Green | Climate Politics

America's Promised Hydrogen-Fueled Future Is Stalled Over Tax Credits

Hydrogen projects worth billions of dollars are stuck in limbo as the government debates who will qualify.

Hydrogen is loaded into a truck at the Plug Power Inc. liquid green hydrogen plant in Woodbine, Georgia. *Photographer: Agnes Lopez/Bloomberg*

By Rafaela Jinich and Wilfried Eckl-Dorna
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Two years after President Joe Biden's landmark climate law promised to kick-start green hydrogen production with generous tax credits, companies still don't know who will qualify.

Billions of dollars in investments sit on the sidelines as a result.

The Biden administration sees green hydrogen as a critical component of the energy transition, a way to clean up heavy industries that can't easily run on electricity. But the nascent hydrogen economy has been paralyzed waiting for final rules on a key tax credit, which will provide up to $3 for every kilogram of the fuel produced.

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Hydrogen companies considered the initial guidelines issued by the Treasury Department late last year too strict and warned that many of their planned plants wouldn't qualify for the full incentive. Developers have since been left in limbo as they await adjustments before the final rules are approved.

Hy Stor Energy, for example, plans to produce hydrogen in Mississippi using on-site wind and geothermal energy and be operational in 2027.

Claire Behar *Photographer: Jeenah Moon/Bloomberg*

"Our project has multiple gigawatts of renewables and is holding off billions of dollars in investment," said Chief Commercial Officer Claire Behar. "That is just one project. If you multiply it by 10 to 20 projects, it's a massive investment that's being stalled."

The delay isn't simply a case of slow-moving bureaucracy. Industry and environmentalists have engaged in a months-long lobbying fight over the rules, with the federal government trying to strike a balance. But the lack of progress could impede the nation's decarbonization efforts.

"People in the industry are very frustrated," said Frank Wolak, chief executive officer of the Fuel Cell and Hydrogen Energy Association. "The longer people defer investments, the less committed they are."

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Almost all hydrogen produced today is stripped from natural gas in a process that gives off carbon dioxide. But there are cleaner ways to make the fuel, such as capturing the CO2 or splitting the hydrogen from water using renewable electricity. Those cleaner methods are the focus of the Inflation Reduction Act tax credit. The size of the credit available to each project rests on three so-called pillars: ensuring hydrogen is produced using new clean energy sources rather than existing ones, aligning hydrogen production with electricity generation times and adhering to stringent carbon intensity requirements.

Without strict rules on each, environmentalists argue, hydrogen production plants risk driving up greenhouse gas emissions rather than cutting them.

"The first draft in December was an excellent framework that will attract the truly green projects," said Fred Krupp, president of the Environmental Defense Fund. "Whatever happens, it's critical that Treasury uphold this framework and not add exemptions that would water down the emissions integrity."

Fred Krupp *Photographer: Samsul Said/Bloomberg*

Companies counter they need looser rules, at least at first, to get the industry off the ground.

In addition to the tax credits, the federal government has set aside $8 billion to create a series of hydrogen hubs that would match producers of the fuel with customers using it. But leaders of the regional hubs are so worried about the current tax credit guidance that they sent the Treasury Department a letter in February arguing many of their own projects won't happen unless the rules are changed. The hubs, they said, are expected to generate $40 billion in private investment and support 334,280 jobs.

"Unfortunately, these investments and jobs will not fully materialize unless Treasury's guidance is significantly revised," they wrote.

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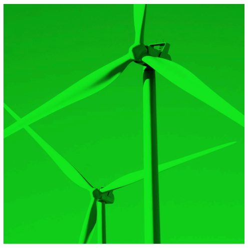
The Treasury Department says it is carefully considering all the many comments it has received as it drafts the final rules, but officials haven't given any timeline for finishing the work. "Finalizing rules that will help scale the clean hydrogen industry while implementing the environmental safeguards established in the law remains a top priority for Treasury," a department spokesperson said in an email.



Finding the right balance has been hard. John Podesta, Biden's senior adviser for international climate policy, called the IRA's hydrogen incentives "the most complex of the credits, technically and legally" at an event this week celebrating the second anniversary of the law's passage. He acknowledged the mixed reaction the government's preliminary guidelines received. "Some people loved it," Podesta said. "Some people didn't."

Even if new guidelines are published now, companies might wait until after the election to see if they need to comply with them, according to Martin Tengler, an analyst at BloombergNEF. Donald Trump has promised to target the IRA if he retakes the White House in November, but his attitude toward hydrogen is unclear.

