



City of Tacoma
Planning Commission

Anna Petersen, Chair
Jeff McInnis, Vice-Chair
Carolyn Edmonds
Ryan Givens
David Horne
Christopher Karnes
Brett Santhuff
Andrew Strobel
Alyssa Torrez

August 18th, 2021

Council Member Conor McCarthy, Chair
Infrastructure, Planning and Sustainability (IPS) Committee
City of Tacoma
747 Market Street, Suite 1200
Tacoma, WA 98402

RE: Tideflats and Industrial Land Use Non-Interim Regulations

Honorable Chair McCarthy and Members of the IPS Committee,

In response to amended Ordinance 28696 adopted October 20th, 2020 the Tacoma Planning Commission forwarded recommendations and findings for the Tideflats and Industrial Land Use Non-Interim Regulations on April 7th, 2021. The foundation of these recommendations and findings were limited in scope to those issues raised in Amended Ordinance 28470 adopted November 21, 2017, enacting the Tideflats Interim Regulations. Since the Planning Commission's recommendations were forwarded to City Council, Council amended their legislative process to move the recommendations to the Infrastructure, Planning, and Sustainability (IPS) Committee for further review and possible amendment. The IPS Committee has invited public comment to each meeting and plans on forwarding those comments to the full City Council as part of their process. The Planning Commission has been following the IPS Committee amendment process and would like to also provide comment and additional suggestions as amendments are considered. The Planning Commission comment is in response to the IPS Committee materials revised 7/30/21 "Potential 2021 Tideflats Non-Interim Regulations Amendments" (Exhibit A).

As part of the first meeting of the IPS Committee's work on Non-Interim Regulations it was determined by the committee that the Planning Commission's *Findings of Fact* would not be going through an additional step to be amended or to change the findings. It was discussed that the Planning Commission's findings fit within a scope of potential amendments being considered by City Council. Based off this decision, the Commission determined that a letter was necessary to outline the *Findings of Fact* and protect the consistency between the Planning Commission's work and the IPS Committee's amendment work.

Previously, in 2017 City Council considered Interim Regulations and amended the Planning Commission's recommendation under Ordinance 28470 to allow for existing facilities to be exempt from the ordinance entirely. While the Interim Regulations existed as temporary regulations, which offer broad powers to the City Council, the Planning Commission's *Findings of Fact* remained unchanged. The amended ordinance could have potentially been considered to be inconsistent with the Planning Commission's *Findings of Fact* if challenged at the Washington Growth Management Hearings Board.

Now, with the City Council considering a more long-term replacement ordinance to the temporary regulations, we advise the Council to protect the *Findings of Fact* and be deliberate in forming amendment language. Amendments that might deviate from the *Findings of Fact* expose the ordinance to heightened scrutiny and challenge. We recommend that amendments Council might consider that are outside of the

scope and direction of the Planning Commission's *Findings of Fact* be facilitated through a separate process designed by City Council with clear policy intent and new findings.

The IPS Committee's potential amendments presented in Exhibit A all propose modifying fossil fuel facilities to allow expansion of new and existing facilities in certain instances. While the specific language for these amendments has not been fully developed by the IPS Committee at the time of this letter, the nature of some of the amendments may potentially not be consistent with the Planning Commission's *Findings of Fact*. It is our hope to present the following findings to guide City Council's decision alongside the proposed amendments so the language can be designed in a way to be consistent with the ordinance.

Limited Fossil Fuel Facility Expansion Permitted: The IPS Committee is considering amendment to fossil fuel facilities by allowing percentage expansion without a conditional use permit. As part of the Planning Commission's findings the Commission found under existing policy that expansion of existing facilities classified as "Major Fossil Fuel Facilities," should be prohibited. This was a departure from the original temporary Interim Regulations *Findings of Fact* in 2017, which should not be used as a basis of justifying expansion in the new ordinance. The Commission's *Findings of Fact* regarding this subject were provided as follows:

- Continued expansion of major fossil fuel facilities in the City of Tacoma would increase the risk of a catastrophic spill or derailment, and that the increased risk of incident is not borne only by Tacoma but as well by any jurisdiction through which these fuels are transported.
- Continued expansion of major fossil fuel facilities in the near-term will circumvent the long-term public interest in mitigating the impacts of climate change and promoting a transition to clean, renewable fuels.
- That the shift from crude oil import by vessel to import by rail has reduced the reliance of these facilities on marine vessel transport, and hence on shoreline locations, and that there is a public interest in limiting overall vessel shipment through the waters of Puget Sound.
- That the continued siting of such facilities in Tacoma's Tideflats further risks the compounding impact of a spill, fire, or other exposure resulting from a natural disaster.
- That the land area required by such facilities and the low employment densities conflict with long-term interest in maintaining and expanding container shipping and uses which provide greater employment densities.
- That expansion of such facilities will result in greater demand for rail transport which detrimentally impacts the availability of rail for the transport of core container cargo.
- That continued expansion of such uses may detrimentally affect salmonid populations and thereby, the Treaty Rights of the Puyallup Tribe of Indians.
- The proposed amendments would recognize and allow for the ongoing maintenance, repair, and environmental improvement of existing facilities to ensure a period of market transition from fossil fuels to renewable fuels.
- The expansion of existing facilities would increase emergency service demands in an areas with existing emergency service challenges, including the current closure of the 11th Street Viaduct.¹

¹ Pg. 47 Planning Commission Findings of Fact and Recommendations Report April 7, 2021

New and Expanded Cleaner Fuel Facilities Permitted: The Planning Commission recommended regulations that classified certain facilities that meet emissions goals as “Renewable Fuel Facilities” and concluded that while these facilities support existing climate goals in the Findings of Fact and *One Tacoma: Comprehensive Plan*, that these facilities still be considered under the following findings:

- The proposed allowance for renewable fuel development will support the City’s long-term compliance with greenhouse gas emission targets.
- The use of a conditional use permit for renewable fuel facilities will provide a process for review to ensure that the siting of such facilities do not result in adverse impacts to fish and wildlife habitat, increase the risk of accident or exposure in areas adjacent to concentrations of workers and residents, and avoid detrimental impacts to Tribal Trust Lands and planned residential developments.²

Marine Vessels Fossil Fuel Facilities: Proposed language in Exhibit A suggests Marine Vessels Fuel Facilities be permitted outright without expanded permit criteria. The Planning Commission provided the following *Findings of Fact* addressing these facilities specifically:

- City of Tacoma’s Shoreline Master Program Chapter 7.6.1 - Because of the exceptional value of Puget Sound shorelines for residential, recreational, resource and other economic elements requiring clean water, deep water terminal expansion should not include oil super tanker transfer or super tanker storage facilities.³
- That the shift from crude oil import by vessel to import by rail has reduced the reliance of these facilities on marine vessel transport, and hence on shoreline locations, and that there is a public interest in limiting overall vessel shipment through the waters of Puget Sound.⁴

Fossil Fuel Facility Projects for Maintenance, Safety, Security, or Required to Meet Regulatory Changes:

This proposed amendment is already considered as part of the Planning Commission’s recommendations after City Staff brought the issue up to the Commission near the end of the policy development process. The Planning Commission recognized the need for existing facilities to do non-capacity oriented improvements in the following findings:

- Modified the special use standards for Fossil Fuel Facilities and Renewable Fuel Facilities to allow normal maintenance and repair without a conditional use permit.
- The proposed amendments would recognize and allow for the ongoing maintenance, repair, and environmental improvement of existing facilities to ensure a period of market transition from fossil fuels to renewable fuels.⁵

Conditional Use Permitting: As part of the IPS Committee’s review of the Planning Commission recommendations and *Findings of Fact* there has been much discussion of why the Commission employed certain regulatory tools, particularly conditional use permits. The Planning Commission recommendations recognized that certain uses had the potential to have immitigable impacts and should be completely

² Pg. 47 *Planning Commission Findings of Fact and Recommendations Report April 7, 2021*

³ Pg. 22 *Planning Commission Findings of Fact and Recommendations Report April 7, 2021*

⁴ Pg. 47 *Planning Commission Findings of Fact and Recommendations Report April 7, 2021*

⁵ Pg. 47 *Planning Commission Findings of Fact and Recommendations Report April 7, 2021*

prohibited throughout the city. Uses like coal terminals, smelting, quarries, and fertilizer manufacturing were found to be incompatible with existing policy and the urban environment of our city industrial lands. However, the Commission also recognized that chemical manufacturing, renewable fuels, and fossil fuels also had the potential to have the same impacts particularly based off of where they were sited and the magnitude of their size. The Commission recommended that these uses be permitted only in certain instances under a conditional use permit. The determination of using conditional use permits was deliberate and part of the balancing of regulatory tools as part of the recommendation. Justification of this action was based off of the idea that project review through SEPA or even expanded review through an EIS cannot always successfully mitigate project impacts. If a project was unable to meet the baseline criteria for the conditional use permit, it should not be permitted. Alternative direction to make these uses prohibited, non-conforming, or even stay permitted did not support existing City policy and is well documented throughout the *Findings of Fact*.

The Planning Commission recognizes the weight of the decision before the City Council on the Non-Interim Regulations. We also recognize the Council's nontraditional step in amending the legislative process to provide more review and refinement of the Planning Commission's recommendation. We hope in the instances Council moves to create additional review that the Planning Commission can continue to comment in order to provide consistency throughout the process. The Commission extends the offer to continue to be a resource in Council Study Sessions and the IPS listening sessions on the recommendations. We thank you for allowing the Planning Commission to weigh in on these developments and we hope these comments today can help guide City Council to make a more informed decision.

Respectfully,



Anna Petersen, Chair
Tacoma Planning Commission
Enclosure

EXHIBIT A

REVISED 07/30/2021

POTENTIAL 2021 TIDEFLATS NON-INTERIM REGULATIONS AMENDMENTS

1. New and Expanded Cleaner Fuel Facilities Permitted

“Cleaner Fuel Infrastructure” Infrastructure for the production and storage of fuels that are carbon-free and generate no carbon emissions and fuels that are approved by the US Environmental Protection Agency under the federal Renewable Fuel Standard program, or under Washington State Law, including credit generating fuels under the Clean Fuel Standard (CFS) program, this includes infrastructure for:

- a. Any credit generating fuel under the Washington CFS.
- b. Any EPA approved and listed fuel under the RFS
- c. Renewable diesel meeting Washington State requirements
- d. Ethanol and E85 blends meeting Washington State requirements
- e. natural gas, propane, hydrogen, or electricity, produced or stored for use as fuels in a motor vehicle that meet California motor vehicle emission standards as described in Washington State law.

Within six (6) months following the full implementation of the Washington State Clean Fuel Standard regulations, the City Council will review this definition of Cleaner Fuel Infrastructure.

2. Limited Fossil Fuel Facility Expansion Permitted

I move to allow permitting investments in improvements to existing fossil fuel facilities that do not increase the storage, production, or transportation capacity by more than ____% over their capacity at the effective date of these regulations be permitted through the normal permitting process, including SEPA review where applicable.

3. Fossil Fuel Facility Projects for Maintenance, Safety, Security, or Required to Meet Regulatory Changes

I move to allow through the normal permitting process, including SEPA review where applicable, replacements and improvements to existing fossil fuel facilities which, maintain, or improve the safety or security of the facility, or allow the facility to meet new regulatory requirements including the State Clean Fuel Standard, including infrastructure and infrastructure which reduces air emissions and stormwater runoff. Such replacements or improvements may not increase the storage, production, or transportation capacity by more than ____% their capacity at the effective date of these regulations.

4. National Security Fossil Fuel Facilities

I move to allow expansion, modifications and additions to existing fossil fuel facilities through the normal permitting process, including SEPA review where applicable, where the project is requested in writing by an agency of the federal government to serve the needs of the Department of Defense supporting Joint Base Lewis McChord, Naval Region Northwest Installations or other national defense needs.

5. Marine Vessels Fossil Fuel Facilities

I move to allow through the normal permitting process, including SEPA review where applicable, expansion, modifications and additions to existing fossil fuel facilities by no more than ____% over their capacity at the effective date of these regulations to produce, handle or store maritime fuels that comply with the International Convention for the Prevention of Pollution from Ships ("MARPOL") Annex VI.

6. Projects which have undergone Environmental Review and Mitigated Impacts

I move to allow additions to existing fossil fuel facilities which would create the maximum proposed capacity of a facility that was the subject of an EIS prepared and published by the City under RCW 43.21C and TMC Ch. 13.12 on or before June 2, 2021 and for which the City has accepted on or before June 2, 2021, all funds that fully mitigate the adverse environmental impacts of the facility's maximum capacity pursuant to a Mitigation Agreement between the City and the facility proponent.

From: [Mark Roller](#)
To: [IPSTideflats](#)
Subject: Fossil Fuel Expansion and New Hookups
Date: Wednesday, August 25, 2021 12:59:20 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

IN LIGHT OF THE WIDESPREAD PRESENCE OF CATASTROPHIC WILDFIRES ALREADY THIS SEASON AS WELL AS OTHER ADVERSE WEATHER EVENTS RELATED TO CLIMATE CHANGE IT IS EVEN MORE URGENT TO HALT FURTHER EXPANSION OF FOSSIL FUEL USE AND PREPARE TO SIGNIFICANTLY REDUCE SUCH USE. FURTHERMORE THE ASSOCIATED LOCAL AND REGIONAL EFFECTS OF POLLUTION FROM SUCH USE ENHANCES ADVERSE HEALTH EFFECTS.

Sincere'ly, Mark F. Roller, M, D.

Mark Roller
markandbarbara.roller@gmail.com
4925 NE 68th St
Seattle, Washington 98115

From: [Laura Stump](#)
To: [IPSTideflats](#)
Subject: Thank you for your Efforts to Protect Tideflats Jobs
Date: Wednesday, August 25, 2021 8:31:26 AM

Dear Comment Email Email,

Dear Chair McCarthy and Members of the IPS Committee:

This Wednesday, August 25, is your last scheduled meeting regarding the ongoing analysis of the Tacoma Tideflats regulations submitted by the Mayor and City Council for your review. You appear to be on schedule to complete your work by the Council's requested deadline of August 31.

Thank you for taking the time during your last seven Committee meetings to conduct a thoughtful discussion related to the various issues regarding the proposed Tacoma Tideflats regulations. These are challenging issues that will potentially affect thousands of people's livelihoods and millions in local tax dollars. Therefore, it is important that you take the time to make sure everyone considers every possible consequence.

It is my hope that your hard work will result in the crafting of regulations that facilitate job growth and future Tideflats investment that also addresses the concerns about protecting the environment and climate change.

I am encouraged you brought in a diverse array of opinions and subject matter experts so that the Mayor and Tacoma City Council has all the necessary information to enact thoughtful regulations that reflect both the needs and values of Tacoma and our entire region.

Sincerely,

Sincerely,

Laura Stump
10011 Bridgeport Way SW # 1500
Lakewood, WA 98499
laurae.stump@gmail.com

From: [James Lake](#)
To: [IPSTideflats](#)
Subject: Thank you for your Efforts to Protect Tideflats Jobs
Date: Wednesday, August 25, 2021 6:50:09 AM

Dear Comment Email Email,

Dear IPS committee, Mayer Woodards, Council Member Ushka & Council Member Beale.

I thank you for your continued hard work on the planning for the sustainability of the Tacoma tide flats and the important jobs that are created in this area. This will improve opportunities for business to continue being profitable and productive in this area. Thank you for allowing all parties to have a say in the new regulations and being willing to listen to all sides of the discussion. Your efforts don't go un-noticed, and are a good example of of hard work and dedication to everyone..

Dear Chair McCarthy and Members of the IPS Committee:

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I am encouraged you brought in a diverse array of opinions and subject matter experts so that the Mayor and Tacoma City Council has all the necessary information to enact thoughtful regulations that reflect both the needs and values of Tacoma and our entire region.

Sincerely,

Sincerely,

James Lake
8132 Jason Ct SE
Olympia, WA 98513
jlake@parpacific.com

From: [Dawn Webster Williams](#)
To: [IPSTideflats](#)
Subject: Support Sustainable Energies in Tacoma
Date: Tuesday, August 24, 2021 6:29:44 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

Asking individual citizens to change their behaviors will not be enough to lower our greenhouse emissions. Smart policies must be passed that change the rules of the game and lower emissions in ways consumers don't have any control over.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Dawn Webster Williams
22-year resident of Tacoma
Mother and grandmother of children who want to stay in Tacoma

Dawn Webster Williams
ProfesoraWebster@gmail.com
4309 N Gove St
Tacoma, Washington 98407

From: [Kenneth Zirinsky](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Tuesday, August 24, 2021 6:20:02 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

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- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Kenneth Zirinsky
ellenkenab@yahoo.com
3612 N 33rd St.
Tacoma, Washington 98407

From: [Joseph Berkson](#)
To: [IPSTideflats](#)
Subject: Ban Fossil Fuel expansion
Date: Tuesday, August 24, 2021 5:46:13 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Joseph Berkson
joeberkson4000@gmail.com
4000 East Blaine Street
Seattle, Washington 98112

From: [Robb Krehbiel](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Tuesday, August 24, 2021 4:56:15 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Robb Krehbiel
robb.krehbiel@gmail.com
7521 East E Street, East E Street
Tacoma, Washington 98404

From: [Sally Burke](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Tuesday, August 24, 2021 4:37:09 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

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Thank you,

Thank you,

Sally Burke
burksal@yahoo.com
3020 East K Street
Tacoma, Washington 98404

From: [Michael Soman](#)
To: [IPSTideflats](#)
Subject: Tacoma fossil fuel expansion
Date: Tuesday, August 24, 2021 2:25:15 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

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Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Michael Soman
michaelsoman@gmail.com
15780 Euclid Ave NE
Bainbridge Island, Washington 98110

From: [Claire Richards](#)
To: [IPSTideflats](#)
Subject: Stop fossil fuel expansion, The world can't wait
Date: Tuesday, August 24, 2021 2:15:36 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

The City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion, just as in their first recommendation four years ago.

We don't need more studies or review - we know exactly what we need to do. The science is very clear that we need to STOP expanding the use of fossil fuels. We're already baked in to having 1.5 degrees of warming and what we're experiencing is only 1.2 degrees. This is not a livable planet for our children. This is a death sentence. But you actually have a chance to make a meaningful impact here.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

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I hope you will deliver to us the fossil fuel regulations we need.

Claire Richards
clairerichardsrn@gmail.com
12008 N Atlantic St
Spokane, Washington 99218

From: [Max Savishinsky](#)
To: [IPSTideflats](#)
Subject: Tacoma Fossil Fuel Regulations
Date: Tuesday, August 24, 2021 2:08:41 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

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We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Max Savishinsky
Max@wpsr.org
2524 16th Ave S., #300
Seattle, Washington 98144

From: [Anita Peñuelas](#)
To: [IPSTideflats](#)
Subject: Stop Fossil Fuel Expansion
Date: Tuesday, August 24, 2021 2:02:17 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

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I hope you will deliver to us the fossil fuel regulations we need.

Anita Peñuelas
anitapenuelas@gmail.com
7317 56th Ave NE
Seattle, Washington 98115

From: [Mariana Sanchez Castillo](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Tuesday, August 24, 2021 1:34:38 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Mariana Sanchez Castillo
Youth advocate and Climate Justice Organizer

Mariana Sanchez Castillo
mariana.snchez@gmail.com
361 Crockett St
Seattle, Washington 98109

From: [Nancy Hausauer](#)
To: [IPSTideflats](#)
Subject: Ban Fossil Fuel Expansion in the Tideflats
Date: Tuesday, August 24, 2021 12:15:14 PM

IPS Committee ,

Dear IPS Committee,

I am a long-time Tacoma resident, and I am writing to ask you to do whatever you can to ban all fossil fuel expansion in the Tideflats. Yet another City Council vote on the Non-Interim Regulations is coming up soon, and I hope you will advocate for a hard ban on all expansion of fossil fuel operations in the Tideflats, without any amendments that undermine health, justice, and climate progress. Let's get that loophole closed!

What happens in the Tacoma Tideflats also affects our whole region, and even the whole planet. Last week's stark Intergovernmental Panel on Climate Change report detailed that we are already in the midst of irreversible climate change, and that the suffering we are experiencing now world-wide is but a shadow of what it will become if we do not do everything we can to mitigate and reverse global warming. There is so little time for us to act, and our actions must be bold. At the very least, there can be no more fossil fuel operations started if we are to avert unthinkable disasters. The heat dome we saw in June, the floods around the country, the drought and terrible wildfires throughout the West give us just a taste of what is to come.

This upcoming vote on the Non-Interim regulations affects Tacomans most, of course. Fossil fuel industries in the Port negatively affect our health and safety every single day. The Port of Tacoma/Tacoma Tideflats is currently home to many polluting facilities, including those for fossil fuel storage and distribution. It has some of the worst air quality in the country. We don't need more pollution fouling our air and waterways. We need green energy and industry in the Port: it's the wave of the future, and we don't want Tacoma to be left behind, wallowing in a toxic legacy that will take years if not decades to clean up (probably at taxpayer expense).

If you are among the 4 council members who supported a 100% fossil fuel ban in the last Non-Interim Regulations vote, I want to thank you. But I also want to ask you to redouble your efforts to persuade the other 5 council members to support a total ban as well.

No new fossil fuel installations in the Tideflats, none. Not of any size or shape.

Thanks for your time.

Sincerely,
Nancy Hausauer

Nancy Hausauer
nancy@nancyhausauer.com

706 6th Avenue
Tacoma, Washington 98405

From: [Lauren Wilson](#)
To: [IPSTideflats](#)
Subject: Permanent Regulations for the Port of Tacoma
Date: Tuesday, August 24, 2021 11:51:11 AM

IPS Committee ,

Dear IPS Committee,

I just read the summary headline statements for policy makers from the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). It is sobering. Global warming of 1.5 C and 2 C will be EXCEEDED unless deep reductions in CO2 and other greenhouse gas emissions occur in the COMING DECADES. That is right now! You are policymakers and you can make the difference.

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

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We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is

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I hope you will deliver to us the fossil fuel regulations we need.

.

Lauren Wilson
lcwilson331@gmail.com
5000 SW Waite St
Seattle, Washington 98116

From: [John W Howard](#)
To: [IPSTideflats](#)
Subject: Thank you for your Efforts to Protect Tideflats Jobs
Date: Tuesday, August 24, 2021 8:40:18 AM

Dear Comment Email Email,

During historical bad times the jobs are needed for doing clean and green work at the port , please don't let our workers down !

Dear Chair McCarthy and Members of the IPS Committee:

This Wednesday, August 25, is your last scheduled meeting regarding the ongoing analysis of the Tacoma Tideflats regulations submitted by the Mayor and City Council for your review. You appear to be on schedule to complete your work by the Council's requested deadline of August 31.

