



# Power Grid Corporation of India Limited Corporate Presentation (Sep-2011)





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- *Information contained in the Annual Report for 2010-2011 remains subject to shareholder approval at this time*
- *Conversion rate of 1US\$=INR45 has been used at all places*

## **Company Overview**

**Key Highlights**

**Commitment to Community and Environment**

**Business Potential**



# Company Overview

## Overview

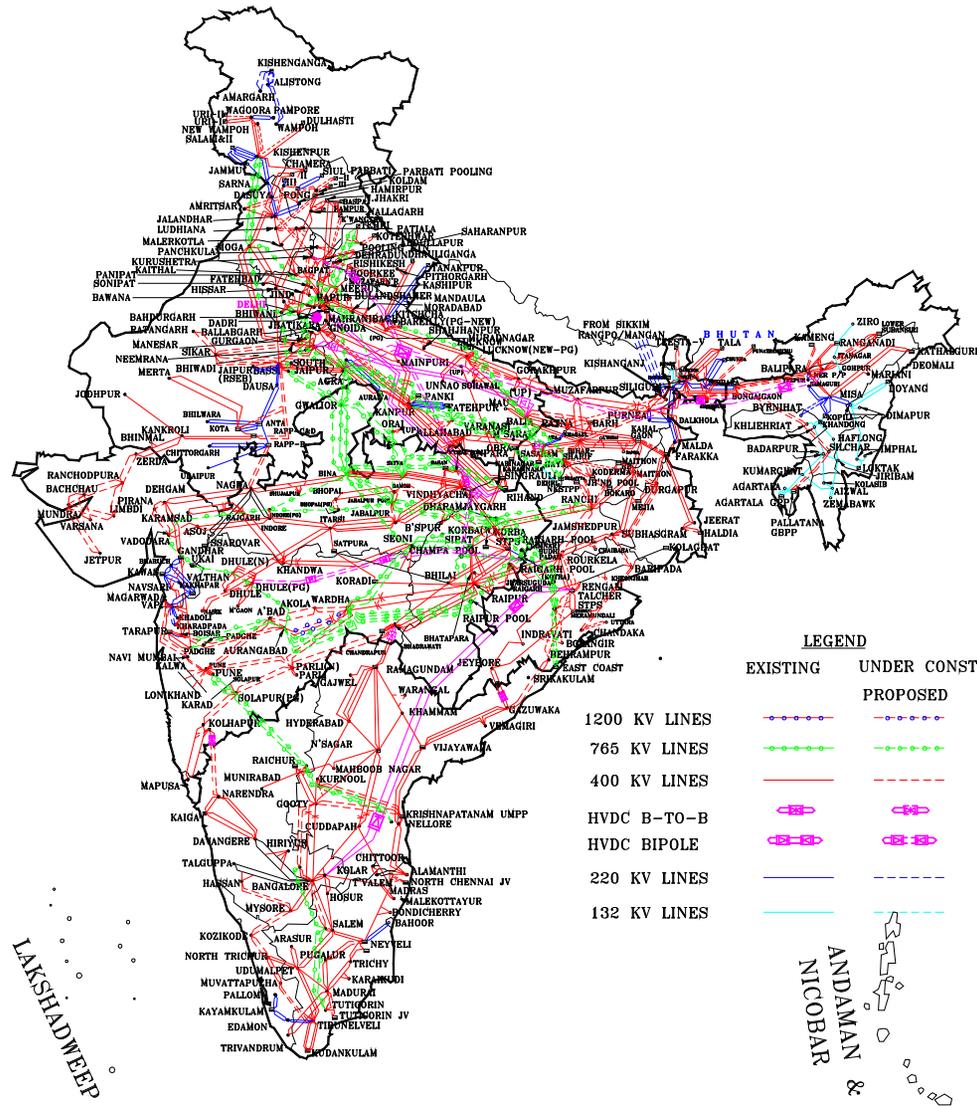
<b>Largest Transmission Utility in India</b>	<ul style="list-style-type: none"> <li>Carrying about ~50% of total power generated in India in FY10</li> <li>— 3rd largest transmission utility in the world<sup>1</sup></li> </ul>
<b>Growth linked to India's Energy Needs</b>	<ul style="list-style-type: none"> <li>Increase in regulated asset base driven by:               <ul style="list-style-type: none"> <li>— Generation capacity addition</li> <li>— Grid strengthening</li> </ul> </li> </ul>
<b>Stable Returns</b>	<ul style="list-style-type: none"> <li>Low operational risk with limited exposure to general business cycles</li> </ul>
<b>Strong Execution Track Record</b>	<ul style="list-style-type: none"> <li>Extensive experience &amp; expertise in implementing transmission projects</li> <li>86,186ckm of transmission lines and 138 No. of EHV substations as of 31<sup>st</sup> August 2011</li> <li>Rated consistently "EXCELLENT" against GOI MoUs since FY 1994</li> </ul>
<b>Other Businesses</b>	<ul style="list-style-type: none"> <li>Consulting<sup>2</sup> in both Domestic and International markets and Telecom broadband businesses experiencing steady growth</li> <li>Unlocking value from leasing transmission towers to telecom infrastructure service provider</li> </ul>

