

February 10, 2025

Dear members of the committee,

We're writing in support of **Senate Bill 685**. Sightline Institute is an independent think tank working to advance sustainability in the Pacific Northwest. We have researched and written about energy and climate policy for more than 30 years, including publishing several recent analyses about blending hydrogen in the natural gas distribution system (see annex).

SB 685 bill would increase regulator and community oversight of gas utility projects to inject hydrogen in the natural gas distribution system. It would require gas utilities to notify both the Oregon Public Utility Commission and utility customers of these projects. Because of the current gap in Oregon law, [NW Natural has already experimented with injecting hydrogen](#) into its natural gas distribution lines without informing customers or regulators. SB 685 is important because:

1. **Hydrogen blending could be dangerous to gas utility consumers.** Hydrogen raises the risk of failure in service pipelines, the pipes that carry gas into homes. "[The overall risk is significantly increased at all hydrogen levels](#), and it becomes severe at hydrogen levels above 20 percent," according to an analysis by the US Department of Energy's National Renewable Energy Lab in Golden, Colorado.
2. **Hydrogen blending projects are costly to ratepayers.** Blending hydrogen into existing natural gas infrastructure at levels above 20 percent could [cost billions](#) because most gas distribution pipelines would need to be replaced or extensively retrofitted to safely accommodate the new fuel.
3. **Using hydrogen to heat homes is highly inefficient compared to proven decarbonization alternatives.** Heating a home with green hydrogen, produced from renewable electricity, has an [efficiency of around 46 percent](#) whereas heating a home with an electric air-source heat pump has almost six times that efficiency, at around 270 percent.
4. **Hydrogen cannot be safely blended at levels necessary to reduce Oregon's climate pollution.** A 20 percent blend of green hydrogen (the [maximum level](#) that can be safely blended) shaves off only around [7 percent](#) of the combustion emissions of a system running on 100 percent natural gas.
5. **Pyrolytic hydrogen, or "turquoise hydrogen," is not a clean fuel.** NW Natural is blending [turquoise hydrogen](#), which is created by heating natural gas to high temperatures and converting it to hydrogen and solid carbon. Climate-warming pollution is emitted throughout the process: methane leaks during fracking and delivery, and fossil fuels may be burned to generate heat for pyrolysis.

SB 685 would protect Oregon consumers and mirrors a [law Washington state](#) passed in 2022. We urge your support for Oregonians' safety, economic security, and climate commitments. We are happy to answer any questions.

Sincerely,

Laura Feinstein

Fellow, Climate & Energy

Sightline Institute

Emily Moore

Director, Climate & Energy

Sightline Institute

Annex: Sightline Institute Relevant Research

Hydrogen Is Sneaking Its Way Into Oregon Homes

<https://www.sightline.org/2024/09/12/hydrogen-is-sneaking-its-way-into-oregon-homes/>

Excerpt: *In 2022 [Washington became the first place in Cascadia to require](#) that a gas company show, in advance of hydrogen blending, that it has hydrogen-specific safety standards, that hydrogen production will not adversely impact the electric grid's reliability, and that hydrogen production is consistent with the utility's integrated resource plan. No gas company in the state has yet put the law to the test.*

The rest of the region, however, lacks regulatory safeguards for hydrogen blending projects by gas utilities. Lawmakers in Oregon, home to Cascadia's first hydrogen blending pilot, would be especially smart to act quickly to close the gap in state law.

Decarbonizing with Hydrogen: A Primer

https://www.sightline.org/research_item/decarbonizing-with-hydrogen-a-primer/

Excerpt: *Hydrogen could be a vital clean alternative to fossil fuels to meet 2050 greenhouse gas emissions targets, but only if it is produced using renewable electricity and used for sectors that are hard to decarbonize. This primer outlines what hydrogen is, the different types of hydrogen production methods, and the best ways to use hydrogen in a decarbonizing economy.*

Hydrogen's Dead End: Home Heating

<https://www.sightline.org/2022/05/24/hydrogens-dead-end-home-heating/>

Excerpt: *Renewable hydrogen, also known as green hydrogen, does have its place in a climate-friendly future, namely in cleaning up [hard-to-decarbonize sectors](#) like steelmaking, long-haul shipping, and aviation, and in generating electricity during windless, cloudy periods. Plus, [existing hydrogen consumers](#), like petrochemical refineries, metallurgical industries, and ammonia and fertilizer manufacturers, could reduce their emissions by switching from hydrogen produced by fossil fuels to hydrogen produced from renewable electricity ([see our primer](#) on the different types of hydrogen).*

But natural gas utilities, including those in Cascadia, have their eyes on a much bigger prize: pumping hydrogen through the natural gas pipeline system to heat buildings—and raking in the accompanying profits. Unfortunately, hydrogen is not the solution these fossil fuel corporations make it out to be, nor should it be their next cash cow. It merely delays the much-needed shift to electrification, holding ratepayers subject to more expensive fossil fuel infrastructure and a more dangerous and less efficient fuel—all while slowing progress toward the region's decarbonization goals. Lawmakers and regulators should beware of the industry's hype as they weigh hydrogen's permitted uses.

No, Hydrogen Is Not the Savior Gas Utilities Are Looking For

<https://www.sightline.org/2022/10/24/no-hydrogen-is-not-the-savior-gas-utilities-are-looking-for/>

Excerpt: *Cascadia's gas utilities know their prospects are rapidly dimming... But hydrogen is unlikely to save gas utilities from their impending irrelevance. Future hydrogen customers are few and far between, and the competitive hydrogen market will leave currently regulated monopoly utilities in unfamiliar waters. In this context, green hydrogen looks more like a leaky raft than the sturdy rescue boat gas utilities make it out to be.*