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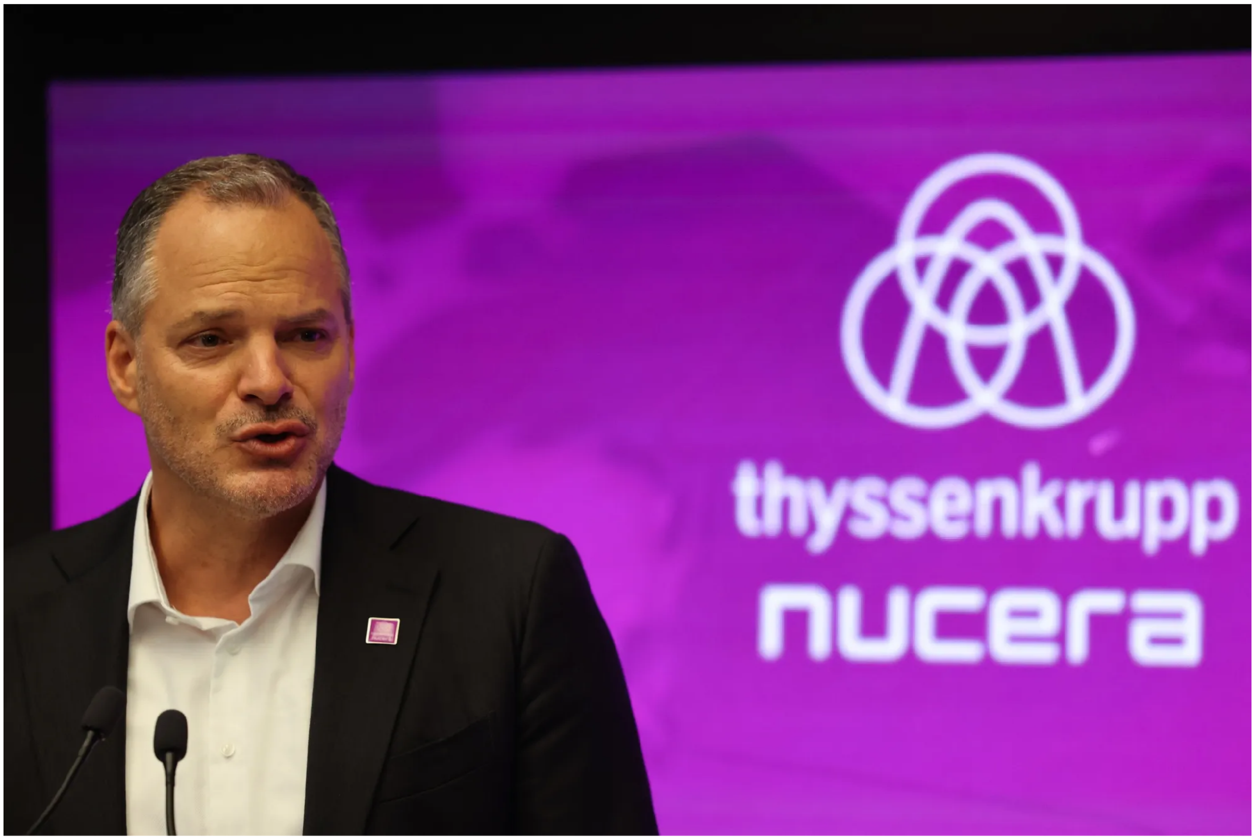
Policy uncertainty is not confined to the US. German company Thyssenkrupp Nucera in July abandoned its 2025 forecast for its business selling electrolyzers, the machines that split water into hydrogen and oxygen.

"Progress on the regulatory side is recognizable, but at the same time not yet sufficient to accelerate investment momentum again," Thyssenkrupp Chief Executive Officer Werner Ponikwar said in a statement. "The result is further delays to new projects on the customer side."



Werner Ponikwar *Photographer: Alex Kraus/Bloomberg*

Rival Siemens Energy AG has invested €30 million to produce electrolyzer stacks in Berlin together with industrial gas company Air Liquide.

“In the short term, we do observe delays in the release of funding commitments due to regulatory uncertainties, for example in the US and in Europe,” Chief Financial Officer Maria Ferraro said in an analyst call in May. Long-term prospects for the business, however, remain intact, she added.

Some in the industry expect the Treasury Department to soften its rules – although that hasn’t happened yet. Andy Marsh, CEO of Plug Power Inc., said he expects new guidance soon.

Plug Power Inc.'s liquid green hydrogen plant in Woodbine, Georgia. *Photographer: Agnes Lopez/Bloomberg*

"We won't be surprised if there's some announcement after the Democratic convention and a further announcement after the election," he said during the company's earnings call last week. "I think it's really clear that the regulations on the three pillars are going to become much looser."

Carbon-free green hydrogen remains far more expensive than hydrogen from natural gas, and until that changes, companies have little incentive to start using it as a fuel. But costs won't come down until the wave of planned green hydrogen plants start opening, Tengler said. And they won't move forward until the federal government finalizes its tax rules.

"The only way green hydrogen becomes cheaper is by building projects, but with these early projects stalled, the industry is being choked before it's even born," Tengler said.

— With assistance from Ari Natter and Jennifer A Dlouhy