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Editorial Committee

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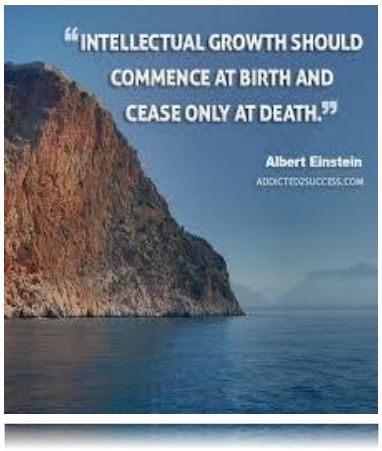
Auction for green H2 incentives to kick off in Q1 with cap of Rs 50/kg

The first tranche of the auction for incentives to produce green hydrogen will take place in the current quarter with a ₹50 per kg cap in the first year of production. The incentive cap will drop to ₹30 per kg in the last year, according to people in the know of the matter. India's Ministry of New and Renewable Energy will hold the first tranche of auctions for incentives to produce green hydrogen and green hydrogen Electrolysers in the current quarter. The winning bidder for green hydrogen will receive incentives, up to a cap of INR50 ($0.68) per kg, for three years, which will gradually taper off. Meanwhile, successful bidders for the manufacturing Electrolyser tranche will receive Incentives of INR4,440 per kilowatt (kW) in the first year of production falling to INR1,480 per kW in the fifth year.

Ref: https://economictimes.indiatimes.com/

Indian G20 presidency opposes watering down green hydrogen standards



India is opposed to diluting the definition of green hydrogen to include fuel produced from low carbon energy, as some developed nations have proposed in G20 meetings, Power and Renewable Energy Minister R K Singh said. In an interview with Reuters, Singh said India, which holds the rotating presidency of the G20, has proposed "harmonization of the best possible standards" to regulate trade in green hydrogen, which should be produced using only renewable energy, rather than low carbon fuel.

"Why should countries, which have been preaching the virtues of energy transition and de-carbonization, back something called low carbon. It's either clean or not clean," he said. Hydrogen, made by electrolysis plants that split water, can be used as a fuel. If the energy used to power the plants is renewable, it is called green hydrogen. Singh said the Indian G20 presidency had put forward a draft definition that he considered reasonable and held discussions with various countries. "If the world wants to decarbonize, the world must agree on a definition of green hydrogen. Without harmonization of standards, you won't have trade," he said.

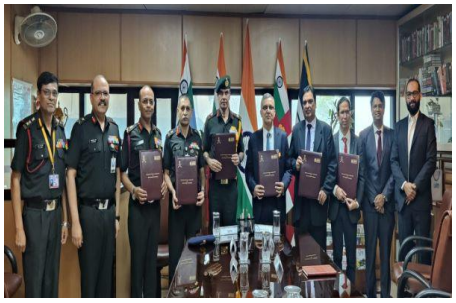
Ref: https://economictimes.indiatimes.com /

India plans green hydrogen incentives of at least 10% of cost-source

India plans to give green hydrogen fuel producers incentives worth at least 10% of their costs under a $2 billion scheme set to begin before the end of June this year. New Delhi this year approved a 174.9-billion-rupee incentive plan to promote green hydrogen in a bid to cut carbon dioxide emissions and become a major exporter in the sector. The government will give incentives worth at least 30 Indian rupees per kilogram (kg) for production of green hydrogen fuel. The government will start the bidding for firms seeking incentives before the end of this quarter, the source said, adding that the incentives will be tapered every year and the government expects to support 3.6 million tonnes of hydrogen production capacity in the next three years under the scheme. The government will invite bids in three tranches for green hydrogen supply and in two tranches for Electrolysers, the official said, adding that this will help gain market insights and to absorb new technologies and realize cost reductions. Indian companies such as Reliance Industries, Indian Oil, NTPC, Adani Enterprises, JSW Energy, ReNew Power and Acme Solar that have already announced plans for green hydrogen are expected to be interested in the contracts.

Ref: https://economictimes.indiatimes.com/

NTPC arm signs pact with Indian Army for setting up green hydrogen plants



NTPC Renewable Energy Ltd (NTPC REL), an arm of NTPC Ltd, has signed an agreement with the Indian Army for the implementation of green hydrogen projects in armed forces establishments. Under the MoU (memorandum of understanding) with the Army, a joint identification of potential sites would be undertaken for setting up of green hydrogen projects for supplying electricity, in a phased manner, NTPC said in a statement. "NTPC REL has signed an MoU with the Indian Army for setting up green hydrogen projects in its establishments on build, own and operate (BOO) model. The intent is to reduce complex logistics, dependence on fossil fuels and to accelerate decarbonization," it said. NTPC REL is a wholly-owned subsidiary of NTPC Limited and currently it has a portfolio of 3.6 GW RE capacity under construction.

Ref: https://economictimes.indiatimes.com/

Indian state refiners to produce 30,800 tonne/yr green hydrogen by 2030

Indian state-run refiners are setting up projects to produce 30.8 kilo tones a year of green hydrogen by 2030, oil minister (states) Rameshwar Teli told lawmakers. India, one of the world's larger greenhouse gas emitters, recently announced a 197 billion rupee ($2.4 billion) green hydrogen Programme to cut the country's carbon intensity and reduce dependence on fossil fuels. Companies such as Reliance Industries, NTPC, Adani Group, JSW Energy, ReNew Power and Acme Solar have announced plans to help India meet its goal to produce at least 5 million tonnes of green hydrogen by 2030. The federal government has announced it would provide 300 billion rupees ($3.65 billion) to help state-run oil refiners move towards cleaner energy, a step aimed at helping the country achieve its 2070 net-zero carbon emission target.