Thank you for taking the time during your last seven Committee meetings to conduct a thoughtful discussion related to the various issues regarding the proposed Tacoma Tideflats regulations. These are challenging issues that will potentially affect thousands of people's livelihoods and millions in local tax dollars. Therefore, it is important that you take the time to make sure everyone considers every possible consequence.

It is my hope that your hard work will result in the crafting of regulations that facilitate job growth and future Tideflats investment that also addresses the concerns about protecting the environment and climate change.

I am encouraged you brought in a diverse array of opinions and subject matter experts so that the Mayor and Tacoma City Council has all the necessary information to enact thoughtful regulations that reflect both the needs and values of Tacoma and our entire region.

Sincerely,

Sincerely,

John W Howard
6805 33rd Ave SE
Lacey, WA 98503
howardjohnbr549@yahoo.com

From: [Adam Davis](#)
To: [IPSTideflats](#)
Subject: Thank you for your Efforts to Protect Tideflats Jobs
Date: Tuesday, August 24, 2021 8:40:13 AM

Dear Comment Email Email,

Dear Chair McCarthy and Members of the IPS Committee:

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Sincerely,

Sincerely,

Adam Davis
111 C St SW
Castle Rock, WA 98611
adam@ua26.org

From: [Pete Romero](#)
To: [IPSTideflats](#)
Subject: Thank you for your Efforts to Protect Tideflats Jobs
Date: Tuesday, August 24, 2021 8:40:09 AM

Dear Comment Email Email,

Dear Chair McCarthy and Members of the IPS Committee:

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Sincerely,

Sincerely,

Pete Romero
5764 Ronnie Hill Ln
Ferndale, WA 98248
promero@jhkelly.com

From: [Dori Rosenberg](#)
To: [IPSTideflats](#)
Subject: Stop fossil fuel expansion
Date: Monday, August 23, 2021 5:19:09 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Dori Rosenberg
dorirosenberg@gmail.com
5224 S Pearl St
Seattle, Washington 98118

From: [Laura Gibbons](#)
To: [IPSTideflats](#)
Subject: no fossil fuel expansion - our climate can't take it!
Date: Monday, August 23, 2021 3:36:04 PM

IPS Committee ,

Dear IPS Committee,

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Laura Gibbons
lgibbons51@yahoo.com
5021 43rd Avenue South
Seattle, Washington 98118

From: [Cubba Reese](#)
To: [IPSTideflats](#)
Subject: No to fossil fuel expansion
Date: Monday, August 23, 2021 12:23:14 PM

IPS Committee ,

Dear IPS Committee,

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I hope you will deliver to us the fossil fuel regulations we need.

Cubba Reese
cubbareese@yahoo.com
8001 SE 37th Place
Mercer Island , Washington WA

From: [Katie McKenna](#)
To: [IPSTideflats](#)
Subject: Please, No Fossil Fuel Expansion
Date: Monday, August 23, 2021 12:10:02 PM

IPS Committee ,

Dear IPS Committee,

I'm 32 years old, a former Tacoma and current Seattle resident, and someone who cares deeply about this beautiful state that we live in and the future of our Earth.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

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I hope you will deliver to us the fossil fuel regulations we need. I want a future for myself and more generations to come and without drastic change, no one is going to be here to enjoy it.

Katie McKenna
ktemckenna@gmail.com
11551 Greenwood Ave N Apt 403
Seattle, Washington 98133

From: [Jean Myers](#)
To: [IPSTideflats](#)
Subject: No Fossil Fuel expansion
Date: Monday, August 23, 2021 12:00:57 PM

IPS Committee ,

Dear IPS Committee,

During this climate crisis, we need every community to do its part to end fossil fuel use. My children and grandchildren are depending on current decision makers to make this world habitable for them in future years. Please make decisions that you can be proud of and create a livable future for all children.

Industry will probably turn to talk of biofuels to seek expansion of their facilities. However, two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly.

I hope you will deliver the fossil fuel regulations we need.

Jean Myers
jmyers1050@gmail.com
155 28th Ave
Seattle, Washington 98122

From: [Victoria Leistman](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Monday, August 23, 2021 11:05:56 AM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Victoria Leistman
victoria.leistman@sierraclub.org
726 N 46th Street
Seattle, Washington 98103

From: [Jaimini Parekh](#)
To: [IPSTideflats](#)
Cc: anna@wecprotects.org; jhasselman@earthjustice.org
Subject: Comment Regarding Proposed Non-Interim Regulations for the Tideflats to Restrict Further Fossil Fuel Development
Date: Saturday, August 21, 2021 10:13:40 AM
Attachments: [2021-08.21 Letter Regarding Tideflats Regulations w.Attach.pdf](#)

Please see the attached comment letter. Thank you.

Jaimini Parekh
Senior Associate Attorney
Earthjustice
810 Third Avenue, Suite 610
Seattle, WA 98104
T: 206-701-7613
F: 206.343.1526
earthjustice.org
facebook.com/earthjustice
twitter.com/earthjustice

****Working remotely, and email is the preferred means of contact. Thank you.*



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August 21, 2021

Via email to IPSTideflats@cityoftacoma.org
Infrastructure, Planning and Sustainability Committee
Tacoma City Council
747 Market Street
Tacoma, WA 98402

RE: Comment Regarding Proposed Non-Interim Regulations for the Tideflats to Restrict Further Fossil Fuel Development

Dear Infrastructure, Planning and Sustainability Committee:

Earthjustice submits this letter on behalf of Advocates for a Cleaner Tacoma (“ACT”), Washington Environmental Council (“WEC”), Sierra Club Washington Chapter, Washington Physicians for Social Responsibility (“WPSR”), and Stand.earth.¹ Earthjustice represents these organizations in litigation pending before the Pollution Control Hearings Board challenging the Notice of Construction permit issued by the Puget Sound Clean Air Agency for the Tacoma LNG Project, which is owned and operated by Puget Sound Energy.

We applaud the City of Tacoma (“City”) for its interim moratorium on fossil fuel development and encourage the City to enact strong protections to prevent construction of new fossil fuel facilities and expansion of existing fossil fuel facilities. We urge the City Council to adopt amendments to its zoning code that are proposed in the April 27, 2021 report from the City Planning Commission.² As described further below, the City has broad authority under its police power to enact the Planning Commission’s proposed amendments to the municipal code. Passage of such amendments would not infringe upon any constitutionally protected rights.

Further, the proposed amendments are necessary to protect the public from climate disaster, to protect air quality and to protect public safety in the City of Tacoma. Even a single

¹ ACT is a Tacoma-based nonprofit focused on ensuring and improving clean air, water, and land in Tacoma. WEC is non-profit, statewide advocacy organization that has been driving positive change to solve Washington’s most critical environmental challenges. The Sierra Club is a national nonprofit organization dedicated to enjoying, and protecting wild places; to practicing and promoting the responsible use of the earth’s ecosystems; to educating and enlisting humanity to protect and restore the natural and human environment. WPSR is a healthcare professional-led advocacy organization working to create a healthy, just, peaceful and sustainable world. Lastly, the mission of Stand.earth is to challenge corporations and governments to treat people and the environment with respect, because our lives depend on it.

² City of Tacoma Planning Comm’n, *Tideflats and Industrial Land Use Proposed Amendments to Title 13: Land Use Regulatory Code And Title 19 Shoreline Master Program*, Prepared for City Council Public Hearing April 27, 2021, <https://bit.ly/381sG5m> (“*Planning Commission Report*”)

fossil fuel facility can have a major impact on global climate change and public safety. Attached with this letter is the direct testimony of experts retained by Earthjustice in connection with the appeal of the permit issued by the Puget Sound Clean Air Agency.³ These experts evaluated the climate impacts and health and safety hazards of the Tacoma LNG Project.

I. THE CITY HAS BROAD POLICE POWER TO ENACT THE AMENDMENTS PROPOSED BY THE PLANNING COMMISSION.

The Planning Commission’s proposed amendments are a reasonable exercise of the City’s police power to regulate activities within its jurisdiction for the public health and benefit of its residents. The Supreme Court has found that “zoning is, in general, a proper exercise of police power which can permissibly limit an individual's property rights,” so long as it is a reasonable exercise of such power. *Norco Const., Inc. v. King Cty.*, 97 Wn.2d 680, 684–85 (1982). Exercise of a local governments authority “must be reasonable and rationally related to a legitimate purpose of government such as avoiding harm or protecting health, safety and general[.]” *Id.*

In its report, the Planning Commission extensively describes the reasons supporting its proposal to limit new fossil fuel development, and prohibit expansion of fossil fuel development in the Port of Tacoma.⁴ These reasons range from stopping climate harms, to protecting the health and safety of nearby residents. These are exactly the type of regulations the Supreme Court had in mind when it found that cities have the authority to protect public health and safety. The Planning Commission’s report also extensively describes how the proposed amendments advanced the policies and goals identified in the Growth Management Act, Shoreline Management Act, Multicounty Planning Policies (VISION 2040), and the One Tacoma Comprehensive Plan.⁵

Nor would the amendments proposed in the *Planning Commission Report* constitute a taking, or otherwise infringe upon with any constitutionally protected property rights. The Washington Supreme Court has held that “[a] land use regulation is not a taking if it substantially advances a legitimate state interest and does not deprive the owner of economically viable use of the owner's land.” *Sparks v. Douglas Cty.*, 127 Wash. 2d 901, 908, 904 P.2d 738, 742 (1995). As noted above, the Planning Commission’s proposed amendments constitute a legitimate state interest. Further, the proposed amendments do not deprive existing owners and operators in the Port of their economically viable use of the land, because owners can still develop their lands into other conforming uses and existing non-conforming uses are allowed to continue.

³ See **Ex. A**, Direct Testimony of P. Erickson, *ACT v. Puget Sound Clean Air Agency*, PCHB No. P19-087c (Mar. 22, 2021); **Ex. B**, Direct Testimony of T. Spicer, *ACT v. Puget Sound Clean Air Agency*, PCHB No. P19-087c (Mar. 22, 2021).

⁴ *Supra* note 2, *Planning Commission Report*.

⁵ *Supra* note 2, *Planning Commission Report*, at 23-51.

The Planning Commission’s proposed amendments would make fossil fuel facilities a non-conforming use in the City of Tacoma, and the City has police power to enact such regulations. The Supreme Court has held that a zoning ordinance can prohibit a nonconforming use because it is detrimental to the public interest. *Rhod-A-Zalea & 35th, Inc. v. Snohomish Cty.*, 136 Wash. 2d 1, 7, 959 P.2d 1024, 1027–28 (1998). Although detrimental the public interest, if a non-conforming use is already existing onsite they are allowed to continue on the belief that it would be unfair and perhaps unconstitutional to require immediate cessation of a nonconforming use. *Id.* Protected nonconforming status generally grants the right to continue the existing use but will not to significantly change, alter, extend, or enlarge the existing use. *Id.* Further, such uses may be terminated either by abandonment or reasonable amortization provisions. *Id.* “In Washington, local governments are free to preserve, limit or terminate nonconforming uses subject only to the broad limits of applicable enabling acts and the constitution.” *Id.*

Here, Tacoma’s City Planning Commission has effectively proposed to make fossil fuel use a non-conforming use city-wide, because it proposes to ban new facilities, and prohibit expansion of existing facilities. As explained above, the City of Tacoma has authority to enact such regulations pursuant to its police power. Further, the Planning Commission’s proposals would protect constitutionally protected property interests because it would not require existing fossil fuel facilities to cease operating. It would allow those facilities to continue, but would impose a limit on expansion. Industry has implied that the City of Tacoma does not have the authority to enact these zone restrictions, but as described above, that is simply false.

II. THE PLANNING COMMISSIONS PROPOSED AMENDMENTS WOULD NOT IMPINGE UPON VESTED PERMIT RIGHTS

Nor should the City be concerned about affecting any vested rights to permits, because the Planning Commission’s proposed zoning amendments would not impinge upon those rights either. The vested rights doctrine allows developers to lock-in “the regulations in effect at the time a complete building permit application is filed, regardless of subsequent changes in zoning or other land use regulations.” *Town of Woodway v. Snohomish County*, 180 Wn.2d 165, 172-173 (Wash. 2014). This doctrine, developed through common law, was codified in 1987 in RCW § 19.27.095. It is only triggered with submission of a (1) building permit application, or (2) application for preliminary plat or short plat approval.

Washington adheres to the minority rule that “a landowner obtains a vested right to develop land when he or she makes a timely and complete building permit application that complies with the applicable zoning and building ordinances in effect on the date of the application.” *Norco Const., Inc. v. King Cty.*, 97 Wn.2d 680, 684 (1982). This means that a land owners’ interest to develop only vests once they submit an application for a building permit. A landowner does not have any vested interest in future building permits. Further, before any developer submits a permit, the City can enact a law prohibiting issuance of a building permit.

Here, the interim ordinances have prohibited issuance of new permits for fossil fuel facilities, so developers’ rights have not yet vested. Once the propose zoning amendment

becomes law, the City has the authority to prohibit developers from submitting applications for a building or development permit to construct or expand fossil fuel facilities. Doing so would not impinge upon any vested property rights to develop.

Further, the vested rights doctrine does not apply to Shoreline Substantial Development Permits. In *Potala Village Kirkland, LLC v. City of Kirkland*, 183 Wn. App. 191, (2014), the Court of Appeals held that the vested rights doctrine does not apply to shoreline substantial development permits. The appellate court looked to the Washington Supreme Court's analysis of the state vesting statute, which applies vesting rights only to a "complete building permit application" or applications for preliminary plat or short plat approval." RCW § 19.27.095, 58.17.033. It found the Washington Supreme Court unwilling to extend the vested rights doctrine beyond these permits. See *Erickson & Assocs., Inc. v. McLerran*, 123 Wn.2d 864, 867, 872 P.2d 1090 (1994) (refusing to extend vested rights doctrine to completed master use permit (MUP) application); *Abbey Rd. Group, LLC v. City of Bonney Lake*, 167 Wn.2d 242 (2009) (refusing to extend vested rights doctrine to submitted site development plan); *Town of Woodway v. Snohomish County*, 180 Wn.2d 165 (2014) (declaring the vested rights doctrine statutory and declining to rewrite legislation to extend vesting rights beyond building permits).⁶ In short, the court held "that the filing of the application for a shoreline substantial development permit, without filing an application for a building permit, did not vest zoning or other land use control ordinances." *Id.* at 203.

III. SEPA REVIEW DOES NOT CREATE ANY VESTED RIGHTS TO DEVELOP.

Washington courts have soundly rejected the notion that SEPA review creates any vested rights. The State Environmental Policy Act ("SEPA") is an information disclosure law that was enacted with the purpose of informing decisionmakers and the public about the environmental consequences of any proposed government action, including whether the City should issue a permit. See *Norway Hill Preserv. & Prot. Ass'n v. King Cnty. Council*, 87 Wn.2d 267, 272 (1976); WAC 197-11-400. "The primary function of an EIS is to identify adverse impacts to enable the decision-maker to ascertain whether they require either mitigation or denial of the proposal." *Victoria Tower P'ship v. City of Seattle*, 59 Wn. App. 592, 601 (1990); WAC 197-11-400(2).

However, preparation of an environmental review document that evaluates a project expansion scenario does not create any vested rights that would allow a developer to use its property in accordance with the project evaluated in a SEPA review document. The Court of Appeals resoundingly rejected this argument, finding that SEPA review does not create any

⁶ Laws that promote health and safety, or reflect a city's legitimate use of police power, are also not subject to the vested rights doctrine. See, e.g., *Hass v. City of Kirkland*, 78 Wn.2d 929, 481 P.2d 9, 10-11 (Wash. 1971) (refusing to vest a fire code because "[t]here is no such thing as an inherent or vested right to imperil the health or impair the safety of the community"); *Edmonds Shopping Ctr. v. Edmonds*, 117 Wn. App. 344, 359-360 (Wash. Ct. App. 2003) (the vested rights doctrine did not lock-in the right to operate a cardroom).

vested rights to develop. *Deer Creek Devs., LLC v. Spokane Cty.*, 157 Wn. App. 1, 12 (2010) (“Deer Creek’s arguments that the vested rights doctrine should be expanded to include site plan applications or a SEPA report for a multipermit project are unpersuasive.”).

IV. ZONING AMENDMENTS CAN LIMIT EXPANSION OF THE TACOMA LNG FACILITY, AND WOULD NOT INFRINGE ON VESTED RIGHTS.

The Tacoma LNG facility is a fossil fuel facility, and would fall within the scope of the proposed zoning code amendments to limit the expansion of such facilities. In its comment letter to the City, Puget Sound Energy itself admitted that expansion of its facility would require further permitting. PSE stated that “[a]s written, the proposed development regulations would prevent expansion of the current Tacoma LNG to include a second natural gas liquefaction train and increase service capacity from its current 250,000 gallons per day. Such expansion would require additional permitting[.]”⁷ In its letter to the City of Tacoma, Puget Sound Energy (“PSE”) never asserted that it had vested rights that would allow it to expand the Tacoma LNG Facility. PSE only offered unsound legal arguments that the City lacked the authority to amend its zoning code. Thus, PSE itself does not assert that it retains any vested rights that would be infringed by the City’s propose zoning amendment to limit expansion of fossil fuel facilities.

Permits currently issued to the Tacoma LNG facility allowed for construction and operation of an LNG storage tank, and production of 250,000 gallons of LNG per day. As PSE admits, expansion of the facility would require new developments to expand operations. The Shoreline Substantial Development permit allows construction along the Blair pier for loading LNG on ships. However, PSE partially withdrew its application to construct bunkering infrastructure on the Hylebos Pier.⁸ Building permits to the facility allow for construction of the LNG tank, and permit grading activity to install existing equipment used at the facility. Expanding operations would require construction of new buildings, further developing the site by grading or installing new utility line connections, and these activities all require a new permit from the City. In its letter, PSE mentioned construction of a new rail yard, which would most certainly require new permits from the City. PSE does not have any vested interest these permits because it has not applied for them. Thus, it lacks a vested right to expand on that basis.

The completion of SEPA review for the project that evaluated a project expansion scenario also does not create any vested rights to develop. In the Final Environmental Impact Statement prepared by the City of Tacoma (“FEIS”), the FEIS evaluated two scenarios (1) the currently permitted scenario of producing 250,000 gallons of LNG per day, and (2) the future expansion scenario of producing 500,000 gallons per day. PSE does not have any vested right to develop its property based on this SEPA review prepared by the City of Tacoma. *Deer Creek Devs., LLC*, 157 Wn. App. at 12.

⁷ Puget Sound Energy, *Letter to Tacoma City Planning Commission re Non-Interim Tacoma Tideflats Development Regulations*, Mar. 8, 2021.

⁸ **Ex. C**, Puget Sound Energy, Pre-hearing Brief, SHB No. 16-002, at 2 (May 2, 2016).

Lastly, the mitigation agreement entered into between the City of Tacoma and Puget Sound Energy also does not create any obligation by the City to allow expansion.⁹ On November 10, 2015, the City of Tacoma entered into a mitigation agreement with Puget Sound Energy that allowed the company to get a tax exemption in exchange for funding improvements to the city that would mitigate harms identified in the Final EIS.¹⁰ The mitigation agreement provides that PSE will pay the City of Tacoma \$5,500,000 to complete a series of public works projects identified in Section 4 of the contract. The contract provides a tolling period during which the payment of funds is tolled while PSE obtains all necessary permits to develop its Tacoma LNG facility.¹¹ The contractual obligations of the City are already satisfied because PSE has received all permits that would allow for the construction and development of the Tacoma LNG facility.

Further, the contractual agreement does not mention facility expansion, and by its terms does not apply to facility expansion. PSE has completed construction of the Tacoma LNG facility, and according to statements it made to regulators, the facility is already operating. Funding measures are contingent upon construction and operation of the Tacoma LNG facility.¹² The public works projects must be built before operation of the Tacoma LNG facility, and once the public works projects are completed the contract term ends.¹³

Lastly, the mitigation contract should not be read to legally bind the City to issue future permits, because doing so may violate Washington's anti-bribery law. Bribery constitutes offering a pecuniary benefit with the intention to obtain "particular result in a particular matter involving the exercise of the public servant's vote, opinion, judgment, exercise of discretion, or other action in his or her official capacity[.]" RCW 9A.68.010. Entering into a contractual agreement that would prohibit the city from exercising its discretion to deny or withhold future permits would likely violate this law. "[C]ourts are generally willing to enforce, contracts that do not contravene public policy." *Keystone Land & Dev. Co. v. Xerox Corp.*, 152 Wn. 2d 171, 176 (2004). "The underlying inquiry when determining whether a contract violates public policy is whether the contract has a tendency to be against the public good, or to be injurious to the public." *LK Operating, LLC v. Collection Grp., LLC*, 181 Wn. 2d 48, 86 (2014). It is contrary to the public good, and the public interest for a City to bind itself to future project approvals that would allow the Tacoma LNG facility to expand in exchange for monetary benefits. Interpreting the contract in this way would render the contract void.

⁹ Attachment No. 4: Puget Sound Energy Agreement, City of Tacoma, Resolution - ILA with the Port of Tacoma for the PSE LNG, Nov. 10, 2015, <https://cityoftacoma.legistar.com/LegislationDetail.aspx?ID=2511703&GUID=F2B2BD0E-E1DA-4ED1-A03D-CEFAF95218E6&Options=&Search=>.

¹⁰ *Id.*

¹¹ *Id.* at § 3.1.1.

¹² *Id.* at § 3.1.

¹³ *Id.* at § 2.

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Tacoma City Council
August 21, 2021
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For all the reasons described in this letter, we strongly encourage you to enact the zoning amendments described in the Planning Commission's report. Enacting these regulations would make the City of Tacoma safer, and would be a tremendous step toward reducing the City's contribution to catastrophic global climate change.

Sincerely,



Jaimini Parekh, Attorney
Counsel for
Earthjustice

*Counsel for Washington Environmental Council, Stand.Earth, Advocates for a Cleaner Tacoma,
Sierra Club, Washington Physicians for Social Responsibility*

Exhibit A

1 POLLUTION CONTROL HEARINGS BOARD
2 FOR THE STATE OF WASHINGTON

3 ADVOCATES FOR A CLEANER TACOMA;)
SIERRA CLUB; WASHINGTON)
4 ENVIRONMENTAL COUNCIL; WASHINGTON) PCHB No. P19-087c
PHYSICIANS FOR SOCIAL RESPONSIBILITY;)
5 STAND.EARTH, and THE PUYALLUP TRIBE OF)
INDIANS,)
6) DIRECT TESTIMONY OF PETER
ERICKSON)
7 Appellants,)
8 v.)
9 PUGET SOUND CLEAN AIR AGENCY, PUGET)
SOUND ENERGY)
10 Respondents.)
11)

12 I. INTRODUCTION

13 1. My name is Peter Erickson. I am a Senior Scientist with the Stockholm
14 Environment Institute (“SEI”). I have worked in environmental research and consulting for 20
15 years. I have been employed by the Stockholm Environment Institute (“SEI”) since 2008. SEI
16 is an international research institute with offices in five continents. According to the University
17 of Pennsylvania Global Go-to Think Tank Index, SEI has been ranked as the world’s top one or
18 two environmental policy think tanks for the last several years.

