Solar Energy to Meet Power Demand

Why in News?

The Rajasthan government is looking to **increase dependence on** solar energy from the current 12-14% to over 40% of consumption by 2030 to bridge the power gap.

Key Points

- With urbanisation and industrial growth, electricity demand in the state may increase by 8 to 10% every year.
  - In the next five years, the **scheme for promoting solar production centres** among the government and private sector and the rooftop solar plants **scheme** will be promoted.
  - These efforts will also **reduce dependence on coal-based plants.**
- According to the plan, **subsidised rooftop systems are to be installed at 500,000 houses** in the first phase of **PM Suryaghar Yojana** in the state.
  - In 2023-24, Rajasthan's commissioned **solar capacity was over 1,296 megawatt (Mw),** according to the state's renewable energy website, with the best year being **2021-2022** when the commissioned solar energy was over 5,398 Mw. The state had over 15,195 Mw of aggregate **solar capacity till December 2023.**
- Rajasthan's **solar energy generation potential** has been assessed at **142 Gw.**
  - The state has vast untapped potential in terms of intense solar radiation with one of the highest number of sunny days in a year and availability of vast unutilised government and private land.
  - This has the potential to make **Rajasthan a highly preferred destination for solar energy production.**

PM Surya Ghar Yojana

- It is a pioneering government initiative aimed at **installing rooftop solar power systems in one crore households** across the nation.
- Rooftop solar panels are **photovoltaic panels** installed on the roof of a building that is connected to the main power supply unit.
- It reduces the consumption of **grid-connected electricity** and saves electricity costs for the consumer.
  - Surplus solar power units generated from the rooftop solar plant can be exported to the grid as per the metering provisions.
  - The consumer can receive monetary benefits for the surplus exported power as per the prevailing regulations.

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