November 21, 2018

Puget Sound Clean Air Agency
ATTN: Public Comment on DSEIS, PSE LNG Project
1904 Third Ave, Suite 105
Seattle, WA 98101

Re: Public Comment on Draft Supplemental Environmental Impact Statement (DSEIS) for the Puget Sound Energy (PSE) Liquefied Natural Gas (LNG) Project

To Whom it May Concern:

The increased use of clean-burning natural gas in the United States has delivered significant air quality benefits. By displacing coal in the electricity sector, natural gas has enabled the United States to reduce greenhouse gas emissions more than any other country. Natural gas has delivered reductions of over 12% in CO₂ emissions since 2005,¹ and even larger reductions in criteria air pollutants such as 46% of carbon monoxide, 70% of sulfur dioxide, and 45% of nitrogen dioxide.² Natural gas has also helped the United States achieve the largest reduction in CO₂ emissions in the world.³ Moreover, the American oil and natural gas industry has decreased methane emissions from production by 14%⁴ over the last four decades at the same time it has increased production over 50%.⁵

Clean-burning natural gas can deliver similar reductions in emissions from large marine vessels. The PSE LNG Project would take advantage of the benefits of natural gas to reduce air pollutants and greenhouse gas emissions by replacing diesel fuel with natural gas. The Puget Sound Clean Air Agency (PSCAA) should approve the DSEIS and allow PSE to move forward with the project, but it should not seek to disadvantage American natural gas by dictating the use of gas sourced from British Columbia. As we detail below, the DSEIS contains flawed information that should be corrected and not used to prevent PSE from taking advantage of gas sourced from the United States.

Western Energy Alliance represents over 300 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas in the West.

¹ U.S. energy-related carbon dioxide emissions in 2015 are 12% below their 2005 levels, Energy Information Administration (EIA), May 2016.
² National Air Trends, U.S. Environmental Protection Agency (EPA), Summary 2017.
⁴ Sources of GHG Emissions, EPA, 2016.
⁵ Petroleum and Natural Gas Production, EIA, 2018.
Alliance members are independents, the majority of which are small businesses with an average of fifteen employees.

**DSEIS Deficiencies**

The most glaring flaw in the DSEIS is the provision that British Columbia (BC) be the sole source of natural gas for the facility. While PSE may choose to purchase its fuel from any supplier it desires, as is foundational to the American free-market system, enshrining an initial supplier choice in an air permit would be an inappropriate encumbrance on PSE and would prevent the company from responding to future changes in gas pricing, availability and other market conditions.

Additionally, the claim that the project “would produce a net reduction in annual GHG emissions provided that the natural gas source for the plant was British Columbia” is simply incorrect. The DSEIS contains flawed accounting of the greenhouse gases (GHG) associated with production in BC. It claims, using a spreadsheet called GHGenius, that BC gas production has a total leak rate of 0.32%. However, the use of a 0.32% leakage rate compared to the 1.00% leak rate used in the DSEIS for American natural gas production is based on a flawed estimate. GHGenius contains leak estimations from the gas field sector, the processing sector, and the transmission and distribution (T&D) sectors combined for a total leak estimate. But the numbers in the DSEIS for each sector are simply not based on good data.

The gas field leak estimate is based on a single study of the facilities of just one company, Seven Generations Energy, operating in the province. The facilities studied are among the newest in the province and as admitted in the DSEIS, “newer wells have distinctly lower emissions than older wells”. Extrapolating data from just the newest facilities is not representative of the entire province’s leak rate. BC oil and natural gas production has a 125 year history, and there is a very wide temporal range of production equipment. Any study that purports to represent the production of the province overall should include recent as well as older wells. The Atherton et al. (2017) study of 1,600 wells operated by 50 different companies found leak rates almost three times higher than what was used in the DSEIS, and was remarkably similar to leak rates for U.S. production. PSCAA should not assume that BC gas has better leakage rates than American gas based on the Brandt study when other studies such as the Atherton study show that the profiles are similar.

The processing leak estimate used for BC in the DSEIS is also flawed. GHGenius lists its source for gas processing leaks as the Alberta Energy Regulator report ST13. ST13 is an

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6. Draft Supplemental EIS Tacoma LNG, PSCAA, pg. 192
7. Id. pg. 70
8. Life Cycle Assessment of Natural Gas Production, Brandt et al., 2017
9. Draft Supplemental EIS Tacoma LNG, PSCAA, pg. 193
11. GHGenius 5.0c, Natural Gas Supply tab, Cell A217
annual account of processing plant receipts and lists gas volumes flared or vented. The glaring error is that GHGenius does not account for fugitive leaks or other unaccounted leaks in the processing equipment. It simply assumes the reported volumes vented and flared are the only losses in the processing stream. The proper method to determine processing losses is to use the “difference and others” row in the ST13 report in addition to the vented and flared rows. This accounts for any difference in the gas volumes from the inlet to the outlet of the plant. Properly accounting for those factors increases the leak estimate by at least a multiple of 10. The differences between BC and U.S. leak estimates disappear if using the same methods as those used in studies from the United States.

