Clean Hydrogen Future Coalition

Section 45V Clean Hydrogen Production Tax Credit

Hydrogen is a highly versatile energy resource. It can be used as a fuel or feedstock across all sectors of the U.S. economy, stored as energy over long periods of time, and deliver energy to where and when it is needed. A global low carbon hydrogen (LCH) market is expanding at a rapid pace and the U.S. has an opportunity to strengthen its market leadership and create new, skilled, good jobs with the growth of this commodity. Our country already possesses the infrastructure and workforce proficiency across incumbent industries and supply chains to lead in the global hydrogen economy, presenting a unique opportunity for continued U.S. energy leadership.

Why Do We Need the 45V Tax Credit?

The 45V tax credit is essential for overcoming the "first-mover dilemma" to scale an emerging LCH industry. It provides a needed incentive to drive private sector investment in hydrogen production, infrastructure, and innovation in new sectors of the economy in addition to those where it is currently used.

Today the U.S. produces 10 MMT of hydrogen mainly for oil refining and as a chemical feedstock for ammonia and fertilizer production. That hydrogen is largely produced using natural gas. The 45V tax credit will enable the U.S. to expand markets using our abundant energy resources such as natural gas and support growth of an LCH industry beyond 10 MMT.

Structure of the 45V Tax Credit

The Section 45V tax credit is a technology-neutral tax credit that provides a 10-year incentive for low carbon dioxide (CO_2) intensity hydrogen production. The credit provides a varying, four-tier incentive tied to the CO_2 intensity of the hydrogen production process. To achieve the full credit value, a facility must meet prevailing wage and apprenticeship requirements. The CO_2 intensity measures direct and indirect emissions through the point of production using the 45VH2-GREET model.

The structure of 45V uses four tiers to cover this range, as follows:

Lifecycle CO_2 Intensity (per kg CO_2e/kg H_2)	PTC $Value (per kg clean H_2)	ITC % Value
< 0.45	$3.00	30%
≥ 0.45 and < 1.5	$1.00	10%
≥ 1.5 and < 2.5	$0.75	7.5%
≥ 2.5 and ≤ 4	$0.60	6%

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Why Preserve the 45V Tax Credit?

45V supports U.S. energy dominance.

45V is driving investment and innovation in America's energy economy, enabling us to expand as well as diversify production of our domestic energy resources. The U.S. has vast energy resources to produce hydrogen, including from natural gas, renewable natural gas, coal, nuclear, geothermal and biomass, and should be tapping into these resources to diversify our fuel and energy supplies. 45V will ensure we continue to lead in the global energy markets.

45V creates U.S. economic growth and job creation.

Thanks to 45V, companies are actively investing in U.S. hydrogen infrastructure, creating thousands of new jobs, with estimates that 100,000 new jobs could be created by 2030. These investments are being made nationwide, across Republican and Democrat states and districts.

Expanding global demand for clean hydrogen from the European Union, Japan and South Korea is creating new market opportunities for U.S. producers. Hydrogen provides a pathway for traditional energy sectors to grow beyond conventional markets to expand domestic energy production and increase U.S. energy exports.

Private sector investment in the seven awarded Regional Clean Hydrogen Hubs projects is anticipated to exceed $40 billion. These investments rely on the 45V tax credit to expand the market for this global commodity.

45V expands investment in domestic energy supply chains.

Hydrogen has the potential to add value to multiple sectors of the economy in a wide range of applications. In addition to serving as a feedstock for petroleum refining, ammonia and fertilizer production, it can also be used in food and pharmaceutical production, metals and steel manufacturing, and as fuel in nearly all forms of transportation, including air, ship and rail. It can also be converted to energy through engines, turbines, and fuel cells. And hydrogen can be transported as a gas by pipeline or in liquid form by ships, much like liquefied natural gas, and can be stored as a liquid, gas, or chemical compound such as ammonia.

45V will send private sector investment signals across the supply chain to support the production, transport and use of hydrogen in new sectors of our economy.

45V promotes U.S. national security and global leadership on energy.

45V is critical to ensuring the U.S. competes globally and with countries like China and Saudi Arabia on hydrogen production.

China has high ambitions for clean hydrogen production and has implemented policies to provide public funding support for significant new hydrogen production capacity and create markets for its use in new industrial sectors. Saudi Arabia is planning to fund $10 billion in low carbon hydrogen projects using its sovereign wealth fund, with investments being made to deliver on the kingdom's ambitions to produce 15% of the world's hydrogen produced using fossil fuels with carbon dioxide capture and storage.

A robust 45V tax credit is essential for securing American leadership in the global hydrogen economy.

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