

Firm Action Plan to comply with New Environment Norms

- Flue Gas Desulphurisation System (FGD) have been commissioned at ~2 GW capacity
- FGD systems are under implementation at 60 GW capacity
- FGD systems are expected to be commissioned in entire operational and under construction capacity within next 3 years
- FGD implementation is expected to give advantage to NTPC plants in comparison with non-compliant plants in merit order

Blue Sky Initiatives of NTPC

Farm to Fuel

- Air quality improvement due to avoidance of farm fires
- This will result in significant reduction in CO₂ emissions annually

Bio-Mass Co-firing

- Policy advocacy by NTPC has resulted in mandate to fire bio-mass pellets in power plants
- Awarded 12.35 LMT of Biomass pellets for 20 NTPC stations in FY22

Circular Economy

- Plans to establish facilities where Bio-Waste will be used to produce Bio-CNG, C&D waste to construction material and combustible fraction will be used for energy recovery

Waste to Wealth

- Developing WtW plants supporting in improving people's health & welfare
- Being developed in association with Municipal Corporations



R&D wing of NTPC - Technology Focus Areas

Carbon Capture & Utilization

- 10 TPD 'CO₂ to Methanol' Demo Plant at NTPC Vindhyachal
- Development of Indigenous Catalyst & Reactor for CO₂ to Methanol Synthesis

Green Hydrogen

- 25 kW High Temperature 'Solid Oxide' based Steam Electrolyser System
- Green Hydrogen based Micro Grid
- Development of Sea Water Electrolyser
- Development of 'Metal Hydride' based Static Hydrogen Storage & Compression

Agri-waste & Municipal Solid Waste

- 400 KWe MSW-RDF enhanced Steam Gasification Plant
- Development of 'Torrefied Pellet Manufacturing Plant for Agri-Waste' with Indian START-Ups

Water & Ash Technologies

- 240 TPD Non-Thermal Forward Osmosis Plant
- 24 TPD 'Electro Dialysis Reversal' Plant
- 3600 TPD Electrocoagulation Plant
- 4 MLD Activated Filter Media Plant
- 50,000 M³/Yr. Light Weight Aggregate Plant
- 33,000 M³/Yr. Fly ash aggregate based on FALG technology



NTPC CSR Initiatives - Touching Lives of People



₹ 357 crore spent on CSR activities during FY22

Key CSR Activities

- Contribution of ₹ 410 Crore since FY21 to PM Cares Fund to support GOI's efforts to fight COVID
- NTPC hospitals provide quality care to more than 3,00,000 patients from the community every year
- Schools in NTPC Townships provide subsidized education to about 20,000 rural community children
- GEM program has benefited ~5000 girls with objective to make them self-reliant and confident
- Adopted 18 Industrial Training Institutes (ITIs) and is setting up 8 new ones
- MoU with NSDC to develop more than 30,000 youth including 8000 youth from Ladakh and J&K
- Support to Archery Association of India for promotion of Archery
- CSR initiatives have touched lives of ~18 lakh people in one or the other way, at remote locations





Transforming Power Sector

Strong Growth Drivers for Power Sector in India



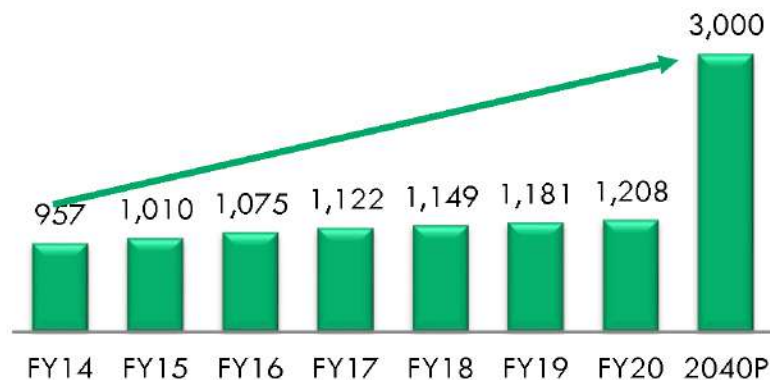
Demand

- India's GDP is expected to grow significantly over next two decades on the back of our demographic strength
- India has low per capita consumption of electricity which is expected to rise to ~3,000 kWh by 2040