<b>Transmission Lines</b> <b>86,186 ckm</b>	<b>Sub-Stations</b> <b>138 Nos.</b> <b>Transformation Capacity</b> <b>95,125 MVA</b>
<b>System Availability</b> <b>&gt; 99.9%</b>	<b>Telecom Network</b> <b>20,600 km</b>
<b>± 800kV HVDC System</b> <b>Under Construction</b>	<b>1,200kV UHV AC System</b> <b>Under Development</b>
<b>Employees</b> <b>9,784</b>	<b>Established National Grid IR capacity</b> <b>23,800 MW</b>
<b>Total Income (FY 2010-11)</b> <b>\$2,022 million</b> <b>(Qtr ended Jun 30, 2011)</b> <b>\$599 million</b>	<b>Net Profit (FY 2010-11)</b> <b>\$521 million</b> <b>(Qtr ended Jun 30, 2011)</b> <b>\$157 million</b>

1. Source: World Bank Report

2. Consultancy in relation to Transmission, Load Despatch & Communication, Distribution & Telecom

# Map of POWERGRID Network



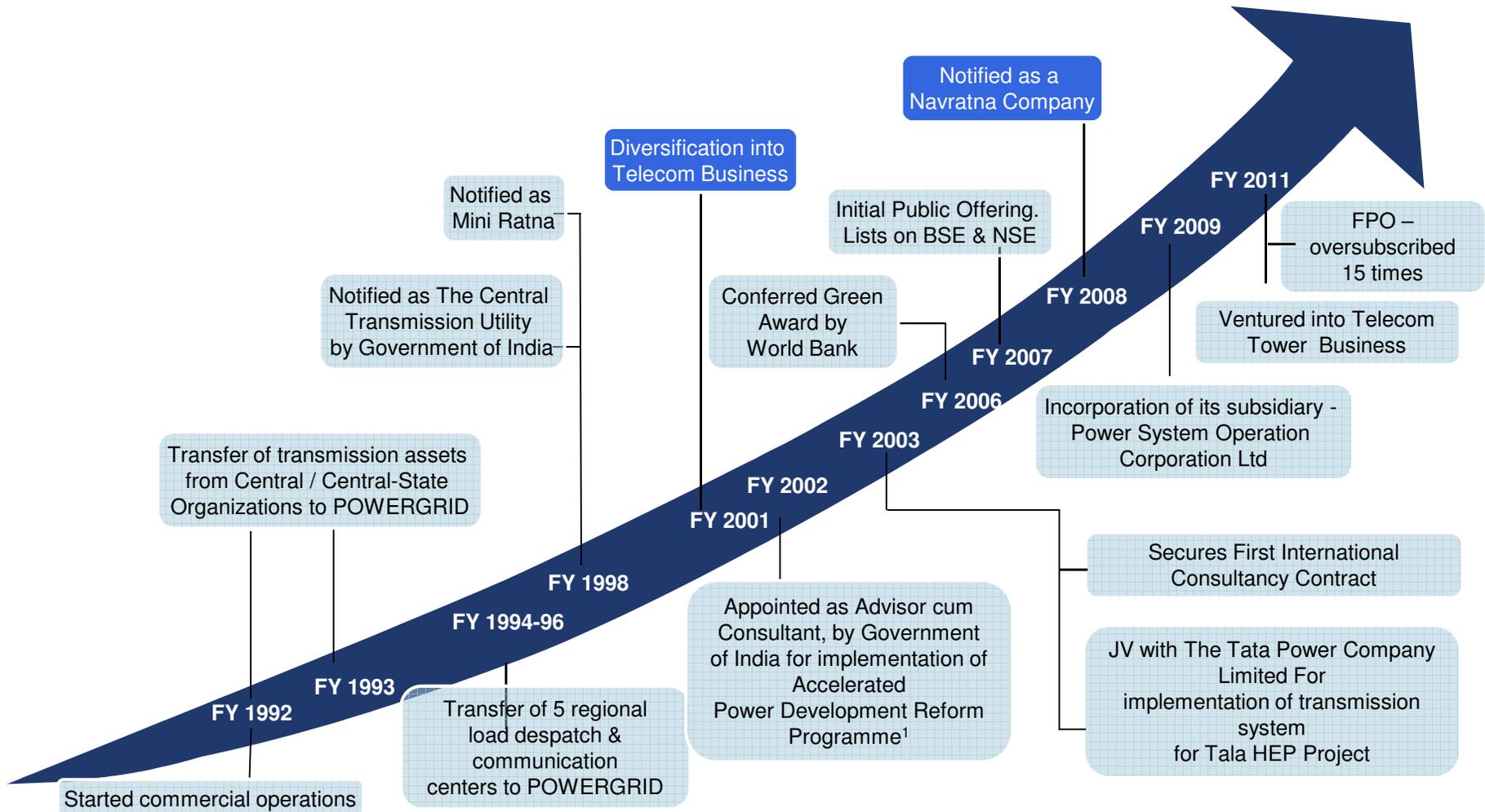
Note: Map not to scale



# Evolution of Power Grid Corporation of India Limited

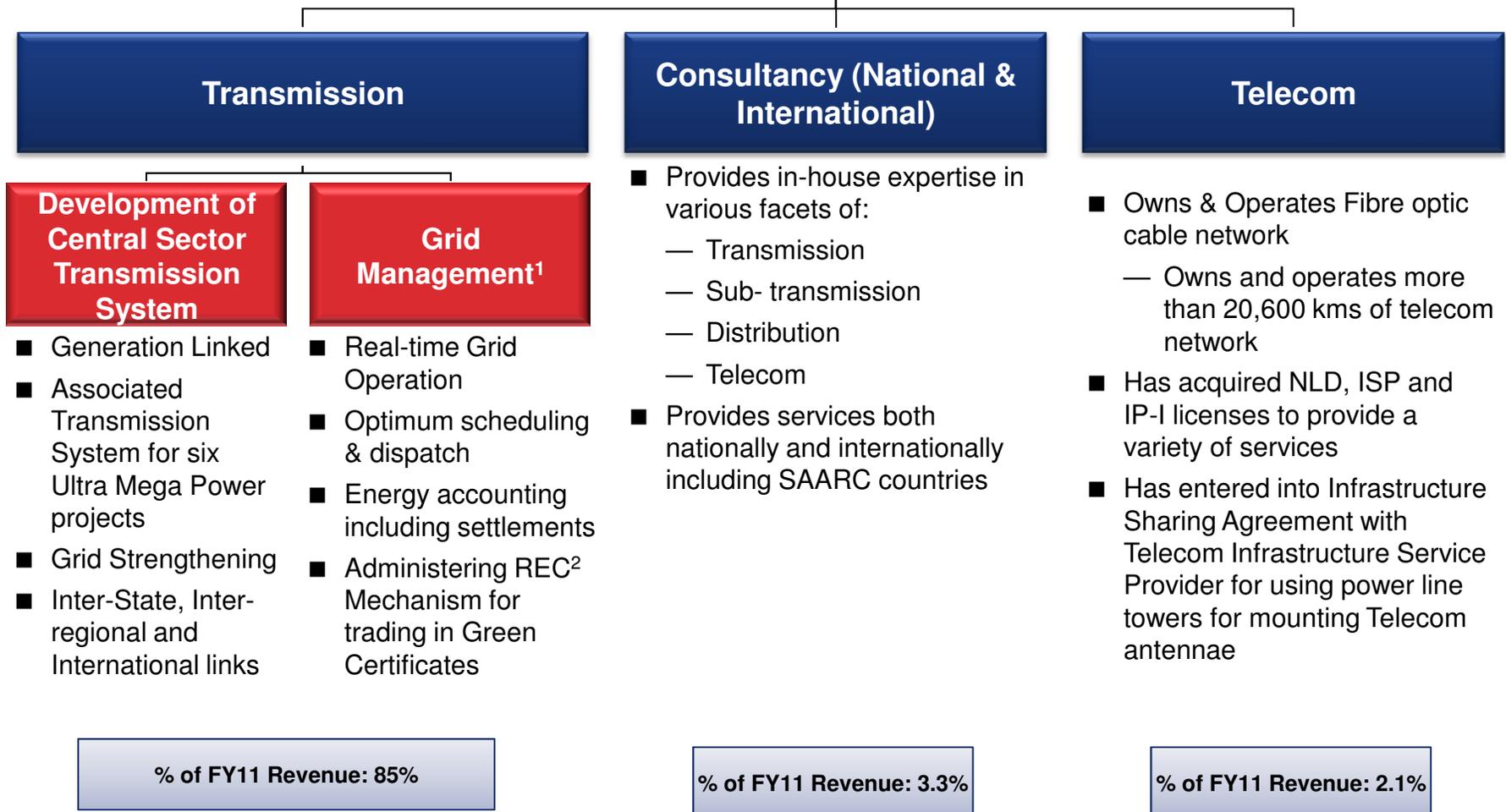
## Mission

**Establishment and Operation of Regional and National Power Grids to facilitate transfer of electric power within and across the regions with reliability, security and economy, on sound commercial principles**