19 2. I am a researcher with SEI’s U.S. Center, which is registered in the U.S. as a
20 501(c)(3) non-profit corporation. SEI’s U.S. Center has extensive experience analyzing how
21 policies, actions, or infrastructure projects increase or decrease greenhouse gas emissions. In
22 particular, in my work at SEI, I have authored or co-authored numerous studies on the GHG
23 emissions effects of projects that use or displace fossil fuels. These include a study of industrial
24 GHG emissions intensity for the State of Washington’s Department of Ecology, published in

1 2010.¹ This and other studies on the GHG emissions effects of projects and facilities that use or
2 displace fossil fuels are listed in my C.V. During the last thirteen years, my professional focus
3 has been on greenhouse gas emissions accounting and the role of policy mechanisms in
4 reducing greenhouse gas emissions. Specifically, I have conducted and led research projects on
5 these topics on behalf of numerous partners and funders, including international institutions
6 (e.g., the United Nations Framework Convention on Climate Change, the World Bank), the U.S.
7 government (U.S. Environmental Protection Agency), state governments (e.g., State of
8 Washington, State of Oregon), and local governments (e.g., City of Seattle, King County, Pierce
9 County).

10 3. I have also served on national and international committees devoted to
11 greenhouse gas emissions accounting: one convened by the International Council of Local
12 Environmental Initiatives (ICLEI) to create a U.S. Community-scale Greenhouse Gas Emissions
13 Accounting and Reporting Standard, and one convened by the Greenhouse Gas Protocol to
14 create the Greenhouse Gas Mitigation Goals Standard. I am currently an invited reviewer for
15 several chapters of the Intergovernmental Panel on Climate Change's upcoming *Sixth*
16 *Assessment Report* focused on mitigating global climate change. I have published widely in the
17 peer-reviewed literature on these topics, including in the journals *Carbon Management*, *Climate*
18 *Policy*, *Energy Policy*, *Environmental Research Letters*, *Environmental Science and*
19 *Technology*, *Greenhouse Gas Measurement and Management*, *Nature*, *Nature Climate Change*,
20 and *Nature Energy*. I have also written on the very issues presented in this case, for example, in
21 a paper cited by the Washington Department of Ecology when it rejected a SEPA lifecycle
22

23 ¹ Peter Erickson, et al., *Issues and Options for Benchmarking Industrial GHG Emissions*,
24 October 8, 2010, STOCKHOLM ENVIRONMENT INSTITUTE,
<https://www.sei.org/publications/issues-options-benchmarking-industrial-ghg-emissions/>.

1 GHG analysis for the Kalama methanol project.² These and other efforts are documented in my
2 curriculum vitae, which is attached as ACT-18.

3 4. I have carefully reviewed the draft and final supplemental environmental impact
4 statements (“SEIS”) concerning greenhouse gas (“GHG”) emissions from the Tacoma LNG
5 project that is the subject of this litigation, as well as its supporting documents, including the
6 PSE Tacoma LNG Project GHG Analysis Final Report (“GHG Report”) appended to the SEIS
7 as Appendix B. I also am familiar with the draft version of these documents and submitted
8 comments on the draft. I have also reviewed oral and written testimony from others who have
9 offered opinions in this case, including Stephan Unnasch and Patrick Couch. This testimony
10 explains my expert opinion that the methodologies and conclusions contained in the SEIS and
11 GHG Report are fundamentally flawed and misleading. In my opinion, contrary to what is
12 stated in the SEIS, GHG emissions associated with this project are significant, and are
13 inconsistent with global, national, and state commitments to dramatically reduce GHG
14 emissions. There are multiple reasons for this.

15 II. THE CLIMATE CRISIS AND NEED FOR EMISSIONS CUTS

16 5. First, it is helpful to review the state of the science with respect to the climate
17 crisis and consensus agreements around the need for rapid and steep cuts in emissions of GHGs
18 over the coming decades. Around the world, with just ~1 degree C of warming experienced to
19 date, we are already seeing serious harms that include increasing flooding, wildfires, droughts,
20 heat waves, expanded impacts of pests and pathogens, and other effects. All of these are

23 ² ACT-19, Peter Erickson, et al., *Towards a climate test for industry: Assessing a gas-based*
24 *methanol plant*, STOCKHOLM ENVIRONMENT INSTITUTE, (February 26, 2018).

1 plausibly linked to climate change.³ For example, three “five-hundred year” floods occurred in
2 Houston, Texas in just three years, with one storm – Hurricane Harvey – producing rainfall that
3 “likely exceeded that of any known historical storm in the continental United States.”⁴ In many
4 areas of the world and the country, increasing summer temperatures are already making working
5 outdoors dangerous.⁵ In the Pacific Northwest, warming has contributed to “vast mountain areas
6 [having] already been transformed by mountain pine beetle infestations, wildfires, or both” and
7 reduced snowpack.⁶

8 6. The impacts of climate change globally and in the Northwest are expected to get
9 worse, especially if GHG emissions continue at recent levels. A scientific review of the effects of
10 climate change on health has concluded, “The life of every child born today will be profoundly
11 affected by climate change. Without accelerated intervention, this new era will come to define
12 the health of people at every stage of their lives.”⁷ In the Pacific Northwest, climate change
13

14 ³ For a summary of these effects, see: Holdren, J. P. (2018, September). *The Science & Policy of*
15 *Climate Change: An Update on the Challenge and the Opportunity*. Presented at the Low-
16 *emissions Solutions Conference*, San Francisco, CA.
https://lowemissions.solutions/uploads/files/decks/2018_gcas_lesc/John%20Holdren_2018-09-11_Perspective_USF_JPH.pdf.

17 ⁴ Hayhoe, K., Wuebbles, D. J., Easterling, D. R., Fahey, D. W., Doherty, S., Kossin, J. P., ...
18 Wehner, M. F. (2018). *Chapter 2: Our Changing Climate. Impacts, Risks, and Adaptation in the*
United States: The Fourth National Climate Assessment, Volume II.
<https://doi.org/10.7930/NCA4.2018.CH2>.

19 ⁵ Field, C. B., Barros, V. R., Dokken, D. J., Mach, K. J., & Mastrandrea, M. D. (Eds.). (2014).
20 *Human Health: Impacts, Adaptation, and Co-Benefits. In Climate Change 2014 Impacts,*
Adaptation, and Vulnerability (pp. 709–754). <https://doi.org/10.1017/CBO9781107415379.016>.

21 ⁶ May, C., Luce, C. H., Casola, J. H., Chang, M., Cuhaciyani, J., Dalton, M., Lowe, S. E.,
22 Morishima, G. S., Mote, P. W., Petersen, A. S., Roesch-McNally, G., & York, E. A. (2018).
Chapter 24: Northwest. Impacts, Risks, and Adaptation in the United States: The Fourth
National Climate Assessment, Volume II. U.S. Global Change Research Program.
23 <https://doi.org/10.7930/NCA4.2018.CH24>.

24 ⁷ Watts, N., Amann, M., Arnell, N., Ayeb-Karlsson, S., Belesova, K., Boykoff, M., Montgomery,
H. (2019). The 2019 report of The Lancet Countdown on health and climate change: Ensuring

1 impacts associated with emissions at recent levels will lead to increased damages to people,
2 property, and economic activity from fire, water shortages, risks to fisheries and aquatic
3 ecosystems, and food security. For example, as reported in the US Government's *Fourth*
4 *National Climate Assessment*, "Airborne particulate levels from wildfires are projected to
5 increase 160% by mid-century... ..creating a greater risk of smoke exposure through increasing
6 frequency, length, and intensity of smoke events", and resulting increased respiratory illness.

7 7. Consistent with the findings of the international scientific community, the US
8 Government's *Fourth National Climate Assessment* describes that climate risks can only be
9 adequately addressed with "substantial and sustained reductions in global greenhouse gas
10 emissions."⁸ As the report notes, "Future risks from climate change depend primarily on
11 decisions made today."⁹

12 8. To address the risks of climate change throughout the world, nations have been
13 working collectively under the United Nations Framework Convention on Climate Change
14 (UNFCCC). The landmark agreement of countries that are party to the UNFCCC, including the
15 United States, is the Paris Agreement of 2015. The Paris Agreement commits countries to
16 "holding the increase in the global average temperature to well below 2 °C above pre-industrial
17 levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial
18 levels." In adopting the Paris Agreement, countries also asked the Intergovernmental Panel on
19

20 that the health of a child born today is not defined by a changing climate. *The Lancet*.
21 [https://doi.org/10.1016/S0140-6736\(19\)32596-6](https://doi.org/10.1016/S0140-6736(19)32596-6).

22 ⁸ Reidmiller, D. R., Avery, C. W., Easterling, D. R., Kunkel, K. E., Lewis, K. L. M., Maycock,
23 T. K., & Stewart, B. C. (2018). *Impacts, Risks, and Adaptation in the United States: The Fourth*
National Climate Assessment, Volume II. U.S. Global Change Research Program.
<https://doi.org/10.7930/NCA4.2018> page 25.

24 ⁹ *Ibid*, page 26.

1 Climate Change (IPCC) to produce a report on what emissions levels would be needed to
2 achieve the 1.5 °C limit.¹⁰

3 9. The IPCC, in its special report, *Global Warming of 1.5 °C*, describes that net
4 global carbon dioxide (CO₂) emissions must reach zero by about the year 2050 in order to meet
5 the 1.5 °C with no or “limited” overshoot (exceedance) of the temperature limit.¹¹

6 10. Use and production of all three major fossil fuels – coal, gas, and oil – must
7 decline dramatically to meet the 1.5 °C limit. Over the next three decades (through 2050), the
8 IPCC finds that, to attain the 1.5 °C limit with no or limited overshoot, coal use must decline by
9 an average of 6% annually (for a total of 82% between 2020 and 2050), gas use by an average of
10 2% annually (for a total of 43%), and oil use by an average of 3% annually (for a total of 65%).¹²
11 Further, one of the longstanding principles of the international negotiations, termed “common
12 but differentiated responsibilities”, is that reductions in the U.S. and other highly developed
13 countries must proceed faster than these global averages, on account of our historic responsibility
14 for climate change and our relatively high capacity to financially support solutions.

15 11. The role of “natural” gas in a global energy transition consistent with the goals of
16 the Paris Agreement is a topic of considerable research and debate. As a fossil fuel, natural gas
17 emits dramatically more greenhouse gas emissions than non-fossil sources of energy, such as
18 solar or wind power. But in some limited circumstances and depending on what timescale is
19

20 ¹⁰ UNFCCC. (2015). Decision 1/CP.21: Adoption of the Paris Agreement. Retrieved from United
21 Nations Framework Convention on Climate Change website:
<http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

22 ¹¹ Rogelj, J., Shindell, D., Jiang, K., Fifita, S., Forster, P., Ginzburg, V., ... Vilariño, M. V.
23 (2018). Mitigation pathways compatible with 1.5°C in the context of sustainable development. In
24 *Special Report on the impacts of global warming of 1.5 °C*. Retrieved from
<http://www.ipcc.ch/report/sr15/> Figure 2.5, page 113 and Table 2.4, page 119.

¹² *Ibid*, Table 2.6, page 132.

1 considered, natural gas can emit fewer greenhouse gas emissions than would other fossil fuels,
2 such as coal or oil. When researchers have weighed both possibilities against each other, they
3 consistently find that expanding gas supply, especially from North America, offers little help in
4 reducing greenhouse gas emissions or avoiding climate change. As summarized in the most
5 complete study to look at this question, “increases in global supplies of unconventional natural
6 gas do not discernibly reduce the trajectory of greenhouse gas emissions or climate forcing.”¹³
7 In other words, efforts to expand the supply of gas do little, if anything, to reduce greenhouse gas
8 emissions. The reason is that expanding gas supply delays decarbonization of the energy system;
9 a greater supply of low-cost gas both increases overall energy consumption as well as postpones
10 the adoption of low-carbon energy.

11 III. THE SEIS ERRONEOUSLY ASSUMES MARINE AND TRUCK
12 TRANSPORTATION WILL BE HIGH-CARBON FOR DECADES IF NOT FOR THIS
13 PROJECT.

14 12. The SEIS provides a “life-cycle” analysis of GHG emissions, looking not just at
15 direct GHG emissions but also at indirect emissions associated with the production,
16 transportation, and end use of the LNG that would be processed and stored at the Tacoma
17 project. Lifecycle analysis is an important tool to assess the GHG implications of government
18 decisions. As documented here, however, there are a number of serious problems with the
19 analysis in the final SEIS.

20 13. The SEIS documents significant life-cycle emissions from the project, the bulk of
21 which are associated with the production and end-use of LNG. Specifically, the SEIS finds that
22 the project would generate 683,514 metric tons (hereafter, “tonnes”) of CO₂e/year at production

23 ¹³ McJeon, H., Edmonds, J., Bauer, N., Clarke, L., Fisher, B., et al. (2014). Limited impact on
24 decadal-scale climate change from increased use of natural gas. *Nature*, 514(7523). 482–85.
DOI: 10.1038/nature13837.

1 level of 250,000 gallons/day (“Scenario A”) and 1.37 million tonnes/year at a production level of
2 500,000 gallons/day (“Scenario B”). These are very significant volumes of GHG emissions
3 associated with a single project, particularly one with an anticipated lifespan of decades.

4 14. The SEIS then compares emissions from the project with a hypothetical “no
5 action” alternative, i.e., the emissions that would occur if the project is not approved and built.
6 In the SEIS, the substantial bulk of these “no action” emissions arise from the combustion of
7 conventional marine fuels, namely marine gas oil, which is similar to diesel. (SEIS, at 4-10).
8 The second largest source of these “no action” emissions, after marine gas oil, is diesel for on-
9 road trucking. Because, in total, these “no-action” GHG emissions are slightly higher than the
10 anticipated GHG emissions if the project is operating, the SEIS concludes that the project’s net
11 GHG emissions are slightly negative and hence not a matter of concern.

12 15. But the SEIS makes a substantial error in assuming that, without the Tacoma
13 LNG project, that tomorrow’s marine and truck fuel markets would be just like today’s.
14 Specifically, the SEIS defines a no-action scenario that locks in fossil fuels as the only marine
15 and truck fuels for the next 40 years.¹⁴ This incorrect assumption results in the SEIS over-
16 estimating the GHG emission reductions it attributes to the Tacoma LNG project. Below I
17 address how the error affects the findings for each of the three largest markets for the facility’s
18 LNG: the Totem Ocean Trailer Express (TOTE) Marine vessel fueling system, “other marine”
19 LNG, and on-road trucking.

20 16. The first end market for LNG mentioned in the SEIS is for TOTE vessels, which
21 are “roll-on / roll-off” style container ships. For these vessels, the SEIS assumes that, if not for
22

23 ¹⁴ Per Table 2-1 of the SEIS, about 97% of the LNG produced is assumed to be used in the
24 marine fuel market under Scenario A, and none for trucking. Under Scenario B, about 2% would
go to on-road trucking.

1 the project, that TOTE vessels would be using marine gas oil for the 40-year lifespan of the
2 facility, e.g. to 2060 or beyond. But TOTE will likely have other options for engine systems on
3 equivalent vessels well before 2060. For example, the International Energy Agency (IEA)
4 reports that both hydrogen fuel cell and pure electric battery vessels for medium-distance marine
5 shipping have, as of mid-2020, already been proven and are undergoing commercial
6 demonstration. The IEA further envisions that these types of ships, plus other low-carbon
7 propulsion or fuel systems (including synthetic fuels, such as ammonia), have a much greater
8 role long-term than LNG in aligning marine shipping with a low-carbon energy system.¹⁵ The
9 Tacoma LNG project would work against these trends, however, since it is encouraging a retrofit
10 to LNG for existing TOTE vessels now. Retrofitting long-lived vessels to LNG may well be
11 pushing off, by many years (e.g., for however long the retrofits extend the life of the ships), the
12 eventual conversion of TOTE's fleet to much lower-GHG emissions marine vessels that are
13 under development. In other words, committing to LNG now could actually *increase* GHG
14 emissions for TOTE vessels relative to the no-action scenario in the long-term, counteracting any
15 slight reduction in GHG emissions in the short term.

16 17. The risk that the Tacoma LNG project gets in the way of even lower-carbon
17 marine shipping could be greater for the "other marine" uses (estimated in the SEIS as 55% of
18 the project's LNG under Scenario A) than for the TOTE vessels (estimated at 42.7% of the
19 project's LNG). This is because these unnamed other marine vessels may not be built yet. The
20 SEIS assumes, without justification, that these other ships use the exact same engines, powered
21 by marine fossil fuels, as the TOTE vessels, but does not otherwise describe the vessels, even
22

23 ¹⁵ ACT-20, IEA (2020). *Energy Technology Perspectives 2020*. International Energy Agency,
24 Paris, at Table 5.4 and Figure 5.11.

1 though they comprise the majority of the project’s LNG use. It is therefore inappropriate to
2 assume that they would all be powered by marine fossil fuel for forty years.

3 18. On the contrary, options for marine propulsion technologies and fuels are
4 expanding rapidly, and include not only LNG engines, but also engines, such as battery-electric
5 or hydrogen fuel cell-based, that can be much lower-carbon than LNG. For example, the
6 Washington State Department of Commerce reports that “efforts are already underway to
7 electrify marine vessels.”¹⁶

8 19. In addition, marine technologies may also be subject to regulation, including by
9 the International Maritime Organization (IMO), the United Nations organization that coordinates
10 regulation for shipping, and which has a target of reducing emissions to levels consistent with the
11 Paris Agreement temperature goals, which the IMO interprets as meaning at least a 50%
12 reduction in CO₂ emissions from international shipping by 2050 as compared to 2008 levels.¹⁷ If
13 the existence of the Tacoma LNG project spurs other marine shipping companies or boat builders
14 to build (or speed up the construction of) LNG ships to take advantage of this new fuel supply,
15 those companies might as a result be forestalling the option to choose even lower-carbon ships
16 now or in the future. In that circumstance, the Tacoma LNG project would *increase* emissions
17 relative to the no-action scenario and make it more difficult to meet the IMO’s goals. In other
18 words, and in contrast to statements made by the Respondent’s witness Stephan Unnasch, LNG
19 from the Tacoma LNG project will be competing (and displacing) not only with marine fossil
20

22 ¹⁶ Washington State Department of Commerce (2020). *Washington 2021 State Energy Strategy:
23 Transitioning to an Equitable Clean Energy Future*. [https://www.commerce.wa.gov/growing-](https://www.commerce.wa.gov/growing-the-economy/energy/2021-state-energy-strategy/)
the-economy/energy/2021-state-energy-strategy/.

24 ¹⁷ ACT-20, *supra*, at Table 5-3.

1 fuels, but also other fuel options. The SEIS does not mention, let alone examine, these
2 possibilities.

3 20. The third-largest end use of the project’s LNG is for on-road, heavy-duty trucking
4 (an estimated 2% of the project’s LNG under Scenario B, though the project’s capacity for
5 loading LNG for trucks is considerably higher). Again, the SEIS assumes that the project’s
6 LNG will be displacing diesel, here in tractor trucks carrying freight in semi-trailers. However,
7 the SEIS provides no evidence that, absent the Tacoma LNG project, that diesel-based tractor
8 trucks would be the default fuel choice for the next 40 years. To the contrary, Washington
9 State’s recently released 2021 State Energy Strategy calls for Washington to “to match
10 California’s ZEV sales targets for medium- and heavy-duty trucks,”¹⁸ which requires 30% of
11 tractor trucks sold by 2030 to be zero emissions. This is also consistent with Washington State
12 signing the *Multi-State Medium- and Heavy-Duty Zero Emission Vehicle: Memorandum of*
13 *Understanding*, and which further aims to have 100% of sales of medium- and heavy-duty trucks
14 zero emissions by 2050. These goals are attainable. Both hydrogen fuel cell and battery electric
15 heavy-duty trucks are already in use (especially in China), the Tesla semi-truck will soon
16 introduced, and Seattle-based Amazon has committed that 50% of its logistics will be zero-
17 carbon by 2030.¹⁹ A recent analysis by the Lawrence Berkeley National Lab found that long-
18 haul, heavy-duty trucks are already lower cost than their diesel counterparts over the lifetime of
19 the vehicles²⁰. These policy commitments and examples all refute the SEIS’s implausible
20

21 ¹⁸ ACT-21, Washington State Department of Commerce (2020). *Washington 2021 State Energy*
22 *Strategy: Transitioning to an Equitable Clean Energy Future*, at 60.

23 ¹⁹ ACT-20, *supra*, at Table 5-1 and Table 5-2.

24 ²⁰ Phadke, A., Khandekar, A., Abhyankar, N., Wooley, D., & Rajagopal, D. (2021). *Why*
25 *Regional and Long-Haul Trucks are Primed for Electrification Now*. [https://eta-](https://eta-publications.lbl.gov/publications/why-regional-and-long-haul-trucks-are)
26 [publications.lbl.gov/publications/why-regional-and-long-haul-trucks-are](https://eta-publications.lbl.gov/publications/why-regional-and-long-haul-trucks-are).

1 assumption that, in the absence of the Tacoma LNG project, heavy-duty trucking will be diesel-
2 based tractor trailers for the next 40 years. As with marine shipping, the SEIS does not mention,
3 or analyze, the possibility that LNG competes with a wide variety of fuels and may therefore,
4 instead of displacing fossil fuels, actually postpone the necessary conversion of truck fleets to
5 battery electric or fuel cell vehicles that are lower-carbon than LNG.

6 21. In all three end uses described above – TOTE marine, other marine, and on-road
7 trucking – the SEIS makes the same error: it assumes that the default, or “baseline” technology
8 forty years from now will be static, or the same as in the recent past. But there is broad
9 consensus in the GHG emissions mitigation accounting community that static baselines such as
10 employed in the SEIS are less appropriate (and generally less accurate) than “dynamic” baselines
11 that take into account foreseen changes in technology and behavior conditions over time. As the
12 GHG Protocol effort (an exhaustive, stakeholder-driven process) has indicated, dynamic, not
13 static, baselines “should be used where relevant and feasible” in assessing the GHG emissions
14 impact of a policy or action.²¹ In the case of the Tacoma LNG facility, dynamic baselines would
15 assess plausible future changes in marine and on-road shipping technologies and the market
16 share of battery electric, hydrogen fuel cell, and other low-carbon technologies, rather than
17 assuming that the current fossil fuels would be the default fuels for the next 40 years.

