THE ECONOMIC TIMES | Industry

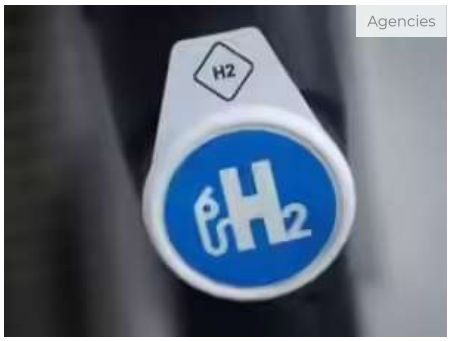
English Edition ▾ | 29 June, 2026, 05:01 PM IST | Today's ePaper

ETPrime | Limited-time offer: Enjoy Free Trial of ETPrime for 15 days!
Log in to unlock member-only stories, investment tools, and ePaper instantly.
START FREE TRIAL
No Payment Required

How India can become a leader in production and export of green hydrogen

By Ashwini Kumar, ET CONTRIBUTORS Last Updated: Oct 22, 2021, 04:04:00 PM IST

Synopsis
India will become a major beneficiary of the new global energy trade in hydrogen and there is a possibility for India to develop itself as a net exporter of energy in the future. The downside to a budding global hydrogen economy is the fear of an era of energy colonisation.



Green hydrogen will change the global trade balances which is why major oil & gas exporting countries are also making long-term plans to produce green hydrogen.

As the world looks at minimising the impact of climate change and reducing its carbon footprint, the focus of governments across the world is on renewables. Sun, wind, tides, hydro, biofuels, and every other possible means of extracting energy from non-carbon sources has gained prominence. The political landscape has not suddenly changed only due to environmental considerations, but also to sustain long term economic plans where consumers have become more vocal about their own impact on their surroundings and look for products which have the least carbon impact.

Countries have formulated their own plans for achieving carbon neutrality in the next 20-40 years and the solution to this challenge is renewable energy. Every country has its own set of strengths, and access to technologies, natural resources, capital, and other priorities. Nations around the world are not evenly placed to generate renewable energy to satisfy all their energy demand. At the same time, several countries like Australia, India, etc. have the potential to satisfy all their energy demand using renewable power and still have more energy left over. This imbalance requires an energy vector which can be easily transported across countries to fulfil energy demand, like the oil & gas industry today. This is where hydrogen becomes a part of the global effort to becoming an emissions free society and reducing our carbon footprint.

Hydrogen can be produced using renewable sources like solar, wind, geo-thermal, tidal, etc. through a process called electrolysis where water is split into its components, oxygen and hydrogen, and this hydrogen can be transported across any distance either in its gaseous or liquid forms, or as a compound with other elements, ammonia or methanol, etc.

As an energy vector, **Green Hydrogen**, i.e. hydrogen produced using renewable energy, is completely carbon neutral and the process does not release any carbon dioxide into the environment. The promise of hydrogen in decarbonising the economy has generated unprecedented interest among governments and corporations alike.

The biggest hurdle in adoption of hydrogen, however, is its price. Recently, the US Department of Energy launched its ambitious Earthshots initiative to reduce the cost of green hydrogen by almost 80% to US$ 1 per 1 kilogram in 1 decade or the "1 1 1" plan. The accompanying challenges related to hydrogen, i.e., manufacturing components, storage, transportation, handling, safety, etc. are all secondary challenges if cost-parity with **fossil fuels** can be achieved.

Developing an ecosystem to cater to hydrogen will give most countries a major boost economically as they will lessen their dependence on importing fossil fuels. Green hydrogen will change the global trade balances which is why major oil & gas exporting countries are also making long-term plans to produce green hydrogen.

THE ECONOMIC TIMES | Prime

Upgrade to ETPrime for expert insights & exclusive stories

Special Offer ends in 00 : 04 : 57

Get ETPrime Benefits F
No Payment Required



1M+ Subscribers Trust ETPrime • 60k Joined Today

India will become a major beneficiary of the new global energy trade in hydrogen and there is a possibility for India to develop itself as a net exporter of energy in the future. The downside to a budding global hydrogen economy is the fear of an era of energy colonisation.

Financially strong countries with inadequate renewable power generation capacities will find it easier and more efficient to invest in poorer countries where renewable energy such as solar or wind is easily exploitable. Sub-Saharan countries are already witnessing huge investments in solar parks by European nations to produce green hydrogen. These investments are not guaranteed to improve the lives of the people of the Saharan countries but enrich only a few beneficiaries.

In the long-term this disparity will cause major geo-political consequences, which must be adequately addressed before making investments in these countries. Nevertheless, such drawbacks of a transition to clean energy systems will not derail the adoption of hydrogen as the most suitable commodity in global trade.

Australia has already coined the term 'Shipping Sunshine' to refer to trade of green hydrogen produced using solar power. The need for clean energy in countries like China, South Korea, and Japan is exponentially increasing, and Australia is developing its infrastructure to export green hydrogen to these countries at a frantic pace.

Being the world's largest coal exporter, and second largest exporter of LNG, Australia, is looking at duplicating its success in becoming a leader in the production and export of green hydrogen. The National Energy Strategy of Australia was launched in July 2019 and the government had allocated AUD $500 million for hydrogen projects back then.

Planned projects in Australia comprise over half of all the global projects in the field of green hydrogen. India can take replicate the Australian models for exporting green hydrogen and creating pockets of hydrogen hubs across the country. The Prime Minister of India proclaimed from the ramparts of the Red Fort to make India a global hub for Green Hydrogen and further said that green hydrogen would give India a quantum jump in its efforts to counter climate change.

Hydrogen sector is one of the few areas where India has taken steps to keep itself at par with global technology leaders. India is one of the few countries to have announced its national hydrogen plans. The Indian government is aiming for self-reliance in energy by 2047, and hydrogen will play a key role in helping India achieve this goal.

Add ET as a Reliable and Trusted News Source

Add Now!

*(You can now subscribe to our **Economic Times WhatsApp channel**)*

(Disclaimer: The opinions expressed in this column are that of the writer. The facts and opinions expressed here do not reflect the views of www.economictimes.com.)