

INDIA'S PLAN TO DEVELOP **GREEN HYDROGEN**

IN NEWS -

The Union Cabinet approved a ₹19,744 crore **National Green Hydrogen mission** that aims to make India a 'global hub' for using, producing and exporting green hydrogen.



➤ WHAT IS GREEN HYDROGEN?

Hydrogen is a key industrial fuel that has a variety of applications including the production of ammonia (a key fertiliser), steel, refineries and electricity. However, all of the hydrogen manufactured now is the so-called 'black or brown' hydrogen produced from coal.

Grey hydrogen is produced from natural gas while '**Blue**' hydrogen is from fossil fuel sources where the ensuring carbon emitted is captured via carbon capture processes.

Green hydrogen is when hydrogen is produced via electrolysis, the splitting of water into hydrogen and oxygen with electricity generated from renewable energy sources such as solar or wind.

➤ WHAT IS THE NATIONAL GREEN HYDROGEN MISSION?

The intent of the mission is to incentivise the **commercial production** of green hydrogen and make India a net exporter of the fuel. The mission has laid out a target to develop green hydrogen production capacity of at least **5 MMT** (Million Metric Tonne) per annum.

➤ HOW WILL THE MISSION SUPPORT GREEN HYDROGEN PRODUCTION?

The Mission will “**facilitate demand creation, production, utilisation and export of Green Hydrogen,**” says a press release from the Ministry for New and Renewable Energy.



There are **two** umbrella sub missions under the programme. The first is the **Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)**, that will fund the domestic manufacturing of electrolysers and produce green hydrogen.

The **second** is to **support pilot projects** in emerging end use sectors and production pathways. States and regions capable of supporting large scale production and/or utilisation of hydrogen will be identified and **developed** as Green Hydrogen Hubs.

➤ WHAT ARE THE CHALLENGES AHEAD?

Several major industrial houses have announced plans to facilitate **India's adoption of green hydrogen**.

Green hydrogen development is still in the nascent stages globally and while **India** can take the lead in being a major **producer**, it doesn't have the necessary infrastructure yet to execute all these intermediary steps.

It also needs to announce incentives to convince enough users of industrial hydrogen to **adopt green hydrogen**. It needs to develop supply chains in the form of pipelines, tankers, intermediate storage and last leg distribution networks as well as put in place an effective **skill development programme** to ensure that lakhs of workers can be suitably trained to adapt to a viable green hydrogen economy.

