

Production costs, lack of pricing clarity slow down green hydrogen projects

UP IN SMOKE. Government has set an ambitious production target of 5 million tonnes by 2030

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India's green hydrogen plans are making slow progress with not much clarity on the global demand for green ammonia as the cost of producing green hydrogen makes it economically unviable, resulting in uncertainty over its pricing.

The government is making a huge push for green hydrogen. Under the Strategic Interventions for Green Hydrogen Transition (SIGT) scheme, the government has set an ambitious production target of 5 million tonnes by 2030, with an outlay of ₹17,500 crore up to FY30, offering incentives for the production of electrolyzers and green hydrogen.

While all leading energy companies, including state-owned enterprises such as



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Indian Oil Corporation, Oil India, NTPC, GAIL and private sector conglomerates such as Reliance Industries have announced ambitious plans, it is yet to be called a success story.

It is still at a very nascent stage as there is no clear reference point to derive price,

multiple sources said.

PRODUCTION COSTS

Also, there is wide price differential between the cost of production of green and grey hydrogen, and the incentives under the government schemes are not adequate to bridge that gap. At around

₹300 per kg, the cost of producing green hydrogen is double than that of grey hydrogen.

While large players such as Reliance Industries' Mukesh Ambani and Adani Group's Gautam Adani have been talking about bringing down the cost of hydrogen to \$1 per kg, the road to achieving that is a long way off.

One of the major components in the cost of production is power, followed by operational expenditure. For the cost of power to go down, the government will have to step in to provide incentives.

At present, most of the solar energy capacity that companies are setting up goes towards captive consumption rather than towards production of green hydrogen, sources said.

The cost to set up a green hydrogen plant in India can vary depending on factors, such as production capacity

and chosen electrolyser technology. However, a self-investment range of ₹10 crore to ₹15 crore could be considered a starting point, sources said. Additional investments may be necessary based on specific project requirements, those in the business said.

UPCOMING PROJECTS

IOC, Bharat Petroleum and RIL currently have green hydrogen pilots under construction. NTPC is blending green hydrogen with PNG, while Honeywell plans to set up India's first green ammonia plant.

Last week, IOC said it has finalised the Levelised Cost of Hydrogen (LCoH) for setting up a 10,000 tonne per annum green hydrogen generation unit at its Panipat Refinery & Petrochemical Complex, marking its entry into the green hydrogen space.