

India's first green hydrogen microgrid project

December 18, 2021

In news- Recently, the NTPC has awarded a project of "Standalone Fuel-Cell based Micro-grid with hydrogen production using electrolyser" at Simhadri (near Visakhapatnam).

About green hydrogen microgrid project-

- It is **India's first Green Hydrogen based Energy Storage Project and one of the world's largest.**
- It has been **designed by National Thermal Power Corporation(NTPC) Limited.**
- It would be a precursor to large scale hydrogen energy storage projects and would be **useful for studying and deploying multiple microgrids in various off grid and strategic locations of the country.**
- The **hydrogen would be produced using the advanced 240 kW Solid Oxide Electrolyser** by taking input power from the nearby Floating Solar project.
- The hydrogen produced during sunshine hours would be stored at high pressure and would be electrified using a 50 kW Solid Oxide Fuel Cell.
- It is a **unique project for India and would open doors for decarbonising the far-off regions of the country like Ladakh, J&K etc.,** hitherto dependent on diesel generators.
- The project is **in-line with the vision for becoming carbon neutral by 2070** and making Ladakh a carbon neutral territory.
- **Green hydrogen is produced by splitting water into hydrogen and oxygen** using an electrolyzer powered by renewable energy sources such as wind and solar.
- **NTPC Renewable Energy Limited (NTPC REL) has also inked**

a pact with the Union territory of Ladakh for a green hydrogen mobility project, with the company along with NVVN jointly executing the project.

National Thermal Power Corporation(NTPC) Limited-

- NTPC Ltd. is a central Public Sector Undertaking (PSU) under the Ministry of Power.
- NTPC Limited, formerly known as National Thermal Power Corporation Limited, is an Indian statutory corporation.
- Established in 1975, it is engaged in generation of electricity and allied activities.
- It is a statutory corporation incorporated under the Companies Act 1956.
- NTPC has an installed capacity of about 67.907 GW across 70 power projects, with 18 GW under construction.
- It has set an ambitious aim of 60 GW renewable energy capacity by 2032 from the existing 4.7 GW. NTPC has won 4.32 GW of renewable energy bids since the last financial year.
- It plans to invest Rs. 1 trillion between 2019 and 2024 to become a 130GW power producer by 2032