SECTOR HIGHLIGHTS

1000+ GW
potential (75 GW installed)

175 GW
Largest renewable energy expansion plan—by 2022

India has the 5th largest installed capacity globally (4th largest for wind and 5th largest for solar)

GROWTH DRIVERS

01
Power demand expected to double by 2027 (2015 onwards)

Electricity Demand in TWH 2017 and 2022

<table>
<thead>
<tr>
<th>Year</th>
<th>FY 17</th>
<th>FY 22</th>
<th>FY 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAGR</td>
<td>8.8%</td>
<td>9%</td>
<td>6%</td>
</tr>
</tbody>
</table>

02
Target to reduce emission intensity of GDP (2005 levels) by 33%-35% by 2030

03
India’s share of non-fossil fuels in the total installed capacity is projected to increase from 30% in 2015 to approximately 40% by 2030

04
Mandatory provision of 10% renewable energy in 100 smart cities
KEY SUB-SECTORS OF INTEREST

1 Wind-Solar Hybrid
- First-of-its kind National Wind-Solar Hybrid Policy released in May 2018
- 2 GW earmarked capacity for hybrid projects
- 160 MW tender released for Wind-Solar-Battery hybrid (40 MW wind, 120 MW solar, 20 MWh battery component)
- SECI and World Bank investing USD 400 Mn for Solar-Wind Hybrid, Floating PV, Solar with Storage among other projects

2 Offshore Wind
- National Offshore Wind Policy released to tap potential along India’s 7600 Km coastline
- National Institute of Wind Energy has released 1 GW Expression of Interest
- 30 GW target of offshore wind energy by 2030

3 Solar Power
- 50 Solar Parks of 40 GW by 2022. 47 Solar Parks of 26+ GW already sanctioned
- 60 approved Solar Cities, 50 already sanctioned
- India is Asia’s largest market for off-grid products
- 43 GW potential for grid connected rooftop solar
GOVERNMENT INITIATIVES

1. **100% FDI**
   - 100% FDI permitted in all renewable sources of power

2. **Renewable Obligations**
   - Renewable purchase obligations
   - Renewable generation obligations

3. **Fiscal Incentives**
   - Accelerated depreciation
   - Concessional custom duty

4. **Green Energy Corridor**
   - USD 6.5 Bn investment to enable the flow of renewable energy into the national grid

5. **Financing**
   - National Clean Energy Fund
   - Priority sector lending from banks

6. **Easier Clearances**
   - Classification to white goods category, enabling easier environmental clearances for projects

KEY STAKEHOLDERS

- **Ministry of New and Renewable Energy (MNRE)**
  [https://mnre.gov.in/](https://mnre.gov.in/)

- **Solar Energy Corporation of India (SECI)**
  [http://seci.co.in/](http://seci.co.in/)

- **National Institute of Solar Energy (NISE)**
  [https://nise.res.in/](https://nise.res.in/)

- **National Institute of Wind Energy (NIWE)**
  [http://niwe.res.in/](http://niwe.res.in/)

- **Indian Solar Manufacturers Association (ISMA)**
  [https://www.indiansma.com/](https://www.indiansma.com/)

- **Solar Power Developers Association (SPDA)**

- **Indian Wind Turbine Manufacturers Association (IWTMA)**

- **Indian Wind Power Association (IWPA)**
  [https://mnre.gov.in/](https://mnre.gov.in/)

- **Indian Wind Energy Association (IWEA)**

- **Indian Wind Energy Association (IWPA)**
  [https://mnre.gov.in/](https://mnre.gov.in/)

- **Skill Council for Green Jobs**
  [http://sscgj.in/](http://sscgj.in/)

- **India Energy Storage Alliance (IESA)**
  [http://indiaesa.info/](http://indiaesa.info/)
SOLAR CITIES IN INDIA

Sanctioned Solar Cities

In-principle Approved Solar Cities

SHIMLA  DEHRADUN  RISHIKESH-HARIDWAR
MORADABAD  AGRA  GURUGRAM  FARIDABAD
JODHPUR  GANHINAGAR  RAJKOT  GWALIOR
GUWAHATI  ITANAGAR  JORHAT  KOHIMA
IMPHAL  AIZWAL  BILASPUR  RAIPUR
NAGPUR  THANNE  KALYAN-DOMBIVLI
VIVYWADA  CHANDIGARH  RISHIKESH-HARIDWAR
FARIDABAD  Gwalior  Kohima  RAPUR
PAURI CITY & ENVIRONS  HUBLI  NONGSTOCHORE
Kochi  Gopeshwar  Surat  Rewa  Bhubaneswar  Shirdi  Thiruvananthapuram

WINDY STATES IN INDIA

RAJASTHAN - 4.3 GW
GUJARAT - 6 GW
MAHARASHTRA - 4.8 GW
KARNATAKA - 4.7 GW
TAMIL NADU - 8.8 GW
ANDHRA PRADESH - 4.1 GW
MADHYA PRADESH - 2.5 GW

Wind Capacity (as of Jan 2019):
VESTAS: CASE STUDY

Factory set up in 15 months; fastest setup for the Danish wind energy company in the world

Mar’17

Factory inaugurated

Jan’17

15% discount on electricity bill on manufacturing for 5 years

Jan’16 - Dec’16

29 states assessed & 30+ parameters analysed
15+ major approvals obtained including Consent to Operate, Consent to Establish & Environmental Clearances

Dec’15

Discussions held on regulatory approvals required & site identification

Nov’15

Danish wind energy company committed to establish a blade manufacturing factory

COMPANIES IN INDIA

Vestas

SIEMENS Gamesa

Suzlon

Nordex

Acciona

Enel

Gamesa

Greenko

Orix

OSTRO

ReNew Power

Statkraft

Tata Power

Trina Solar
HOW WE HELP INVESTORS

RESEARCH CONTENT PROVIDED

POLICY ADVISORY/REPRESENTATION

STAKEHOLDER MEETING

SITE VISITS

LOCATION ANALYSIS

ISSUE RESOLUTION

REGULATORY CLEARANCE FACILITATION

To find out more
www.investindia.gov.in/sector/renewable-energy

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