



The First Hydrogen City

Creating a
Better Tomorrow.
Together.

The City of Lancaster, California, was the first United States city to embrace hydrogen power, earning the moniker of the "First Hydrogen City." The City has engaged in numerous formal partnerships and agreements to harness the potential of clean hydrogen. Lancaster is jumpstarting hydrogen adoption throughout the Antelope Valley and southern California.



Our Journey

The City of Lancaster has advanced a bold vision for hydrogen, extending the benefits of clean energy throughout our community – a mission the City embarked on over a decade ago in 2009. The City committed to becoming the first “Net Zero” energy city in the world and achieved that goal in 2019. The City of Lancaster now generates more clean energy than it consumes.

Hydrogen is a zero-carbon energy carrier that has wide-reaching benefits including improving local air quality, providing a secure and reliable energy source, reducing greenhouse gas emissions, and creating highly skilled jobs. Hydrogen is abundant in our environment and can be produced from diverse domestic resources with the potential of near-zero greenhouse gas emissions. Hydrogen as an alternative fuel stems from its ability to power fuel cells with domestic production, fast fueling times, and high efficiency. About half of the US population lives in areas where air pollution levels are high enough to negatively impact public health and the environment. To jumpstart adoption, Lancaster has attracted companies that provide innovative hydrogen solutions around the globe.

Our Partnerships

Currently, the City of Lancaster is working with several organizations to increase the production and use of hydrogen and other sources of clean energy:

- SGH2 is bringing a green hydrogen production facility to Lancaster. The plant will gasify recycled mixed paper waste to produce green hydrogen that reduces carbon emissions by two to three times more than green hydrogen produced using electrolysis and renewable energy, and is five to seven times cheaper.
- Choshu is working on a pilot project with the City of Lancaster to transition the City Hall building to run solely off of hydrogen power. They will implement the first municipal Green Energy Microgrid (GEM) system which will utilize Choshu’s state of the art hydrogen energy systems and storage technology.
- Heliogen, a start-up and a winner of Fast Company’s 2020 World Changing Ideas Awards, is using mirrors to create 1,800-degree solar-powered heat for industrial factories. With the power of the sun and mirrors, the heat made can be used for making steel and cement, which usually produces enormous amounts of emissions.
- Hitachi Zosen Inova is developing a \$100 million anaerobic digestion plant which generates renewable natural gas (RNG) from organic waste for conversion to clean hydrogen.
- Hydroplane, partnered with our local Antelope Valley College, is a pilot project focused on longer range aircraft.
- The City of Lancaster has also formalized a “Sister City” relationship with the City of Namie in Fukushima Prefecture, Japan, through the Japan External Trade Organization (JETRO) and is now adding a mentee - the County of Hawai’i.

Our Path Forward

In recognition of the city’s unique, pioneering role, the City of Lancaster is seeking designation as a Center for Innovation for Hydrogen Development. In this role, the City will continue to lead a trend of cities around the world adopting hydrogen for sectors across the economy, like power generation, transportation, heating and industrial applications.

Additionally, the City of Lancaster is eager to move forward with a multilateral Memorandum of Understanding among the City of Lancaster, the U.S. Department of Energy (DOE), and Japan’s New Energy and Industrial Technology Development Organization (NEDO). This partnership, with assistance in funding state-of-the-art hydrogen projects, will enable the high-level collaboration necessary for large-scale hydrogen development that will drive our collective future.