



# Hydrogen Blending

## Establishing California's Hydrogen Blending Standard

Hydrogen blending has been identified by the State of California as a key component of its efforts to achieve net zero greenhouse gas emissions by 2045. By relying on decades of safe blending work across the globe, the development of a statewide hydrogen blending standard would accelerate the replacement of fossil fuels, reduce greenhouse gases, and help California build a cleaner, more resilient energy grid.

### What is Hydrogen Blending?

It is the process of blending hydrogen into natural gas and injecting it into the natural gas infrastructure.

### Benefits of Hydrogen Blending

Hydrogen blending has the potential to expedite the transition to a net-zero energy future by:



Leveraging the state's current infrastructure, skilled workforce and regulatory framework to deliver cleaner fuel to customers



Reducing greenhouse gas emissions on both the electric and gas grids



Serving as a low-cost hydrogen storage and transportation medium



Allowing Californians to continue using existing appliances without modifications



Providing system resiliency through energy diversity and redundancy

### Hydrogen Blending is Proven and Safe

Hydrogen is safely and reliably utilized around the world and has been for decades in countries like Belgium, Canada, Denmark, France, Germany, Italy and the United Kingdom. Hawaii Gas has also been using hydrogen in its fuel mix for a half-century.

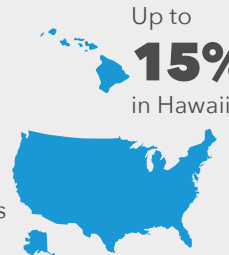
SoCalGas will employ extensive safety measures that include leak surveys and detection technology, safety assessments of hydrogen storage and components, end-use equipment surveys, education and training.

Up to **20%** underway in Europe



Up to **5%** underway in continental United States

Up to **15%** in Hawaii



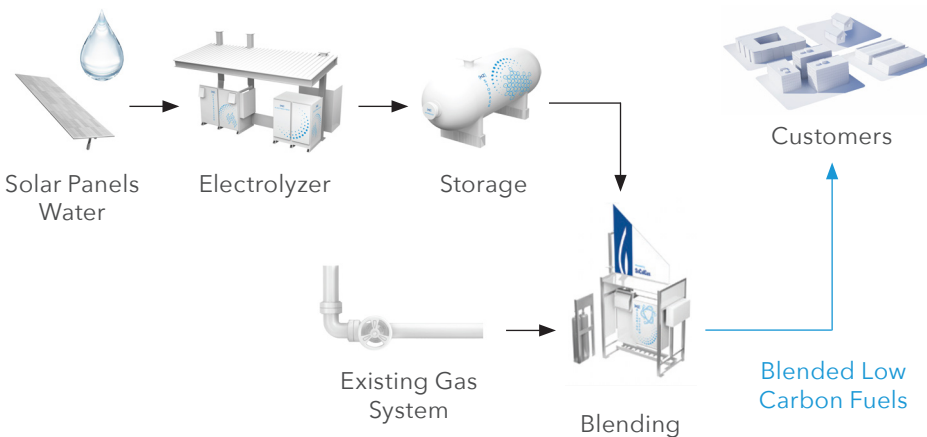
**5%** underway in Canada



Up to **5%** underway in Australia



### How Hydrogen Blending works



## Alignment with California's Clean Energy Goals

Hydrogen blending in California has the potential to be the fastest way to create the first significant demand for the production of hydrogen at scale – a key step toward the state's efforts to create the **Hydrogen Economy of the Future**.



**...hydrogen blending can be an important decarbonization strategy for the energy and transportation sectors...**

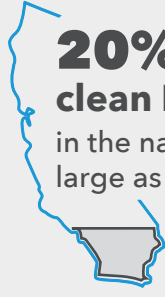
California  
Public Utilities  
Commission



## Partnering with Investor-Owned Utilities


At the direction of the California Public Utilities Commission, SoCalGas and three other California utilities have proposed hydrogen blending demonstrations to learn more about the efficiency of blending, the potential reductions of greenhouse gas emissions and how blends perform from an energy perspective. These demonstrations are important in establishing a statewide hydrogen blending standard.

**20%**  
**clean Hydrogen blend**  
in the natural gas system as large as Southern California's



**could reduce CO<sub>2</sub> by the equivalent of over**

**1 Million**   
gasoline-powered passenger vehicles on the road,

 **or replacing 6%**  
of California's registered automobiles with zero-emission vehicles



### Hydrogen Home in Downey

- » Generating clean renewable hydrogen on-site
- » Blending up to 20% clean renewable hydrogen with natural gas
- » Fully functional since January 2023, this 1,920 sq ft home has 6 natural gas appliances
- » Appliances were not modified to receive and use the 20% clean renewable hydrogen blended gas.



### University of California, Irvine

- » Project will be located at the Anteater Recreation Center on the UC Irvine campus.
- » Hydrogen blend will serve light commercial equipment.
- » Will begin demonstrating a 5% blend, gradually increasing up to 20%.
- » Active blending expected to last approximately two years on the campus.
- » SoCalGas and UC Irvine conducted its first successful blending demonstration on campus in 2016.



### Orange Cove

- » Hydrogen blend would serve approximately 10,000 residents, along with commercial customers in the City of Orange Cove.
- » Project will start with small concentrations of 0.1% gradually increasing up to 5%.
- » Active blending expected to last approximately 18 months in the City.



For more information, visit:  
[socalgas.com/H2Blending](https://socalgas.com/H2Blending)