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## Uttar Pradesh's First Intra-District Helicopter Route | Uttar Pradesh | 27 Dec 2023

### Why in News?

On the birth anniversary of former Prime Minister, [Atal Bihari Vajpayee](#), the Chief Minister of Uttar Pradesh **inaugurated the state's first intra-district helicopter service** from Bateshwar in Agra to Goverdhan in Mathura.

- During the ceremony, **a statue of Atal Bihari Vajpayee was also unveiled.**

### Key Points

- The helicopter service is based on the [Private-Public Partnership \(PPP\)](#), which will be operated by a private company from Uttarakhand.
- Projects worth ₹100 crore are also inaugurated which aims at bringing new life to Bateshwar, a historical village located amid the **ravines of Chambal** across the borders of Uttar Pradesh and Madhya Pradesh.
- Previously, a helicopter **service was available for Goverdhan, a pilgrimage site in Mathura**, but it **flew within the district for pilgrims interested in lodging 'parikrama'** (circumambulation) of the coveted Goverdhan hillock.

### About Atal Bihari Vajpayee:

- He was born on 25<sup>th</sup> December 1924 in the erstwhile **princely state of Gwalior.**
  - He was the **former Prime Minister of India** and was elected to the position twice in 1996 and 1999.
  - He was conferred with the country's highest civilian honor, the **Bharat Ratna in 2015 and second-highest civilian honor, the Padma Vibhushan** in 1994.
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## Green Hydrogen Policy in UP | Uttar Pradesh | 27 Dec 2023

### Why in News?

Chief Minister Yogi Adityanath has issued **directives to officials to expedite the formulation of a [Green Hydrogen Policy](#).**


### Key Points

- To encourage the firms working in the green hydrogen sector **maximum incentives will be**

given.

- Benefits like availability of land, exemption from stamp duty and electricity duty, capital and interest subsidy, attractive incentives, etc., will be given to the companies.

# 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 GH<sub>2</sub> and its derivative

**COMPONENTS OF NGHM**

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

*GH<sub>2</sub> 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.*

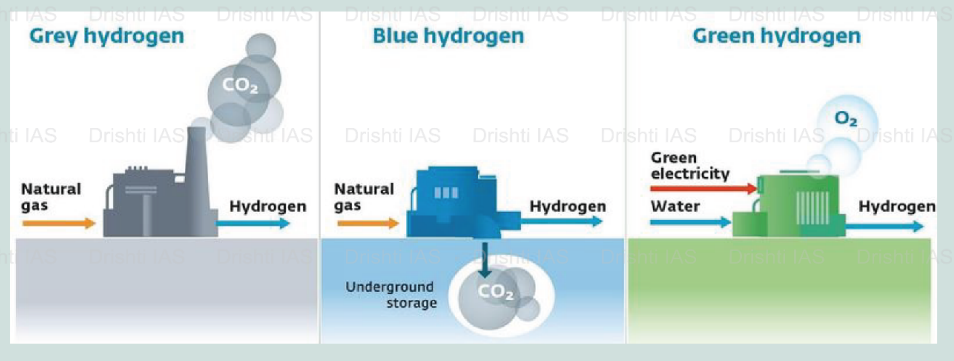
**Expected Outcomes by 2030**

- ◆ Atleast 5MMT GH<sub>2</sub> annual production
- ◆ Rs 1 lakh crore fossil fuel import savings
- ◆ 6 lakh jobs
- ◆ 50MMT CO<sub>2</sub> 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 (GH<sub>2</sub>) is made by splitting water through an electrical process called electrolysis, using an electrolyser powered by renewable energy (RE).



The diagram illustrates three methods of hydrogen production:

- Grey hydrogen:** Produced from natural gas using steam methane reforming, which releases CO<sub>2</sub> emissions.
- Blue hydrogen:** Produced from natural gas using steam methane reforming with carbon capture and storage (CCS). The captured CO<sub>2</sub> is stored underground.
- Green hydrogen:** Produced from water using electrolysis powered by green electricity, resulting in zero CO<sub>2</sub> emissions.