

Submitter: George Skoptsov

On Behalf Of:

Committee: Senate Committee On Energy and Environment

Measure, Appointment or Topic: SB685

Dear Chair Sollman and members of the committee --

My name is George Skoptsov. I'm the CEO and Founder of H Quest, a start-up company developing decarbonization solutions for the industry and natural gas. Thank you for this opportunity to provide testimony in opposition to SB 685.

I am acquainted with the properties, benefits, and risks of natural gas and hydrogen professionally. Over the past decade, my team and I have been developing a technology that enables new, clean uses of natural gas. Our technology reinvents natural gas as a sustainable feedstock for advanced carbon materials and clean hydrogen fuel.

Consider that everything that supports our high standard of living - from manufacturing to entertainment -- requires a ready, accessible, and affordable source of energy.

The two American energy pillars are natural gas and electricity. There is extensive infrastructure representing a century of continued investment that delivers these forms of energy virtually everywhere -- all you need to do is flip a light switch or wait for your gas furnace to kick in. Most importantly, they are complimentary -- you cannot stop using one and only use the other.

Unfortunately, these two pillars both have a non-trivial carbon footprint. The difference is that while the electricity supply has been subsidized and encouraged to work to reduce its carbon footprint, the natural gas industry has been lagging behind.

We all know now that electricity can be sustainable -- if generated with wind, solar, or even nuclear plants! Well, so can natural gas -- if it has a renewable source or has a lower carbon contents.

Fundamentally, natural gas is made up of hydrogen and carbon. The carbon is responsible for 100% of its carbon footprint, but for only 30% of its energy contents. The path to make natural gas sustainable is to increase its hydrogen contents.

And exactly this has been tested over and over both in the United States and abroad. Natural gas already is mostly hydrogen. And adding more hydrogen is safe. Hydrogen is not toxic. If it burns, it turns into water vapor, not carbon dioxide, If it leaks, it dissipates faster than natural gas itself. And hydrogen embrittlement is not

even theoretically possible at the low pressures that distribution pipe networks and especially internal home piping sees.

Hydrogen is the path for the crucial natural gas energy supply to decarbonize itself. New technologies needed to be supported in their early stages, just like decarbonization of the electric industry came with support for early solar panels and wind turbines.

And this is exactly what this bill will prevent.

In my opinion, the key premises of this bill are misguided:

- As presented above, hydrogen is not intrinsically dangerous.
- The current regulations already limit hydrogen contents in the delivered natural gas by 10% at most.
- The industry in the US and abroad has convincingly demonstrated over the past several decades that hydrogen gas can be blended into natural gas formulations at up 30% without any negative impacts.
- As we heard during oral testimonies, even the folks who spoke in support of this bill concede that at certain percentages (such as 5%) hydrogen blending is perfectly safe.
- The projects evaluating early technologies that this bill targets would add tiny amounts of hydrogen, in most cases not even approaching 5% on the customer side.

The main concern is that the bill (as introduced) would add so much overhead that it will make trialling new products and technologies absolutely impractical -- essentially freezing innovation and preventing improvements in sustainability.

Thank you.

George Skoptsov