18 22. Dynamic baselines like this have been used in other regulatory contexts. For
19 example, the US EPA, in evaluating new greenhouse gas emission and efficiency standards for
20 medium and heavy trucks, found that greenhouse emissions under a dynamic baseline that got
21 more efficient due to ongoing market trends alone would be less than under a static, current-

23 ²¹ GHG Protocol. (2014). Policy and Action Standard: An accounting and reporting standard for
24 estimating the greenhouse gas effects of policies and actions. Retrieved from
<http://ghgprotocol.org/policy-and-action-standard>.

1 technology baseline and, therefore, that the emission reductions attributable to the new proposed
2 truck efficiency standards would also be less under a dynamic baseline.²² Similarly, a dynamic
3 baseline was similarly used in an analysis by DNV-GL seeking to forecast trends in marine
4 shipping.²³ That analysis compares various options to a “current policies pathway” under which
5 carbon intensity of marine shipping significantly drops even without any additional, new
6 policies. This comparison reveals that such techniques are commonplace and readily available,
7 but were not used in this SEIS.

8 23. More support can be found in the recently released “conceptual framework” for
9 the Washington Department of Ecology’s proposed Greenhouse Gas Assessment rule.²⁴ While
10 the rule is not yet complete, it is grappling with many of the issues raised above. Ecology’s
11 proposed framework makes clear that the “no action alternative” to be used in assessing a
12 project’s lifecycle GHG emissions is not a static snapshot where the future is just like today.
13 Instead, the proposal calls for defining the no action scenario as assessing future conditions
14 under “state and federal GHG reduction limits and international goals approved by the U.S.
15 Government.” *Id.* at 18. This analysis is designed to show the “impact of the project relative to
16 potential future conditions without the project.” *Id.* If such a rule applied here, the no action
17

18 ²² U.S. EPA (2016). Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and
19 Heavy-Duty Engines and Vehicles – Phase 2. EPA-420-R-16-900. Assessment and Standards
20 Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, and
21 Office of International Policy, Fuel Economy, and Consumer Programs, National Highway
22 Traffic Safety Administration, U.S. Department of Transportation, Washington, DC.
23 <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P7NS.PDF?Dockey=P100P7NS.PDF>. Table 5-1, 5-2,
24 and 5-3.

25 ²³ACT-2, Remi Eriksen, et al. *Maritime Forecast to 2050, Energy Transition Outlook 2019*,
26 DNV GL, 11 (2019), at 90-91.

²⁴ ACT-22, WSDOE *Draft GAP Rule Conceptual Framework for Informal Review*, Wash. State
Dep’t of Ecology (March 2021).

1 alternative would likely show dramatic reductions in marine GHG emissions over the lifetime of
2 the project, consistent with international goals (e.g., the Paris Agreement) and state emissions
3 targets. If the Tacoma LNG project was compared to *this* no action alternative, net GHG
4 emissions would be significant.

5 24. Some of the best thinking about how to guard against the risks of using an
6 incorrect baseline has been done under the Kyoto Protocol, in a system called the Clean
7 Development Mechanism (CDM). I was hired by the United Nations to evaluate the GHG
8 emission reductions achieved by the CDM, and so I have considerable experience with it.²⁵ The
9 designers of the CDM were concerned that developers of energy projects might try to claim more
10 emission reductions than actually occurred, and so put in place measures to guard against this
11 outcome. I will describe two such practices below.

12 25. In one such practice, in the CDM, emission reductions are only quantified for a
13 fixed duration, called a “crediting period”, that is either seven years (and generally twice-
14 renewable, for a total of 21 years), or ten years (and not renewable). The designers of the CDM
15 believe that these time limits are needed because of the great uncertainty in defining a correct no-
16 action scenario more than a decade into the future. While the LNG project here would not be in
17 the CDM system, and so need not necessarily meet that standard, it is still instructive to
18 understand how the most careful thinking about GHG emissions baselines puts firm time limits
19 on how far out emission reductions can be quantified with some certainty. Of course, the point is
20 not to ignore the potential impacts of decisions past seven years or some other horizon, as

21
22 ²⁵ I was commissioned by the United Nations Framework Convention on Climate Change to
23 conduct an assessment of this issue, which was published in peer-reviewed form as follows.
24 Erickson, P., Lazarus, M., & Spalding-Fecher, R. (2014). Net climate change mitigation of the
Clean Development Mechanism. *Energy Policy*, 72, 146–154
<https://doi.org/10.1016/j.enpol.2014.04.038>.

1 respondents have argued. Rather, the point is that when comparing an action to a counterfactual
2 “no action” scenario, great care must be exercised in making assumptions about what will
3 happen in the future, and an effort made to define a baseline that is consistent with what is
4 known about the future. This example from the CDM underscores how careful quantification of
5 GHG emission reductions demands an assessment of about how a baseline may change decades
6 into the future; by contrast, it is not acceptable to assume that a single technology or practice is
7 the baseline alternative for such a long time period.

8 26. Furthermore, the CDM designers also developed dynamic baselines that take into
9 account ongoing changes in energy technology. These baselines seek to represent, as accurately
10 as possible, the “no action” scenario in which the proposed project is not developed, and which
11 could therefore be a useful analog for how to construct a no-action scenario for the Tacoma LNG
12 project. For example, for new renewable energy projects, the standard CDM baseline calculation
13 takes into account the new, *prospective* power plants that would be affected by the proposed
14 project, not just the current, already-operating power plants. This means that the baseline
15 emissions intensity would decline over time, at least for regions that are building out low-carbon
16 renewable electricity at faster than historic rates, as most are. This in contrast to Patrick Couch’s
17 January 19th, 2021 declaration, in which he misleadingly claims that “renewable electricity
18 generation projects are assumed to displace the existing grid resources or existing generator
19 emissions”. In the CDM, evaluating emission reductions relative to the *existing* power plants is
20 only an option for a specific type of small scale power project that are afforded special rules and
21 which represent a very small share of all emission reductions from renewable power in the
22 program. Mr. Couch’s example is misleading and not representative of the bulk of the CDM
23 program.

1 27. In his January 19th, 2021 declaration, Patrick Couch further brings up the example
2 of how the Low Carbon Fuel Standard (“LCFS”) (as applied in California) calculates GHG
3 emissions reductions relative to fossil fuels. However, he fails to mention that the Low Carbon
4 Fuel Standard awards its credits for GHG emission reductions relative not to the current
5 emissions intensity of only fossil fuels, but actually to a dynamic baseline emissions intensity
6 that declines each year.²⁶ In the LCFS system, fossil LNG offers little if any GHG emission
7 benefit relative to fossil fuels, and was not awarded any GHG emission reduction credits in the
8 California program in 2019 or 2020.²⁷ Given the declining, dynamic baseline of the LCFS
9 program, fossil LNG may never again be eligible for emission-reduction credits, for the very
10 sensible reason that it does not reduce GHG emissions relative to the policy goals of the State of
11 California.

12 28. Regardless of what technology or technology mix comprises the baseline for
13 marine fuels and on-road trucking, it is important to recognize the uncertainty in evaluating the
14 counterfactual, no-action scenario. But the SEIS provides no hints that its baseline scenario for
15 completely fossil-fuel based marine shipping and trucking is highly likely to be inaccurate, nor
16 does it mention the possibility that, since the market is already evolving towards more low-
17 carbon transportation, that the Tacoma LNG project could actually increase emissions over time
18 relative to the no-action scenario. The possibility is neither discussed nor quantified in the very
19 limited sensitivity analysis (e.g., Figure 5.5 in App. B to the SEIS), which instead focuses mainly
20 on how different assumptions related to the project itself (not the no-action scenario) would
21 change net emissions. As a result, the SEIS presents an extraordinarily misleading view of how

22
23 ²⁶ ACT-23, California Air Resources Board. (2020). Low Carbon Fuel Standard Basics.
<https://ww2.arb.ca.gov/sites/default/files/2020-09/basics-notes.pdf>.

24 ²⁷ <https://ww3.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm>.

1 the project may contribute to greenhouse gas emissions. At the very least, the SEIS should have
2 considered a more plausible baseline that includes already-foreseen changes in marine and on-
3 road fuels and technologies, using credible analysis by international institutions, such as the
4 International Energy Agency, or from local institutions, such as the Washington State
5 Department of Commerce, which sees, in its new 2021 State Energy Strategy, 100% of new
6 long-haul freight trucks being either electric or hydrogen-based by 2045.²⁸ Even better would be
7 for the SEIS to consider as its no-action scenario a deeply low-carbon baseline, such as one
8 consistent with Washington State’s own goal of reducing its emissions in line with the 1.5
9 degrees C target of the Paris Agreement, as proposed in the draft GHG analysis conceptual
10 framework noted above. A baseline consistent with 1.5 degrees C of warming would probably
11 mean zero new investment in fossil fuel infrastructure, since that fossil fuel infrastructure already
12 in existence globally has committed enough CO₂ emissions to exhaust or nearly exhaust the 1.5
13 C carbon budget.²⁹

14 29. Respondents have consistently argued that it would be “speculative” to forecast
15 the future of marine (or truck) transport. But the argument ignores that the SEIS *already*
16 speculates on the future, by defining a no action alternative that locks today’s technology in
17 place for 40 years, which is entirely implausible. The SEIS could have used existing, commonly
18 used approaches to define a no action alternative that was more plausible and reasonable than the
19 one they chose. And it could have acknowledged that the many uncertainties associated with
20 assumptions about the no action alternative. It did neither of these things, instead reaching what

22 ²⁸ ACT-24, Washington State Energy Strategy Decarbonization Modeling Final Report, at 22.

23 ²⁹ Tong, D., Zhang, Q., Zheng, Y., Caldeira, K., Shearer, C., Hong, C., Qin, Y. and Davis, S. J.
24 (2019). Committed emissions from existing energy infrastructure jeopardize 1.5 °C climate
target. *Nature*. 1. DOI: [10.1038/s41586-019-1364-3](https://doi.org/10.1038/s41586-019-1364-3).

1 appears to be a firm (if erroneous) conclusion that GHG emissions would be less than they
2 otherwise would be in the absence of the project. Such conclusion is unsupported, unreasonable,
3 and misleading.

4 30. In my opinion, it is simply not reasonable for the SEIS' life cycle analysis to
5 assume that, in the absence of this project, marine vessels and trucks will continue to emit GHG
6 emissions at current levels, that is, burning fossil-based diesel fuel for the 40-year lifetime of this
7 project. The result of this error is that the SEIS almost certainly over-estimates the GHG
8 emission reductions attributable to the project, and, even more critically, misses the possibility
9 that the project may *increase* emissions substantially, since it would be locking in a fossil fuel
10 source that is not consistent with the energy and climate policy aspirations and commitments of
11 Washington State.

12 IV. THE SEIS FAILS TO ESTIMATE THE INCREASE IN ENERGY USE FROM
13 EXPANDING NATURAL GAS SUPPLY

14 31. One of the main findings of prior research on expanding natural gas supply is that,
15 in addition to substituting for both higher-carbon and lower-carbon sources of energy, greater
16 supply of gas also increases overall energy consumption and, in turn, greenhouse gas emissions.
17 This has been called the "scale effect,"³⁰ and is an extension of the basic economic principle that
18 expanding the supply of a fuel pushes down its price and increases its consumption. The
19 implication here is that construction of the project would, regardless of how much marine or
20 truck fuel is being displaced, also expand overall energy use, via lower energy prices. Lower
21 prices could, for example, reduce the incentive to implement energy efficiency measures on
22

23 ³⁰ ACT-25, McJeon, H., Edmonds, J., Bauer, N., Clarke, L., Fisher, B., et al. (2014). Limited
24 impact on decadal-scale climate change from increased use of natural gas. *Nature*, 514(7523).
482–85. DOI: 10.1038/nature13837.

1 ships or trucks (regardless of whether LNG-fueled or diesel-fueled, since, for those ships or
2 trucks that do switch from diesel to LNG, they will be freeing up more diesel for other uses as
3 well), therefore increasing emissions relative to if the project had not been built. It is therefore
4 my opinion that, regardless of whether a fully fossil fuel baseline or some other baseline is used,
5 it is unlikely that LNG from the project would substitute, one for one, for these other fuels; by
6 contrast, total LNG consumption, and overall energy consumption, would also increase.

7 V. THE SEIS ERRONEOUSLY ASSUMES A LOW RATE OF METHANE LOSS
8 “UPSTREAM” FROM NATURAL GAS PRODUCTION

9 32. The sections that follow address specific errors in the GHG estimates for the
10 project itself, rather than the no action alternative. In multiple respects, the SEIS uses incorrect
11 or misleading data to underestimate the project’s GHG emissions. Collectively, these errors
12 present an unreasonably optimistic and fundamentally misleading picture of the project’s GHG
13 emissions.

14 33. Besides CO₂, other gases also contribute to global warming. Many of these gases
15 lead to more warming in the short term than CO₂, even as they decay in the atmosphere more
16 quickly than CO₂. One of these gases is methane, CH₄, which absorbs much more energy (heat)
17 than CO₂, but instead of remaining in the atmosphere for hundreds of years like CO₂, it remains
18 for about a decade. Methane is released in large quantities from agricultural operations (e.g.
19 cattle digesting their food, rice production), during decomposition of waste at landfills and
20 wastewater treatment plants, and during the extraction of fossil fuels. CH₄ is also the principal
21 component of natural gas.

22 34. Comparing the global warming potential of different gases with different lifetimes
23 and potencies in a standard metric is important for policymaking. To this end, the IPCC uses the
24 concept of “global warming potential” (GWP) to estimate how much *more* warming each gas

1 will cause relative to the same mass of CO₂. In its most recent assessment report, the IPCC
2 estimated that, over one hundred years, methane from fossil fuel sources has a GWP of 36.³¹ In
3 other words, every gram of methane has the same climate-altering impact of 36 grams of carbon
4 dioxide. This figure represents a change from the IPCC's previous assessment, in which the
5 GWP of methane was estimated at 25. In all cases, because methane contributes even more to
6 warming in the short term than in the long term, the IPCC also provides a GWP value for CH₄
7 over a 20-year timescale that is substantially higher than the 100-year value: over 20 years, the
8 GWP of methane from fossil sources is 87.³²

9 35. The greenhouse gas emissions of any project involving natural gas are
10 substantially influenced by the fact that natural gas is itself mostly methane. As described in the
11 SEIS, the natural gas that would be supplied to the Project is expected to be over 90% methane,
12 by volume. As a result, any of that methane that escapes along the way (e.g. due to leaks) is,
13 itself, a highly potent greenhouse gas, one that is (per the IPCC as described above) about 36
14 times *more* potent (or 87 times as potent on a 20 year time horizon) than if the methane had not
15 leaked and had instead been combusted to yield CO₂. (When CH₄ is combusted, the carbon and
16 hydrogen each join with oxygen to yield CO₂ and water vapor, H₂O, respectively.) Due to this

17
18 ³¹ This is the value including climate-carbon feedbacks, such as the reduced ability of oceans to
19 absorb CO₂ at higher levels of warming. Not counting climate-carbon feedbacks or oxidization to
20 CO₂, the value is 28. Climate-carbon feedbacks for non-CO₂ gases are important to include to
21 give the most accurate picture of the warming potential of a gas. Climate-carbon feedbacks for
22 non-CO₂ gases was an emerging issue, for which the Fifth Assessment Report made a first
23 estimate, they will be considered as standard practice in the Sixth Assessment Report due later
24 this year. Myhre, G., Shindell, D., Bréon, F.-M., Collins, W., Fuglestvedt, J., Huang, J., ...
Mendoza, B. (2013); *see also* Anthropogenic and natural radiative forcing. In Climate Change
2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment
Report of the Intergovernmental Panel on Climate Change (pp. 658–740). Cambridge; New
York: Cambridge University Press.

³² As for the 100-year value, this includes climate-carbon feedbacks and CO₂ oxidization. The
value without either factor is 84.

1 known likelihood of methane loss, the total GHG emissions for a project involving natural gas
2 can be dramatically higher than if only CO₂ is considered, and which makes the consideration of
3 methane especially important for projects, like the Tacoma LNG project, that involve natural gas.
4 Methane loss from natural gas production, processing, transportation, distribution, storage, and
5 use is common and a substantial contributor to global greenhouse gas emissions.

6 36. How much methane leaks or is otherwise lost during extraction, processing, and
7 transportation is therefore critically important in determining the overall GHG emissions
8 associated with natural gas. These “upstream” sources of methane loss are addressed in the
9 SEIS.

10 37. The upstream analysis in the SEIS is severely problematic, however. In
11 particular, the central assumption in the SEIS, used to support its central case and conclusions, is
12 that 0.32% of the methane is lost in the course of extracting, processing, transmitting, and
13 distributing the gas to the Project. SEIS Appendix B, Table B.4. This value was taken from the
14 GHGenius 4.03 spreadsheet, and the GHGenius documentation reports that the primary source of
15 these methane loss assumptions is a greenhouse gas inventory from the Canadian Association of
16 Petroleum Producers (CAPP) from the year 2000.³³ This value is inconsistent with current
17 scientific understanding of methane loss associated with natural gas production.

18 38. The CAPP source – as well as other sources relied on in the SEIS – uses an
19 incomplete method that does not count all methane losses – especially not those from irregular
20 operations or accidental releases, which have since been found to be a substantial source of
21 emissions from natural gas production. The CAPP inventory was an engineering-based,

22
23 ³³ The GHGenius documentation was shared with me by the consultants who made it, (S&T)2
24 Consultants Inc. (2012). GHGenius Natural Gas Pathway Update. Delta, BC: (S&T)2
Consultants Inc. for Natural Resources Canada.

1 “bottom-up” method that measured methane leakage from individual pieces of equipment and
2 processes under controlled conditions. Essentially, the researcher doing such a study holds up a
3 nozzle (similar to a vacuum cleaner attachment) capable of measuring methane over specific
4 pieces of equipment during regular operations and reports the amount of methane leaking from
5 it. But the biggest breakthrough in methane research in the last two decades has been the
6 discovery that most methane losses occur during *irregular* operations or accidental releases, *not*
7 during the controlled operating conditions that characterize “bottom-up” studies like the CAPP
8 study.³⁴

9 39. Better, more-complete values for methane loss are available and widely reported
10 in the scientific literature, even as they too will likely be improved over time. It is now widely
11 understood that methane loss from oil and gas production is higher than what is typically
12 measured in the types of bottom-up, engineering-based measurements of specific pieces of
13 equipment that are used in the SEIS.

14 40. For example, the most comprehensive estimate of methane loss from North
15 America is 2.3% of gross gas production, a value published in the most highly cited general
16 scientific journal in the United States, *Science*, in 2018. This analysis is a compilation and
17
18
19

20 ³⁴ ACT-26, Brandt, A. R., Heath, G. A., Kort, E. A., O’Sullivan, F., Pétron, G., Jordaan, S. M.,
21 ... Harriss, R. (2014). Methane Leaks from North American Natural Gas Systems. *Science*,
22 343(6172), 733–735, at 2 (734). <https://doi.org/10.1126/science.1247045>. While the scientific
23 literature is not as complete or longstanding in Canada as in the U.S., airborne studies in Canada
24 have found similar trends: See, for example: ACT-27, Johnson, M. R., Tyner, D. R., Conley, S.,
Schwietzke, S., & Zavala-Araiza, D. (2017). Comparisons of Airborne Measurements and
Inventory Estimates of Methane Emissions in the Alberta Upstream Oil and Gas Sector.
Environmental Science & Technology, 51(21), 13008–13017.
<https://doi.org/10.1021/acs.est.7b03525>.

1 synthesis of both bottom-up and top-down studies.³⁵ The Alvarez study is a synthesis of at least
2 10 different data sets published since 2012, across six different oil and gas production areas in
3 the United States, drawn from 433 different sites, all validated against a separate, top-down
4 method. This is no ordinary study; instead, it looks at a decade worth of data collected all across
5 the country to reach the best possible estimate from the overall body of research that has been
6 done to date. Because of the scientific understanding of how and when methane loss occurs —
7 extensively documented in Alvarez and its supporting references and confirmed in several
8 subsequent studies — it is not acceptable to rely only on studies that only estimate methane
9 leakage from specific pieces of equipment during controlled operating conditions, as this SEIS
10 does.

11 41. In particular, two recent studies in Canada confirm that methane loss from oil and
12 gas production in Canada also occurs mostly during irregular events that are not typically
13 reported by bottom-up industry studies, even as further work will help refine these findings. One,
14 conducted in the province of Alberta, by Zavala *et al.*, estimated a methane loss rate from gas
15 fields in the Red Deer region of about 3%.³⁶ While this Zavala *et al.* study notes the need to be
16 cautious in comparing to other regions, it emphasizes that the finding “is indicative of the GHG-
17 intensity of natural gas production in the Red Deer region.” This finding is important because,
18 according to PSE’s expert Patrick Couch, “the Red Deer region is more closely analogous to the
19 regions from which PSE will source gas for the Tacoma LNG facility as it represents similar

20
21 ³⁵ ACT-28, Alvarez, R. A., Zavala-Araiza, D., Lyon, D. R., Allen, D. T., Barkley, Z. R., Brandt,
22 A. R., ... Hamburg, S. P. (2018). Assessment of methane emissions from the U.S. oil and gas
supply chain. *Science*, 361(6398), 186–188. <https://doi.org/10.1126/science.aar7204>.

23 ³⁶ ACT-29, Zavala-Araiza, D., Herndon, S. C., Roscioli, J. R., Yacovitch, T. I., Johnson, M. R.,
24 Tyner, D. R., Omara, M., & Knighton, B. (2018). Methane emissions from oil and gas
production sites in Alberta, Canada. *Elem Sci Anth*, 6(1), 27.

<https://doi.org/10.1525/elementa.284>.

1 tight gas formations as those in the Montney region.” (Couch Declaration January 19, 2021). In
2 contrast to Couch’s assertion that Red Deer is “associated with lower methane emission rates,” it
3 appears that Red Deer may actually have *higher* emissions than the Alvarez et al. study. Further,
4 as detailed in the related Johnson *et al.* study, methane emissions from Red Deer are 17.7 times
5 higher than the bottom-up values reported by industry.³⁷ Importantly, this means that the
6 Johnson *et al.* study does *not* find, and in stark contrast to Patrick Couch’s erroneous assertion in
7 his January 19, 2021 declaration, that gas production in Western Canada has “lower methane
8 emissions rates”. The Johnson *et al.* study found only that the Canadian National Inventory
9 *method*, when correctly applied, agrees with top-down studies “once reported and *unreported*
10 sources were combined” [emphasis added]. This exactly illustrates the grave error at stake here:
11 the SEIS does not count the “unreported” sources that do not show up in its main source: the
12 CAPP inventory, or others like it considered.

