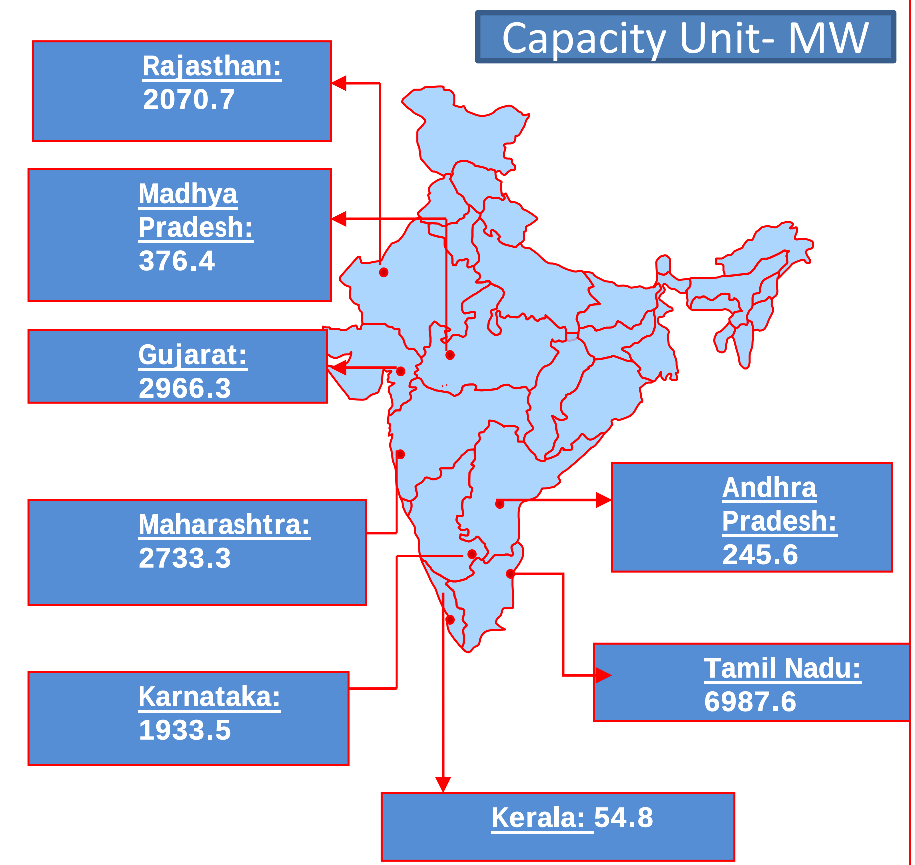
India - Wind Development Status



Total Installed capacity (Mar 2012): 17, 372

India : The 3rd largest annual wind power market in the world.

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Wind Projects	Size in MW	State , MW	Comments
In pipeline	>48 000	Andhra Pradesh :3350 Gujarat :7500 Karnataka :8500 Maharashtra :9800 Rajasthan :5000 Tamil Nadu :13400 Others :> 450	• Applications received. Either approved or in approval process by the state nodal (energy) agencies
Under construction	3400*	Andhra Pradesh :100 Gujarat :800 Karnataka :250 Kerala :20 Madhya Pradesh :100 Maharashtra :480 Rajasthan :550 Tamil Nadu :1100	•State capacity addition plan for FY 2012-13 as per the state policy and inputs from state nodal (energy) agencies *Since accelerated depreciation (AD) has been withdrawn from FY 2012/13 and generation based incentives (GBI) has not been extended after March 2012 by GOI, installations in FY 2012/13 are likely to be much lower than planned
Installed in past 24 months	5546	Andhra Pradesh :109 Gujarat :1102 Karnataka :441 Kerala :27 Madhya Pradesh :147 Maharashtra :656 Rajasthan :982 Tamil Nadu :2081	•Installed & commissioned during April 2010 to March 2012 - FY 2010-11 : 2349 MW - FY 2011-12: 3197 MW

What can be done to accelerate wind development?

- **Provide manufacturing incentives and export benefits to expand manufacturing and supply chain base**
- **Conduct wind resource mapping and monitoring at higher hub heights (100, 120 m) at national level**
- **Nation-wide GIS-based wind potential assessment, taking into account actual land availability and other constraints for wind power development**
- **Introduce land use policies for RE/wind power projects in the states**
- **Institutionalize RE power evacuation and transmission planning**
- **Introduce re-powering policy and incentives**
- **Develop policy and regulatory framework for offshore wind power**
- **Develop new financing mechanisms for financing wind power projects**
- **Provide support for R&D and HRD**
- **Capacity building of state nodal (energy) agencies essential in the near future**

New developments in terms of policy, tariff, and other enablers

- **Wind Potential estimates:** Centre for Wind Energy Technology (C-WET) : 102 GW at 80 m level (2% land) , Lawrence Berkeley National Laboratory (LBNL) : 2000 GW (80 m) to 3100 GW (120) m, CUF >20%
- **C-WET initiated wind resource monitoring at 80 m**
- **Discontinuation of Accelerated Depreciation benefit from FY 2012/13 & no extension (as on date) post March 2012 for GBI by GOI**
- **Offshore wind mapping initiated by C-WET, MNRE**
- **Draft Policy framework for offshore to be announced soon**
- **Wind energy forecasting & scheduling mandatory for 10 MW and above from 01 January 2012**
- **Mock trials for > 2000 MW forecasting to start from mid June 2012 in key states**
- **Renewable Regulatory Fund (RRF) instituted as a complementary commercial mechanism for the state utilities by CERC. Fund operated by NLDC.**
- **RPS in 25 states ranging 1%-12.1% (FY 2012/13)**
- **Operationalisation of REC framework- CERC revised floor price (Rs.1.50 per kWh) and forbearance price (Rs. 3.30 per kWh) for non-solar RECs**
- **Feed-in tariff (FIT) for FY 2012/13 (Rs/kWh) :**

  - Central Electricity Regulatory Commission (CERC) : 3.73 - 5.96 ($0.067-0.108),

  - Maharashtra : 3.78- 5.67 ($ 0.068-0.103) both WPD based tariff.

  - Madhya Pradesh : 4.35 ($0.079)
- **FITS revision in progress - Andhra Pradesh, Gujarat, Karnataka , Tamil Nadu**