Another discrepancy in the BC upstream emission calculations is found in the transmission and distribution sector. The source for the T&D losses in BC is the Canadian Energy Partnership for Environmental Innovation (CEPEI). CEPEI uses self-reported values from members of the Canadian Gas Association to calculate T&D losses. The estimate for U.S. T&D losses is double the value used for BC, but since it comes from a much more comprehensive national inventory which includes all operators, it avoids the selection bias inherent in the CEPEI estimate. The lack of national inventory numbers from a regulatory agency with access to all downstream operators makes the two leak estimates incompatible with each other.

The leak rate for BC gas assumed in the DSEIS is a clear outlier and not directly comparable to other leak estimations. Each individual component of the total leak rate is flawed in a way that dramatically understates the potential leak rates in BC oil and natural gas operations. There is simply no sound factual basis for assuming that BC natural gas is environmentally superior to U.S. gas. Therefore, the PSCAA should remove the flawed information that advantages BC gas over U.S. gas, and the air permit issued under the SEIS should not contain any restrictions on the use of American natural gas.

**Regulatory Comparison**

The DSEIS also contains the claim that the province has “better management practices and emission controls” than the United States. EPA has comprehensive rules that regulate methane emissions from the oil and natural gas sector, and even more stringent regulations to prevent hazardous air pollution from the natural gas processing and transportation sectors. Individual states also have stringent environmental regulations and emission controls. For instance, Colorado implements a comprehensive suite of methane regulations for all types of exploration and production equipment.

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12 Report ST13, Alberta Energy Regulator, 2017  
13 GHGenius 5.0c, Natural Gas Supply tab, Cell A225  
14 US EPA National Inventory Report, EPA, 2014  
15 Draft Supplemental EIS Tacoma LNG, PSCAA, pg. 193  
16 New Source Performance Standards OOOO and OOOOa, EPA, 2018  
17 Maximum Achievable Control Technology HH and HHH, EPA, 2018  
18 Colorado Air Quality Control Commission, Regulation 7
Dakota similarly limits gas flaring and has requirements for controlling the emissions from production facilities.\textsuperscript{19} British Columbia has province specific rules on the oil and natural gas industry, but they are not more protective of the environment than U.S. oil and natural gas regulations.\textsuperscript{20}

Exploration and production in both Canada and the United States is done utilizing the same advanced, environmentally protective methods and well pad designs touted in the DSEIS. To assume that Canadian oil and natural gas companies utilize better or more advanced technology and equipment is simply incorrect. PSCAA is wrong to assume that Canadian natural gas is produced in a better, more environmentally protective manner. The DSEIS should not limit PSE to using natural gas from BC to the detriment of American natural gas which has an equal if not better environmental profile.

**Interstate Commerce Clause**

Finally, PSCAA could be in violation of the interstate commerce clause of the U.S. constitution if it attempts to restrict the source of natural gas to Canada and disadvantages other states in the Union. A similar attempt to limit facilities’ fuel sources in Oregon faced Commerce Clause lawsuits, leading to a ruling that this practice was impermissibly discriminatory. In *American Fuel Petrochemical Manufacturers vs. O’Keeffe*, an Oregon state agency attempted to treat fuels from other states with higher carbon intensities, such as Midwest ethanol, in a discriminatory manner.\textsuperscript{21} PSCAA is attempting the same maneuver, and could easily face a similar legal challenge.

In short, the PSCAA should approve PSE’s LNG project because replacing diesel transportation fuel with natural gas carries obvious and significant benefits. Clean-burning natural gas decreases criteria pollutants as well as greenhouse gases from marine transportation. However, in the DSEIS, PSCAA is attempting to perversely limit, through an air permit, the source of PSE’s LNG to Canadian natural gas using flawed assumptions that underestimate the GHG emissions from BC and overestimate emissions from the United States. The PSEIS arrives at a flawed conclusion that BC gas has a better environmental profile than U.S. sourced gas. The final Record of Decision should correct the deficiencies in the studies as noted above and should not dictate the sourcing of PSE’s natural gas from BC, thereby enabling PSE to source its natural gas from the United States as well as BC. PSCAA should approve the project because it enables the displacement of diesel fueled transportation for clean-burning natural gas, but should not dictate the sourcing of that natural gas from British Columbia.

\textsuperscript{19} North Dakota Administrative Code Title 33.1-15-20
\textsuperscript{20} BC Drilling and Production Regulation, B.C. Reg. 282/2010
Sincerely,

[Signature]

Kathleen M. Sgamma
President