13 42. Furthermore, a new study completed by scientists from the Canadian government
14 begins to paint a similar, but geographically more comprehensive. picture for methane loss from
15 Canada. This study, called “Eight-Year Estimates of Methane Emissions from Oil and Gas
16 Operations in Western Canada Are Nearly Twice Those Reported in Inventories,”³⁸ uses a top-
17 down method to estimate what methane emissions are missed by bottom-up, inventory methods
18 across Alberta and Saskatchewan. It finds that the methane emissions released from oil and gas
19
20

21 _____
22 ³⁷ ACT-27, *supra* at Figure 5.

23 ³⁸ ACT-31, Chan, E., Worthy, D. E. J., Chan, D., Ishizawa, M., Moran, M. D., Delcloo, A. and
24 Vogel, F. (2020). Eight-Year Estimates of Methane Emissions from Oil and Gas Operations in
Western Canada Are Nearly Twice Those Reported in Inventories, H. *Environmental Science &*
Technology. DOI: 10.1021/acs.est.0c04117.

1 operations in the study area are “nearly twice those reported in inventories” and which amount to
2 about 4.4% of gross gas production.³⁹

3 43. Lastly, a new analysis of methane loss associated with gas delivered to each of the
4 50 US States, including Washington State, adds further evidence that methane loss associated
5 with gas for the Tacoma LNG facility is likely much higher than estimated in the SEIS. This new
6 analysis compiles basin-level methane loss data to estimate that the upstream (production-stage)
7 methane lost (mainly in Canada) to deliver gas in Washington to be 2.2%.⁴⁰ This finding further
8 underscores how the SEIS estimate of methane loss of 0.32% is implausibly low.

9 44. New methane policy in British Columbia and Canada is encouraging, but it
10 mainly addresses known events or leaks from specific pieces of equipment that can be detected
11 with frequent surveys, potentially still missing many of the accidental methane releases (e.g.
12 methane venting from storage tanks) that characterize the majority of actual methane
13 emissions.⁴¹ These policies are not yet enough to suggest that Canadian methane loss could be
14 substantially below the value published in *Science*.

17 ³⁹ I calculate the 4.4% estimate as follows. Chan *et al.* report the mean annual methane emissions
18 value from Alberta and Saskatchewan from 2010 to 2017 of 3.0 million tonnes CH₄. The
19 Government of Canada estimates natural gas production from oil and gas fields in 2010 to 2017
20 in these two provinces to average 3,550 billion cubic feet per year. Assuming natural gas is 90%
21 methane and that methane weighs 0.714 g per liter at standard temperature and pressure implies
22 that annual methane production is 65 million tonnes per year. Assuming that the 3.0 million
23 tonnes methane lost from Chan *et al.* were not counted in official production statistics brings the
24 total to 68 million tonnes per year. 3 million is 4.4% of 68 million. Note that the study, like
25 Alvarez *et al.* in the United States, does not differentiate methane loss from oil versus gas wells.

26 ⁴⁰ ACT-32. Burns, D., & Grubert, E. (2021). Attribution of production-stage methane emissions
to assess spatial variability in the climate intensity of US natural gas consumption.
Environmental Research Letters. <https://doi.org/10.1088/1748-9326/abef33>.

⁴¹ See for example <https://www.pembina.org/reports/2020-09-02-media-primer-on-canadian-methane-regulations.pdf>.

1 45. The recent Washington State Department of Ecology Final Second Supplemental
2 EIS (FSSEIS) for the Kalama facility can also be used as a reference point, since it also develops
3 analysis on upstream methane loss rates from gas.⁴² It offers two different “low” emissions
4 scenarios, a “medium” scenario, and a “high” scenario. The lowest scenario they examine is a
5 loss rate of 0.71%--over twice the estimate used in the Tacoma LNG SEIS. (see p. 42 Table 3.4-
6 1). Their “medium” scenario (1.46%) is derived from the national results of Alvarez *et al.*, and
7 their “high” estimate is 3%. In my view, this is a more credible approach to estimating upstream
8 emissions than the one used in the Tacoma SEIS.

9 46. In summary, the SEIS’s central estimate of upstream CH₄ emissions associated
10 with the project, 0.32%, is substantially at odds with recent studies, including those conducted in
11 Canada, that take into account how most methane is actually lost – through irregular operations
12 or accidental releases.. For example, using a 2.3% methane loss rate from the most
13 comprehensive study to date on this topic, instead of 0.32% as claimed in the SEIS, would
14 increase the estimate of emissions attributable to the project by about 120,000 tons CO₂e
15 annually relative to their central, primary estimate.⁴³ Even this may be a conservative number, in
16 light of the analyses above showing the potential for an even higher methane loss rate in western
17 Canada.

18
19
20 ⁴² ACT-33, Kalama FSSEIS, p. 42 Table 3.4-1.

21 ⁴³ For this calculation, I use the value of 2.7% methane loss reported on page 15 of the
22 Supplementary Materials of Alvarez et al 2018, and confirmed with co-author David Lyon on
23 November 6, 2019. This value represents methane loss as a fraction of gas *delivered* to US
24 destinations, which is more appropriate here since the analysis is conducted from the perspective
of the LNG Project receiving the gas, not from the perspective of the gas extraction site
producing the gas. The entire calculation is (326,239 tonnes of gas received at the facility per
year) x (83% of which is methane) x (2.7% of which is lost) x (GWP of 25 as in the SEIS) =
183,000 tons CO₂e, compared to 58,000 tons CO₂e from upstream methane in the SEIS.

1 47. Appendix B to the SEIS provides a “sensitivity analysis” that claims to show how
2 the analysis would look different under different assumptions, including higher methane loss
3 rates. With respect to the upstream methane loss rate, Appendix B provides a graph that is
4 difficult to read but appears to conclude that GHG emissions would be roughly 55,000 tons/year
5 higher than disclosed in the main SEIS, central estimate, if using the same *Science* analysis I cite
6 above. That number appears too low.

7 VI. THE SEIS ERRONEOUSLY ASSUMES A LOW RATE OF METHANE LOSS
8 “DOWNSTREAM,” DURING USE

9 48. Not only does the SEIS underestimate methane loss “upstream” during natural gas
10 production, but it also underestimates methane loss “downstream,” during use of the natural gas
11 on ships.

12 49. Methane loss from LNG systems on marine vessels is often called methane “slip.”
13 This is methane that enters the combustion chamber on the ship, but escapes without being
14 burned.⁴⁴ Methane that escapes without being burned is much worse for the climate than
15 methane that is burned to make CO₂, because, as described above, the global warming potential
16 (GWP) value of CH₄ is 36 times that of CO₂ over a 100-year timeframe, and 87 times over a 20-
17 year timeframe.

18 50. The SEIS appears to use an erroneously low value for its methane slip
19 assumption. Appendix B (Table 2.4) shows the central (“baseline”) assumption of 5.3 g CH₄ per
20 kWh of marine engine output, and an “upper” value of 6.9 g CH₄ per kWh. The SEIS does not

22 ⁴⁴ ACT-34, Corbett, J. J., Thomson, H., & Winebrake, J. J. (2015). Methane Emissions from
23 Natural Gas Bunkering Operations in the Marine Sector: A Total Fuel Cycle Approach. Prepared
24 for U.S. Department of Transportation, Marine Division; ACT-35, Shafarian, A., et al (2019):
Natural Gas as Ship Fuel: Assessment of Greenhouse Gas and Air pollutant Reduction Potential
(<https://ideas.repec.org/a/eee/enepol/v131y2019icp332-346.html>).

1 cite its source for these values (instead, it just refers to “the most recent literature”), but the
2 values it uses exactly match those published in the “SINTEF report” mentioned in the SEIS’s
3 December Response to Comments.⁴⁵ That report, however, clearly proposes the value of 6.9 g
4 CH₄ per kWh as its “recommended emission factor” for dual-fuel engines, like that analyzed in
5 the SEIS. Further, a related article, Ushakov et al. 2019, in the *Journal of Marine Science and*
6 *Technology*⁴⁶ also proposes the value of 6.9 g CH₄ per kWh, as the *central* value that is “advised
7 to be used for performing various estimations and simulations of emissions from LNG-fueled”
8 marine diesel engines, not as a high end, “upper” value as done in Appendix B to the SEIS.⁴⁷
9 The SEIS therefore appears to mischaracterize the “recent literature.”

10 51. The 5.3 g CH₄ per kWh of engine output is also the value for methane slip
11 reported by LNG engine manufacturer MAN in its October 26, 2018 letter to TOTE Maritime.
12 This value is derived from a test, conducted in July 2018, at a ship load of 75%.⁴⁸ Ship load is a
13 measure of the actual power output of an engine as a percent of its maximum power output.

14 52. Methane slip from marine engines is highly sensitive to the ship load. At 75%
15 load, methane slip is just over 5 g CH₄ per kWh. But at lower loads, as the Ushakov *et al.* study

16
17 ⁴⁵ ACT-36, Stenersen, D., & Valland, A. (2017). GHG and NO_x emissions from gas fuelled engines. SINTEF.

18 ⁴⁶ ACT-37, Ushakov, S., Stenersen, D., & Einang, P. M. (2019). Methane slip from gas fuelled
19 ships: A comprehensive summary based on measurement data. *Journal of Marine Science and*
Technology. <https://doi.org/10.1007/s00773-018-00622-z>.

20 ⁴⁷ *Id.* at 15. The concept of methane slip can also be characterized as a percentage of methane
21 lost, just like was done for “upstream” methane at natural gas production sites. For example, a
22 methane slip of 6.9 g CH₄ per kWh is equivalent to a methane loss rate of about 4.6%; similarly,
23 a methane slip of 10 g CH₄ per kWh is equivalent to a methane loss rate of about 6.7%. Source:
24 Table 5 of Ushakov et al 2019 (*ibid*), which shows methane slip of 6.9 g CH₄ per kWh is
equivalent to 40.9 g CH₄ per kg fuel. Assuming the LNG is 89% methane by weight (as in SEIS
Appendix B, Table A.11) would yield a methane loss rate of 4.6%.

⁴⁸ ACT-38, Comments submitted on November 21, 2018 to the Draft Supplemental
Environmental Impact Statement prepared by Puget Sound Energy (Excerpts 1-75).

1 shows, methane slip can be much higher. Methane slip at 50% load is about 7 g CH₄ per kWh, at
2 25% load can be greater than 15 g CH₄ per kWh, and at 10% load can be nearly 30 g CH₄ per
3 kWh. Therefore, how a ship operates and, by extension, what load assumptions the SEIS uses to
4 characterize methane slip, have a large bearing on the resulting estimate of methane emissions.
5 For example, a vessel that is operating in tidally influenced coastal waters, with variable speeds
6 and navigation challenges, is likely operating a different load profile than a vessel in open water.

7 53. As described in the SEIS calculations, the TOTE vessels are estimated to operate
8 at a load of 33.3 MW during transit from Tacoma to Anchorage and back, compared to the
9 engine capacity of 52.2 MW.⁴⁹ This is a load of 64%, and therefore different than the ~75% load
10 assumed by either the MAN test or the Ushakov and SINTEF studies (which used load
11 assumptions consistent with the E2/E3 test cycle). When maneuvering at each port, the SEIS
12 calculations show the TOTE vessels' load at 2%. But the methane slip for a ship operating at
13 these loads would, as described above, be substantially higher than the 5.3 g CH₄ per kWh value
14 assumed.

15 54. Even a 64% load for the TOTE vessels may be too high and optimistic, however.
16 A recent study of actual container ship loads for vessels similar in size to the TOTE vessels
17 found average load much lower: about 40%.⁵⁰ This load would, per the Ushakov *et al.* study,
18 translate to a methane slip of nearly 10 g CH₄ per kWh, nearly double that assumed in the SEIS.
19 Therefore, the SEIS does not appear to make accurate assumptions about load and, by extension,
20 methane slip.

21
22 ⁴⁹ ACT-38, *supra*, at 61 (labeled 30 of 45).

23 ⁵⁰ ACT-30, Rutherford, D., Mao, X. and Comer, B. (2020). *Potential CO₂ Reductions under the*
24 *Energy Efficiency Existing Ship Index*. Working Paper 2020-27.
<https://theicct.org/sites/default/files/publications/Marine-EEXI-nov2020.pdf>.

1 55. Even less is known about the “other marine” vessels who would be using the
2 majority of the project’s fuel. What kind of engines they use, and what load profiles they operate
3 under, are as-yet unknown. The SEIS nonetheless uses the optimistic methane slip data and load
4 data from TOTE for such unknown vessels. This again is unsupported.

5 56. Finally, in addition and separate to the above, the SEIS appears to rely on data
6 that is simply incorrect. Mr. Unnasch, in his oral testimony, stated that he did not rely on
7 SINTEF or other published literature but rather relied on data provided by TOTE for the slip
8 values in the SEIS. The TOTE values are appended to a letter it provided to the agency in
9 2018.⁵¹ However, TOTE’s data contains two significant and obvious errors. First, it assumes
10 zero slip at 100% load, a number entirely inconsistent with the published data. Second, it makes
11 a mathematical error in the way that it averages the variable slip amounts that arise under
12 different loads which leads to a consequential understatement of the average. Even leaving aside
13 the implausible assumption that TOTE’s vessels would operate under zero slip for a significant
14 portion of each journey, TOTE should have revealed a 6.8 g/kWh estimate, which is similarly in
15 line with SINTEF and other recommendations.

16 57. Regardless of the precise actual value, using a more defensible methane slip rate
17 would translate to additional GHG emissions not counted in the SEIS. For example, if the SEIS
18 had used the 6.9 g CH₄ per kWh as recommended by the studies discussed above, the emissions
19 associated with the project would increase by about 90,000 tons CO₂e annually.

23 ⁵¹ ACT-39, Technical comments submitted on November 21, 2018, to the Draft Supplemental
24 Environmental Impact Statement prepared by TOTE Maritime Alaska, Appendix 1 at 3.

1 VII. THE SEIS USES AN OUTDATED METHANE GLOBAL WARMING POTENTIAL

2 58. The SEIS uses the global warming potential (“GWP”) estimates from the IPCC’s
3 2007 *Fourth Assessment Report* (“AR4”) to calculate methane GHG emissions. In its 2013 *Fifth*
4 *Assessment Report* (“AR5”), however, the IPCC updated the methane global warming potential
5 estimates to reflect a new scientific consensus, based on considerable new research. As noted
6 above, these updated estimates increase the GWP for methane by more than 40%, from 25 to 36.

7 59. The SEIS should use AR5 values for GWP, because AR5 represents the accurate,
8 up-to-date scientific understanding of methane’s contribution to global warming. The reasons for
9 using AR4 rather than AR5, according to the SEIS, are that both Washington State and US
10 EPA’s national GHG inventories use AR4 values. AR4 is still used for state and national level
11 GHG inventories, but should not be for much longer. In December 2018, nations that are Parties
12 to the Paris Agreement agreed to use GWP values from AR5.⁵² The reason that nations and
13 states may still use AR4 is that it takes time for everyone to shift their GHG inventory systems to
14 the updated GWP estimates, including back-calculating prior GHG inventories to the updated
15 GWP values. The SEIS document need not be constrained in this way, however, and there is no
16 need to harmonize the estimates among multiple government or industry actors, since the intent
17 of an EIS is to present as accurate a picture as possible of the GHG impacts of the project.

18 60. The sensitivity analysis claims to include disclosure of emissions under AR5
19 values, but it does so incompletely. The sensitivity analysis uses an incomplete AR5 value of 30
20 to conclude that the project would increase the emissions attributable to the project by some
21 50,000 tons CO₂e annually. (FEIS, Appendix B, Figure 5.5). But this value does not fully

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23 _____
⁵² See

24 https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf#page=25.

1 represent the conclusions of AR5 since it does not include the important “climate-carbon
2 feedbacks.” In brief, since warming from CH₄ also leads to other mechanisms (such as more
3 water vapor in the atmosphere, or limited ability of oceans to absorb carbon) that themselves *also*
4 lead to warming, it is more accurate to use the higher of the two GWP values in AR5: 36, not
5 30.⁵³ Further, even if the correct figure was used, an estimate of emissions based on an updated
6 GWP from AR5 should not be considered part of the sensitivity analysis, where it is portrayed as
7 an outlier value, but instead be represented as the central, best, “baseline” estimate. These are
8 the central conclusions of the scientific community, and should be used as the central cases of
9 the SEIS; by contrast, it is inappropriate for the SEIS to characterize them as sensitivities.

10 61. In total, updating the GWP value from the AR4 value of 25 to the AR5 value of
11 36 increases the overall emissions attributable to the project by about 200,000 tons CO_{2e}
12 annually.

13 VIII. THE SEIS SHOULD DISCLOSE GHG IMPACTS ON A 20 YEAR TIME HORIZON
14 AS WELL AS A 100 YEAR TIME HORIZON

15 62. The SEIS uses a 100-year time horizon to assess the impacts of methane leaks
16 upstream and elsewhere. While there is a broad consensus that the 100-year horizon is a useful
17 standard metric for comparison of GHG estimates, it does not always present a complete picture
18 when dealing with projects involving methane. That is because methane, as explained above,
19 has much greater warming effect in the short term than in the long-term. Accordingly, use of
20 *solely* a 100-year horizon partially masks the GHG impacts. As a supplement to the 100-year
21 horizon, use of a 20-year time horizon presents a more accurate picture of the shorter-term

22 ⁵³ This is the value from Myhre et al 2013, see footnote 14. For further discussion of climate-
23 carbon feedbacks, see Dean, J. F., Middelburg, J. J., Röckmann, T., Aerts, R., Blauw, L. G.,
24 Egger, M., ... Dolman, A. J. (2018). Methane Feedbacks to the Global Climate System in a
Warmer World. *Reviews of Geophysics*, 56(1), 207–250. <https://doi.org/10.1002/2017RG000559>.

1 warming effects of the methane-related impacts associated with this project, and is a widely
2 recognized and important complementary metric that was also used by the same consultants in
3 the August 2019 FSEIS for the Kalama Methanol project.⁵⁴ A 20-year time horizon is also
4 important in light of the expected near-term impacts of climate change. It is notable that the
5 Kalama FSSEIS discloses both 100 year and 20 year values in its life-cycle analysis. (See Table
6 3.6-2 and 3.6-3).

7 63. Increasing the GWP from a 100-year value of 36 to a 20-year value of 87 would
8 increase the emissions attributable to the project by 920,000 tons CO₂e annually. The SEIS does
9 not conduct any sensitivity analysis or present any value for emissions reflecting GWP over a
10 20-year timespan.

11 IX. THE SEIS SENSITIVITY ANALYSIS HIDES WHAT SHOULD BE THE CENTRAL
12 FINDING: THE TACOMA LNG PROJECT WILL INCREASE EMISSIONS IN THE
LONG TERM

13 64. The SEIS includes some treatment of how alternate assumptions could affect its
14 results, in a sensitivity analysis presented in its Appendix B. But the SEIS misuses the concept
15 of sensitivity analysis. A sensitivity analysis is intended to explore the possibility (or sensitivity)
16 that input values could be higher or lower than a *best* estimate or expected value, not to portray
17 that best estimate as an outlier, as done in Appendix B. Put another way, a sensitivity analysis is
18 only as good as the assumptions that goes into it. If a sensitivity analysis looks, one by one, at
19 the accurate values as *individual* sensitivities, as in Appendix B, it can dramatically miss what
20 the actual, *combined*, best estimate of emissions would be. My assessment is that, as documented

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22 ⁵⁴ ACT-40, Ocko, I. B., Hamburg, S. P., Jacob, D. J., Keith, D. W., Keohane, N. O.,
Oppenheimer, M., Roy-Mayhew, J. D., Schrag, D. P. and Pacala, S. W. (2017). Unmask
23 temporal trade-offs in climate policy debates. *Science*, 356(6337). 492–93. DOI:
[10.1126/science.aaj2350](https://doi.org/10.1126/science.aaj2350).

1 in the prior sections, the SEIS is incorrect in many of its assumptions; this is important because,
2 if more accurate assumptions had been made, the SEIS would have concluded that the Tacoma
3 LNG project will increase emissions in the long term, not just as one of many possibilities in the
4 sensitivity analysis, but as a robust, core conclusion.

5 65. Moreover, as noted above, the sensitivity analysis is incomplete. It offers nothing
6 to address the uncertainties around the inaccurate no- action alternative documented above, nor
7 the possibility that expanding natural gas supply may increase overall energy use and, therefore,
8 GHG emissions. It does not include any sensitivity for using a 20-year GWP. It uses inaccurate
9 values to understate the change in emissions when using different upstream methane loss and
10 GWP assumptions. Even if it was appropriate to use a sensitivity analysis in this way, which it is
11 not, this one fails to present an accurate picture of the project's potential emissions under
12 different assumptions.

13 X. SUMMARY: THE SEIS IS CRITICALLY FLAWED

14 66. My assessment, as documented above, is that the SEIS, make two types of critical
15 errors that fundamentally undermine its conclusions. The first, discussed in Section II through
16 Section IV, is that the SEIS critically *over-estimates* GHG emissions associated with the “no
17 action” case by assuming that marine and on-road truck emissions will be solely powered by
18 fossil fuels for the life of the project, and by neglecting to analyze how expanding LNG supply
19 could increase overall energy consumption. The result is that the SEIS's estimates of net
20 emissions relative to this no-action scenario is almost certainly wrong.

21 67. Second, as noted above, the SEIS estimates the GHG emissions of the project at
22 683,514 metric tonnes of CO₂e/year at 250,000 gallons/day (Scenario A) and 1.37 million
23 tonnes/year at 500,000 gallons/day (Scenario B). These are, indisputably, significant GHG
24 emissions. Still, by using inaccurate and incomplete information on methane, it critically *under-*

1 *estimates* even these significant gross GHG emissions associated with the project. These are
2 discussed in Sections V-VIII. The result is a distorted and incorrect picture of the gross GHG
3 emissions associated with the project. The result is that, regardless if one is looking at gross
4 emissions, or instead net emissions relative to the no-action scenario, that the SEIS presents a
5 skewed and inaccurate picture of the GHG emissions associated with the Tacoma LNG project,
6 and one that is not a fitting basis for important policy decisions facing the future energy supplies
7 of Washington . It is my opinion that, if the SEIS had used up-to-date, accurate science and
8 analytical practice, it would have found that the facility would be a substantial source of gross
9 GHG emissions, would *increase* (not decrease) GHG emissions relative to a no-action scenario
10 in the long term, and would therefore be inconsistent with Washington State’s goal to align its
11 emissions and energy system with the 1.5 C goals of the Paris Agreement.

