

CLIMATE & ENVIRONMENT

The energy source that could survive Trump's attack on California's green ambitions



A view of construction at the new Avina Clean Hydrogen Facility in Vernon, slated for opening this fall. (Allen J. Schaben / Los Angeles Times)



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- Hydrogen is a growing yet controversial source of energy that some see as key to California's ambitious climate goals.
- A new project in Vernon will be one of the largest hydrogen production-and-dispensing facilities in the country when it opens this fall.
- The facility is rising despite efforts by the Trump administration to stifle green-energy initiatives.

At a construction site along the Los Angeles River, just south of where four freeways converge in Vernon, a crane hoisted a set of massive white pipes into the air on a recent weekday morning.

The pipes will eventually be connected to fuel dispensers where they will serve as storage vessels for hydrogen — a growing yet controversial source of energy that some see as key to California's ambitious climate goals.

The site is being developed by a New Jersey-based company called Avina in partnership with Vernon Public Utilities. When completed this October, it is planned to produce up to 4 metric tons of compressed green hydrogen a day to power heavy-duty trucks and buses, helping to clean up one of the worst polluting sectors in the state.

The facility is expected to eliminate approximately 130,000 metric tons of planet-warming carbon dioxide emissions annually, according to Avina. Company officials

said it will be the largest clean hydrogen project with on-site dispensing — meaning pumps where fleets can refuel — in the country.

The project is rising in spite of a rapidly changing energy landscape in the United States. The Trump administration in recent months has slashed subsidies, grants and tax benefits that support wind, solar and renewable energy projects, while simultaneously [championing fossil fuels](#) in the name of energy independence. Trump received [record donations](#) from oil and gas interests during his 2024 presidential campaign.



Construction continues at the new Avina Clean Hydrogen Facility in Vernon. Company officials said it will be the largest clean hydrogen project with on-site dispensing — meaning pumps where fleets can refuel — in the country. (Allen J. Schaben / Los Angeles Times)

Hydrogen has also been hit by the administration's shifting objectives, with Trump's landmark spending plan — the [so-called Big Beautiful Bill](#) — slated to end federal tax

incentives for new hydrogen projects that break ground after Jan 1, 2028. Already this year, the Department of Energy has [canceled billions of dollars in funding](#) for clean energy projects, and is considering slashing \$1.2 billion for a [major hydrogen hub in California](#) awarded by President Biden.



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Trump's Department of Energy targets California and other blue states for budget cuts, according to internal documents

April 1, 2025

Yet even in the absence of such support, Southern California is doubling down on hydrogen, both as an investment and a pathway toward carbon neutrality.

“This is one of the reasons why we think California is really going to stand out,” said Vishal Shah, Avina’s founder and chief executive, as he walked through the construction site in Vernon. “Because when federal legislation changes happen, what happens is states step up.”

Shah said California’s climate leadership is part of what drew Avina to the state. The project has received grants from CalStart — a clean transportation nonprofit — and the California Energy Commission, along with two rounds of funding from energy and tech investors including Chart Industries and KBR.

“What’s also driving us are state-level regulations that are going to continue to push these fleets — and a lot of other consumers — toward zero-emission transportation,” Shah said. California has [committed to reaching carbon neutrality by 2045](#).

Hydrogen is not without detractors, however. The process is energy- and water-intensive and has historically been linked to the production of natural gas. That’s because one of the most common methods of producing it involves heating methane

to release the hydrogen, which can also release nitrogen oxides and other pollutants in the process.



Vishal Shah, founder and chief executive of Avina, is photographed at the company's planned Clean Hydrogen Facility in Vernon that will help the transportation industry transition away from fossil fuels. (Allen J. Schaben / Los Angeles Times)

“Instead of reducing climate emissions, hydrogen projects can increase emissions and extend the life of fossil fuel infrastructure,” the nonprofit Food & Water Watch wrote in a [recent news release](#) about California’s hydrogen hub.

Hydrogen’s link to fossil fuels may also be why the Trump administration’s approach to it has been murkier than its approach to renewables such as wind and solar. Just before the Big Beautiful Bill’s passage, the Senate decided to extend its hydrogen tax credit deadline from the end of this year to the end of 2027.



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California's billion-dollar hydrogen hub project is approved — but not without controversy

July 17, 2024

Avina says it's working on a cleaner approach. The Vernon facility will use large electrolyzer machines powered by 100% clean energy to split hydrogen from water. The machines will be fueled by wind and solar projects in California, along with energy sourced from Vernon Public Utilities, whose grid is currently 40% renewable-powered.

The water used in the process — about 30,000 to 40,000 gallons per day — will come entirely from Vernon's groundwater, with no imported supplies, according to Margie Otto, assistant general manager of Vernon Public Utilities.

“Knowing that there is all this legislative requirement to go as green as you can — as renewable you can — how do you get there?” Otto said. “When you look at the different renewable sources like solar and wind and geothermal, they have limitations on the volume that they can provide as well as the sustained availability. Clean hydrogen is one of those good mediums that addresses both: It puts out very low emissions, plus, volume-wise, it can handle what would traditionally be provided with common fuel sources like natural gas and petroleum.”



A construction worker on site at the Avina Clean Hydrogen Facility. The project has received grants from CalStart — a clean transportation nonprofit — and the California Energy Commission. (Allen J. Schaben / Los Angeles Times)

Whether Southern California will become a hydrogen juggernaut depends partly on whether projects like Avina work. Shah said the Vernon site will meet the deadlines and qualify for the [federal tax credit](#), and that one of his main objectives is to bring the cost of retail hydrogen fuel to parity with diesel — a “magic number” that hovers somewhere around \$10 per kilogram. Current rates are roughly \$20 to \$30 per kilogram, he said.

