

HAI Newsletter



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Editorial Committee

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Lok Sabha passes bill to promote use of ethanol, green hydrogen & biomass

The bill is aimed at helping the country achieve its international commitments with respect to climate change goals. The bill seeks to introduce new concepts such as carbon trading and mandate the use of non-fossil sources to ensure faster decarbonization of the Indian economy. Lok Sabha passed a bill seeking to promote the use of non-fossil fuels, including ethanol, green hydrogen and biomass. Piloting the Energy Conservation (Amendment) Bill, 2022, Power Minister R K Singh said "this is the bill for the future" and added that the renewable energy capacity addition in the country was the fastest in the world. Among other provisions, it provides for penalties for violations by industrial units or vessels as well as on manufacturers if a vehicle fails to comply with fuel consumption norms. The amendments also seek to promote renewable energy and the development of a domestic carbon market to battle climate change. "India has emerged as the most attractive destination for investment in renewable energy and the whole world is saying it," R K Singh said.

Ref: <https://www.business-standard.com/>



Indian Oil targets green hydrogen meeting 10% of requirements by 2030

Indian oil is targeting to replace at least a tenth of its current fossil-fuel-based hydrogen at its refineries with carbon-free green hydrogen as part of a decarbonization drive. To start with, the nation's largest oil firm is setting up green hydrogen plants at its Panipat and Mathura refineries, IOC said in its latest annual report. "The company is venturing into green hydrogen production and is targeting 5 per cent of hydrogen produced by it as green hydrogen by 2027-28 and 10 per cent by 2029-30," IOC Chairman Shrikant Madhav Vaidya said to meet the net-zero commitment, the Indian government has announced the Green Hydrogen and Ammonia Policy to boost green hydrogen production to 5 million tonne by 2030 and make India an export hub for this clean Fuel.

Ref: <https://www.business-standard.com/>



Quote:

"All dreams are within reach. All you have to do is keep moving towards them"

-VIOLA DAVIS

India needs to promote and form Green Hydrogen Corridors, says NITI Aayog

India needs to form Green Hydrogen Corridors and governments can look at providing grants to startups as well as support entrepreneurs to promote green hydrogen, NITI Aayog said. In a report titled 'Harnessing Green Hydrogen - Opportunities for Deep Decarbonization in India', the Aayog also suggested that there is a need to facilitate investment through demand aggregation and dollar-based bidding for green hydrogen. The report suggested that the government should promote export of green hydrogen and green hydrogen-embedded products through a global hydrogen alliance. Transition to green hydrogen and green ammonia is one of the major requirements for reduction of emissions, especially in the hard to abate sectors.

The report predicted that hydrogen demand in India could grow more than fourfold by 2050, representing almost 10 per cent of global hydrogen demand. In the longer term, steel and heavy-duty trucking are likely to drive the majority of demand growth, accounting for almost 52 per cent of total demand by 2050, it added. Emphasizing that the roadmap should also identify a timeline and scale of manufacturing support for Electrolysers, the report said India may aim for 25 GW of Electrolysers by 2030, while also investing USD 1 billion in R&D to catalyse the development of commercial green hydrogen technologies.

Ref: <https://www.business-standard.com/>



ReNew to invest \$8 billion to set up green hydrogen plant in Egypt

ReNew joins several Indian companies tapping the prospects in green hydrogen, which is considered crucial to decarbonise hard-to-abate heavy industries. The Indian company plans to build the project in the Suez Canal Economic Zone, the Egyptian embassy in New Delhi said in a Facebook post. ReNew Power has signed a preliminary agreement with the Egyptian government to invest as much as \$8 billion (over Rs 63,000 crore) to produce green hydrogen in the African country, according to the chairman of the renewable energy firm. ReNew, backed by investors including Goldman Sachs Group Inc and Abu Dhabi Investment Authority, will be looking to produce 220,000 tonnes of the clean fuel annually in Egypt in the coming years, Chairman Sumant Sinha said in a text.

Ref: <https://www.business-standard.com/>



Hydrogen fuel cell patents rise, with China leading the way

Filings for hydrogen fuel cell patents have been spiking worldwide as the demand for clean fuel takes off. The World Intellectual Property Organization (WIPO) says patent filings for H2 are rising fast. WIPO claims that hydrogen fuel cell patents for vehicles and related tech are rising quickly worldwide. The organization's report said that China, Japan and Germany are the countries from which the largest number of patent filings have taken place.

The WIPO report showed that the applications from the H2 sector had risen by almost 23.5 percent between 2016 and 2020. Chinese innovators filed applications for 7,261 hydrogen fuel cell patents. This figure represents 69 percent of the total patents filed for this category of technology between 2016 and 2020. The hydrogen fuel cell patents are focused on the powertrain technology widely viewed as the most carbon neutral, as the only emission that comes from vehicle tailpipes is water.

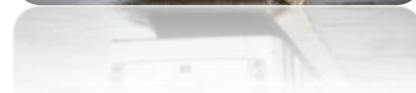
Ref: <http://www.hydrogenfuelnews.com/>



Hydrogen fuel cells could eliminate CO2 from heavy vehicles, says HMI

using H₂ to power transportation vehicles in the near future could entirely stop CO₂ emissions they produce. The adoption of hydrogen fuel cells to power heavy goods vehicles could entirely eliminate the carbon dioxide emissions they produce, according to the Hydrogen Mobility Ireland (HMI) representative body. The representative organization released the prediction in a recently published whitepaper. The whitepaper was prepared in response to a decision made by the government of that country to begin a public consultation for developing a national green hydrogen fuel cells strategy. It was released along with a research paper on the advantages of using renewable H₂. HMI said about its whitepaper that it “demonstrates how the progress of other European countries can provide a useful template for Ireland, as it seeks to develop its own strategy for the deployment of green hydrogen across public and private transport.” H₂ has endorsement at an EU level.