12
13 I declare under penalty of perjury that the foregoing is true and correct to the best of my
14 knowledge.

15 Executed this 19th day of March, 2021, at Seattle, Washington.

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PETER ERICKSON

Exhibit B

1 POLLUTION CONTROL HEARINGS BOARD
2 FOR THE STATE OF WASHINGTON

3 ADVOCATES FOR A CLEANER TACOMA;)
SIERRA CLUB; WASHINGTON)
4 ENVIRONMENTAL COUNCIL; WASHINGTON) PCHB NO. P19-087c
PHYSICIANS FOR SOCIAL RESPONSIBILITY;)
5 STAND.EARTH, and THE PUYALLUP TRIBE OF)
INDIANS,)
6) DIRECT TESTIMONY OF
Appellants,) THOMAS O. SPICER
7)
v.)
8)
9 PUGET SOUND CLEAN AIR AGENCY, PUGET)
SOUND ENERGY)
10 Respondents.)
11)

12 INTRODUCTION

13 1. My name is Thomas O. Spicer. My curriculum vitae is attached as Exhibit A to
14 this testimony. I currently serve as Professor in the Ralph E. Martin Department of Chemical
15 Engineering at the University of Arkansas, and have taught as a faculty member in this
16 department for 35 years. Recently, my course work focus has been in the areas of chemical
17 process control and chemical process safety. During my career at the University of Arkansas, I
18 have acted as a consulting engineer for government and industry clients including the U.S.
19 Environmental Protection Agency, the Department of Homeland Security, Exxon, Mitsubishi
20 Heavy Industries, and the American Petroleum Institute. My areas of expertise include fire and
21 explosion hazard assessment, atmospheric dispersion of toxic and flammable air-borne
22 contaminants, and computational fluid dynamics, among others.

23 2. I helped develop the methodology for the Degadis vapor dispersion method and
24 have published numerous peer-reviewed articles, book chapters, and publications on fire and

1 explosion risk assessment, and atmospheric vapor dispersion modeling. I direct the Chemical
2 Hazards Research Center (CHRC) at the University of Arkansas. The CHRC conducts major
3 research programs to develop and verify mathematical and wind tunnel models of the
4 atmospheric dispersion of hazardous chemicals. The CHRC houses an ultra-low-speed
5 environmental wind tunnel — presently the largest in the world. This tunnel was built to
6 investigate atmospheric dispersion processes at extremely low wind conditions, which frequently
7 define worst case conditions for atmospheric dispersion. I am also a member of the Safety and
8 Chemical Engineering Education (SACHE) Committee of the Center for Chemical Process
9 Safety (CCPS) of the American Institute of Chemical Engineers (AIChE); SACHE develops
10 course material for safety education in chemical engineering. In 2018, the Safety and Health
11 Division of AIChE awarded me with the Norton H. Walton – Russell L. Miller Award that
12 recognizes outstanding achievements in contributions to chemical engineering in the fields of
13 loss prevention, safety, and health.

14 3. Included below is a non-exhaustive list of the documents specific to this project
15 that I have reviewed:

- 16 a. *Final Environmental Impact Statement for the Proposed Tacoma LNG Project*,
17 published on November 9, 2015 (“Final EIS”).
- 18 b. *Tacoma LNG Siting Study Report*, Doc. No. 186512-000-SE-RP-00001, issued on
19 July 16, 2015 (“2015 Siting Study”), and accompanying appendices.
- 20 c. CB&I Services, Inc., COR-110 Alternate Feed Gas Composition (Option 6A)
21 Scope Definition, Doc. No. 210140-PE-PC-00171.0030 (Jul. 14, 2017).
- 22 d. Alternate Feed Gas Composition Review, Doc. No. 210140-000-PR-TN-00002,
23 Rev. A, Mar. 13, 2017.

- 1 e. [Redacted]
- 2 [Redacted]
- 3 [Redacted]
- 4 f. Project Design Basis, Rev. C, CBI Doc. No. 186512-000-PR-DV-00001, Sept. 14,
- 5 2015.
- 6 g. Project Design Basis, Rev. 2, Doc. No. 210140-000-PR-BD-00001, Jun. 28, 2017.
- 7 h. [Redacted]
- 8 [Redacted].
- 9 i. The Overall Plot Plan for the Main LNG Plant, including the preliminary design,
- 10 and Revision 1.
- 11 j. *Tacoma LNG Fire Thermal Radiation Calculation Storage Area Truck*
- 12 *Connection Station Local Spill Impoundment Supplement*, Doc. No. 210140-000-
- 13 SE-RP-00002, Issued on November 1, 2018 (“2018 CB&I Supplemental Study”).
- 14 k. *Tacoma LNG – Dispersion Modeling – Supplemental Report*, Ref. No. GexCon-
- 15 18-P515018-R-1, Rev. 01, Issued Nov. 2, 2018 (“2018 Gexcon Supplemental
- 16 Study”).
- 17 l. Puget Sound Clean Air Agency, Final Supplemental Environmental Impact
- 18 Statement: Proposed Tacoma Liquefied Natural Gas Project, March 30, 2018
- 19 (“SEIS”).
- 20 m. Deposition of Jim Hogan, Responsive Witness for ACT’s 30(b)(6) deposition
- 21 Notice, December 14, 2020.

22 4. Additionally, below is a non-exhaustive list of references I relied upon to prepare

23 this declaration:

- 1 a. Center for Chemical Process Safety, Guidelines for Vapor Cloud Explosion,
2 Pressure Vessel Burst, BLEVE, and Flash Fire Hazards, American Institute of
3 Chemical Engineers, John Wiley and Sons, 2010 (“*CCPS Guidelines*”).
- 4 b. NFPA 59A, Standard for the Production, Storage, and Handling of Liquefied
5 Natural Gas (LNG), National Fire Protection Association, 2019.
- 6 c. NFPA 68, Standard on Explosion Protection by Deflagration Venting, National
7 Fire Protection Association, 2018 (“NFPA 68”).
- 8 d. U.S. DOT/PHMSA Final Decision on Det Norske Veritas Petition for Approval
9 of Alternative Gas Dispersion Model, Oct. 7, 2011,
10 <http://www.regulations.gov/document?D=PHMSA-2011-0075-0025> last
11 accessed on Jan. 6, 2021.
- 12 e. Coldrick, C., C.J. Lea, and M.J. Ivings, Validation Database for Evaluating Vapor
13 Dispersion Models for Safety Analysis of LNG Facilities, Guide to the LNG
14 Model Validation Database, Fire Protection Research Foundation, May 2010.

15 ANALYSIS

16 I. BACKGROUND

17 5. The Tacoma LNG Facility would receive raw natural gas that contains ethane,
18 propane, butane, and other heavy hydrocarbons. Hasselman Decl., Ex. 32 (Project Design Basis
19 Rev. 2 at 3, 7). This raw natural gas would be processed on site into commercial natural gas, and
20 then liquefied and stored onsite in the storage tank. *Id.* Processing the raw natural gas requires
21 removing heavy hydrocarbons from the gas stream. SEIS at 2-3.

22 6. The Tacoma LNG Project would use and store heavy hydrocarbons. These heavy
23 hydrocarbons include: (1) mixed refrigerant liquids including propane and isopentane, and (2)
24 natural gas liquids removed from the raw gas stream which contain a mixture of different heavy

1 hydrocarbons (including propane, i-butane, n-butane, i-pentane, n-pentane, n-hexane, n-heptane,
2 n-octane). Hasselman Decl., Ex. 34 (2018 CB&I Supplemental Siting Report at 4); *id.*, at Ex. 33
3 (2018 Gexcon Study at 11-12) (describing composition of natural gas liquids that could be
4 spilled). The original facility design was based on raw natural gas feedstock, which contained
5 minimal heavy liquid hydrocarbons, but the design basis revised in July 2017 was based on a raw
6 natural gas feedstock reflecting a substantial increase in heavy hydrocarbons. Hasselman Decl.,
7 Ex. 31 (Option 6A Scoping Document at 3); *id.* at Ex. 32 (Project Design Basis, Rev. 2 at 7)
8 (describing feed gas composition with a much higher content of ethane, propane, butane, and
9 pentane).

10 7. Refrigerant liquids and natural gas liquids contain highly flammable chemicals,
11 and a leak of these hazardous chemicals could pose a fire or vapor cloud explosion hazard.
12 Methane, a single carbon hydrocarbon, is a low reactivity fuel, but other alkanes, with two
13 carbons or higher, are classified as medium reactivity fuels.¹ Per NFPA 59A, evaluating the
14 consequences of a fire or vapor cloud explosion requires modeling radiant heat flux, vapor
15 dispersion, and overpressure.² Overpressure is the pressure caused by a flame front over and
16 above normal atmospheric pressure caused by a deflagration or detonation.

18 ¹ NFPA 68, at Table D.1(a) (listing fundamental burning velocities of various substances
19 including alkanes (all with burning velocities greater than 40 cm/s)); *CCPS Guidelines*, at 197
20 (stating that fuels are conservatively classified as medium reactivity for burning velocities
between 40 and 75 cm/s except methane which is listed as an example of a low reactivity fuel).

21 ² PHMSA requires considering explosion risks when evaluating safety hazards:

22 According to NFPA 59A-2001 Paragraph 2.1.1(d), (incorporated by
23 reference in 49 CFR Part 193), all hazards that can affect the safety of the
24 public or plant personnel are to be considered. In addition to LNG, the
applicant should consider hazards associated with flammable gases,
flammable refrigerants, flammable or combustible liquids, or acutely toxic
materials. If present at the LNG plant, hazards including vapor dispersion

1 8. Calculating overpressure is required when evaluating the dangers posed by a
2 vapor cloud explosion. When a flammable vapor is released, its mixture with air will form a
3 flammable vapor cloud. If ignited, the flame speed can accelerate to high velocities and produce
4 significant overpressure especially in areas of containment or congestion. A leak of refrigerants
5 or heavy hydrocarbons from the Tacoma LNG Facility creates the possibility that such an
6 explosion could occur.

7 9. The Final Environmental Impact Statement (“EIS”)³ relied upon the CB&I Siting
8 and Safety Study prepared in 2015 to evaluate health and safety hazards. Hasselman Decl., Ex. 3
9 (Final EIS at 3) (“Preliminary siting studies were performed for Tacoma LNG using basic
10 modeling tools, Degadis for vapor dispersion, and LNG Fire III for thermal radiation.”). The
11 Final EIS noted that the project would require further review once a more detailed engineering
12 design is available. *Id.* (“More advanced modeling is required later in detailed engineering when
13 the design is further defined using Computational Fluid Dynamic (CFD) software.”).

14 10. After publication of the Final EIS, PSE made the following changes to the design
15 of the Tacoma LNG Project:

17 from liquid pools, vapor dispersion from jetting and flashing phenomena,
18 thermal radiation from pool fires, thermal radiation from fires involving
19 jetting and flashing phenomena (jet fires), overpressure from vapor cloud
20 ignitions, toxic gas dispersion, and boiling liquid expanding vapor
 explosions (BLEVEs) involving pressurized storage vessels should be
 included in an LNG plant's hazard evaluation.

21 U.S. Pipeline and Hazardous Materials Safety Administration, “LNG Plant Requirements:
22 Frequently Asked Questions,” <https://www.phmsa.dot.gov/pipeline/liquified-natural-gas/lng-plant-requirements-frequently-asked-questions#h1>, last accessed on Dec. 18, 2020.

23 ³ City of Tacoma, Puget Sound Energy Proposed Tacoma Liquefied Natural Gas Project Final
24 Environmental Impact Statement, Nov. 9, 2015,
[https://cms.cityoftacoma.org/planning/pse/Reissued%20Final%20Tacoma%20LNG%20EIS%20\(11-9-15\).pdf](https://cms.cityoftacoma.org/planning/pse/Reissued%20Final%20Tacoma%20LNG%20EIS%20(11-9-15).pdf).

- 1 a. Relocating equipment in the liquefaction area near Vessel V-204 in a manner that
2 could affect areas of congestion. A leak from Vessel V-204 was evaluated for the
3 risk of causing a vapor cloud explosion. Hasselman Decl., Ex. 28 (2015 Siting
4 Study at 16).
- 5 b. In July 2017, PSE redesigned the Tacoma LNG facility to handle incoming
6 natural gas with a much higher content of heavy hydrocarbons than previously
7 anticipated. Hasselman Decl., Ex. 30 (Change Order 110). This redesign added
8 new equipment that will receive and process flammable and explosive materials.
9 Hasselman Decl., Ex. 31 (Option 6A Scoping Document at 3-8). Processing feed
10 gas with a higher content of heavy hydrocarbons would also require more
11 frequent removal of natural gas liquids by truck. Hasselman Decl., Ex. 32
12 (Project Design Basis Rev. 2 at 12).

13 11. Below, I describe potentially significant unexamined health and safety adverse
14 consequences associated with these design changes.

15 II. CATASTROPIC FAILURE OF VESSEL V-204 PRESENTS PREVIOUSLY
16 UNIDENTIFIED HAZARDS.

17 A. The 2015 Siting Study identified the liquefaction area as a location where a vapor
18 cloud explosion could occur.

19 12. In the time period between preparation of the 2015 Siting Study and the final
20 drawings issued for construction at the Tacoma LNG Facility, some equipment was moved and
21 re-sized, particularly in the liquefaction area. The liquefaction area was identified as an area of
22 concern in the 2015 Siting Study. Hasselman Decl., Ex. 28 (2015 Siting Study at 16).

23 13. The 2015 Siting Study determined there was a credible scenario for a flammable
24 vapor cloud if there is a release of mixed refrigerants from vessel V-204, which is located in the
25 plant's liquefaction area. Hasselman Decl., Ex. 28 (2015 Siting Study at 16). Accordingly, the

1 study identified areas of congestion and confinement where a leak of mixed refrigerants from
2 vessel V-204 could create the risk of an explosion. *Id.* An area of congestion (obstacles or
3 blockage in a moving gas that can generate turbulence and enhance mixing) and confinement
4 (solid surfaces that prohibit gas movement in one or more directions) creates the circumstances
5 found to be important in characterizing the overpressure damage due to an explosion.

6 14. The 2015 Siting Study relied upon a preliminary design of the plot plan for the
7 Tacoma LNG Project as the basis for its analysis. Hasselman Decl., Ex. 28 (2015 Siting Study at
8 5) (relying on Revision P of the Overall Plot Plan of the Main LNG Plant). The study relied on
9 the preliminary plot plan to assess possible areas of congestion and confinement, and identified
10 two areas that have the potential to retain flammable vapor.

11 B. Although the 2015 Siting Study evaluated the catastrophic rupture of vessel V-
12 204 for vapor dispersion, it never evaluated this scenario for explosion
consequences.

13 15. The 2015 Siting Study listed lines that carry flammable or hazardous materials,
14 and evaluated whether these lines exceeded the probability of failure threshold. Hasselman
15 Decl., Ex. 28 (2015 Siting Study, Appendix A, B). Where a line failure exceeded the probability
16 of failure threshold, it was modeled for vapor dispersion hazard extent using PHAST, a modeling
17 software Approved by PHMSA for modeling vapor dispersion. Hasselman Decl., Ex. 28 (2015
18 Siting Study, Appendices E and L).

19 16. In all of the equipment spill cases except one, the 2015 Siting Study determined
20 that the line failure scenario release rates were significantly larger than the quantity of liquid held
21 in the equipment listed. Hasselman Decl., Ex. 28 (2015 Siting Study at 7). The exception was
22 the MRL Condensate Separator (V-204), and the study considered two scenarios consisting of a
23 catastrophic rupture of the vessel and a 0.4 inch diameter hole. Hasselman Decl., Ex. 28 (2015
24 Siting Study at 7).

1 17. Appendix E includes PHAST calculations with the Effect Zone shown on facility
2 drawings for the two cases. In Appendix E, the vapor dispersion calculations show that the
3 scenario made using a 0.4 inch hole has a larger Effect Zone than the catastrophic failure of V-
4 204. This 0.4 inch hole scenario has a larger Effect Zone because the release from a hole is
5 simulated as a continuous release while the catastrophic failure of the vessel is simulated as an
6 instantaneous release of the vessel contents without any additional leak.

7 18. The 2015 Siting Study evaluated the vapor dispersion hazard extent associated
8 with a catastrophic failure of the vessel containing mixed refrigerant liquids (V-204) using
9 PHAST version 7.01.

10 19. Det Norske Veritas (USA), Inc. (DNV) PHAST-UDM versions 6.6 and 6.7 were
11 approved by PHMSA for evaluating vapor dispersion hazard extents. The supporting
12 documentation required by PHMSA is based on comparison between model predictions and
13 established data sets for continuous releases only. Because the PHMSA approval process does
14 not consider modeling instantaneous releases, the vapor cloud extent of the catastrophic failure
15 of V-204 could be larger than predicted by PHAST version 7.01. A larger vapor cloud results in
16 a larger predicted impact of a vapor cloud explosion.

17 20. The 2015 Siting Study did not evaluate the overpressure associated with a
18 catastrophic failure of V-204. It is unclear why overpressure was not evaluated.

19 21. In consideration of the extent of overpressure due to catastrophic failure of V-204,
20 it should be recognized that flows into V-204 would continue at the same rate if there was a
21 catastrophic failure of V-204, and the flow rate from the loss of primary containment would be
22 much larger than a 0.4 inch diameter hole. A larger vapor cloud results in a larger predicted
23 impact of a vapor cloud explosion.

1 C. Equipment changed location in the liquefaction area, changing the potential areas
2 of congestion at the facility.

3 22. In the preliminary plot plan, the liquefaction heat exchanger was located (plant)
4 south of vessel V-204 (the MRL Condensate Separator), and (plant) south of the MRL
5 condenser. Hasselman Decl., Ex. 41 (2015 Plot Plan, Revision P) (location of equipment Nos.
6 17 and 19). However, in the final plot plan issued for construction, PSE flipped the location of
7 this equipment so that the liquefaction heat exchanger is now located (plant) north of vessel V-
8 204, and (plant) north of the MRL condenser. *Compare* Hasselman Decl., Ex. 42 (2018 Plot
9 Plan, Revision 1) (location of equipment Nos. 17 and 19); *id.* at Ex. 43 (2017 Overall Plot Plan)
10 (same). The liquefaction heat exchanger is a large piece of equipment – approximately 15 feet
11 by 25 feet. Hogan Depo., Dec. 14, 2020 at 72.

12 23. The areas of congestion and confinement identified in the 2015 Piping Study and
13 used in the Final EIS were identified before the changes to equipment location were made. The
14 Final EIS clearly states that hazard assessment should be re-evaluated when equipment layout
15 has been finalized. The changes in equipment locations could change the identified areas of
16 confinement and congestion.

17 D. Catastrophic failure of V-204 identified as appropriate for consideration in the
18 Tacoma LNG Siting Study Report presents a foreseeable consequence of a boiling
19 liquid expanding vapor explosion.

20 24. The catastrophic failure of V-204 presents a foreseeable and serious consequence
21 of fire and explosion hazard due to a boiling liquid expanding vapor explosion or BLEVE. A
22 BLEVE is the result of a rupture of a pressure vessel containing a liquid above its atmospheric
23 boiling point. V-204 separates vapor and liquid mixed refrigerant liquids [REDACTED]
[REDACTED] and a catastrophic failure of V-204 would result in a BLEVE.

1 [REDACTED]

This new adverse consequence

2 was not evaluated in the 2015 Siting Study.

3 25. A BLEVE presents several potential hazards including damaging overpressure
4 and a fireball that could have detrimental effect on adjacent equipment that could compromise
5 containment of other flammable fuel (knock on events).

6 III. DESIGN CHANGES TO ACCOMMODATE A DIFFERENT RAW NATURAL GAS
7 FEEDSTOCK COMPOSITION CREATED UNEXAMINED POTENTIAL ADVERSE
8 CONSEQUENCES.

8 26. In 2017, PSE changed the design of the Tacoma LNG project to accommodate
9 raw gas feedstock with a different composition. Hasselman Decl., Ex. 31 (Option 6A Scoping
10 Document); *id.* at Ex. 32 (Project Design Basis, Rev. 2 at 7). The new raw gas composition
11 would contain more heavy hydrocarbons, and thus required PSE to change equipment at the
12 facility to enable it to process, store, and transport larger quantities of natural gas liquids
13 removed from the gas stream. *Id.*

14 27. Changes to the facility include, but are not limited to: modifying a vessel in the
15 amine processing unit to remove heavy hydrocarbons before liquefaction of the raw natural gas
16 stream. Hasselman Decl., Ex. 31 (Option 6A Scoping Document at 3-4). Adding a new pipe
17 that connects to the amine flash drum, which is 2 inches in diameter, 100 feet long, and carries
18 natural gas liquids (NGL) which is flammable. Hasselman Decl., Ex. 31 (Option 6A Scoping
19 Document at 5). Increasing the vessel storage capacity (V-801), adding a new NGL stored
20 liquids heater, and increasing the capacity of associated piping that holds NGL before going to a
21 storage vessel at the truck loading station. Hasselman Decl., Ex. 31 (Option 6A Scoping
22 Document at 6-7). Adding a new pipe 2 inches in diameter that runs the length of the facility
23 (approximately 550 ft) from the amine processing unit to the natural gas liquids storage vessel
24 near the truck loading station. Hasselman Decl., Ex. 31 (Option 6A Scoping Document at 7).

1 This 550 foot pipe would be located above ground on a pipe rack. Hogan Depo., Dec. 14, 2020,
2 at 157.

3 28. PSE stated that it never prepared a supplement to its original 2015 Siting Study to
4 evaluate the risks associated with these changes to equipment and design. Hogan Depo., Dec.
5 14, 2020, at 154.

6 29. This is a problem because when the 2015 Siting Study was prepared, the biggest
7 safety concern at the facility was from the liquefaction process. *See* Hasselman Decl., Ex. 28
8 (2015 Siting Study at 1-16). However, design changes to accommodate the new raw gas
9 feedstock created new and significant potential for a fire or explosion caused by the processing
10 and storing of natural gas liquids at the facility.

11 30. Vapor dispersion calculations made in the 2015 Siting Study are no longer
12 applicable in light of design changes that increase the flow rate and capacity of lines carrying
13 heavy hydrocarbons. When flow rates and line capacities were increased in these design
14 changes, the amount of hazardous materials to be considered in assessment of the consequences
15 of a release will be increased which results in an increase of extent of the fire or explosion
16 hazards.

