

The Climate and Health Risks of Hydrogen/Methane Blending in our Homes

In brief: The proposal by some fossil fuel companies to blend hydrogen with methane gas for home heating and cooking is a bad idea. It prolongs our use of climate-damaging methane and does very little to lower greenhouse gas (GHG) emissions.

What is Hydrogen (H₂): Hydrogen is the most abundant element in the universe and it holds promise as a zero-emission fuel for hard-to-electrify sectors like steel production and long-haul transportation. However, not all hydrogen is produced equally. **Green hydrogen** is the only variant that is produced from 100% renewable energy and is truly zero-emission.

Blending hydrogen/methane for home use is a false and ineffective solution:

1. Contributes to climate change:

- Currently, the majority of H₂ available for use is made from fossil fuels. Using this type of H₂ (**gray** and **brown** variants) creates GHG emissions.
- H₂ is a short-lived GHG with climate warming potential. Transporting H₂ gas through methane pipelines will result in leakage of H₂.

2. Inefficient use of renewable energy:

- Even if **Green H₂** were available, blending it with methane to power home appliances is not as efficient as home electrification solutions. An electric heat pump is almost 6x more energy efficient than a hydrogen-burning boiler.
- Blending **Green H₂** with methane to the highest level allowed within current infrastructure (20%) would only reduce GHG emissions by 6% for the sector.

3. Locks in the methane gas system:

Blending H₂ with methane perpetuates our use of methane as a fuel. This prolongs environmentally damaging fracking and gas infrastructure that impacts the health of our communities.

4. Increases costs:

Significant investment is needed to scale **Green H₂** production, and in order to achieve substantial GHG reduction, the gas system would need new infrastructure and residential consumers would need new appliances to accommodate higher blends of H₂ (>20%).

5. Raises safety risks:

H₂ is harder to detect, ignites more easily, and is more explosive than methane, thus increasing the danger of explosions in buildings.

6. Perpetuates health inequities:

Utilizing a H₂/methane blend in homes will contribute to indoor and outdoor air pollution, releasing harmful pollutants like NO_x, CO, and PM_{2.5}, which disproportionately impact BIPOC communities.

PSR opposes the blending of hydrogen with methane for combustion in homes and other buildings. In its place, we support effective decarbonization and electrification strategies that will protect our health, safety, and planet.



PSR National

psrnatl@psr.org
www.psr.org

1111 14th St NW Suite 700
Washington, DC 20005



SF Bay PSR

info@sfbaypsr.org
www.sfbaypsr.org

548 Market Street, #90725
San Francisco, CA 94104

