



Green Industry Base

Why in News?

The state government will position **Uttar Pradesh as a state with 'green industry base' in the Ground Breaking Ceremony** scheduled on 19th February, 2024.

Key Points

- The industries department will project its **solar, biofuel, pumped storage**, and [EV battery ecosystem](#) to attract new players.
 - According to the officials, UP's capacity to produce solar energy was 22.38 gigawatt (GW) which is significantly higher than many states.
 - The state is **coming up with a [Green Energy Corridor](#)** that has a land bank of approximately 1,54,000 hectares for solar use. Government has approved six solar parks with capacity of 3,600 MW.
- **25% of total EVs** in India are used in UP. The state has already developed a **network of 450 plus active charging stations** while another 100 plus are in the pipeline with locations already identified along expressways, public places, and buildings.
 - An exercise of EV planning for **seven freight smart cities** is underway.
- UP has approved eight projects in Sonbhadra, Mirzapur and Chandauli with cumulative capacity of 13,250 MW.
- Considering that UP alone can consume 1/5th of the target under [National Green Hydrogen Mission](#), the state has come up with single window approval for setting up compressed [biogas plant](#), [biodiesel/ethanol production plant](#).

NATIONAL GREEN HYDROGEN MISSION



NODAL MINISTRY

- ▶ Ministry of New and Renewable Energy

OBJECTIVE

- ▶ Decarbonise energy/industrial/mobility sector
- ▶ Develop indigenous manufacturing capacities
- ▶ Create export opportunities for GH₂ and its derivative

COMPONENTS OF NGHM

- ▶ Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)
- ▶ Strategic Hydrogen Innovation Partnership (SHIP) (PPP for R&D)

GH₂ is not commercially viable at present; current cost in India is around ₹350-400/kg. The National Hydrogen Energy Mission aims to bring it down under ₹100/kg.

Expected Outcomes by 2030

- ◆ Atleast 5MMT GH₂ annual production
- ◆ Rs 1 lakh crore fossil fuel import savings
- ◆ 6 lakh jobs
- ◆ 50MMT CO₂ annual emissions averted
- ◆ ₹ 8 lakh crore investment

HYDROGEN AND GREEN HYDROGEN

Hydrogen is the most common element in nature but exists only in combination with other elements. It has to be extracted from naturally occurring compounds (like water).

Green Hydrogen (GH₂) is made by splitting water through an electrical process called electrolysis, using an electrolyser powered by renewable energy (RE).