17 31. In particular, one of the lines identified 2015 Siting Study as exceeding the
18 probability of failure threshold, would now have an increased flow rate because of the new raw
19 natural gas feedstock. Hasselman Decl., Ex. 45 [Redacted]
20 [Redacted]. The
21 2015 Siting Study evaluated vapor dispersion for [Redacted] because it exceeded the probability
22 of failure threshold. Hasselman Decl., Ex. 28 (2015 Siting Study at 7). [Redacted] carries natural
23 gas liquids. Hasselman Decl., Ex. 28 (2015 Siting Study, Appendix A). Because this line will
24

1 now have an increased flow rate, it would also have a larger vapor dispersion extent. Further, a
2 spill from this line could pose an explosion hazard due to the flammability of natural gas liquids,
3 and the overpressure for a spill from this line should be evaluated.

4 32. Further, adding a new pipeline that carries heavy hydrocarbons [Redacted]
5 [Redacted] (approximately 550 ft) creates a new wholly unexamined hazard which
6 could create additional risk since it is [Redacted]. The capacity of vessel V-801 which carries
7 heavy hydrocarbons, was also substantially increased and this change should be evaluated to
8 determine whether increasing the capacity of this vessel would present new unexamined hazards.

9 33. Accordingly, changes to the design of the Tacoma LNG Project accommodating a
10 different raw natural gas feedstock pose new and unexamined consequences of a damaging fire
11 or explosion.

12 IV. THE 2018 SUPPLEMENTAL SAFETY STUDIES FAIL TO EVALUTE ALL FIRE
13 AND OVERPRESSURE HAZARDS.

14 34. In November 2018, Puget Sound Energy's contractors prepared two new studies
15 evaluating safety concerns. As described in the 2018 Gexcon Supplemental Study: "This
16 Supplemental Report is intended to reevaluate certain spill scenarios within the facility that *may*
17 *have changed as a result of modifications* to the final Plot Plan layout of the facility. It also
18 evaluates *newly identified* spills of either refrigerants or heavy hydrocarbons into the spill
19 containment sump located at the storage area truck connection station." Hasselman Decl., Ex. 33
20 (2018 Gexcon Supplemental Study at 2) (emphasis added). However, these reports do not
21 evaluate changes to equipment or flow rates in other areas for processing and storing heavy
22 hydrocarbons onsite. *See id.*

23 35. PSE anticipates that changes to the design of the facility will require increased
24 removal of accumulated natural gas liquids by truck. Hogan Depo., December 14, 2020, at 96-

1 98; 121-124; 154; 176-177. Almost three times as many truck trips will be required than
2 previously anticipated. Hogan Depo., December 14, 2020, at 123. Trucks will need to remove
3 accumulated natural gas liquids every five days under the alternate feed gas scenario. Hogan
4 Depo., December 14, 2020, at 124. The original design only required removal of natural gas
5 liquids by truck every fourteen days. Hogan Depo., December 14, 2020 at 123.

6 36. As discussed above, the Final EIS states that “[t]he design should be reviewed
7 when complete to confirm that all conditions for the installation have been met.” Hasselman, Ex.
8 3 (Final EIS at 3). The 2018 supplemental studies do begin to address this recommendation with
9 regard to the hazard of a spill at truck connection station, but no address is given to other issues
10 that can be identified in the current design in the supplemental studies.

11 37. Further, these supplemental studies do not consider the hazards posed when these
12 heavy hydrocarbons are transported offsite. As with consideration of the consequences of a spill
13 onsite, a spill offsite will have consequences that are not mitigated by measures employed onsite
14 such as the use of a sump in the truck loading area. In addition to fire hazards, the degree of
15 confinement and congestion cannot be determined for the unknown location of an accident
16 during transport offsite.

17 V. CONCLUSION

18 38. PSE changed the location of equipment in the liquefaction area, which was
19 evaluated for the risk of a vapor cloud explosion in the event of a spill of refrigerants from vessel
20 V-204. This change in equipment could affect where areas of congestion or confinement occur.

21 39. PSE considered the hazard associated with catastrophic failure of vessel V-204,
22 but the assessment failed to recognize that a catastrophic failure would cause a boiling liquid
23 expanding vapor explosion, or BLEVE. This is a significant hazard, which could have knock on
24 effects that damage nearby equipment handling flammable materials.

Exhibit C

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BEFORE THE SHORELINE HEARINGS BOARD
STATE OF WASHINGTON

PUYALLUP TRIBE OF INDIANS, a Federally
Recognized Indian Tribe,

Petitioner,

v.

CITY OF TACOMA, a Municipal Corporation;
PUGET SOUND ENERGY, INC., a Washington
Corporation; PORT OF TACOMA; and
WASHINGTON STATE DEPARTMENT OF
ECOLOGY,

Respondents.

SHB No. 16-002

PUGET SOUND ENERGY, INC.’S
PRE-HEARING BRIEF

I. INTRODUCTION

Puget Sound Energy, Inc. (“PSE”) proposes the construction of a liquefied natural gas facility (the “Tacoma LNG Facility”) on previously developed industrial land at the Port of Tacoma. The primary purpose of the project is to allow PSE to fuel two container ships operated by Totem Ocean Trailer Express (“TOTE”) that have been converted to run on LNG. The switch from bunker fuel to LNG will have immediate environmental benefits for Puget Sound by reducing greenhouse gas and particulate emissions, health risks associated with the combustion of diesel fuel and the risk of potentially damaging fuel spills. The Tacoma LNG Facility will also provide power for PSE customers throughout the region during periods of high power demand (*i.e.*, be a peak shaving facility).

The City of Tacoma carefully vetted the Tacoma LNG Facility and considered all project impacts, including comment from Washington State Department of Ecology (“Ecology”) and

1 U.S. Environmental Protection Agency (“EPA”), in a full environmental impact statement
2 (“EIS”). *See* Exs. P-30 —P-54 (EIS).¹ Ultimately, the City issued a shoreline substantial
3 development permit (“SSDP”) for the project. Ex. P-2; Ex. P-7. PSE and the City invited the
4 Puyallup Tribe of Indians (the “Tribe”) to engage throughout the project’s planning process.
5 *See, e.g.*, Ex. R-5. The Tribe did not respond to these efforts.

6 Yet, for reasons that remain unclear, the Tribe is adamantly opposed to the Tacoma LNG
7 Facility and continues to raise an ever-shifting scattershot of objections. In comments on the
8 draft EIS, the Tribe explained that its “gravest concern” was the (completely unsubstantiated)
9 risk of explosion. *See* Ex. P-54 (EIS, Appendix H, Comment Letter 30). The Tribe challenged
10 the final EIS in superior court, but voluntarily dismissed that case after PSE pointed out that the
11 Tribe failed to exhaust administrative remedies with the City.

12 The Tribe made no comments on the SSDP application during the public process. Ex. P-
13 10. Instead, after the City issued the SSDP, the Tribe sought reconsideration, raising complaints
14 related to the portions of the project that would occur on the Hylebos waterway. Ex. P-3. The
15 City fully addressed those concerns in an Order on Reconsideration. Ex. P-2. PSE attempted to
16 further address the Tribe’s concerns by eliminating in-water activity in the Hylebos. Ex. P-90.

17 The Tribe shifted its attack in the present petition. Now, the Tribe’s experts’ concern
18 appears to be the threat of contaminated sediments in the Blair waterway. This argument is
19 completely unsubstantiated. Based on deposition testimony, the Tribe’s own expert (Janet Knox)
20 conceded that she had no evidence of contamination at the project site. The EPA and Ecology
21 have expressed no concerns about contaminated sediments at the project site on the Blair
22 waterway. *See, e.g.*, Ex. R-29—32; Ex. P-49 (containing agency comment letters).

23 The Tribe’s other objections have no merit. The SSDP fully complies with the City’s
24 Shoreline Master Program (“TSMP”), the Shoreline Management Act (“SMA”), and Ecology’s

25 _____
26 ¹ The Exhibits (“Ex.”) cited in this brief are designated as presented in the final exhibit lists
submitted by the petitioner and respondents.

1 SMA regulations. As demonstrated below, PSE’s shoreline impacts are modest and fully
2 mitigated—the permit contains all conditions necessary to ensure no net loss of ecological
3 functions as required by the SMA and TSMP. PSE will remove 24 creosote-treated piles in the
4 Blair waterway by following applicable pile removal/placement best management practices
5 (“BMPs”) and replace those piles with 24 stainless steel piles, resulting in a net long-term
6 environmental benefit and the elimination of a historic source of carcinogenic polycyclic
7 aromatic hydrocarbons (“cPAHs”) to the aquatic environment. *See* Ex. R-27 (Revised
8 Mitigation Plan); R-34 (EPA BMPs). PSE will add another 24 inert stainless steel piles in the
9 Blair waterway and will compensate for that net increase in piles by removing 24 creosote-
10 treated piles from the Sperry Terminal. Ex. R-27 at 16-17. This again produces a net
11 environmental benefit and will result in higher quality benthic habitat. *Id.* at 14-17. Last, PSE
12 will add concrete and steel overwater structures in the Blair waterway, which will be mitigated
13 through the removal of creosote-treated decking on the Hylebos waterway and at Sperry
14 Terminal, again preventing the long-term spread of contamination from that treated lumber and
15 allowing light penetration that was formerly blocked. *Id.* Simply put, PSE’s project ensures that
16 any impacts are avoided, minimized, or fully mitigated. *Id.*

17 The Tribe has the burden of demonstrating that the SSDP is inconsistent with the SMA or
18 the TSMP. RCW 90.58.140(7). Given the Tribe’s shifting theories, it is difficult to predict
19 which arguments the Tribe will present at hearing. Based on discovery to date, it seems likely
20 that the Tribe will focus on manufactured concerns regarding alleged contamination in the Blair
21 waterway associated with pile removal/placement, and will otherwise claim that the project is
22 inadequately mitigated. The Tribe’s arguments lack a legal and/or factual basis, and the Tribe
23 will therefore fail to carry its burden of proof at hearing and its claims should be dismissed.

24
25
26

1 **II. BACKGROUND**

2 **A. PSE’s Proposed Project.**

3 PSE proposes to build and operate a water-dependent LNG facility at the Port of Tacoma.
4 See Ex. P-11. As originally proposed, the Tacoma LNG Facility would (a) liquefy and store
5 natural gas for use in PSE’s natural gas distribution system during periods of high demand, (b)
6 provide LNG to TOTE to fuel vessels (the “TOTE Fueling System”), and (c) provide LNG for a
7 marine vessel bunkering facility that would come into operation if a market for LNG vessel fuel
8 ever developed (the “Barge Loading Facility”). Ex. R-2.

9 The proposed facility is located on land between the Hylebos and Blair waterways. The
10 land is zoned high intensity and Port Maritime Industrial and has been in industrial use for 75
11 years.² P-42 at 3.3-7—8. The proposed TOTE Fueling System requires the removal of 24
12 creosote-treated piles and construction of a new trestle, concrete loading platform, and catwalk,
13 inclusive of 48 new stainless steel piles, along the Blair waterway. Ex. P-7 at 2—3. On the
14 Hylebos waterway, the Barge Loading Facility involved the construction of a trestle, pier, and
15 catwalk, inclusive of 86 new stainless steel piles, and required the removal of over 500 existing
16 creosote-treated piles. *Id.* PSE also proposed demolition activities intended to mitigate shoreline
17 impacts. *Id.* at 8.

18 **B. The City Conducted a Full EIS to Evaluate Project’s Impacts.**

19 The City of Tacoma fully evaluated the potential significant adverse environmental
20 impacts of the proposed project in a comprehensive EIS. The EIS carefully considered all
21 impacts to (a) earth resources, including geologic hazards, groundwater, and sediment, and the
22 project’s impacts on existing contaminated sites; (b) air quality; (c) water quality, including
23 surface and ground water and impacts from existing contaminated soils and sediments; (d) plants

24 _____
25 ² As explained by the City, “[t]he purpose of the ‘high-intensity’ environment is to provide for
26 high-intensity water dependent and water-oriented mixed-use commercial, transportation, and industrial
uses while protecting existing ecological functions and restoring ecological functions in areas that have
been previously degraded.” Ex. P-7 at 4.

1 and animals; (e) health and safety; (f) noise; (g) land use and recreational resources; (h)
2 aesthetics; (i) cultural resources; and (j) socioeconomic factors. *See* Exs. P-30 —P-53.

3 With respect to contaminated sediments, the EIS explains that sediment in the Hylebos
4 waterway was historically contaminated, was subject to prior clean-up actions, and has been
5 designated for monitored natural recovery. *See* Ex. P-36 at 3.1-9—11, —14. The Blair
6 waterway was also part of a historic cleanup site associated with the Asarco smelter. Ex. P-36 at
7 3.1-14. However, the entire Blair waterway was dredged between 1993 and 1995. *Id.* In 1996,
8 the EPA removed the Blair waterway from the National Priority List of high priority clean-up
9 sites. *Id.* Since that time, no federal or state agency has identified the Blair waterway as
10 requiring additional cleanup. *Id.*

11 The EIS expressly discusses the potential that in-water work activities (*e.g.*, removal of
12 existing creosote-treated piles) may impact water quality or result in “resuspension of
13 contaminated sediments.” Ex. P-38 at 3.3-16. The EIS explains, however, that “any increase is
14 expected to be short term,” and is “likely to be greatly diminished within one or two tide cycles
15 after the completion of the removal and installation activities.” *Id.* at 3.13-6. In addition, the
16 “long-term consequences of this action would be qualitatively beneficial, improving sediment
17 and water quality, by removing the creosote source from the environment.” *Id.* In comments on
18 the draft EIS, the Tribe, Ecology, and EPA raised concerns about contaminated sediments in the
19 Hylebos waterway. Ex. P-49 at 21-11. Accordingly, the EIS imposes a mitigation measure
20 requiring further characterization of the sediments in the Hylebos waterway before allowing the
21 removal of any piles. Ex. P-36 at 3.1-16. No one commented that characterization in the de-
22 listed Blair waterway was necessary.

23 The EIS also carefully considered the cumulative impacts of the Tacoma LNG project.
24 Specifically, the EIS considered the SSA/Puyallup Tribal Terminal Project including widening
25 the Blair waterway, removing 1.75 million cubic yards of soil, and installing 555 new piles. Ex.
26 P-48 at 3.13-6. The EIS also considered potential cumulative impacts associated with a proposed

1 Northwest Innovation Work Methanol Manufacturing Facility. *Id.* The EIS concluded that
2 cumulative impacts of these projects on water quality “are not expected to be significant with
3 implementation of best management practices.” *Id.* Since EIS publication, both the methanol
4 and SSA/Puyallup Tribal Terminal projects have been cancelled. *See* Ex. P-39; Ex. P-40.

5 The City issued the EIS on November 9, 2015. Ex. P-30. The EIS was subject to a 21-
6 day appeal period which began on November 19, 2015. RCW 43.21C.080. No appeals to the
7 City Hearing Examiner were filed. The Tribe filed a LUPA petition in the Superior Court but
8 dismissed it in response to PSE’s argument that it had failed to exhaust administrative remedies.
9 Any challenge to the adequacy of the EIS is now “barred” and the SSDP may not be “reviewed
10 ... on grounds of noncompliance” with the State Environmental Policy Act (“SEPA”). *Id.*

11 **C. The City Issued the SSDP with Conditions to Ensure SMA, TSMP Compliance.**

12 On November 19, 2015, the City issued the SSDP, subject to several conditions. Ex. P-6.
13 Before doing so, the City reviewed the EIS, the Joint Aquatic Resources Permit Application
14 (“JARPA”), PSE’s shoreline permit application, and all agency and public comments received
15 against the Tacoma Municipal Code (“TMC”), the TSMP, the SMA, and Ecology’s regulations.
16 *See* Ex. P-7 at 2. The City also reviewed PSE’s mitigation plan, which included impact
17 avoidance, minimization, and compensatory mitigation measures. *Id.* at 7.

18 PSE’s original proposal with respect to the Blair waterway called for the removal of 24
19 creosote-treated piles, the addition of 48 concrete piles, the removal of 671 square feet of
20 overwater coverage, and the addition of 5,751 square feet of overwater coverage. *Id.* at
21 Attachment C, Table 1. In the Hylebos waterway, PSE proposed the removal of 508 creosote-
22 treated piles, the addition of 86 concrete piles, the removal of 4,973 square feet of overwater
23 coverage (decking removal), the removal of 9,051 square feet of overwater coverage (existing
24 pier), and the addition of 6,094 square feet of overwater coverage (new pier). *Id.* The combined
25 net result was 398 fewer total piles and 3,668 square feet less overwater coverage. *Id.* Based on
26 these (and other) measures, as set forth in the City’s Technical Memorandum, the City concluded

1 that the “project has minimized impacts and provided appropriate compensatory mitigation that
2 should result in no net loss of ecological functions.” *Id.*, Ex. C. at 1; Ex. P-122. Accordingly,
3 the SSDP explains that “if constructed per the provided plans and with the proposed mitigation,
4 the project requires no further review or mitigation” under the TSMP. Ex. P-7 at 8.

5 The Tribe did not comment during the SSDP review process, yet it sought
6 reconsideration, raising concerns about the Hylebos portions of the project. Ex. P-3. The City
7 responded by imposing additional clarifying conditions. Ex. P-2. It explained that the Hylebos
8 portion of the facility “has not been presented as a core component of the project: the purpose of
9 the project is to provide fuel directly to the TOTE facility and to provide utility peak-shaving.”
10 *Id.* at 4; *see also* Ex. P-7 at 8 (“[B]arge loading in the Hylebos” is “secondary.”).

11 Nonetheless, the City addressed the Tribe’s Hylebos-related concerns. First, the City
12 required that “[w]ork within the Hylebos Waterway may not proceed until the applicant
13 demonstrates that further sediment testing has been completed and that the project will be
14 constructed and operated in compliance with all applicable water quality regulations.” Ex. P-2 at
15 7. Second, the City imposed a condition that the mitigation set forth in the City’s Technical
16 Memorandum is “required” and that “[a]ny modification of the mitigation as proposed will
17 require additional review and approval.” *Id.*

18 **D. PSE Voluntarily Agreed to Forgo Construction of Portions of the Project to Address**
19 **Tribal Concerns Regarding the Hylebos Waterway.**

20 PSE has stipulated to forgo:

21 Any in-water or over-water construction, dredging or fuel
22 bunkering in the Hylebos Waterway authorized by [the SSDP]
23 other than (a) work to improve three existing storm water outfalls
24 to meet new, more stringent stormwater requirements and (b)
25 removal of 4,973 square feet (approximately 37%) of overwater
26 decking from the existing pier (piles to remain in place).

Ex. P-90. In deference to the Tribe’s concerns about the Hylebos waterway, PSE will no longer
construct the Barge Loading Facility in the Hylebos waterway under the SSDP. *Id.* The

1 Stipulation reflects PSE’s commitment to proceeding with the core components of the project—
2 fueling TOTE vessels with cleaner burning LNG and peak shaving.

3 Elimination of the Hylebos in-water work required PSE to revise its mitigation plan. Ex.
4 R-27. The revised plan provides for the removal of creosote piles, additional overwater coverage
5 removal and for the restoration of benthic habitat at the Sperry Terminal Site. *See id.* at 11. The
6 revised Mitigation Plan continues to ensure that the LNG project will result in no net loss. PSE
7 submitted the revised plan to the City as required by the SSDP. *See* Ex. P-2 at 7.

8 III. LEGAL STANDARD

9 The Board reviews the SSDP for compliance with the SMA, the TSMP, and Ecology’s
10 implementing regulations. WAC 461-08-505(c). The Board reviews the decision of the City *de*
11 *novo*. WAC 461-08-500(1). The Board’s review of shoreline permits is limited to ensuring
12 consistency with the SMA and/or and TSMP, and is at issue. and the Board may not review the
13 SSDP for compliance with other state or federal laws. WAC 461-08-505(c); *see People for*
14 *Environmentally Responsible Kenmore v. City of Kenmore*, SHB No. 16-001, Order Granting
15 City of Kenmore’s Motions for Partial Summary Judgment at 4-6 (Mar. 25, 2016). The City’s
16 interpretation of the TSMP is given substantial weight. *See, e.g., Foreman v. City of Bellevue*,
17 SHB No. 14-023, Findings of Fact, Conclusions of Law, and Order at 22 (May 22, 2015);
18 *Marnin v. Mason County*, SHB No. 07-021, Modified Findings of Fact, Conclusions of Law and
19 Order (Feb. 6, 2008). The Tribe has the burden of showing that the SSDP fails to comply with
20 the SMA, the TSMP, or Ecology’s regulations. RCW 90.58.140(7); *Cloud v. Flaskerud*, SHB
21 No. 15-002, Findings of Fact, Conclusions of Law and Order at 14 (Jan. 6, 2016).

22 IV. ARGUMENT

23 A. The SSDP Fully Complies with the TSMP and SMA.

24 The City grants an SSDP “only” when the development is “consistent” with the SMA,
25 Ecology’s regulations, and its SMP. WAC 173-27-150(1). Relevant to this appeal, the
26 consistency requirement includes ensuring that the project will result in no “net loss of ecological

1 functions.” WAC 173-26-186(8)(b)(i); TSMP Section 6.4.2.A.1.³ This result is obtained
2 through mitigation sequencing: avoiding impacts, minimizing impacts, rectifying impacts, reducing
3 impacts over time, compensating for impacts, monitoring impacts, and taking corrective measures.
4 TSMP Section 6.4.2.C.2. The SMA expressly provides that the agency can do so by imposing
5 conditions in the SSDP: “[l]ocal government may attach conditions to the approval of permits as
6 necessary to assure consistency of the project with the act and the local master program.” WAC
7 173-27-150(2); *Walker v. Point Ruston LLC*, SHB Nos. 09-013, 09-016, Order on Summary
8 Judgment at 22 (Jan. 19, 2010) (“[T]he law is clear that shoreline permits can be issued with
9 conditions.”).

10 The SSDP ensures that these requirements are met. The City carefully reviewed PSE’s
11 proposed action and original mitigation plan and concluded that it “includes impact avoidance,
12 minimization and compensatory measures.” Ex. P-7, Attachment C, at 4. PSE’s minimization
13 measures included, among other things, procedures to manage impacts from turbidity (and
14 monitoring), full extraction of existing piles (or cut two feet below midline), filling resulting
15 holes with “clean sand,” using a containment boom and silt curtain for demolition of in-water
16 structures, and containing creosote-treated wood “during and after removal to prevent
17 contaminated material and sediment from entering marine waters.” *Id.* at 4-5. In addition, PSE
18 provided “in kind” compensatory mitigation for adding piles and overwater coverage by
19 removing piles and overwater coverage, resulting in “equivalent or better biological functions.”
20 *Id.* at 7 (explaining that the TSMP “gives preference for mitigation that is in-kind”); *see also*, R-
21 27.

