

California bill targeting hydrogen production pinpoints high stakes in future of energy

By Eric He

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California has long had noteworthy emissions targets, such as requiring all new vehicles to be electric by 2035. If a proposed bill makes it through the Legislature this year, the state could set yet another ambitious mandate by clamping down on the ways that hydrogen can be produced.

[AB 1550](#), from Assemblymember [Steve Bennett](#) (D-Ojai), would align California's rules for producing hydrogen with the [Biden administration's proposed guidance](#) on requirements to receive federal tax credits, by 2045. Bennett is amending the same bill from last year, which would have defined and required that hydrogen used in California be "green." This year, he's been meeting with 40 or so people representing the hydrogen industry and environmentalists to hash out a compromise — removing the phrase "green hydrogen" in the latest round of amendments.

Hydrogen — the most abundant molecule in the universe — could play a major role in California's energy transition. But the emissions created in the production of hydrogen fuel vary greatly depending on how it's done. Environmentalists have pressed for strict limitations on where hydrogen producers get their power so that the production process doesn't siphon renewable energy already being supplied to the grid.

The measure currently faces a Jan. 31 deadline to pass the Assembly in order to stay alive. Despite the negotiations, it remains opposed by the hydrogen industry, as well as the [state's main construction workers' union](#) and the [California Chamber of Commerce](#).

"I think we have a bill that neither side says has everything in it that they want, but that we think is rational and we're still flexible on it," Bennett told POLITICO.

WHAT'S IN THE BILL?

This Pro Bill Analysis is based on the [text of the bill](#) as amended on Jan. 18.

The bill would add language to the [California Health and Safety Code](#), mandating that by 2045, all hydrogen produced or used in California for electricity or fueling vehicles must be renewable and of biological or nonbiological origin. The California Air Resources Board would need to consult with the California Public Utilities Commission and the California Energy Commission to develop targets to meet that goal (Sec. 1).

The measure would define renewable hydrogen derived from nonbiological origin as hydrogen produced via electrolysis — the electricity for which would need to be generated using renewable energy and a material feedstock that is water. Additionally, the facility generating the electricity would be required to prove it uses renewable electricity without the help of tradable renewable energy credits. The electricity could come from a renewable resource, curtailed energy or energy from a repowered energy facility — and it would need to be connected to the same grid where the facility producing the hydrogen is located.

Meanwhile, renewable hydrogen of biological origin would be defined as hydrogen derived from or produced directly with water using a renewable energy resource. The measure would specifically prohibit the use of biomethane feedstock from a dairy digester facility to produce energy, but it would allow the use of biomass, with certain restrictions. Forest biomass production would be limited to that from sustainable forestry, and agricultural biomass production would be restricted to that from agricultural residues, excluding crops grown specifically for energy production.

Further, the measure would prohibit hydrogen production that results in resource shuffling and would not allow production to use unbundled renewable energy credits.

For both methods of hydrogen production, the facility must also use the electricity it produces within an hour, in order to match their energy usage with new clean electricity production, by 2028.

Facilities — including those with a linear generator or a turbine — that use renewable hydrogen of biological origin would need to show a net decrease in nitrogen emissions and other air pollutants and greenhouse gases. Such facilities would be able to claim renewable energy certificates from the federal [Renewable Fuel Standard](#) program and state compliance mechanism.

Hydrogen produced from a fossil fuel feedstock would not need to be renewable under the measure (Sec. 1).

The bill would amend [Section 25741 of the Public Resources Code](#) to include renewable hydrogen of both nonbiological and biological origins in its definition of a renewable electrical generation facility. Additionally, the delivery process of renewable hydrogen to a facility through a pipeline must meet the standards set in Section 399.12.3 of the [Public Utilities Code](#), which would go into effect if the measure becomes law (Sec. 2).

The updated language in Section 399.12.3 would set requirements for a renewable hydrogen-producing facility looking to qualify as an eligible renewable energy resource (Sec. 3). The facility would need to meet the standards set by the Energy Commission, along with at least one of the following requirements:

- The hydrogen is used in an onsite generating facility in California or has a first point of interconnection to a California balancing authority
- The hydrogen is used in an offsite generating facility in California or has a first point of interconnection to a California balancing authority area and is delivered to the facility through truck, rail or another dedicated pipeline
- The hydrogen is delivered through a common carrier pipeline to a generating facility, and flows within California or toward the generating facility.