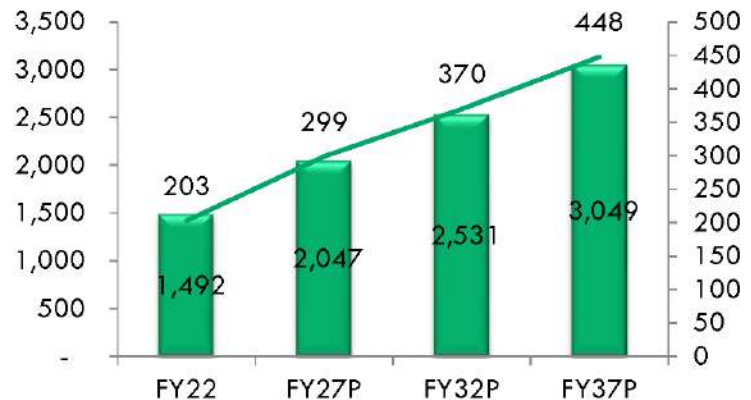
Supply

- Electricity requirement in India is expected to grow in tandem with GDP growth
- Both peak load demand and energy requirement are expected to rise at a healthy pace

Increasing Per Capita Consumption (kWh/Year)



Projected Energy requirement & Peak Load (BUs) (GW)



With every Indian now having access to electricity power sector is poised for Long-term Growth



Power Sector Transformation ...



	FY22		FY30
Installed Capacity	~400 GW	➔	~817 GW
Generation (in BUs)	~1,492 BUs	➔	~2,518 BUs
Peak Load Demand	~203 GW	➔	~340 GW
Per Capita Consumption	~ 1,208 kWh	➔	~2,100 kWh
Renewable Capacity	~110 GW	➔	~500 GW
Coal Requirement	~700 MT	➔	~892 MT

A wave of new reforms - In the form of revised tariff policy & smart prepaid metering

Source: NITI Aayog, MOP, CEA, NTPC



Our Key Growth Pointers



1

**Huge
Capacity
Addition
Lined Up**

2

**Leading
India's Push
Towards
Green Energy**

3

**Captive
Coal
Production
for Fuel
Security**

4

**Acquisitions,
Diversification
and New
Avenues**



Huge Capacity Addition Lined up

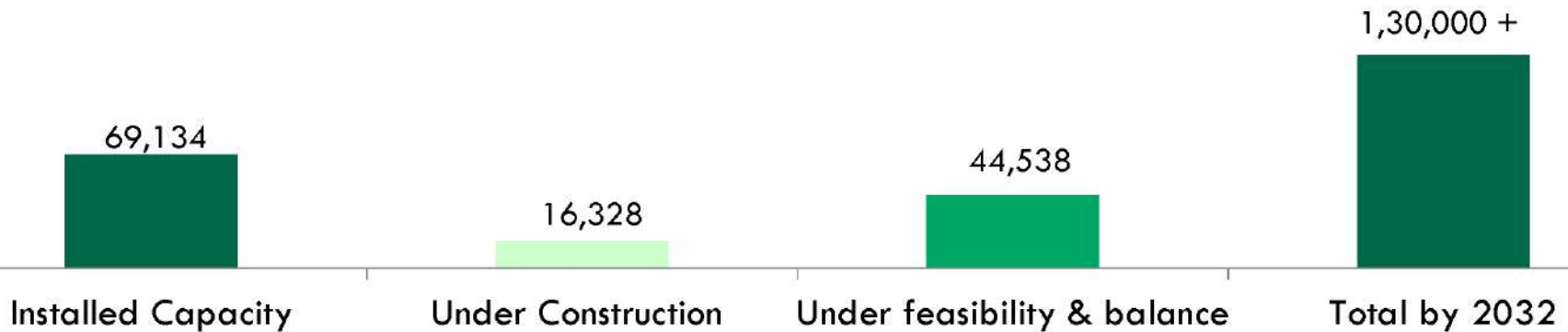


Ensuring Availability



Investment Approval

Current development pipeline (in MW)



Snapshot of Projects Under Construction

Fuel Mix	In MW
Coal	9,980
Hydro	2,255
RE	4,093
Total	16,328

Coal Technology	In MW
Ultra Super Critical	5,320
Super Critical	4,620
Sub Critical	40
Total	9,980

Group Mix	In MW
NTPC	8,009
Domestic JVs	6,999
International JV	1,320
Total	16,328

