

Heliogen plans to set up a commercial hydrogen generation facility in Lancaster, California. This project will incorporate Heliogen's steam and green hydrogen solutions to produce and supply fuel grade hydrogen (FCEV fuel grade based on SAE-J2719) for sale to hydrogen offtakers. Located in Antelope Valley in the western Mojave Desert, the City of Lancaster provides ideal conditions for concentrated solar installations. Situated a short drive from the Los Angeles metropolitan area, this installation offers proximity to a growing market for low-cost, carbon-free green hydrogen that will reduce transportation emissions.

Proxima Facts

The site will consist of a concentrated solar thermal system, plus solar PV field to supply carbon-free electricity for green hydrogen production.

Location

Lancaster, California

Size of land

Total of 120 acres with electrical transmission, road infrastructure and water rights on site.

Solar collector

Expected range of 1000-2000 heliostats

Tower height and receiver

Less than 30m (<100ft) with a Direct Steam Generating Receiver (DSGR) Thermal Energy Storage Steam accumulators

Technology Integrations

Bloom Energy electrolyzer with 1.8 MWe capacity

Maintenance

ChariotAV autonomous cleaning vehicle will be used for heliostat cleaning during off-hours.



Meet Heliogen

Heliogen is a California-based renewable energy technology company on a mission to decarbonize industry, using concentrated sunlight and thermal energy storage to deliver carbon-free heat. steam, and green hydrogen for demanding operations. We are developing and commercializing our concentrating solar-thermal energy (CST) infrastructure for the economical production of green hydrogen at scale.

Heliogen's innovative technology supports efficient hydrogen production

Heliogen's unique architecture, utilizing small mirrors, Al optical control systems, and high-efficiency solid oxide electrolyzers (SOECs), is a game changer in green hydrogen production. This approach presents technical advantages over wind and solar alternatives, especially with low-energy consumption solid oxide electrolyzer cells, due to the lower-cost steam generated with CST and the consistent supply of energy when coupled with TES. These advantages allow for continuous operation of downstream hydrogen processing equipment and low-cost, carbon-free hydrogen production, eliminating the need for expensive batteries and reducing intermittency issues.

Streamlined Operations

Designed to be easier to deploy, operate and maintain than traditional CST solutions

Thermal efficient System

Designed to supply carbon-free steam or hydrogen on a small amount of adjacent land

Higher capacity factor

Higher capacity factor than other renewable solutions allowing for on-demand dispatch of carbon-free energy

Proven technology

High-performance heliostat and heliostat tracking software combined with widely deployed technologies (receivers, storage systems)

Project Support

From feasibility studies to system design and implementation, we have the expertise to ensure a successful deployment

To learn more, contact us at: sales@heliogen.com

