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Rules of the Road – Will Clarity on Hydrogen Tax Credit Clear a Path for Growth?

Clean Hydrogen Industry Poised for Expansion but Major Challenges Loom



- U.S. clean hydrogen demand expected to rise sharply by 2050
- Expanded hydrogen use would help meet emissions goals — but at a cost
- Clean hydrogen market likely to evolve in three phases over next 25 years
- NPC study includes recommendations on policy, regulations, technology
- Final rulemaking for 45V tax credit includes key

1. Introduction

The long-delayed rules around the federal government’s Hydrogen Production Tax Credit (PTC), also known as 45V, had been the subject of heated debate — and lobbying — since passage of the Inflation Reduction Act (IRA) way back in August 2022. But after more than a year of speculation — and with the Biden administration in its last days — the final rulemaking has been published.

There was a lot of enthusiasm around hydrogen after passage of the IRA, with the initial guidance around the PTC widely expected to be announced within a year, or by August 2023. It soon became clear that extensive debates over the rulemaking continued inside the Biden administration and that informal deadline came and went without much notice. The initial guidance was finally rolled out on December 22, 2023, which closely followed a draft that was leaked a couple of weeks earlier. Publication of the proposed rulemaking then began a 60-day comment period.

Given all the hubbub about the proposed rules, there was little surprise that current and potential hydrogen producers, clean-energy advocates, industry experts and scientific skeptics — along with everyday taxpayers — had a lot to say during the public-comment period, which ended February 26, 2024. Nearly 30,000 public comments were posted about the rule (most were from

cut-and-paste templates), with about 400 submitted by corporations or organizations, an indication of how interested people are in the idea of clean hydrogen.

The IRS held a two-day public hearing about the rulemaking in March, which included comments from more than 100 witnesses, including supporters and critics of the administration's clean-hydrogen push. But not much of substance happened over the next several months. (Perhaps it's unsurprising that the final rulemaking wasn't published during the 2024 presidential campaign.) The delay caused nothing but uncertainty for those planning to develop projects in the U.S. and frustrated those who see clean hydrogen's long-term potential to help decarbonize hard-to-abate industries, like refining and steelmaking. The Biden administration's stated goal of publishing the final rulemaking before the end of 2024 came and passed without explanation, with the final rules rolled out on January 3.

The implementation of the rules around the tax credit is essential, as the Biden administration made clean hydrogen a major element in its decarbonization plans, with the federal government's Regional Clean Hydrogen Hubs (H2Hubs) initiative intended to accelerate the process. The Department of Energy (DOE) opened up \$7 billion in funding in September 2022 to develop several regional hubs. After sifting through dozens of concept papers and months of deliberation, the DOE in October 2023 picked seven hub projects intended to help meet the U.S. target of producing 10 million metric tons per annum (MMtpa) of clean hydrogen by 2030, 20 MMtpa by 2040, and 50 MMtpa by 2050. Five of the seven hub proposals have secured a final funding agreement with the DOE, with the most recent announcements coming in November. The economic viability of each hub and the projects attached to them, along with dozens of unrelated hydrogen projects, depends heavily on their ability to qualify for the credit.

Our new report details the key changes that were made in the final rulemaking, including to the so-called "three pillars" of clean hydrogen production, but also includes four sections that analyze the nascent low-carbon-intensity (LCI) hydrogen industry, from existing infrastructure and production costs to expansion possibilities and recommendations for future development.

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