



Written Comments to the Oregon Public Utilities Commission on the NWN Integrated Resource Plan

Chair Decker and Commissioners Tawney and Thompson,

These written comments supplement my testimony from February 7, 2023.

I am an energy systems modeler and climate policy analyst. I have analyzed and developed deep decarbonization pathways in over a dozen countries, and I represent the Metro Climate Action Team in these proceedings.

To start my comments, I'd like to summarize the PUC's goals as noted in the recently finalized Natural Gas Fact Finding Report. These are to:

1. Determine whether the utilities have a least-cost, least-risk strategy, including for CPP compliance;
2. Ensure utilities are passing on to ratepayers only prudent and reasonable costs;
3. Set rates that represent reasonable balance of future risks and incentives between the company and ratepayers; and
4. Ensure that different customer classes are each allocated a reasonable proportion of the costs and benefits of utility service.

Given that context, I will focus my comments, not on the near-term Action Plan, but on the long-term CPP compliance strategy, identified by the Company as the Preferred Portfolio. The Company claims that only the Action Plan is subject to Acknowledgement, but this Preferred Portfolio is being touted as an equally viable pathway to electrification of our buildings. Yet, nothing could be further from the truth, and the Commission has a responsibility to comment on whether the proposed approach is a least-cost, least-risk strategy.

In my assessment, the Company's Preferred Portfolio for CPP compliance is an inferior decarbonization pathway compared to electrification of space and water heating services in our buildings because:

- RNG is NOT carbon neutral, and even if the CPP gives full credit, the actual GHG reduction should be based on the carbon intensity of its production,
- It is based on overly optimistic or entirely unrealistic cost reduction assumptions, and does not eliminate fossil gas even by 2050,
- Is based on recycling of CO₂ back to the atmosphere, which is at best carbon neutral and therefore does not support decarbonization of the atmosphere – especially in after 2040 when that is likely to be necessary.

We strongly support Staff's recommendation for the Company to allow Plexos to choose demand-side resources (energy efficiency, demand response, electrification) for meeting capacity needs. Although there are issues that need to be worked through (e.g., how to model energy efficiency given the current policy on energy efficiency), it is not an insurmountable challenge and it is necessary if we are to identify to lowest cost, lowest risk portfolio of future resources.



As the figure below illustrates, the Company's Preferred Portfolio strategy is very **unlikely** to be cost-effective compared to direct electrification of our residential and commercial buildings. We plan to continue to challenge the cost-effectiveness and risks of NWN's Preferred CPP Compliance scenario in this and future IRPs and related dockets.

As a follow-up to your question, multiple reports from multiple groups studying potential actions to mitigate climate change have identified four core strategies:

1. Achieving 100% clean electricity generation
2. Converting our transportation fleets to electric vehicles
3. Converting our buildings and industry (where feasible) to electricity, and
4. Developing carbon-free fuels for long-term storage, reliability and hard to electrify applications.

These reports cover studies at the global regional and national levels, and were developed by organizations, such as the Intergovernmental Panel on Climate Change¹, the International Energy Agency², the Center for Strategic and International Studies³, and even people like Bill Gates⁴

Thank you for the opportunity to provide comments.

Dr. Pat DeLaquil
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Metro Climate Action Team Steering Committee

¹ Sixth Assessment Report: Working Group III: Mitigation of Climate Change - Summary for Policymakers, 2022

² [Net Zero by 2050 – Analysis - IEA](#)

³ <https://www.csis.org/analysis/climate-solutions-series-deep-decarbonization-pathways>

⁴ How to Avoid a Climate Disaster, Bill Gates, Knopf, 2021, p154.



On a pathway to
100% clean by 2040

3x more efficient
than gas heat pumps



Decarbonization of Buildings through Electrification

- Proven, cost-effective, highly efficient and reliable technology
- Multiple full-sector decarbonization studies have identified converting our buildings to electricity as a core strategy.

- Assumes that new, expensive, and risky alternative fuels (e.g., RNG and hydrogen) will be available and cost-effective
- Assumes rapid introduction of commercially-unavailable technologies (gas heat pumps)
- Assumes hydrogen and synthetic methane will be available and cost-effective for building heating rather than dedicated to hard-to-electrify end uses in the transportation and industrial sectors.

Limited Supply

BioMethane

Investment Cost
Energy Loss

Electricity

Electrolysis

Hydrogen

Investment Cost
Energy Cost

Synthetic
Methane

Gas Heat
pump

Space & Water
Heating

Oregon Gas Utilities *Proposed*
Long-term Decarbonization Strategy
for Buildings

Energy

Captured
CO₂

Investment Cost
Energy Cost