1. Consultancy and Advisory on Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGYY) in rural areas.

# Key Business Lines



1. Power System Operation Corporation limited, a fully owned subsidiary of POWERGRID, as per Government of India Directive.

2. Renewable Energy Certificates

# Strategy



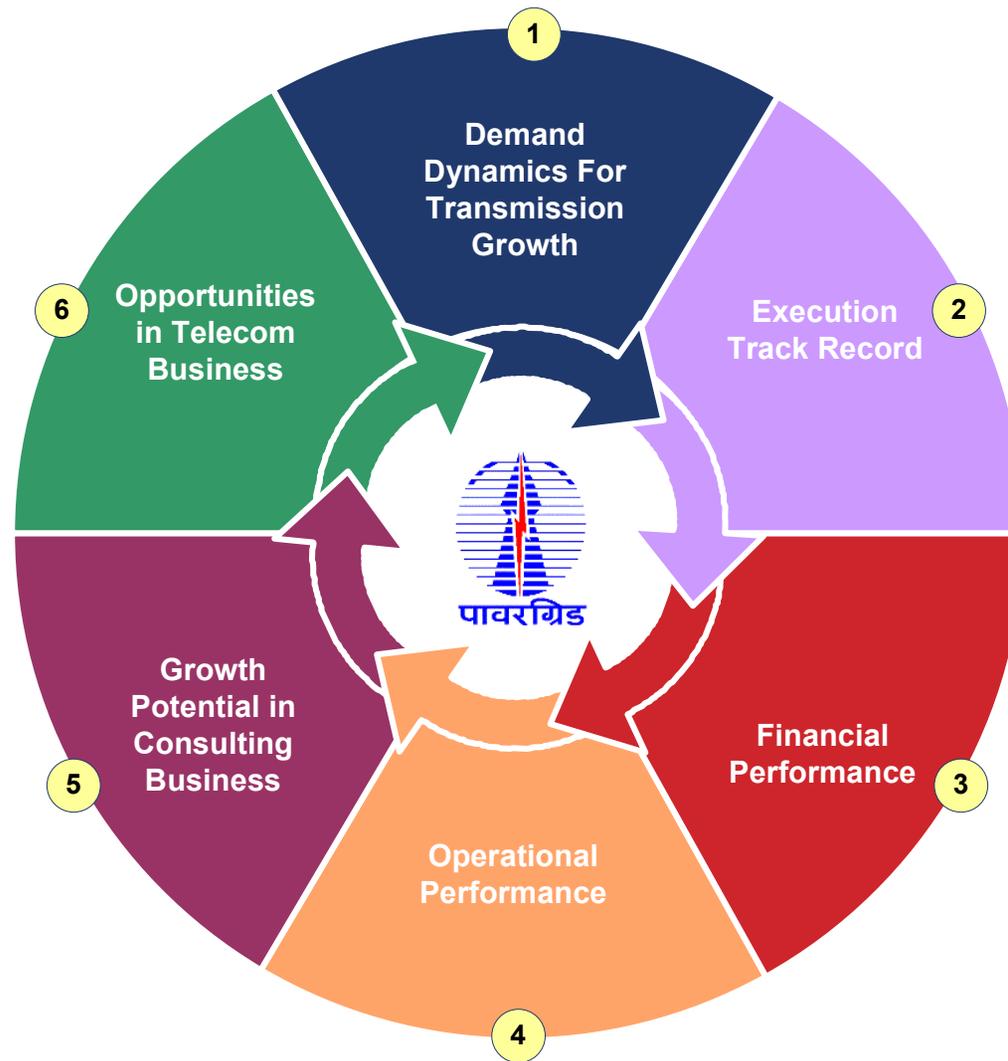
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# Key Highlights

