figure 2). **Production has doubled since 2005 but the total royalty revenue is down 84 per cent.** E.g. In 2005, royalties paid constituted 21.7 per cent of the sales price, whereas in 2018 royalties constituted just 5 per cent!

**Figure 2. Royalty Revenue vs Gas Production.** (Data from the Canadian Association of Petroleum Producers’ Statistical Handbook).



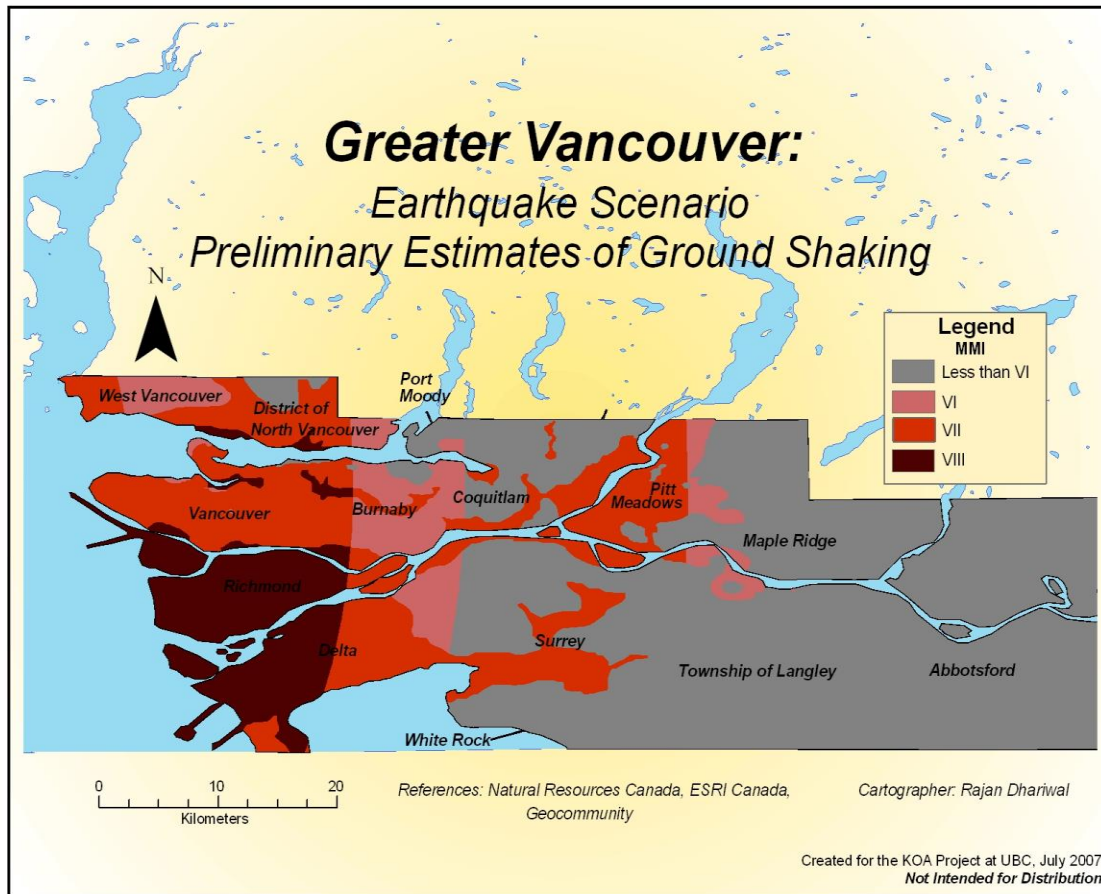
#### Recommendation 4

BBCC recommends a Moratorium on all LNG expansion projects and a moratorium on development of new LNG projects until the BC Government adopts responsible taxation of the LNG industry: a methane tax on global warming emissions, a cleanup bonding system for their methane leaking orphaned wells and much higher royalties for the removal of this resource from BC.

#### Environment - Earthquake Hazard Risk at Tilbury in Delta

BBCC asks (7) Why is LNG expansion being allowed at this location which is on **alluvial deposits** beside the Fraser River and as such will be at risk of **massive liquefaction** (darkest area in Figure 2) in the forecasted largest earthquake ever?

Figure 3. This Map is from a study in 2007 of a much smaller earthquake of 7.3 by the University of BC. The dark category (VIII) will experience liquefaction. The forecasted “big one” will be more than 9.



BBCC disputes the siting of the massive (over 50%) expansion of FortisBC’s LNG storage by building a second large tank and its building of more liquefied natural gas (LNG) facilities on the **banks of the Fraser River on Tilbury Island, Delta**. River estuaries should not be sites used for LNG Ports according to suggestions in a paper: *Site Selection and Design for LNG Ports and Jetties* by the Society of International Gas Tanker and Terminal Operators (2000). This site on the Fraser River is particularly inappropriate because the Tilbury site is opposite and very close to an approved Aircraft Fuel Port in the relatively narrow Fraser River. Further, the Fraser River has a high level of vessel traffic that will increase even further when all current projects are approved.

**The Lower Mainland supports a large human population as well as globally significant habitats for a wide range of wildlife in the Fraser River Estuary.** The shipping of LNG is a great risk in this location. The risks of shipping LNG in this area must consider a realistic impact zone (Figure 1 above).

