



Background

- » The California Public Utilities Commission (CPUC) directed SoCalGas and other gas utilities to propose hydrogen blending projects to help advance California's clean energy goals. SoCalGas is proposing to blend up to 5% hydrogen into its natural gas system, to serve residential homes and businesses in the City of Orange Cove.
- » At 5% blends, the natural gas being provided to a customer's home and work location will continue to have the odorized egg-like sulfur smell that customers are used to, and they will experience no difference in how they use their appliances today.
- » The amount of hydrogen in the blend will gradually increase during the demonstration, with frequent checks on natural gas quality, leakage, equipment, pipelines, and their components.

Hydrogen and General Safety Overview

Blended hydrogen is a fuel that has been safely and reliably utilized around the world for decades. For example, Hawai'i Gas has been using hydrogen in its fuel mix for a half-century and has more than 1,100 miles of pipelines that transport up to 15% hydrogen, serving homes, schools, restaurants, and businesses. Here's what our research found:

- » Hydrogen is no more or less dangerous than other flammable fuels, including gasoline and natural gas. In fact, some of hydrogen's differences actually provide safety benefits compared to gasoline or other fuels.¹
- » If a pipeline can safely carry natural gas without leaks, it can also carry a blend of hydrogen and natural gas just as securely.²
- » Hydrogen is the most abundant element in the universe and is both non-toxic and non-poisonous.³
- » Hydrogen is lighter than air and diffuses rapidly.⁴
- » The US currently produces about 10 million metric tons of hydrogen each year.⁵



Popular Misconception

The infamous Hindenburg airship disaster of 1937 gave hydrogen a bad reputation. In the 1990s, researcher Addison Bain investigated the event and concluded the fire was sparked by an electrostatic charge in the atmosphere that ignited the coating of the airship's outer fabric. This conclusion was later confirmed by The Zeppelin Company, the original builder of the Hindenburg airship.⁶

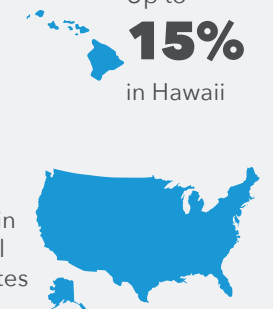
Blended Hydrogen Around the World

Hydrogen has been blended into existing natural gas infrastructure to help decarbonization efforts by a variety of localities around the world for decades:

Up to
20%
underway in Europe



Up to
15%
in Hawaii



Up to
5%
underway in continental United States



5%
underway in Canada



Up to
10%
underway in Australia



The above showcases hydrogen blended at various percentages by volume.

SoCalGas to Implement Robust Safety Plans for Orange Cove

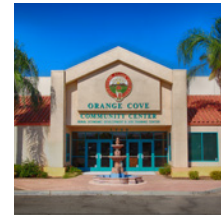
We understand that those working and residing near the demonstration project locations may have concerns. Here's how we plan to help address them:

- » Install remote methane/hydrogen monitoring systems within the production facility that are active 24/7 and monitored in real-time.
- » Perform leak surveys before, after, and on a quarterly basis during implementation.
- » Survey customer equipment to confirm it is operating safely.

- » Conduct safety and operational tests on a monthly, quarterly, and yearly frequency based on manufacturer recommendations.
- » Provide hydrogen safety education for emergency personnel.
- » Create specific hydrogen blending customer protocols and emergency response plans.

SoCalGas History in Orange Cove

For over 90 years, SoCalGas has proudly served the Orange Cove community, both as an energy provider and as a neighbor.



Our employees live and work in Orange Cove, and we're committed to delivering safe, reliable, and

affordable energy to local residents and businesses. Our deep roots in the community are reflected in our long-standing involvement, from celebrating at local events to supporting families through our customer assistance programs.



Find out more at: socalgas.com/OrangeCove or email ProjectInfo@socalgas.com



[H2] INNOVATION EXPERIENCE

SoCalGas is already blending hydrogen in Downey, California

- » North America's first-ever clean renewable hydrogen powered home.
- » Fully functional 1,920 sq ft home has six natural gas appliances receiving up to 20% blended gas.
- » Gas appliances are stove/oven, water heater, clothes dryer, indoor fireplace, outdoor BBQ, and outdoor fire pit. All models are commonly available at local retail stores and have not been modified to use the blended gas.

- » When natural gas is blended with 20% hydrogen, it still contains the same odorant as 100% natural gas, which helps alert occupants to any potential leaks.
- » Over 7,000 visitors since January 2023, including students, elected officials, and community organizations.



For more information, visit: socalgas.com/H2IE

¹ Source: U.S. Department of Energy (DOE). Hydrogen Safety Fact Sheet. https://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/h2_safety_fsheets.pdf

² Source: GTI Energy. Climate Impacts of Fugitive Hydrogen Emissions. Center for Methane Research. <https://www.gti.energy/wp-content/uploads/2025/01/CMR-Climate-Impacts-of-H2-Emissions.pdf>

³ Source: U.S. DOE. Safety, Codes and Standards [Fact Sheet]. Fuel Cell Technologies Office. <https://www.energy.gov/eere/fuelcells/articles/safety-codes-and-standards-fact-sheet>

⁴ Source: U.S. DOE. Hydrogen Safety Fact Sheet [Fact Sheet]. https://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/h2_safety_fsheets.pdf

⁵ Source: U.S. DOE Hydrogen Production Website. <https://www.energy.gov/eere/fuelcells/hydrogen-production>

⁶ Source: U.S. DOE. Hydrogen Safety Fact Sheet [Fact Sheet] https://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/h2_safety_fsheets.pdf