

# RENEWABLE HYDROGEN

## WHAT IS IT

Renewable hydrogen can be made from water and surplus wind or hydropower, through a process known as power-to-gas.

This “green” hydrogen can be used in most processes that today use natural gas: heating, power generation, manufacturing and industry.<sup>1</sup>

It can power fuel cells for data centers and backup power systems, and can fuel almost any kind of vehicle: cars, trucks, trains, ships—even airplanes.<sup>2</sup>

Hydrogen releases no greenhouse gases when combusted—only water.<sup>3</sup> And, it can be stored in large amounts for long periods of time.

## HOW IT HELPS

Hydrogen produced via power-to-gas gives us a way to capture and save that energy instead of letting it go to waste. The natural gas system gives us a way to store and distribute it.

## SAFETY AND TESTING

Hydrogen has been used by industry for decades, with strict safety standards in place.<sup>4</sup>

NW Natural has joined with utilities, research universities and industry partners to develop standards and practices for safely blending hydrogen into our natural gas pipeline network.

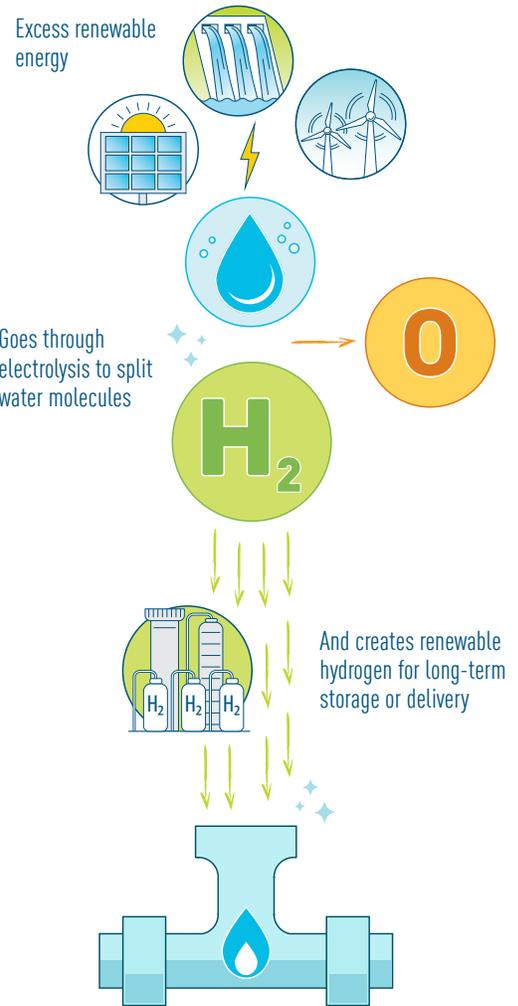
At our Sherwood Operations and Training Center we’re testing how different blends of hydrogen and natural gas work in our equipment and various types of appliances.

Studies suggest much of our existing pipeline infrastructure could be modified to handle hydrogen blends up to 20% or converted to 100% hydrogen service.

This is well-established technology. Several European companies already deliver blends of green hydrogen and natural gas in local distribution systems, with similar projects being developed in the U.S. and Canada.

## VISION 2050

As NW Natural works toward our vision to be a carbon neutral energy provider by 2050, renewable hydrogen will play an important role, along with energy efficiency, carbon offsets and renewable natural gas.



## HYDROGEN IN EUGENE

A project proposed for Eugene, Oregon, could be one of the first in the Pacific Northwest.

NW Natural is working with Eugene Water and Electric Board (EWEB), Bonneville Environmental Foundation and others to explore renewable hydrogen production using low-carbon and renewable electricity.

Renewable hydrogen, made on site, will be combined with carbon dioxide, a waste byproduct captured from a nearby industrial customer, and fed into NW Natural’s gas supply.

Learn more at [LessWeCan.com](https://www.lesswecan.com).

### SOURCES

<sup>1</sup> Steam reforming, the most common way that hydrogen is made today, separates methane (CH<sub>4</sub>) into hydrogen and carbon. Capturing that carbon for use or storage can make this a carbon-neutral process as well as “blue hydrogen.”

<sup>2</sup> <https://afdc.energy.gov/fuels/hydrogen.html>

<sup>3</sup> <https://www.carbonbrief.org/in-depth-qa-does-the-world-need-hydrogen-to-solve-climate-change>

<sup>4</sup> The Hydrogen Industry Panel on Codes, International Code Council and the National Fire Protection Association, among others.