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Senate Committee on Energy and Environment
Oregon State Capitol
900 Court St. NE
Salem Oregon 97301

February 10, 2025

Subject: Senate Bill 685

Dear Chair Janeen Sollman, Vice-Chair David Brock Smith and members of the committee,

Today I am testifying against Senate Bill 685 and its proposed -1 amendment. The bill reflects a misunderstanding of hydrogen, and effectively urges a halt to work that could be very promising and beneficial.

Obsidian Renewables LLC is a long-standing renewable energy developer based in Lake Oswego. Our historic focus has been solar, but four years ago we broadened our efforts to low carbon fuels including low carbon (or "clean") hydrogen. Low carbon hydrogen carries great promise for a cost-effective low carbon future, but it is not a "silver bullet" solution.
Low carbon hydrogen can be made from methane gas. Yes, methane can be converted to hydrogen and a valuable carbon co-product with no release of carbon dioxide gas at the point of production. Methane Pyrolysis for Zero-Emission Hydrogen Production: A Potential Bridge Technology from Fossil Fuels to a Renewable and Sustainable Hydrogen Economy | Industrial & Engineering Chemistry Research

Attention to upstream methane emissions and attention to the source of the electricity used in the reaction process is important.

Low carbon hydrogen can be made from any biomass, such as sawdust, sawmill and papermill residue, agricultural waste and residue, forest slash, transmission line thinning's and other biomass that may be available. Hydrogen Production: Biomass Gasification | Department of Energy

Finding value in biomass that is otherwise burned or buried in a landfill can produce significant economic and climate benefits.

Low carbon hydrogen may be available in nature underground. Called natural hydrogen, or gold hydrogen or white hydrogen, there is a lot of wildcatting for production sites around the world. Natural hydrogen - Wikipedia A recently published government map of promising white hydrogen locations in the United States: USGS releases first-ever map of potential for geologic hydrogen in U.S. | U.S. Geological Survey

Note the Oregon coast, particularly Coos County.

The United States produces more than 10 million tons of hydrogen a year, and has for decades. Hydrogen Production | Department of Energy From the US Department of Energy at the location cited:

"With approximately 10 million metric tons (MMT) hydrogen currently produced in the United States each year, the primary demand for hydrogen today is for petroleum refining and ammonia production. However, hydrogen can be used across multiple sectors to enable zero or near-zero emissions in other chemical and industrial processes, integrated clean energy systems, and transportation. Emerging hydrogen markets within these sectors include data centers, ports, steel manufacturing, and medium- and heavy-duty trucks."

Worldwide hydrogen production is more than 60 million tons per year.

There is a well-staffed and well-respected Center for Hydrogen Safety. CHS | Center for Hydrogen Safety It has a strong working relationship with Washington State University. Jacob Leachman | AIChE

While you can find anything on the internet, there is no credible record of a significant problem in the country with hydrogen safety. Perhaps instead encourage Oregon State University or the Oregon Institute of Technology to pursue studies in hydrogen use and safety.

A gas utility in Alberta, Canada is proposing to help develop a new residential subdivision that would operate with 100 percent hydrogen instead of natural gas or blended natural gas. From a news story:

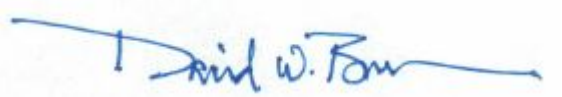
"A development company (Qualico) and a utility provider (Atco) are partnering on making it the first pure hydrogen community in Canada, and quite likely the largest in the world by the time it is complete. The plan calls for Qualico's portion of Bremner — up to 7,000 homes on 1,200 acres — to be outfitted with combination boilers and hot water units fueled by pure hydrogen, and possibly hydrogen-powered appliances such as cooktops and barbecues in the future as those devices become more available."

The utility, ATCO, has opened Alberta's first 100 percent hydrogen home. ATCO Gas | Alberta's First Hydrogen Home; and a Discovery Centre ATCO Gas | ATCO's Energy Discovery Centre

In our opinion, Oregon's energy advocates should be enthusiastic about all of this. Scolding, hobbling legislation is not helpful, delays innovation and raises costs for ratepayers.

Thank you for your time and attention.

Sincerely,



David W. Brown
Senior Principal