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# Green hydrogen mission gets Cabinet nod, initial outlay Rs 19,744 crore

A flagship programme of the Centre, Prime Minister Narendra Modi had first announced the NGHM in his Independence Day speech in 2021, after which the Ministry of New and Renewable Energy (MNRE) was tasked with formulating a draft plan.

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Union minister Anurag Thakur during cabinet briefing in New Delhi on Wednesday. (Express photo by Anil Sharma)

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WITH THE aim to make India energy independent and decarbonise major sectors of the economy, the Union Cabinet on Wednesday approved the National Green Hydrogen Mission (NGHM), with an initial outlay of Rs 19,744 crore.

A flagship programme of the Centre, Prime Minister Narendra Modi had first announced the NGHM in his Independence Day speech in 2021, after which the Ministry of New and Renewable Energy (MNRE) was tasked with formulating a draft plan.

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Announcing the Cabinet decision, Union Information and Broadcasting Minister Anurag Thakur said the programme aims to make India a global hub for production and export of green hydrogen and its derivatives.

The plan is to provide incentives to promote the manufacturing of low-cost green hydrogen in a bid to cut emissions. Green hydrogen will play a huge role in

countering climate change in the coming years, said Thakur.

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The target is to bring in an investment of Rs 8 lakh crore by 2030, and create over 6 lakh jobs.

“Nearly 50 MMT (million metric tonne) per annum of CO2 emissions is also expected to be averted with this by 2030,” the government said in a statement.

The NGHM is a key component in India’s attempt at energy transition from fossil fuels to renewables, with the government having announced its new nationally determined contributions after COP 26 in Glasgow. The government had committed to reduce emissions intensity of GDP by 45 per cent by 2030 (from its 2005 level) and achieve about 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

## EXPLAINED

### What is green hydrogen?

Green hydrogen is produced by splitting water through electrolysis, using an electrolyser that is powered by renewable energy. Green hydrogen has specific advantages. One, it is a clean burning molecule, which can decarbonise sectors including iron and steel, chemicals, and transportation. Two, renewable energy that cannot be stored or used by the grid can be channelled to produce it.

The government envisages the production capacity of green hydrogen to touch at least 5 MMT per annum by 2030, the statement said. Besides, it also expects a cumulative reduction in fossil fuel imports of over Rs 1 lakh crore, and an abatement of 50 MMT of annual greenhouse gas emissions.

The outlay includes Rs 17,490 crore for the SIGHT programme, Rs 1,466 crore for pilot projects, Rs 400 crore for research and development, and Rs 388 crore towards other mission components, Thakur said. The MNRE will now formulate guidelines for the implementation of its respective components.

Under the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme, two distinct financial incentive mechanisms – targeting domestic manufacturing of electrolysers and production of green hydrogen – will be provided. The mission will also support pilot projects in emerging end-use sectors, while regions capable of supporting largescale production and/ or utilisation will be identified, to be developed as green hydrogen hubs.

The minister said that NGHM will have other benefits such as creation of export opportunities for green hydrogen and its derivatives; decarbonisation of industrial, mobility and energy sectors; development of indigenous manufacturing capabilities; and development of cutting-edge technologies.

An enabling policy framework will be developed to support the establishment of the green hydrogen ecosystem, including the development of a robust standards and regulations framework. A public-private partnership framework for R&D (Strategic Hydrogen Innovation Partnership – SHIP) will be facilitated under the mission. A coordinated skill development programme will also be undertaken under the mission.

“Green hydrogen is an expensive technology and the viability of this technology can be improved through government support. Allocation of money for pilot projects and strategic interventions, especially if focussed on electrolysers, will improve feasibility of such projects and will help in garnering more investment from the private sector as well,” said Vibhuti Garg, Director, South Asia, Institute for Energy Economics and Financial Analysis (IEEFA).

Hemant Mallya of the Council on Energy, Environment and Water (CEEW) said the programme will also increase India's energy security and reduce its dependence on import of LNG (liquefied natural gas). There are two major sectors that green hydrogen is likely to impact favourably – fertilisers and crude oil refineries – both of which currently use large amounts of LNG. The use of green hydrogen will not only reduce the dependence on imports, but the LNG can be channelled into other sectors currently dependent on fossil fuels, thus improving air quality.

Green Hydrogen will be an important factor in the energy transition of the transport sector – particularly long distance transport, in which electric vehicles are currently unviable due to the size of batteries and infrastructure required for it.

Meanwhile, the Cabinet Committee on Economic Affairs (CCEA) also approved the investment for 382 MW Sunni Dam Hydro Electric Project in Himachal Pradesh (estimated cost of Rs 2,614.51 crore), and the I&B ministry's proposal regarding a Rs 2,539-crore scheme called Broadcasting Infrastructure and Network Development (BIND), for infrastructure development of Prasar Bharati, which includes All India Radio (AIR) and Doordarshan (DD).

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