Green Hydrogen Hubs in India

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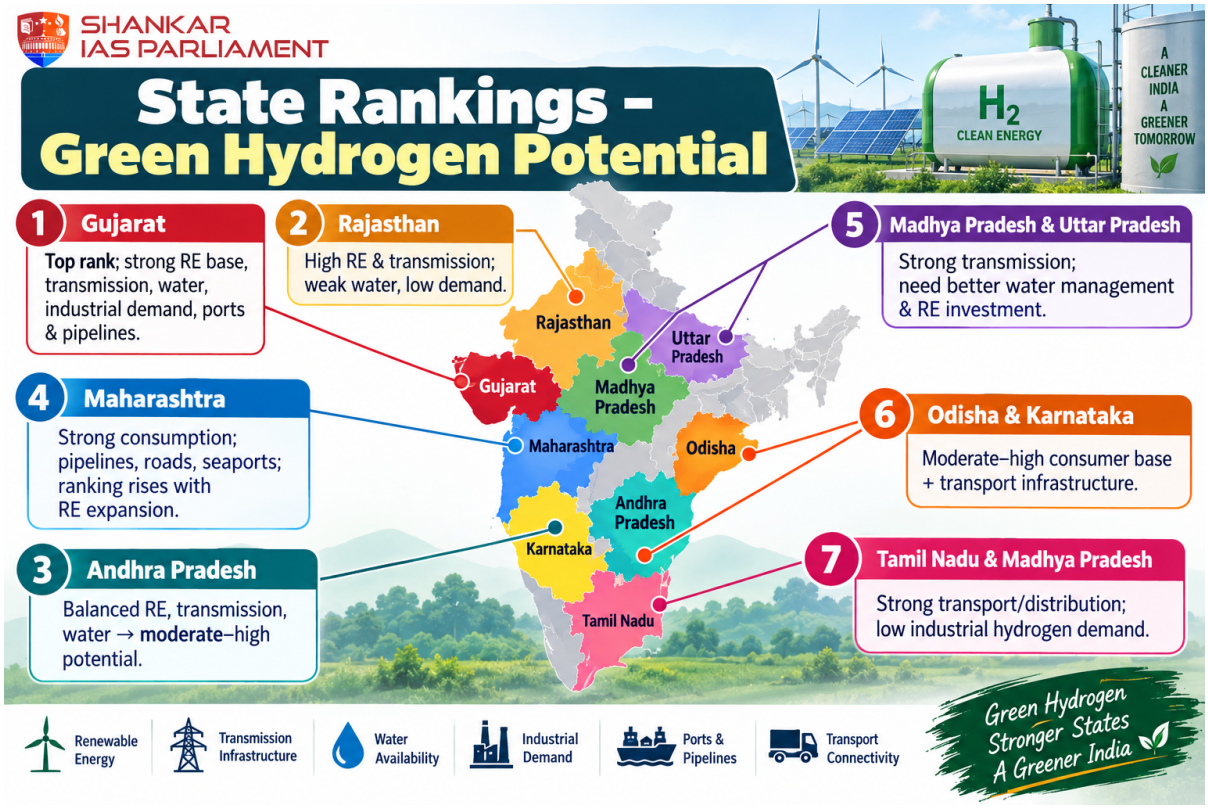
Why in News?

A recent study conducted by WRI India evaluated potential sites for the establishment of green hydrogen hubs across India.

Key Findings

- **Gujarat is identified as the most resource-ready state** for the development of green hydrogen hubs.
- The study identifies three primary factors that influence the selection of hub locations:
  - **Renewable energy availability,**
  - **Hydrogen demand, and**
  - **Water availability.**
- The findings indicate that **renewable energy potential alone is insufficient** to determine the suitability of a hydrogen hub.



National Green Hydrogen Mission (NGHM)

• **Launched in –** January 2023 .
• **Financial outlay –** Rs.19,744 crore.
• **Targets for 2030**
- Achieve a green hydrogen production capacity of 5 million metric tonnes (MMT) per year.
- Add approximately 125 gigawatts (GW) of new renewable energy capacity.
- Mobilize an estimated investment of ₹8 lakh crore, create 600,000 jobs, and achieve an annual reduction of 50 million metric tonnes (MMT) of CO_2 emissions.
• **Key components**
- SIGHT Scheme provides incentives for electrolyser deployment and hydrogen production.
- Pilot projects are being implemented in the steel, mobility, and shipping sectors.
- Infrastructure and ecosystem development includes Green Hydrogen Hubs, research and development, standards, and skill development initiatives.
• In June 2025, the Ministry of New and Renewable Energy (MNRE) issued guidelines for the development of large-scale green hydrogen hubs and Hydrogen Valley Innovation Clusters.
• India has identified 11.7 MMT of green hydrogen capacity, but only 0.34 MMT (2%) has been commissioned. Most projects remain in the early stages.
• The 2030 target will likely be delayed by approximately two years, to 2032, due to global policy uncertainty affecting export offtake (per MNRE, Nov 2025).

Reference

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