Ref: https://economictimes.indiatimes.com/

L&T signs agreement with France-based McPhy for Electrolyzer manufacturing

Larsen & Toubro (L&T),an Indian multinational engaged in EPC Projects, Hi-Tech Manufacturing and Services, have entered into an Electrolyzer Manufacturing Binding Agreement with McPhy Energy , a France-based leading Electrolyzer technology and manufacturing company, for a long-term partnership to explore the opportunities unfolding in the emerging Green Hydrogen market. Under this partnership, McPhy will grant an exclusive license of its pressurised alkaline Electrolyzer technology to L&T for the manufacturing of electrolyzers, including future product upgrades. L&T plans to set up a Gigawatt-scale manufacturing facility for electrolyzers based on McPhy technology in India to serve the domestic requirements as well as cater to the other selected geographies. The proposed agreement is in line with L&T's strategic vision to be present across the green energy value chain and also furthers McPhy's aim to expand beyond the European market.

Ref: https://www.livemint.com/

Air Liquide new cracking technology for ammonia conversion into hydrogen

Air Liquide announces the construction of an industrial scale ammonia (NH3) cracking pilot plant in the port of Antwerp, Belgium. When transformed into ammonia, hydrogen can be easily transported over long distances. Using innovative technology, this plant will make it possible to convert, with an optimized carbon footprint, ammonia into hydrogen (H2). With this cracking technology, Air Liquide will further contribute to the development of hydrogen as a key enabler of the energy transition. Ammonia - a molecule made of hydrogen and nitrogen - can be used as an energy carrier. It can be produced with a low-carbon footprint from hydrogen in geographies with abundant renewable energy sources such as sun, water and wind, or other low-carbon power. The innovative pilot plant, which combines a novel efficient process with Air Liquide's proprietary technologies, is planned to be operational in 2024.

Ref: https://www.airliquide.com/

BP earmarks USD 2 bln to build Spanish green hydrogen hub

The British company aims to develop a large plant to produce 2 giga watts (GW) of green hydrogen, which is produced by splitting water using renewable energy, in order to replace polluting hydrogen used to produce fuels at the Castellon refinery. BP said on Tuesday it plans to invest up to 2 billion euro (USD 2.12 billion) by 2030 in its refinery in Spain to produce low-carbon hydrogen and biofuels. The project, HyVal, will also increase the refinery's biofuels production three-fold to 650,000 tonnes a year by 2030, BP said in a statement. The green hydrogen will also be used as a feedstock in biofuel production, including sustainable aviation fuel (SAF). A first hydrogen electrolyser unit of 200 megawatt is expected to be operational in 2027 and produce up to 31,200 tonnes of green hydrogen per year.

Ref: https://auto.economictimes.indiatimes.com/

Upcoming events:

- **India Energy Storage Week**
  Pragati Maidan, New Delhi.
  1-6h May, 2023
- **World H2 2023 Summit & Exhibition**-, Rotterdam, Netherland 9-11th May 2023
- **GH2 Summit**
  Mumbai, 6 – 7th July 2023
- **Net Zero Summits 2023**
  Le-Meridian Hotel, New Delhi

Massive 500 MW offshore green hydrogen project finds home in the Netherlands

Ten noorden van de Waddeneilanden (the North of the Wadden Islands) was previously identified as a suitable region for offshore wind development and the production of electricity. Government of the Netherlands identified this in 2022 for new offshore wind farms that could bring as much as 13.4 GW of combined capacity across nine sites. Recently, the Dutch government announced that the area was ideal for large-scale offshore green hydrogen production, to provide 500 MW of electrolysis capacity and to transport hydrogen to land. The area's suitability is not only due to its offshore wind farm, but an existing natural gas pipeline close to the site could be reused for green H2 transport to land.

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

First demonstration of low-cost green hydrogen tech launched by Advanced Ionics

Advanced Ionics has announced its Early Access Program, sponsored by the Repsol Foundation. This program will be a paid pilot study. Their low-cost green hydrogen production processes are powered by the Symbion electrolyzer technology, which uses process waste heat and is up to 50% more efficient than other technologies. Through the Early Access Program, Advanced Ionics hopes to provide customers with confidence in the potential of its technology. The program is part of an effort from the foundation to support entrepreneurships spearheading industrial decarbonization tech. The purpose of the Early Access Program is for advanced technology demonstrations with potential future Advanced Ionics customers. These demonstrations are made possible the Entrepreneurs Fund of the Repsol Foundation. The goal of the foundation is to support entrepreneurships spearheading industrial decarbonization tech. In the case of Advanced Ionics, Repsol is supporting the company's innovative low-cost green hydrogen production processes.

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

Researchers use sea water to produce green hydrogen at almost 100% efficiency

Among the challenges to large scale production of green hydrogen has to do with the use of fresh water in Electrolysers. The reason is that many parts of the world are already facing fresh water supply challenges due to worsening droughts caused by climate change. Sea water hasn't been a viable option because the salt in the water is highly corrosive. The corrosion causes expensive materials such as catalysts made from precious metals to degrade. This not only drives up the expense but also the environmental impact of the process. That said, the researchers claim that they have been able to produce green hydrogen using sea water and have achieved an efficiency rate of almost 100 percent. "We have split natural seawater into oxygen and hydrogen with nearly 100 percent efficiency, to produce green hydrogen by electrolysis, using a non-precious and cheap catalyst in a commercial Electrolyser," explained Professor Shi-Zhang Qiao, project leader at the School of Chemical Engineering at the University of Adelaide.

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

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