November 20, 2018

To: Puget Sound Clean Air Agency (PSCAA)

Re: Comments on Draft SEIS for Proposed Tacoma LNG Facility

Thank you for conducting a Supplemental EIS of greenhouse gas emissions for the Tacoma LNG project. We write representing thousands of health professional members of Washington and Oregon Physicians for Social Responsibility, statewide organizations committed to protecting human health from the greatest threats we face, including climate change.

We stand with the Puyallup Tribe in asking for the most thorough and science-based review of this facility possible. We support their request, echoed by many other organizations and individuals, for a final EIS with more complete and accurate information about the true climate impacts of this project. The proposed LNG refinery, storage, and distribution facility is sited on Puyallup tribal land and is being built without their permission.

Global Warming Potential for Methane Leakage

The SEIS uses a 100-year timeline to assess methane leakage for the facility and its upstream impacts.[1] We request that the final EIS instead use the more accurate 20-year timeline, used by the United Nations Intergovernmental Panel on Climate Change.[2] While we understand that the 2007 standard is used by Washington State following the Environmental Protection Agency greenhouse gas reporting program, we ask that the final EIS utilize more up-to-date accounting based on the latest science.

Using the 100-year timeline also incorrectly biases the analysis in favor of the project which is proposed to have a 40-year lifespan.
The climate forcing potency of methane is far greater in the short term. Using the best available science and the more recent assessment of climate impacts of methane leakage shows that the LNG project likely has a significantly greater climate impact than the "no action alternative" in PSCAA's analysis.

Fracking in British Columbia

The SEIS asserts that the Tacoma LNG project will result in a net reduction of greenhouse gas emissions if the gas is sourced from British Columbia. It identifies the province's regulations on the fracking and transport process as more protective than those found in the United States, in the end arguing that the gas for this facility must come from B.C. sources if the facility is to have a net benefit for greenhouse gas emissions.

As an organization of health professionals, we are concerned about any increase in demand for fracked gas and the health impacts that will have in B.C. communities. The emerging research on fracking finds that it is linked to various public health threats,[3] including air pollution that exacerbates asthma, heart disease, contributes to premature births and affects the brain and nervous system. Surface water and groundwater contamination have also become more prevalent near fracking sites and through disposal of fracking fluids. Fluid and wastewater from fracking has been found to contribute to adverse neurodevelopmental and reproductive outcomes.[4]

The construction of additional pipelines and increase in gas volume traveling through the region also raise concerns about erosion, loss of tree cover, leakage, fires, and explosions. Though the fracking may occur beyond Washington's borders, we have a duty to consider the health and well-being of others in our region and throughout the gas supply chain.

Estimates of Methane Leakage

The SEIS uses conservative estimates to model methane leaks from fracking in British Columbia.[5] More recent estimates find that pipelines and wells leak as much as 6 times more than previously reported.[6] We are concerned that the SEIS significantly underestimates the true increase in greenhouse gas emissions from the project due to methane leakage at each point along the supply chain, including LNG production, delivery, and storage, from B.C. to Tacoma and beyond. It is also likely that gas will come from other areas of the US and Canada. This additional impact of methane leakage along the supply chain from other places than B.C. must be included in a proper evaluation of the impacts of this project.

GHG Impact of Supply Chain for Frack Sand and Water

Fracking requires large consumption of water and sand for its operations, some of it coming long distances to the fracking well. GHG emissions from the diesel trucks and locomotives transporting the water and sand were not included in the analysis for this draft SEIS. One gas well uses a hundred rail cars of sand for fracking. One unit-train (100+cars) plus intermediate transport by diesel truck makes a significant quantity of diesel emissions to obtain gas from one well. Many, many wells and many trucks are required to fill a tanker ship with gas. The potential leakage from this supply chain has not been estimated in the draft EIS and would contribute greatly to the GHG emissions and footprint of this project.