Ref: <http://www.hydhogenfuelnews.com/>



Larsen & Toubro commissions new green hydrogen plant at Hazira in Gujarat

The plant will produce 45 kg of green hydrogen daily, which will be used for captive consumption in the company's Hazira manufacturing complex. Engineering major Larsen & Toubro (L&T) on Saturday commissioned a new green hydrogen plant at Hazira in Gujarat. The development comes five months after the company inked a joint venture with Indian Oil Corporation (IOC) and ReNew Power for the production of green hydrogen. L&T and IOC had also inked a separate joint venture for the production of electrolyzers. The green hydrogen plant was inaugurated by Shrikant Madhav Vaidya, chairman, IOC. The plant will produce 45 kg of green hydrogen daily, which will be used for captive consumption in the company's Hazira manufacturing complex. The green hydrogen plant is designed for an electrolyser capacity of 800 kW comprising both alkaline (380 kW) and polymer electrolyte membrane (420 kW) technologies. It will be powered by a rooftop solar plant of 990kW peak DC capacity and a 500kWh battery energy storage system (BESS). As part of the first phase of the project, a 380 kW alkaline electrolyser has been installed, while the 420 kW PEM electrolyser along with solar plant capacity augmentation to 1.6 MW peak DC, will be part of future expansion.

Ref: <https://www.business-standard.com/>



Green hydrogen fuel and technology backed by Amazon and other giants

Companies like Mitsubishi and Honeywell are focusing on investing in renewable H₂. Even though the second half of 2022 has brought a slowing in the venture capital market, investments into green hydrogen by large companies - particularly substantial emitters - have been rising. This could help to kickstart renewable H₂ as a primary fuel in decarbonizing heavy industry. Big emitters such as heavy industry are looking to green hydrogen as an option for decarbonizing as battery electric options simply are not practical for many of those applications. As a result, many business giants from around the world are turning their attention into the clean fuel's production and distribution.

Ref: <http://www.hydhogenfuelnews.com/>



Upcoming Events:

- **Hydrogen Americas Summit** Washington D.C., USA: 10-11th October 2022
- **Hydrogen Technology Expo Europe** Messe Bremen, Germany: 19-20th October 2022
- **F-CELL CHINA 2022-** Shanghai Automobile Exhibition Center, 7575 Boyuan Road, Jiading District, Shanghai, China 1-3rd December 2022
- **9th International Hydrogen & Fuel Cell Conference (IHFC 2022)** at Hotel The Lalit, Barakhamba Road, New Delhi: 4 - 6th December 2022
- **Berlin Electrolyser Conference** Berlin, Germany: 7-8th December 2022

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Future Lies Here

H2FLY is preparing to fly a fuel cell aircraft

In early 2023, an intensive series of ground tests will begin to put the plane through its paces. Until now, the HY4 that was last shown at the Friedrichshafen AERO trade fair and then in the UK at the recent Farnborough Air Show, was operated using compressed hydrogen gas. In a few weeks, the fuel cell aircraft will have its pressurized H₂ gas tanks replaced in favor of tanks that will store liquid H₂ instead. According to the announcement from H2FLY, switching to the liquid form of the zero-emission fuel will double the HY4 plane's range. That said, before the HY4 and its new tanks can be flown, it will need to undergo extensive testing. They have already been scheduled.

The reason the testing is highly important is that the two different storage technologies have substantial differences from each other. It is important to be able to sort out any potential problems that could arise during integration or commissioning while the plane is still on the ground, not while it is in flight.

Ref: <http://www.hydhogenfuelnews.com/>



India set to be leader in green hydrogen: Petroleum Minister Puri at Davos

Union Petroleum and Natural Gas Minister Hardeep Puri said special emphasis is being given on green hydrogen, biofuel blending and exploration and production of biofuel from alternative sources. India is more conscious of going for green energy than any other country in the world, Union Petroleum and Natural Gas Minister Hardeep Singh Puri said. He said special emphasis is being given on green hydrogen, biofuel blending and exploration and production of biofuel from alternative sources. Puri asserted that India would eventually become a leader in the green hydrogen space. The target of 20 per cent of ethanol blending has been brought forward from 2030 to 2025 and it would be definitely achieved, he said.

Ref: <http://www.hydhogenfuelnews.com/>



Adani, Total Energies join hands to invest \$50 billion in green hydrogen

Gautam Adani, Chairman, Adani Group said, he is confident the company will produce the world's least expensive green hydrogen. French giant TotalEnergies will buy a quarter of the equity in Adani New Industries Ltd (ANIL), a part of Gautam Adani's eponymous group. The Adani group did not disclose the value of the deal. Instead, it talked about ANIL investing \$50 billion over 10 years in green hydrogen and, in the initial phase, building a production capacity of 1 million tonnes a year for green hydrogen before 2030.

ANIL is critical to Adani's ambition of becoming the world's cheapest producer of green hydrogen, the zero-emission fuel that can propel the world's decarbonisation drive but has yet to be produced in a way that makes it commercially viable.

Ref: <https://www.business-standard.com/>