22 The City imposed additional SSDP conditions “to assure consistency of the project with
23 the act and the local master program.” WAC 173-27-150(2). They include compliance with the
24 SMP’s water quality provisions through use of BMPs during construction and demolition, use of
25

26 ³ The TSMP is contained in Title 13 of the Tacoma Municipal Code and is available at
<http://cms.cityoftacoma.org/cityclerk/Files/MunicipalCode/Title13-LandUseRegulatoryCode.PDF>.

1 the BMPs set forth in the JARPA (any changes must be approved by the City), use of stormwater
2 BMPs, and the acquisition of all required federal, state, and local permits. Ex. P-7 at 11-12;
3 TSMP Section 6.8.2.1, .6. Furthermore, as discussed above, the SSDP included a condition
4 (which PSE has complied with) requiring the City to approve and review all changes to the
5 Mitigation Plan. Ex. P-2 at 7. Collectively, the SSDP review and conditions fully ensure that
6 the Tacoma LNG Facility is consistent with the SMA and the TSMP, and will have no net loss in
7 ecological functions.

8 **B. The Tribe's Arguments Have No Merit.**

9 **1. PSE Was Not Required to Investigate Sediment in the Blair Waterway.**

10 PSE anticipates that the Tribe will argue that the possibility (no matter how remote) that
11 there *could* be contaminated sediments in the Blair waterway requires the City to condition
12 SSDP approval on a full sediment characterization. PSE anticipates the Tribe to further argue
13 (based on the testimony of Ms. Knox) that the removal of piles in the Blair waterway may result
14 in the release of contamination from disturbing the sediment, and that PSE cannot know the
15 extent of the impact from that contamination without a full sediment characterization. These
16 arguments lack a legal and factual basis.

17 The Tribe's claims here must be based on the SMA and TSMP. The TSMP requires that
18 an SSDP applicant in a Port/Industrial Area demonstrate that (1) "contaminated sediments are
19 managed and/or remediated in accordance with state and federal laws"; (2) development
20 complies "with all federal, state, regional and local requirements regarding air and water
21 quality"; and (3) "[b]est management practices shall be strictly adhered to for facilities." TSMP
22 Sections 7.6.2.A.5.b, .6, .8. The Tribe has not established that there are "contaminated
23 sediments" at the project site and is, in fact, expected to testify that there is no direct evidence of
24 contamination at the project site. Nor has the Tribe identified any "state or federal laws"
25 requiring a sediment characterization in the Blair waterway.
26

1 Nor could it. The SSDP requires that PSE comply with BMPs to minimize impacts from
2 pile removal and mandates that all in-water work “will follow the restrictions and criteria
3 approved by WDFW.” SSDP at 11-12. The EPA Region 10 BMPs for Piling Removal and
4 Placement in Washington State, February 18, 2016 (“EPA BMPs”), are designed to “protect
5 water, sediment and habitat quality by minimizing sediment disturbance and debris re-entry to
6 the water column and benthic zone during pile removal activities.” Ex. R-34. The EPA BMPs
7 do not require sediment characterization and apply “regardless of the degree of sediment
8 contamination that may be in place.” *Id.*⁴

9 Every agency with expertise (including the EPA, Ecology, and WDFW) agrees that
10 removing creosote-treated piles is environmentally better than leaving them in place because
11 otherwise, the creosote piles will continue to leach cPAHs for years to come. Ex. P-38 at 3.3-17.
12 Although, as acknowledged in the EIS, pile removal may temporarily re-suspend sediment or
13 lead to a minor release of contaminants as the pile is removed, removal remains the “preferred
14 alternative” because it prevents decades of future contamination and harm to ecological function.
15 In other words, pile removal and replacement causes “no net loss” in ecological functions.

16 The Tribe’s requested sediment characterization cannot change this result. The EPA
17 BMPs illustrate that regardless of whether the sediments around the 24 piles in the Blair
18 waterway are clean or contaminated, the removal of the creosote piles will still have a net *benefit*
19 to the environment. The sediments in the Blair waterway around the replaced steel piles will be
20 cleaner, in the interim and long term, as a result. Even the Tribe’s own Natural Resource
21 Director is expected to testify that he *agrees* on this point and that pile removal is the preferred
22 alternative and is better for fish because a creosote pile could potentially continue to contaminate
23 as long as it is in place.

24
25 ⁴ Before PSE can remove or install any piles, it must also get approval from the U.S. Army Corps
26 of Engineers, which in turn will require the Corps to consult with EPA, and will require Ecology to issue
a state water quality certification under the Clean Water Act. Ex. P-38 at 3.3-1—2.

1 PSE further anticipates that the Tribe will ask its expert, Ms. Knox, to testify that
2 sediments in the Blair waterway are (or could be) above “natural background” levels for some
3 contaminants, and that conditions similar to those imposed on the Hylebos should therefore be
4 imposed on the Blair waterway. But the Blair and Hylebos waterways are fundamentally
5 different in history and composition. *See, e.g.*, P-38 at 3-14. The Hylebos waterway was the
6 focus of a major Superfund cleanup, and is subject to ongoing management under state and
7 federal cleanup laws. *Id.* The Blair waterway was completely dredged in 1996 and was removed
8 from the EPA’s list of sites requiring further attention under the federal cleanup program. *Id.* As
9 the state and federal agencies with jurisdiction over contaminated sediment sites, EPA and
10 Ecology have expressed no concerns about the scope of PSE’s modest project on sediments in
11 the Blair waterway. Ex. P-49; R-29. The Tribe’s “concern” about the sediments around the
12 project is baseless.

13 It is also disingenuous. The Tribe’s own proposed project in the Blair waterway involved
14 the dredging and open-water disposal of *1.75 million cubic yards of soil and the installation of*
15 *555 piles*. Ex. P-48 at 3.13-2, -6. In stark contrast to its present “concern,” the Tribe did not
16 undertake an EIS, and obtained an SSDP that did not require any SEPA characterization of the
17 sediments around its project before permit approval or construction.

18 The Tribe has offered no evidence (and there is none) of contamination in the areas
19 where piles will be removed and installed in the Blair waterway.⁵ Its expert, Ms. Knox, will
20 likely speculate about *unknown* contamination in the Blair waterway based on “gaps” in

21 ⁵ PSE expects Ms. Knox to present aerial photographs of the Blair waterway overlain with red
22 dots indicating alleged sediment contamination. No red dot is actually in the PSE project area.
23 Moreover, Ms. Knox’s idea of “contamination” is based on cherry-picked thresholds that are taken out of
24 context and mis-applied. For example, Ms. Knox applied both the Duwamish Waterway Superfund
25 natural background values and values taken from the Hylebos Model for natural resource damage
26 assessments. Although both values may be relevant at MTCA or CERCLA sites for certain purposes,
they are not used to determine sediment characterization requirements. The question in the SMA context
is not whether sediment poses a hypothetical human health risk, but whether the *project* will result in a
net loss of ecological functions. Ms. Knox’s testimony does not meaningfully inform that inquiry as she
openly acknowledged during her deposition.

1 available data. But speculation is not a basis for reversing an SSDP. If credited, this
2 speculation would be tantamount to imposing a categorical rule that no in-water project may
3 proceed until a full sediment characterization is complete. This result is plainly unreasonable
4 especially where, as here, both Ecology and EPA have required no such testing. It is also flatly
5 inconsistent with the SMA's policy of "planning for and fostering all reasonable and appropriate
6 uses" of the shoreline. RCW 90.58.020. The Tribe cannot carry its burden with speculation and
7 the absence of evidence.

8 **2. The SSDP Ensures No Net Loss to Ecological Function.**

9 PSE anticipates that the Tribe will challenge the adequacy of PSE's proposed mitigation.
10 There is no factual basis for this claim. The SMA and TSMP require that construction and
11 operation of the Tacoma LNG Facility result in no net loss to ecological function. *See, e.g.,*
12 TSMP 6.4.2.A.1. In addition to the protective measures above (*e.g.,* use of BMPs and fish
13 windows), in Tacoma applicants submit "mitigation plans" documenting compliance with the
14 "no net loss" standard. *Id.* The level of analysis in a mitigation plan "shall be commensurate
15 with the value" of the affected shoreline and "relative to the scale and potential impacts of the
16 proposed activity." TSMP 6.4.2.D.1. As anticipated in the SSDP, mitigation plans evolve during
17 the project review process and the City must review and approve any changes. *See* P-2 at 7.

18 PSE's revised Mitigation Plan meets and exceeds the "no net loss" requirements. Ex. R-
19 27. The plan provides for a 1:1 removal of one pile for each pile installed, and a 1:1.4 ratio of
20 overwater coverage created to overwater coverage removed. The plan also exceeds the "no net
21 loss" standard by trading impacts in an armored and frequently dredged waterway for
22 improvements in key salmonid and eel grass habitat at the Sperry Terminal. Ex. R-27 at 14.

23 **3. The Tribe's Cumulative Impact Arguments Are Misplaced.**

24 PSE expects the Tribe to argue that the City failed to consider cumulative impacts from
25 the Tacoma LNG Facility's impacts to sediment, stormwater, and/or other features. The Tribe's
26

1 cumulative impact arguments misapprehend the scope of a cumulative impact analysis under the
2 SMA (as compared with SEPA). A cumulative impact analysis under the SMA is intended to
3 “ensure no net loss of ecological functions and protections of other shoreline functions and/or
4 uses.” WAC 173-26-186(8)(d). As the City code explains, the City is required to give
5 “consideration” to “cumulative environmental impact of additional requests for like actions in
6 the area,” and permitted actions “should not produce *significant* adverse effects *to the shoreline*
7 *ecological functions and processes* or other users.” TSMP Section 2.3.1.3 (emphasis added).

8 Here, the City gave full “consideration” to the potential cumulative impacts of other “like
9 actions in the area” (as required by TSMP Section 2.3.1.3) by discussing, in detail, additive
10 impacts from other projects in the EIS (including the Tribe’s container project on the Blair
11 waterway and the now defunct methanol facility) with respect to disturbing contaminated
12 sediments and stormwater (and all other environmental factors). Ex. P-48 at 3.13-6, 3.13-7.
13 Those impacts were found to be *minimal and temporary*. *Id.* The Tribe has no credible evidence
14 to the contrary. Although the Tribe might desire to see more (or even endless) analysis, its
15 burden with respect to cumulative impacts is to show that the Tacoma LNG project cumulatively
16 will “produce *significant adverse effects* to the shoreline ecological functions and processes or
17 other users.” TSMP Section 2.3.1.3 (emphasis added). They cannot meet that burden by
18 complaining that more analysis should be done or with speculation as to baseline conditions.

19 **4. The Tribe Fails to Show Any Error Associated with PSE’s Stipulation.**

20 PSE further expects that the Tribe will argue a host of errors associated with PSE’s
21 Stipulation. PSE expects that the Tribe will argue that the scope of the Stipulation is unclear,
22 that the project may have new effects as a result, and that the project is no longer sufficiently
23 mitigated. None of these arguments have any merit.

24 The Stipulation is clear on its face. *See* Ex. 90. PSE is forgoing the authorization, under
25 the SSDP, to build the Barge Loading Facility on the Hylebos waterway and is also forgoing the
26 authorization to remove the 508 piles in the Hylebos waterway. As a result, PSE will not engage

1 in any in-water construction on the Hylebos waterway under the permit. *Id.* If, in the future,
2 PSE decides to construct a Barge Loading Facility (on either the Blair or the Hylebos
3 waterway),⁶ it will have to apply for a new permit from the City of Tacoma. If there is any
4 uncertainty as to this scope in the Stipulation as written, PSE is willing to modify the Stipulation
5 accordingly. Likewise, there are no new or uncertain effects as a result of the Stipulation. PSE
6 is simply electing to reduce the project scope by agreeing not to conduct some of the project
7 construction activities authorized by the SSDP.

8 Last the revised Mitigation Plan fully ensures that the project will achieve no net loss
9 despite the fact that it will no longer be removing structures from the Hylebos waterway. Ex. R-
10 27. The SSDP contemplated that mitigation measures could change, and included a condition
11 that required that all changes to the Mitigation Plan be submitted for additional review and
12 approval. P-2 at 7. PSE has complied with that condition. No additional review is required.

13 V. CONCLUSION

14 For all the reasons stated above, the Board should rule in favor of PSE and the City and
15 deny the Tribe's petition.

16
17 Executed this 2nd day of May, 2016, at Seattle, Washington.

18
19 

20 _____
21 Erin L. Anderson, WSBA No. 23282
22 Rita V. Latsinova, WSBA No. 24447
23 Sara A. Leverette, WSBA No. 44183
24 Attorneys for Respondent Puget Sound Energy, Inc.

25 _____
26 ⁶ To be clear, it is possible that PSE may wish to develop a barge loading operation in the future.
If so, PSE could seek to move that location (in light of the Tribe's concerns regarding the Hylebos
waterway) to the Blair waterway. Any such effort would require a new SMA permitting and SEPA
process. PSE has no plans to take any action toward such a new project.

CERTIFICATE OF SERVICE

I, Sharman D. Loomis, certify and declare:

I am over the age of 18 years, make this Declaration based upon personal knowledge, and am competent to testify regarding the facts contained herein.

On May 2, 2016, I served true and correct copies of the foregoing document upon the following persons in the manner listed below:

Lisa A. Anderson Law Office Puyallup Indian Tribe 3009 E. Portland Ave. Tacoma, WA 98404 Email: Lisa.Brautigam@puyalluptribe.com	<input checked="" type="checkbox"/> Email <input checked="" type="checkbox"/> U. S. Mail <input type="checkbox"/> Legal Messenger <input type="checkbox"/> Overnight Mail
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Attorneys for Petitioner Puyallup Tribe of Indians

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Attorneys for Respondent Port of Tacoma

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11 Attorneys for Petitioner, The Puyallup Tribe
12 of Indians

13 I certify under penalty of perjury pursuant to the laws of the State of Washington that the
14 foregoing is true and correct.

15 DATED: May 2, 2016 at Seattle, Washington.

16 STOEL RIVES, LLP

17 
18 _____
19 Sharman Loomis, Practice Assistant

From: [K Anderson](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Saturday, August 21, 2021 7:50:05 AM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Healthy communities require clean air and clean water.

Help make sure Tacoma can be a healthy community by protecting the water quality, air quality, soil, and make sure jobs are not locked into the fossil fuel industries. Help make a better future possible. Don't let Tacoma be know for it's aroma and pollution.

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

K Anderson
andersknmedia@gmail.com
P O Box 1934
Milton, Washington 98354

From: [Melissa Roberts](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Friday, August 20, 2021 10:10:14 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Melissa Roberts
mrhaddock7@gmail.com
1215 S ridgewood ave
Tacoma , Washington 98405

From: [Beverly Naidus](#)
To: [IPSTideflats](#)
Subject: Stop Fossil Fuel Expansion (we're in a Climate EMERGENCY)
Date: Friday, August 20, 2021 8:40:07 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Beverly Naidus
bnaidus@uw.edu
619 N Ainsworth Ave
Tacoma, Washington 98403

From: [Michael Garrity](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Friday, August 20, 2021 7:45:06 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Michael Garrity
mdgarrity@gmail.com
3515 N Union Ave
Tacoma, Washington 98407

From: [Megan Hoagland](#)
To: [IPSTideflats](#)
Subject: Now is the time to be brave and stop fossil fuel expansion
Date: Friday, August 20, 2021 11:22:59 AM

IPS Committee ,

Dear IPS Committee,

Every single choice made to reduce fossil fuel expansion could mean the difference between climate disaster and total extinction. I have a 9 year old and her future is terrifying.

Please be brave and don't weaken the rules to stop expansion.

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

I also understand that some council members were poised to amend the non-interim regulations to death, and that is why the Mayor put it to a vote to send it to your committee. From my point of view, this is just further wheel spinning and delay to let industry do as it pleases. We don't need more studies or review - we know exactly what we need to do. So let's do it.

I hope you will prove me wrong by maintaining the ban on fossil fuel expansion as you do your own take on the non-interim regulations. Ideally, I'd ask that you include a ban on the establishment of any new fossil fuel industry, no matter the size (as I understand it anything under a million gallons is allowed).

Undoubtedly industry will turn to talk of biofuels to try and seek expansion of their facilities. It would be good for you to know that two refineries built for biofuels in the PNW ended up just processing fossil fuels in the end. If the fossil fuel companies are so keen to do biofuels, which are of questionable sustainability and scalability to my knowledge, then let them use whatever storage tanks they currently have. We don't want to be home to another refinery spewing toxins into our air, biofuel or not.

We need to start transitioning Tacoma away from fossil fuels or we'll be left behind and dealing with a toxic legacy when the rest of the country converts to green, renewable energy and industry. Why can't we attract a turbine manufacturer here? With the port and rail access it would be perfect for distribution.

Please remember that the City passed a climate emergency resolution. Banning fossil fuels is the next logical step. Then we need to start weaning off them, and rapidly. I noticed that the

climate education promised in the Climate Emergency Resolution oddly didn't include Council Members - would be great to see you all insist on having that education for yourselves as well.

I hope you will deliver to us the fossil fuel regulations we need.

Megan Hoagland
tictaco@gmail.com
4709 50th ave s
Seattle, Washington 98118

From: [Kenra Brewer](#)
To: [IPSTideflats](#)
Subject: Stop Fossil Fuel Expansion - Listen to Scientists Please!
Date: Friday, August 20, 2021 7:15:42 AM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

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I hope you will deliver to us the fossil fuel regulations we need.

Kenra Brewer
kenrabrewer@gmail.com
815 E 46th St
Tacoma, Washington 98404

From: [Erin Dixon](#)
To: [IPSTideflats](#)
Subject: Ban fossil fuel expansion
Date: Thursday, August 19, 2021 11:15:35 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

I was quite disappointed when the City Council failed to adopt the non-interim regulations as proposed by the City Planning Department. These would have included a ban on fossil fuel expansion. Just as in their first recommendation four years ago.

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Erin Dixon
wave678@yahoo.com
807 S M St
Tacoma, Washington 98405

From: [Patricia Villa](#)
To: [IPSTideflats](#)
Subject: No fossil fuel expansion!
Date: Thursday, August 19, 2021 6:22:21 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

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I hope you will deliver to us the fossil fuel regulations we need.

If we don't start correcting our past polluting habits, we'll soon have an uninhabitable planet!

No fossil fuel expansion!

Sincerely,

Pat Villa

Patricia Villa

padavilla@hotmail.com

11448 Newcastle Way

Bellevue, Washington 98006

From: [Pam Beal](#)
To: [IPSTideflats](#)
Subject: No fossil fuel expansion in the Port of Tacoma
Date: Thursday, August 19, 2021 6:03:20 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

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I hope you will deliver to us the fossil fuel regulations we need.

Pam Beal
pambeal@gmail.com
204 Contra Costa Ave
Fircrest, Washington 98466

From: [Diane Shaughnessy](#)
To: [IPSTideflats](#)
Subject: Fossil fuel
Date: Thursday, August 19, 2021 5:58:25 PM

IPS Committee ,

Dear IPS Committee,

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I hope you will deliver to us the fossil fuel regulations we need.

Diane Shaughnessy
Dshau1@aol.com
7308 n skyview pl a208
Tacoma, Washington 98406

From: [Alexa Fay](#)
To: [IPSTideflats](#)
Subject: Stop Fossil Fuel Expansion in Tacoma
Date: Thursday, August 19, 2021 1:19:15 PM

IPS Committee ,

Dear IPS Committee,

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Alexa Fay
alexafpfay@gmail.com
1507 N 39th ST
Seattle, Washington 98103

From: [John Corso](#)
To: [IPSTideflats](#)
Subject: Stop enabling businesses to make money while polluting Tacoma
Date: Thursday, August 19, 2021 12:06:54 PM

IPS IPS Committee ,

Dear City of Tacoma IPS Chair & Vice-chair,

Clearly, human activity is impacting the planet in many ways, and we have an obligation to each other and future generations to leave the planet in better condition than it is today. The City of Tacoma must and can do its part to leave this region in better condition than it is today. Remember, it was only 170 years ago the the Puyallup River delta was a beautiful estuary that sustained the Puyallup people, and we have mostly ruined it in the pursuit of wealth.

I am a capitalist that believes pure capitalism will will lead to our ruin. Please act boldly in closing the tideflat regulations loophole that Seaport Sound is exploiting to expand fossil fuel storage. Send the message that Tacoma will no longer tolerate industries that pollute our community in pursuit of private profit.

Last but not least, please consider going a step further by requiring businesses to cleanup the garbage and pollution on their property as a condition of any new permit they need to maintain or grow their business. It is time for Tacoma to send a clear message to businesses that they must use some of their profits to cleanup their own pollution.

Sincerely,

John Geoffrey Corso

John Corso
corso1965@live.com
701 N J St
Tacoma, Washington 98403

From: [Paxton Wiers](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Thursday, August 19, 2021 9:20:45 AM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

We have less than a decade to realign our economy and communities around a low carbon future, and decades more of progress that can only truly begin once we stop fossil fuel expansions.

City Council, please pass policy that will -

- Stop the expansions of dirty fuels like oil & fracked gas
- Incentivize renewable & low carbon fuels
- Ensure there are minimal industrial impacts to residential areas as Pierce County continues to grow

Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Paxton Wiers
paxton.wiers@gmail.com
1110 N Prospect St
Tacoma, Washington 98406

From: [Lorie Lucky](#)
To: [IPSTideflats](#)
Subject: Tacoma Needs Room to Sustainably Grow
Date: Wednesday, August 18, 2021 9:25:08 PM

IPS IPS Committee ,

Dear IPS Chair & Vice-chair,

Tacoma is growing fast, and that means we need sensible policies to make sure that growth is not at odds with the surrounding environment. We must ensure we limit fossil fuels in Tacoma so that as we continue to grow, we are not exposing more people to increased risks from air pollution that comes from industry and transportation. If we pass strong Tideflats regulations we can ensure polluting industries in the Tideflats can only expand if they are developing low carbon fuels, that will serve us with cleaner energy for generations to come.

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Tacoma needs sensible policies for managed growth, and that starts by making room for cleaner industries and communities. No longer can Tacoma afford to be corporate polluters' favorite city, we must be a city that leads on climate because the stakes are too high.

Thank you,

Thank you,

Lorie Lucky
lorie916@gmail.com
28313 Redondo Way S.
Des Moines, Washington 98198

From: [Mishon Ogle](#)
To: [IPSTideflats](#)
Subject: No Fossil Fuel Expansion
Date: Wednesday, August 18, 2021 2:43:57 PM

IPS Committee ,

Dear IPS Committee,

Our community has been asking the City to stop fossil fuel expansion for the past four years. We are asking yet again.

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Mishon Ogle
mishonaileen@gmail.com
2208 N DEFIANCE ST
Tacoma , Washington 98406