BBCC asks (8) **What is the impact of the cumulative increase in ships** through the already busy shipping lanes of the Fraser River, Salish Sea and Juan de Fuca Strait? Current ship traffic through *Orca Pass* between the protected American San Juan Slands and the Canadian Gulf Islands National Park is already having an impact on the **endangered Southern Resident Orcas**.

## **Other Issues and Questions**

1. Who is **WesPac Texas**? They appear to be registered in Delaware, USA yet their address is in California, USA. How much experience do they have at jetty building? Their website indicates that they have never built one. How can Canada allow them build one in the wrong site in the Fraser River?

2. What is the **relationship between WesPac and Fortis**? Is this a formal partnership?

3. BBCC has just learned that: 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:

- 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** and
- **The new owners** of the LNG marine terminal are **FortisBC and Seaspan**.

BBCC asks: has WesPac pulled out of the whole project of LNG export from Tilbury? One is tempted to ask why and what do they know about the future LNG market that we do not? Who will pay for the Jetty **and** Phase 2 upgrade now? The two Projects are interdependent and FortisBC now (*at the 11<sup>th</sup> hour of the Jetty environmental assessment*) appears to have formal ownership of the proposed jetty. This Jetty Review must be terminated and be reviewed with the Phase 2 Expansion Project.

4. The Proponent for Phase 2 is listed as **FortisBC Holdings Inc.** Who are they? Fortis Inc. is 10 utility companies in the USA, the Caribbean and Canada. How are they covering the cost of all the Tilbury Island projects? Who exactly is accountable in any worst case scenarios on Tilbury Island (earth quake, explosion, emissions from liquefaction, etc.)?

5. **Regulatory Approval Limits:** Who approved the Phase 1 application limits to build the large LNG Train for 0.25 Million tonnes/year and a storage tank for 46,000 cubic meters?



Fortis is already expanding the liquefaction limit to 0.65M tonnes of LNG/year. Was this agreed to in the Phase 1 application limits?

**For Phase 2** the regulatory limits for liquefaction are increasing **14X (from 0.25M)** or **over 5X (from 0.65M) tonnes of LNG/year**. Meanwhile, storage on Tilbury Island is increasing **3.5X to 162,000 cubic meters**. **Who is regulating these changing limits? How much LNG do FortisBC/Seaspan plan to export?** The claim on this month's gas bill to Delta residents from FortisBC claims the LNG Expansion project is **"to strengthen and improve the resiliency of the energy system that supplies BC homes ..."**

**6. How much power will be required for each scenario?** Did it mean that the Site C Dam is needed for this project? These scenarios will mean new powerlines running through Delta farmland. Will there be a need for an expanded natural gas pipeline from NE BC?

**7. Which company is accountable for upstream and downstream environmental costs** of the fracking process required to extract the natural gas and the cleanup of orphaned wells?

**8. Is BC and/or America** accountable to legislated target commitments for the reduction of greenhouse gases, in this case methane, both for upstream extraction and downstream liquifaction production of LNG let alone leakage, fugitive and vented emissions of methane, export transport and finally burning of the gas in this project?

**9. BBCC** understands that **one tonne of greenhouse gas emissions are produced in the manufacture of each tonne of LNG**. What proportion of BC's legislated target on greenhouse gas emissions will be taken up by this project and other planned projects? How many will be allowed?

**10. Who is accountable for the water needs of fracking extraction** and LNG processing? How much water will be extracted and where will it come from? Where is the fracking waste water going from the Western Canada Sedimentary Basin and the waste water from liquefaction on Tilbury Island in Delta, BC?

**11. How are the impurities from the LNG Train** being disposed of on Tilbury Island? BBCC understands that before being cooled the methane gas is **Pretreated:** where **dust** is removed along with slug (**water and condensate**) along with **hydrogen sulfide (H2S) and mercury (Hg)**. We understand that these pollutants can cause corrosion and freezing problems but how will they disposed of on Tilbury Island?

**Then Acid Gas is removed and dehydrated:** when **Carbon dioxide (CO2)** is absorbed and removed from natural gas with an **amine absorber** (acid gas removal or AGR) and then water is removed using an adsorbent. The removal of these impure substances prevents ice from forming during the subsequent liquefaction process. How are all these by-products being treated and disposed of on Tilbury Island?

**Finally the Heavy Hydrocarbons (C5+) are removed:** by fractionation before liquefaction. Natural gas is pre-cooled to about -31°F (-35°C) by propane. How are the hydrocarbons going to be disposed of on Tilbury Island? How much propane is used and is that use accounted for in the greenhouse gas costs of cooling to LNG?

#### **Recommendation 5**

**BBCC recommends that a Moratorium on the expansion of methane extraction in BC, LNG production and storage on Tilbury Island, and on the building of a jetty into the Fraser River to ship LNG from this site which is far too close to major population centers in the Lower Mainland of BC. Such a siting for these developments on Tilbury Island would not be legal in many countries. We must know how robust is this industry here.**

**As we suggested above all these projects must be reviewed together at the highest level possible in Canada by an Independent Expert Review Panel through the IAAC.**

**Figure 4. What a legacy for this precious Blue Planet! Our Children! All Nature!**



Yours sincerely,

Mary Taitt  
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