

India Inc's green hydrogen pilot gathers steam; economics yet to add up

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The current financial year (2023-24, or FY24) is emerging as one in which multiple Indian companies are setting their green hydrogen ambitions in motion, albeit at a pilot stage. However, industry executives and experts state that demand and financial closures are still elusive.

Top executives from Adani Enterprises informed analysts earlier this month that work on their electrolyser manufacturing unit is likely to commence in the current or next quarter.

The conglomerate is not alone in kick-starting its green hydrogen pilot. Among others, Larsen & Toubro (L&T), Indian Oil Corporation, and ReNew are expected to form a joint venture (JV) company in the next few weeks, according to Subramanian Sarma, whole-time director and senior executive vice-president (energy), L&T.

The three companies initially announced plans in April 2022 to form a JV to develop the nascent green

hydrogen sector in India.

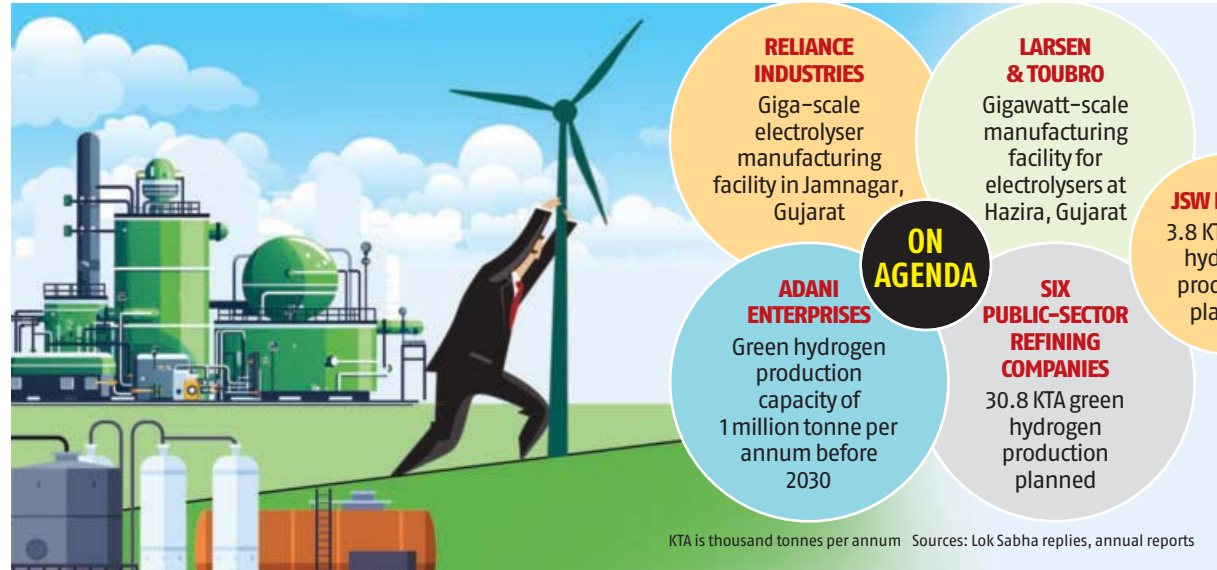
According to another executive familiar with the matter, "All the required approvals for the tripartite JV are now in place, with the JV formation under process."

Construction is underway at Reliance Industries' giga complex in Jamnagar, which will also house the planned electrolyser manufacturing unit, according to insiders.

Sandeep Kumar Gupta, chairman of state-owned GAIL (India), informed shareholders on Wednesday that the company's 10 megawatt green hydrogen production unit, the largest in India with a capacity of 4.3 tonnes per day in Vijaipur (Madhya Pradesh), is expected to be commissioned by December.

"Several Indian companies are in the process of commissioning commercial-scale green hydrogen plants in India in 2022-23 through FY24 and beyond. As with most large-scale fuel manufacturing units, these will take time to scale up to full capacity due to a combination of market demand, technological barriers, and regulatory conditions," says Dipankar Ghosh,

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partner & leader/sustainability & ESG, BDO India.

Ghosh expects most Indian green hydrogen manufacturers should be able to produce green hydrogen for \$1-2 by 2030. Not everyone shares this

view. Pranav Master, senior practice director-consulting at CRISIL, remains sceptical about achieving \$1 per kilogram (kg) even with the head start seen in FY24. "Hitting \$1 per kg by 2030 would be very challenging; significant

scale-up, technological developments, and further incentives are crucial. From where we are in 2023, that cost seems unlikely by 2030," he says.

Sarma points out: "A technological breakthrough has to happen in storage,

electrolyser efficiency has to improve, and finally, demand has to be generated for economies of scale. Today, it's a Catch-22 or chicken-and-egg situation — unless the price comes down, demand will not go up."

Master adds that on the funding side, significant project finance closure is yet to be seen.

A company executive from a state-run entity also noted that some of those planning green hydrogen units are considering various options to ensure the lowest possible cost of the electrolyser before proceeding. Those taking these early steps are aware of the missing piece of the puzzle — demand.

When it comes to seeking clients for the initial output from the Hazira (Gujarat) electrolyser manufacturing unit, the executive says, "We are focusing on manufacturing; I think we will first use it for our own use, and simultaneously, we will also begin marketing." L&T plans to establish a gigawatt-scale manufacturing facility for electrolysers in India.