For electricity generated by renewable hydrogen that is credited towards renewable procurement obligations, a “sufficient” amount of hydrogen would need to be transferred to retail sellers or utility companies to ensure there are zero net emissions to produce the electricity.

Lastly, sellers and purchasers of renewable hydrogen would have to comply with a tracking and verification system. The use of the renewable hydrogen would be assigned to the portfolio content category laid out in [Section 399.16 of the Public Utilities Code](#) (Sec. 3).

WHO ARE THE POWER PLAYERS?

Assemblymember [Steve Bennett](#) (D-Ojai) introduced the measure last year and amended it this year, with the goal of passing it in the final year of the two-year session.

The bill sets up a battle between environmentalists and the hydrogen industry.

In a [floor alert](#) calling for Assemblymembers to oppose the measure, industry groups — including the [California Hydrogen Coalition](#) and the [California Hydrogen Business Council](#) — argued that AB 1550 would “have devastating consequences for the launch of a clean, sustainable and affordable hydrogen market in California.” The coalition [said the measure](#) would jeopardize the Biden administration’s [\\$1.2 billion award](#) to California for clean renewable hydrogen development, as well as more than \$11 billion in private investment.

Likewise, **Chris Hannan**, president of the **California State Building Trades and Construction Council**, [said in a letter](#) to legislators that the bill “does not allow California to embrace the full potential of hydrogen technologies and their many benefits,” also pointing to construction jobs and economic activity that would be lost.

However, the measure is backed by a number of environmental groups, including **Earthjustice**, the **Environmental Defense Fund** and **Environment California**.

In a [support letter](#), Katelyn Roedner Sutter, California state director for the Environmental Defense Fund, called the bill “an important step to ensure that hydrogen lives up to its potential as a climate solution and delivers the desired climate benefits.”

But some reservations remain, even among the legislation's proponents. Sasan Saadat, a senior research and policy analyst for Earthjustice, said the bill goes a long way to making sure the production of hydrogen doesn't produce more emissions than it saves — but added that the organization remains concerned about some of the things the bill allows to be used in hydrogen production.

“This bill has significantly improved and as a starting point it's at a much better place, but there are really important questions that remain around wood waste and ag waste,” he said.

WHAT'S HAPPENED SO FAR?

Last year's version of the two-year bill would have only allowed hydrogen derived from water using electrolysis and explicitly referred to “green” hydrogen — defined as hydrogen derived from water through electrolysis.

The measure this year, on the other hand, would allow hydrogen to be derived from sources such as biomass from agriculture and forests and would allow additional extraction techniques; although methane from dairy digesters would be excluded. The latest version also drops the “green” hydrogen reference, instead adopting European Union distinctions around nonbiological and biological sources of hydrogen and the power used in its production.

Last December, the Treasury Department released [proposed guidance](#) for hydrogen producers wanting to receive the clean hydrogen production tax credit established under the [Inflation Reduction Act](#). That proposal would allow an up to \$3-per-kilogram of hydrogen tax credit for projects with low lifecycle greenhouse gas emissions. Those requirements were [met with pushback](#) from the industry and some congressional Democrats.

WHAT'S NEXT?

The measure now awaits a floor vote in the Assembly, which it must pass by the end of January after failing to advance through its house of origin last year. Amendments to the bill passed a floor vote on Jan. 18, but passage remains uncertain considering the broad opposition that still remains. It emphasizes the high stakes over the role that hydrogen will play in California's energy future.

The Biden administration is collecting comments on its draft rule and could still change it. Bennett, though, does not seem inclined to change his proposal before an Assembly vote, telling POLITICO: “I have put in a lot of time and thought into this bill, and feel that any major changes beyond these amendments should occur in the Senate.”

WHAT ARE SOME STORIES ON THE BILL?

[Read POLITICO news on AB 1550.](#)

Wes Venteicher contributed to this report.