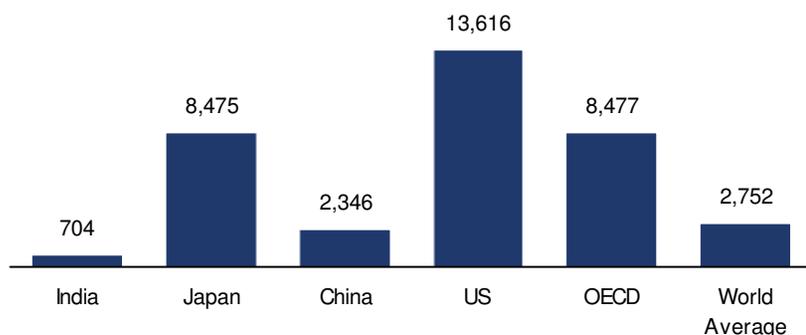


# 1 Positioned to Capitalize on India's Growing Energy Demand

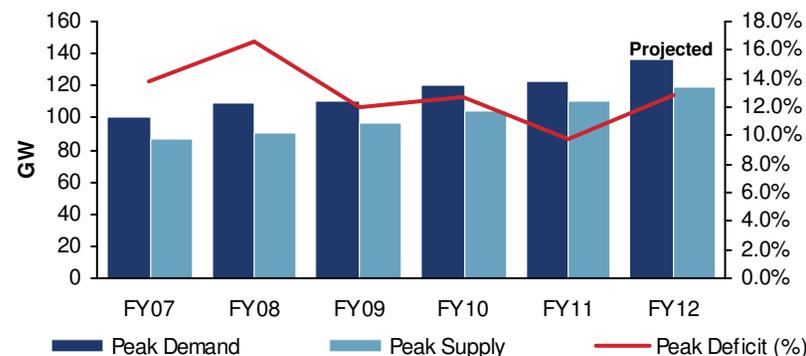


Power generation capacity is expected to grow at a rapid pace to address the massive supply-demand imbalance created by continued economic growth

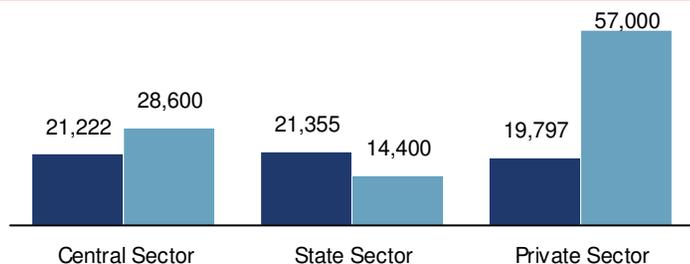
## Per Capita Consumption in India Remains Low (kWh)<sup>1</sup>



## Significant Supply is Needed to Bridge the Imbalance



## Major Plans for Capacity Addition (MW)....



				Total
XI <sup>2</sup>	21,222(34%)	21,355(34%)	19,797(32%)	62,374
XII <sup>3</sup>	28,600 (28%)	14,400 (15%)	57,000 (57%)	100,000

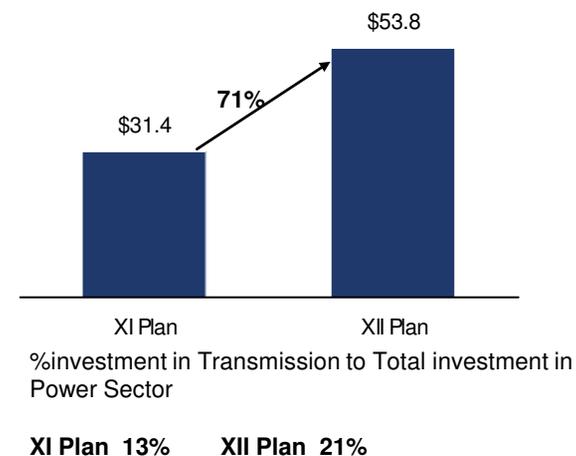
Source: Central Electricity Authority, Key World Energy Statistics, 2009 (IEA), Annual Report Ministry of Power (2009-2010)

1. As of 2007. Source: Key World Energy Statistics, 2009 (IEA). India as of Jan 2011

2. Revised target

3. Provisional

## ....Driving Investment in Transmission Sector (US\$ in billions)



# 1 Generation Trends Expected to Drive Demand for Long Transmission Lines



## Dispersed Energy Capacity...

- Large pit-head stations concentrated in a few regions
- Hydro projects in North Eastern Region, Himachal Pradesh, Jammu & Kashmir
- Large imported coal based power projects along the coast
- Few load centre-based generation projects

