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How can hydrogen throttle opportunities for businesses in India?

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01

Utilization of hydrogen by refineries in India

Uptake of green hydrogen by Indian refiners and push to demand creation by Gol beckons new opportunity segment

IOCL has already been producing 1.6 Barrels/day of green hydrogen in its Mathura refinery. Further, it is planning to come-up with a standalone green hydrogen production unit near Kochi International Airport. For demand creation we may see **“Green H₂ & Green NH₃ purchase obligations”** be notified shortly by Gol on policy front

A vertical image on the left side of the slide showing a steel mill. Molten metal is being poured from a ladle into a container, with bright orange and yellow sparks and light emanating from the process. The background is dark and industrial.

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02

**CBAM imposition to
impact steel exports to
Europe from India
beginning 2026**

CBAM from EU will push the decarbonization of steel industry in India through Green Hydrogen

The application of "**Carbon Border Adjustment Mechanism (CBAM)**" will translate into a **20%-35%** on select imports including steel from January 01, 2026. This shall have a cascade impact upon increase in decarbonization of steel in India and thus the uptake of green hydrogen shall gain momentum as end use

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03

Reduction in cost of electrolyzer with membrane

Cost reduction potential for electrolyzer with membrane will drive investments in electrolyzer manufacturing

The challenge which hydrogen industry faces up in the current pretext is to reduce the cost of green hydrogen production for which the cost of electrolyzer must be reduced. Along with PLI scheme already in place for electrolyzer manufacturing in India, the investments will peak in R&D to achieve **cost reduction by a quantum of 60%-70% in electrolysers with membrane.**

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04

Demand creation will take centre stage for policy front in hydrogen space

Demand creation for both blue and green hydrogen will take centre stage for policy makers in India

As already notified by GoI for creating demand for green hydrogen the green hydrogen obligation for refineries has been tagged at 10% and for fertilizer units the green ammonia obligation is at 15% which are the right index to create demand. Similar steps for demand creation in other segments would take centre stage for policy landscape around hydrogen with **“Hydrogen & Ammonia Purchase Obligations (H&A PO)”** potentially notified in the country.

“Hydrogen undoubtedly will see high uptake in India, but it will not be a seamless transition. Be it production, transport and storage or the demand creation for end use the need for the country to boost the adaptation of hydrogen will have to be firmed up by creating an ecosystem. Central to that ecosystem shall be demand creation for both green and blue hydrogen for which suitable policy environment like H2 and NH3 purchase obligations could be promoted thereby pushing an important market aspect of hydrogen trade. For India to be the hydrogen hub it shall be important to tap in the renewable generation advantage and invest in R&D for developing low cost electrolyzer technology which will prove instrumental to determine global competency, especially with respect to China. For industries, the transition for adapting hydrogen shall be from blue to green and will be shaped up as per concurrent policies and global geo-politics.”



Ravi Shekhar
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