Net Effect on Climate Change

According to Puget Sound Energy (PSE), the proposed plant will serve future customer demand, serve as a fueling station for ships that run on natural gas, and will be used to sell LNG to other industry merchants. The proposed plant, storing 8 million gallons of fracked gas, will likely bring a commensurate increase in bunkering barge and tugboat traffic in the Hylebos and Blair Waterways. PSE also plans to use the Tacoma facility to load barges and trucks with LNG destined for other regional markets. We are concerned that the SEIS has not accounted for the full potential of these activities to contribute to greenhouse gas emissions. Although ships that run on LNG emit lower particulate

matter than those that run on diesel, will the increased conventional maritime and truck traffic negate any gains the region receives in air quality from converting ship traffic from diesel to LNG? Is there sufficient commitment among shipping companies to convert from diesel to LNG, in order to realize such gains? Furthermore, it is quite troubling that this plan to use precious time and resources to replace one fossil fuel with another will not address the greater and more urgent need to develop true alternatives in a short time frame for our survival. This analysis must consider the most up to date scientific evidence and methods in estimating the climate impact of this project. It has not done so.

Health Impacts of Climate Change

As health professionals, we are especially concerned about the impact the proposed LNG plant will have on the health of Puget Sound residents, as well as residents of the Region and the Planet. Climate change poses significant health consequences, and it is our duty to speak out against projects that could drive further climate change.

Climate change impacts health in several ways. It contributes to extreme heat events and urban flooding, which pose obvious health and safety risks. In our region, climate change is causing warmer, drier summers. This means increased levels of ozone pollution, creating health risks to those with lung and heart diseases. It also means a longer and more severe wildfire season, with its damaging particle pollution in smoke, as well as loss of life and infrastructure. (Visualize the wildfires currently burning in California.) Ozone can reduce lung function, trigger asthma attacks, inflame and damage the lungs, and aggravate emphysema and bronchitis.[7] Children are the group at highest risk from ozone exposure.

The principal threat from wildfire smoke is particulate matter, and exposure can cause serious disorders, including reduced lung function, bronchitis, pneumonia, exacerbation of asthma, strokes, chronic obstructive pulmonary disease, heart failure, and premature death. Children, pregnant women, and the elderly are especially vulnerable to smoke exposure. But particulate matter can also affect healthy people, causing respiratory

symptoms, transient reductions in lung function, and pulmonary inflammation.[8,9] Particulate matter, along with other air pollutants, accounts for over 1,000 deaths per year in Washington state. If the proposed plant results in more pollution from diesel burning trucks and maritime vehicles that don't run on LNG, this will add to the particulate matter burden of the region.

Furthermore, wildfires can also hasten ecosystem changes and release large amounts of carbon dioxide into the atmosphere—contributing further to climate change.[10] Increases in the number and intensity of wildfires spurred by climate change could release enough CO2 to endanger the state's and region's progress toward meeting its greenhouse gas reduction targets.

Missing Data

The review process was reopened for a Supplemental Environmental Impact Statement to take into account the life cycle impacts of fracked/natural gas in terms of its role in climate change. The Draft Supplemental Environmental Impact Statement (SEIS) released by the Puget Sound Clean Air Agency is inadequate and needs to be reworked in light of current scientific knowledge about the impacts of methane on climate change. And, in light of current scientific evidence indicating the urgent need to take action within the next 10-12 years to curb and radically reduce the release of greenhouse gases for the survival of a habitable planet, we are greatly concerned that this project will increase the demand for, production of, and burning of fossil fuels, resulting in a greater not lesser contribution to catastrophic climate disruption. The authors of the draft SEIS, in stating that the project will reduce our local, state, or regional carbon footprint, have biased the analysis in favor of their conclusions. The current version of the draft SEIS does not contain all the information that is needed to fully assess the accuracy of this study and the predicted impact of the LNG facility. There are at least 10 places in the study that have "placeholder" values instead of actual data. We request that the PSCAA complete the draft SEIS, re-issue it, and then reset the public comment period so that we may better formulate our questions about this project.

The Puget Sound Clean Air Agency has two principal goals: I) to protect public health and the environment from air pollution, and II) to become the most climate friendly region in the United States. We believe that the proposed Tacoma LNG plant, which will add to our fossil fuel infrastructure and has the potential to increase our overall greenhouse gas emissions, is incompatible with those goals. For these reasons, we request that PSCAA deny this permit.

Thank you for your attention to our concerns,

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