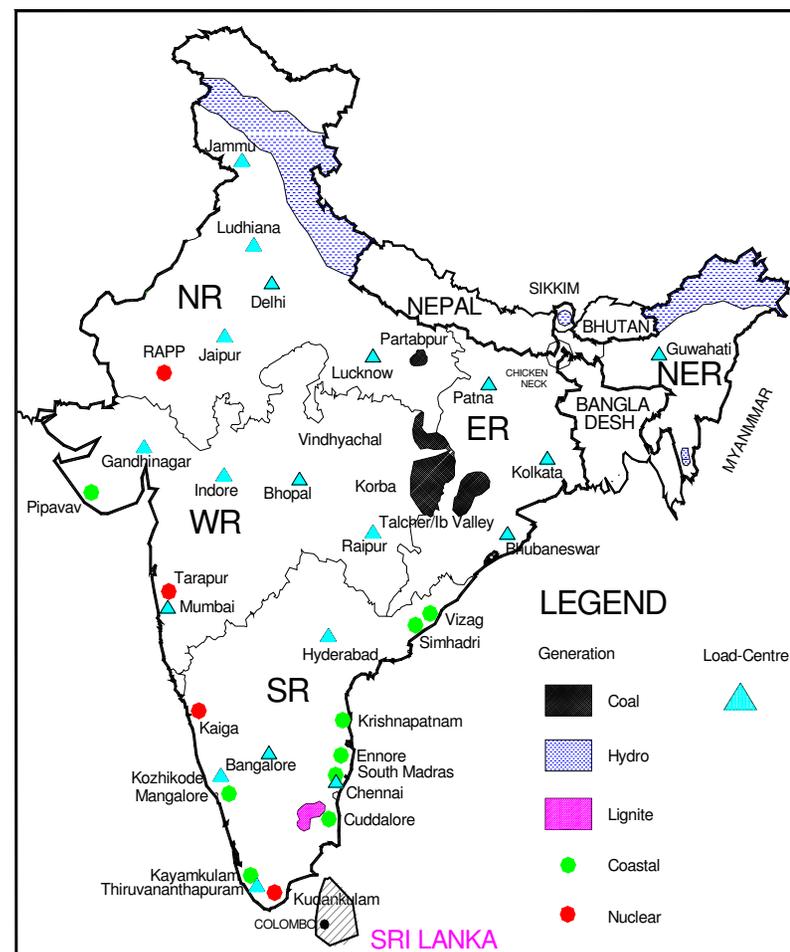
## ...Expected to Drive the Need For Transmission...

- Long Distance inter regional transmission system
- Higher capacity power lines to have economic as well as optimal use of Right-of-Way
- Eleven (11) High Capacity Transmission Corridors have been planned at an estimated cost of about US\$ 16billion

## ...With POWERGRID Well Positioned to Address the Demand

- 400kV established as backbone network (about 72,700 ckm out of total 86,186 ckm is at 400kV or +/-500kV HVDC level)
- 765kV network gradually increasing (about 3,000 ckm and one S/s already established and about 13,000 ckm and 22 S/s under construction)
- ± 800kV HVDC system-under construction
- 1200kV UHVAC under development. 1200kV Class transformer successfully tested. Single Circuit line under pilot project will be test charged by this year end.

## Load Centers Are Far Away From Supply Centers



Note: Map not to scale

# Strong Execution Track Record

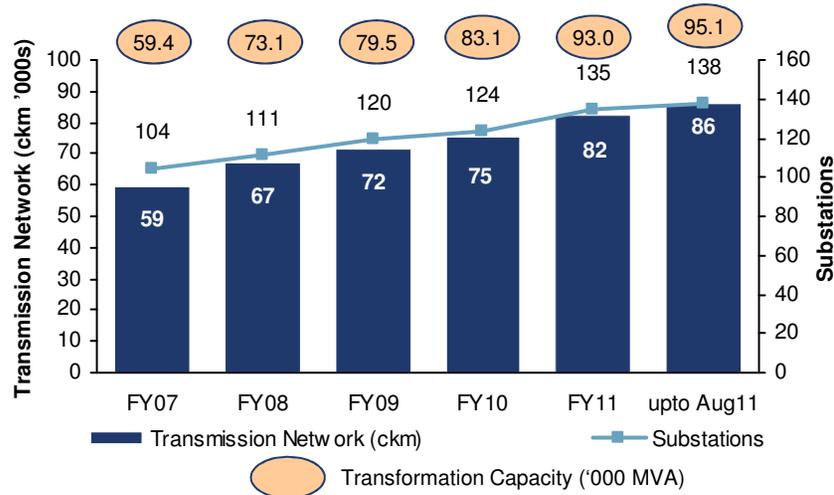
## Execution Track Record

- Consistent successful execution of projects
  - 86,186 ckm of transmission lines carrying ~50% of total power generated in the country
  - 138 substations with transformation capacity of 95,125MVA
  - 20,600 km of telecom network

