

One Nation-One Grid

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In News: One India One Grid India has issued an open invitation to the biogas developers for making investments here as it launched the 'One Nation, One Gas Grid' energy initiative recently.

One Nation-One Grid

- The Indian Power system for planning and operational purposes is divided into five regional grids.
- The integration of regional grids, and thereby establishment of National Grid, was conceptualised in the early nineties.
- The integration of regional grids which began with asynchronous HVDC back-to-back inter-regional links facilitating limited exchange of regulated power was subsequently graduated to high capacity synchronous links between the regions.
- The initial inter-regional links were planned for exchange of operational surpluses amongst the regions.
- However, later on when the planning philosophy had graduated from Regional self-sufficiency to National basis, the Inter-regional links were planned associated with the generation projects that had beneficiaries across the regional boundaries.
- By the end of 12th plan the country has total inter-regional transmission capacity of about 75,050 MW which is expected to be enhanced to about 1,18,050 MW at the end of XIII plan.
- Synchronisation of all regional grids will help in optimal utilization of scarce natural resources by transfer of Power from Resource centric regions to Load centric regions.
- Further, this shall pave way for establishment of a vibrant Electricity market facilitating trading of power

across regions.

- One Nation One Grid shall synchronously connect all the regional grids and there will be one national frequency.

Evolution of National Grid

- Grid management on a regional basis started in the sixties.
- Initially, State grids were interconnected to form regional grids and India was demarcated into 5 regions namely Northern, Eastern, Western, North Eastern and Southern regions.
- In October 1991 North Eastern and Eastern grids were connected.
- In March 2003 WR and ER-NER were interconnected .
- August 2006 North and East grids were interconnected thereby 4 regional grids Northern, Eastern, Western and North Eastern grids are synchronously connected forming a central grid operating at one frequency.
- On 31st December 2013, Southern Region was connected to Central Grid in Synchronous mode with the commissioning of 765kV Raichur-Solapur Transmission line thereby achieving 'ONE NATION'-'ONE GRID'-'ONE FREQUENCY'.