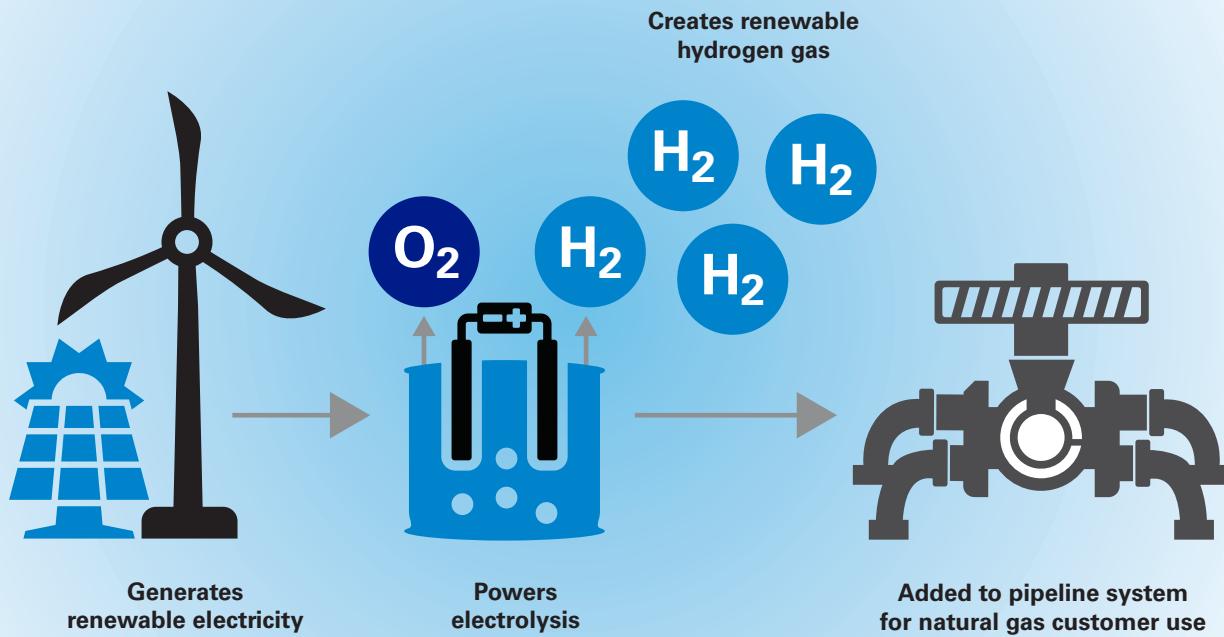


Green hydrogen: accelerating a cleaner energy future



CenterPoint Energy is exploring the potential of green (or renewable) hydrogen as a zero-carbon energy resource for use in our local gas distribution systems.

The opportunity

Hydrogen is a versatile energy resource that can be used as safely as other common fuels, such as natural gas, when appropriate standards and safety procedures are followed.

Green hydrogen – also known as renewable hydrogen – is produced by splitting water into oxygen and hydrogen using an electrical current (electrolysis) supplied by renewable electricity such as solar or wind.

Because there are no greenhouse gas emissions directly associated with either its production or use, green hydrogen is gaining increased attention as a clean energy resource for a wide range of possible uses, including as an important zero-carbon alternative or supplement to conventional natural gas.

Green hydrogen is at an emerging stage of commercial use similar to where wind and solar were only a short time ago. In Europe and Japan, green hydrogen is already attracting major public and private investments, with projects being developed on a commercial scale.

Green hydrogen is expected to become economically attractive as the costs of both the production technology and the renewable electricity needed to make it continue to decline.



CenterPoint Energy green hydrogen pilot project in Minneapolis

CenterPoint Energy and green hydrogen

CenterPoint Energy is committed to a cleaner energy future by reducing carbon emissions across our operations and energy supply chain. We are undertaking a rigorous, systematic approach to test and evaluate the potential use of green hydrogen as an innovative zero-carbon energy resource that could be integrated into our local natural gas distribution systems.

Throughout this process, we are prioritizing safety, the integrity and resilience of our pipeline system, and continued reliable service to our customers.

As a first step, we have built a field demonstration project in Minnesota that went online in April 2022. The project produces green hydrogen for blending with our local natural gas supply. The green hydrogen in this project is added in small concentrations (less than 5% by volume) to limited, low-pressure sections of our distribution pipeline system. The project is expected to avoid 1,200 tons of CO₂ emissions annually, equal to the annual energy use of nearly 140 homes.

The goal of the project is to gain successful operational experience with the technology for making and using green hydrogen. The project will also inform and guide our efforts to safely and effectively integrate this zero-carbon resource into our local gas distribution systems to serve our customers.

CenterPoint Energy's expertise

Hydrogen has different chemical and physical properties than natural gas which must be considered when it is added to existing natural gas pipeline systems. Existing research studies and demonstration projects in Europe indicate that low concentrations of hydrogen (up to 20% by volume) blended with natural gas can generally be accommodated in existing gas systems with no significant impacts on safety or infrastructure integrity.

Hydrogen blending processes must also consider any possible effects on the performance of customer appliances and equipment. CenterPoint Energy has decades of experience adding supplemental gases to our natural gas distribution system through operation of the nation's largest fleet of propane-air peak shaving facilities.

Our employees are skilled in gas mixtures and customer appliance performance. We expect no impact from the low hydrogen blends in our demonstration project, and we will use this project to validate proper functioning of natural gas appliances and equipment.



CenterPoint Energy is one of the few gas utilities in the U.S. with its own materials laboratory (located in Golden Valley, Minnesota), with substantial experience in testing the integrity and quality of a wide range of gas pipeline materials and system components. We will be drawing on the expertise of this highly regarded lab to review the effects, if any, of green hydrogen blends in our distribution system.