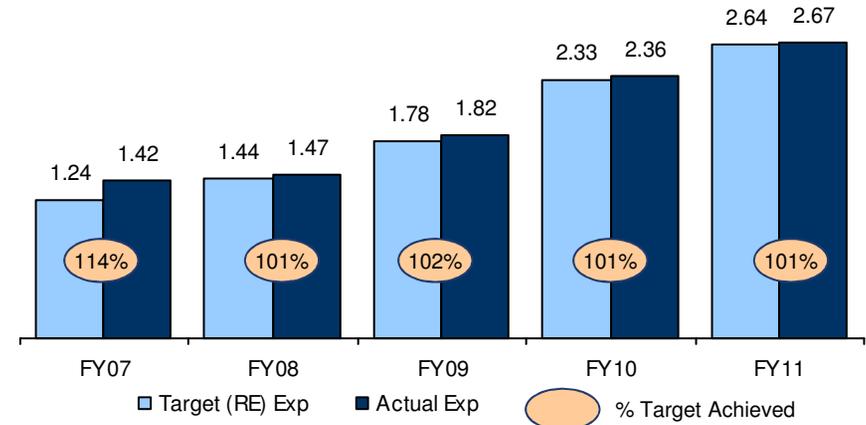
## Accolades and Awards

- Rated consistently “EXCELLENT” against Govt MOUs since FY1994
- Consistent recipient of ‘National Awards for Meritorious Performance’ instituted by GoI
- Recognized by Platts, as 8<sup>th</sup> Fastest Growing Asian Energy Co. and 18<sup>th</sup> Fastest Growing Global Energy Company during 2010

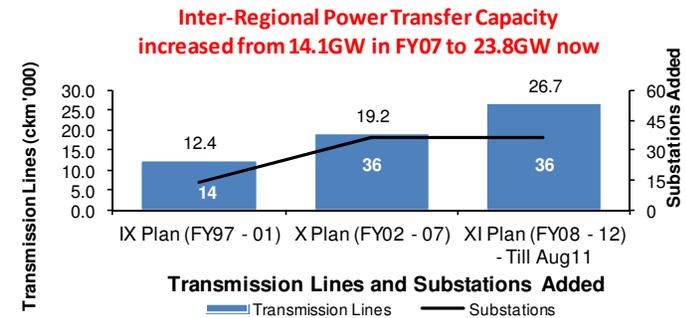
## ...Delivering Transmission Network Growth



## Capex Targets Achieved... (US\$ in billions)



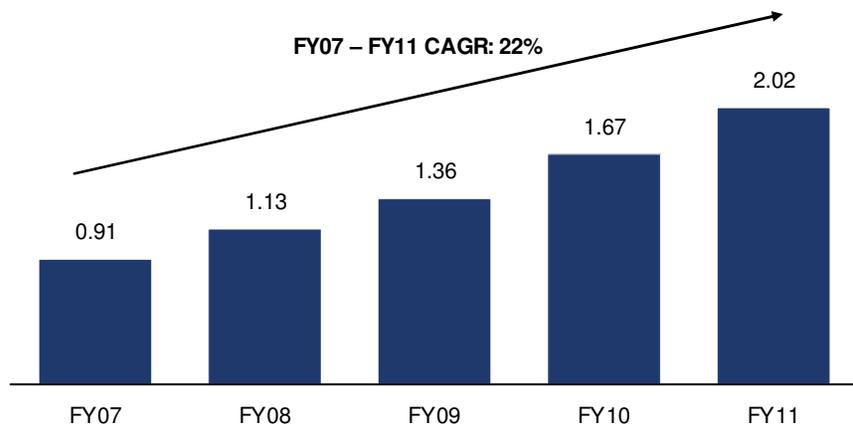
## ... leading to consistent Transmission Network Growth over years



