# National Green Hydrogen Mission free PDF

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## National Green Hydrogen Mission

National Green Hydrogen Mission: The government approved the National Green Hydrogen Mission with an outlay of Rs 19,744 crore. The initiative aims to make the country a global hub for the production of clean sources of energy. The Union Cabinet chaired by Prime Minister Narendra Modi has approved the National Green Hydrogen Mission. The expenditure for the mission is Rs 19,744 crore. In this, Rs 17,490 crore has been earmarked for the Shift to Green Hydrogen Strategic Intervention (SITE) programme, Rs 1,466 crore for pilot projects, Rs 400 crore for research and development and Rs 388 crore for other mission-related activities.

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Green hydrogen is produced by using renewable energy to power the electrolysis of water. Green hydrogen is a type of hydrogen produced by using renewable energy sources such as solar or wind power to split water molecules into hydrogen and oxygen. It is often produced using fossil fuels such as natural gas or coal and is a significant contributor to greenhouse gas emissions.

The production of green hydrogen involves the use of an electrolyzer, which uses electricity to split water into hydrogen and oxygen. The oxygen is released into the atmosphere, while the hydrogen is collected and can be used for a variety of purposes. Fuel for transportation, a source of electricity and fertilizer used to produce plastics and other products.

China is the leader of the global hydrogen market with an output of 20 million tons, accounting for ⅓ of global production. Sinopec aims to generate 500,000 tonnes of green hydrogen by 2025.


Image source Pixabay

## What is Green Hydrogen Mission: –

To reduce the problem of Carbon Emissions, the government has started the Green Hydrogen Mission

Hydrogen is not available in the form of gas, so it is extracted with water ie H2O. When electricity passes through water, the hydrogen breaks apart. The energy that comes out of it is absolutely clean and pure. With the help of an electrolyzer, H2O is separated into hydrogen and oxygen.

Most countries use conventional energy in this process, hence it is called gray hydrogen. When this process is prepared from energy sources like renewable energy – solar energy, water energy, wind energy, biomass, then it is named as Green Energy. There is almost no pollution in green energy.

## Goal of Green Hydrogen Mission

The goal of this mission is to manufacture 50 lakh tonnes of green hydrogen in India by the year 2030. This green energy will increase the country's renewable energy capacity by 125 MW. The government will spend Rs 17 thousand 490 on implementing this project. And Rs 1,466 crore will be spent on the pilot project. Rs 400 crore will be spent for study research and development. With this mission, the government will focus on increasing the demand and export of green hydrogen along with production.

Strategic Interventions for Green Hydrogen Transition Program (SIGHT) is being prepared for this mission. This target is not difficult for India, because water and cheap electricity are needed to make green hydrogen. Both are available in abundance in India.

## Emphasis on increasing demand

Its main objective is also to increase the demand for green hydrogen by the year 2050 to increase its share in total energy to 12 percent. Emphasis is being laid on increasing its consumption in heavy vehicles, railways and industries. The future belongs to hydrogen energy, so big companies like Reliance and Adani are working fast in this direction. They are a good choice for long distance trucks, cars, cargo ships, trains. At present its demand in India is 67 to 70 lakh tonnes.

## challenging

According to a report by The Energy and Resources Institute (TERI), currently its price ranges from Rs 340 to Rs 400 per kg. At the same time, with the increase in production by the year 2030, there may be some decline in its prices, but still it can remain up to Rs 150 per kg. The production of green energy has to be increased to 50 lakh tonnes by this time limit. The biggest challenge in using green hydrogen is its cost. Their use in industries will increase only when its price comes within Rs 150 per kg. Refinery, fertilizer and steel industries are its biggest customers.

Green hydrogen is helpful in reducing carbon emissions. It will also help in India's net zero carbon emission policy. By the year 2070, the government has set a target of net zero carbon emissions, which will be helped by this mission.

If its use starts only in the steel and iron industry, then by 2050 there will be a reduction of 35 percent in carbon emissions.

## Benefits of Green Hydrogen Mission

1. With the help of green hydrogen, it will help in tackling the challenges of climate change.
2. Green hydrogen can be used in places like transport, chemical, iron.
3. It is a good source of energy, which also reduces the problem of carbon emissions.
4. It is also helpful in achieving the goal of net zero carbon emissions by the year 2070.
5. Dependence on fossil fuel will be reduced.
6. There will be an increase in the export of green hydrogen and its related products.
7. Electrolyzer plants with 60 to 100 GW capacity will be ready for this green hydrogen mission.
8. By the year 2030, 6 lakh jobs will be created.
9. Dependence on import of fossil fuels will be reduced and Rs 1 lakh crore will be saved due to reduction in imports.
10. There will be a reduction of 50 lakh tonnes in green house gas.

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## FAQs

### Question 1. Who is the largest producer of green hydrogen?

Answer. China is the leader of the global hydrogen market with an output of 20 million tons, accounting for ⅓ of global production. Sinopec aims to generate 500,000 tonnes of green hydrogen by 2025.