“We certainly see us getting there in a relatively short amount of time,” Shah said, in part because the state is continuing to invest in hydrogen, and because the wind and solar energy sources the project will depend on have been coming down in cost over time, making hydrogen a more affordable prospect.

Jack Brouwer, a professor of mechanical and aerospace engineering at UC Irvine who is not involved with the project, said it could serve as proof-of-concept for the rest of the region and country.

“They are one of the first to actually work through all the details of this to see if it can actually be cost-effective today,” said Brouwer, who is also the director of [UC Irvine’s Clean Energy Institute](#).

He said Avina is wise to focus on heavy-duty trucks and freight transport because it is one of the hardest sectors to decarbonize, and because hydrogen hasn’t yet really caught on with fuel cell cars or passenger vehicles that run on hydrogen, despite a statewide network of fueling stations. What’s more, focusing on the transportation sector has some of the best health benefits for disadvantaged communities that live near the Port of Los Angeles and the freight corridors that traditionally spew diesel pollution.

“It’s still going to be more expensive than diesel, but if they can get close, that’s going to be super exciting,” Brouwer said. “Because then, as the technology costs go down their regular cost curve — like sun and wind power have, like batteries have — we’re going to start to find people adopting this technology.”



A view of construction at the new Avina Clean Hydrogen Facility in Vernon. It will use large electrolyzer machines powered by 100% clean energy to split hydrogen from water. (Allen J. Schaben / Los Angeles Times)

It remains to be seen whether Trump's wind and solar tax cuts will have a slowing effect on the hydrogen projects that depend on them. Under the Big Beautiful Bill, wind and solar projects must either begin construction by next July or be placed into service by the end of 2027 in order to receive the credit.

Brouwer said those sectors have already gotten more affordable and aren't likely to lose much momentum in California.



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Column: Hydrogen is a crucial climate solution. It's also a distraction

Oct. 19, 2023

Avina also isn't the only hydrogen project underway in L.A. County. A Texas-based company called Element Resources is planning to build one of the [largest green](#)

[hydrogen plants](#) in North America, the \$1.85-billion Lancaster Clean Energy Center, slated for opening in 2027.

Meanwhile, the Los Angeles Department of Water and Power is [converting its Scattergood Generating Station](#) — the largest natural gas-fired power plant in the city — into a hydrogen-ready facility as part of its decarbonization strategy. L.A. has committed to 100% renewable energy by 2035.

The estimated \$800-million project would see two of the plant's gas units replaced with units that can operate on a mixture of natural gas and at least 30% hydrogen, and is slated for completion toward the end of 2029. DWP officials said the goal is to eventually reach 100% green hydrogen as more supply becomes available and the technology evolves.

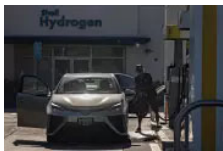
“There are specific hard-to-electrify applications where hydrogen makes sense,” agency officials said in an email, “such as heavy-duty long-haul trucking and certain port operations, serving as a complement to battery technologies. Hydrogen is LADWP's best bet today toward clean, firm power generation with long-duration energy storage benefits, getting us closer to a cleaner, reliable, and fully decarbonized future in 2035.”

The project is not only key to the city meeting its clean energy goals, but also ensuring a reliable source of energy during crises that strain the grid, such as heat waves or wildfires, officials said. However, the plan has drawn considerable opposition from environmental groups such as the Sierra Club and the Los Angeles Waterkeeper, who say that the mixture of hydrogen and natural gas — [so-called gray hydrogen](#) — is not aligned with L.A.'s climate goals.

“We are concerned about a lot of the unknowns that come with the Scattergood proposal,” said Ben Harris, a senior staff attorney with L.A. Waterkeeper. “They rely

on assumptions about hydrogen gas being available on an open market, and until then, they would be burning natural gas.”

Harris referenced a recent report from researchers at [the UCLA Luskin Center for Innovation](#) that found that hydrogen power — even green hydrogen — would have a significant water-use footprint in water-stressed California, and should be implemented with caution.



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But though he would like to see the DWP deploy more alternatives to hydrogen to help meet its clean power goals, including wind and solar, Harris was tentatively more supportive of green hydrogen projects, such as the one rising in Vernon — provided it achieves what it the company says it can do.

“If it’s done right, green hydrogen won’t be produced through fossil fuels,” Harris said. “And it could have potentially less water use than other conventional fossil fuel generation. So I think there could be a role for it.”

Others in the state are more enthusiastic about hydrogen — even in the face of the fossil-fuel-favoring federal administration. In April, a bipartisan group of California lawmakers called on the Trump administration to [preserve the \\$1.2 billion in funding](#) for the state’s hydrogen hub, noting that the project “plays a critical role in securing American energy dominance.”

Brouwer, of UC Irvine, said hydrogen’s role as both a transition fuel and a long-term climate solution is all but inevitable.

“I don’t know how big a role, but it’s going to play a role for sure, so it’s a good investment,” he said.

Ultimately, he added, it doesn’t matter if green hydrogen projects are driven by profit, legislative mandates or some other motivation, so long as the climate benefits are achieved.

“I hope California and Los Angeles show this to the whole world — and have the whole world adopt this technology — because unless it does, we don’t affect the climate, either,” he said. “That’s what’s gotta happen.”

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Hayley Smith

Hayley Smith is an environment reporter for the Los Angeles Times, where she covers the many ways climate change is reshaping life in California, including drought, floods, wildfires and deadly heat.

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