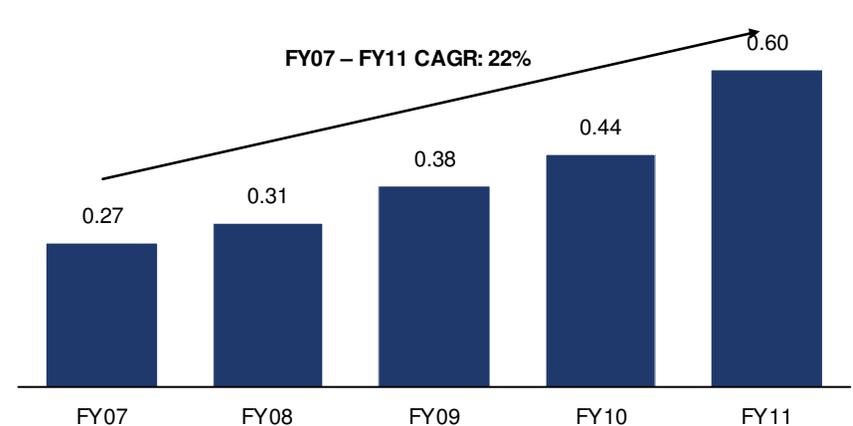
### 3 Compelling Historical Financial Performance



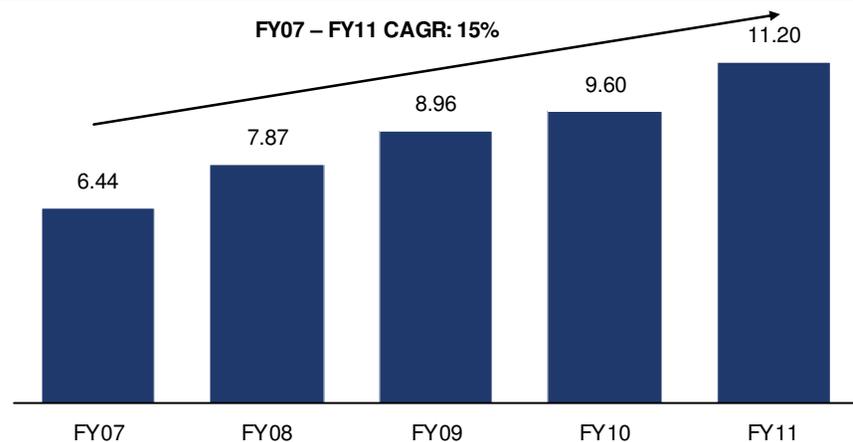
Revenue (US\$ bn)



PAT ( US\$ bn)



Gross Fixed Asset Base (US\$ bn)



.... has led to confidence of investors & lenders

- Successful and oversubscribed public offers in last 4 years - IPO in 2007 and FPO in 2010
- Listed on Indian Stock Exchanges, BSE and NSE, with a Market Cap<sup>1</sup> of US\$ 10bn
- Highest Domestic Credit Rating
- Amongst the biggest beneficiaries of The World Bank & ADB

1- considering 1US\$=Rs.45 and POWERGRID Share Price of INR95

### 3 Financial Performance

(In US\$ millions, except per share data)



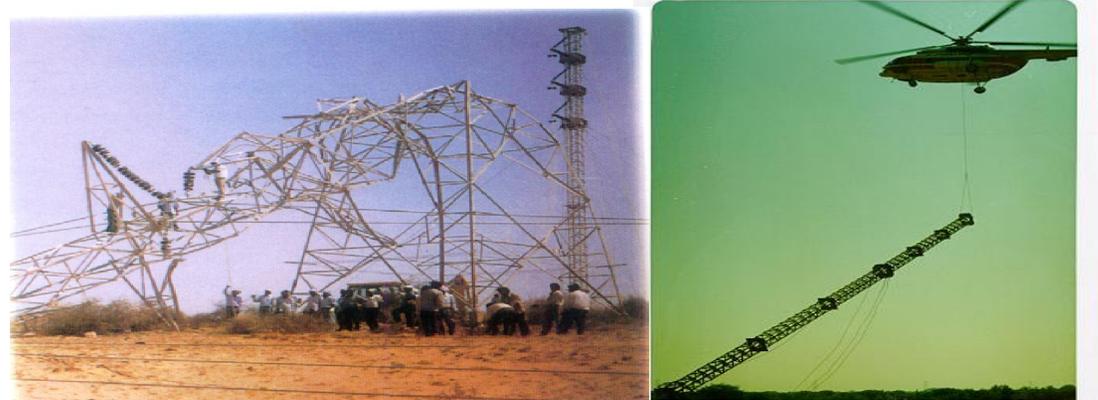
Description	2010-11	2009-10	Y-o-Y Growth
<b>Income</b>			
Transmission Charges	1,709	1,461	16.95%
Consultancy	66	60	11.15%
Telecom	42	35	18.35%
Short Term Open Access Income	47	28	69.60%
Other Income	158	84	89.10%
<b>Total Income</b>	<b>2,022</b>	<b>1,668</b>	<b>21.27%</b>
<b>Profit After Tax (PAT)</b>	<b>599</b>	<b>454</b>	<b>32.14%</b>
Earnings per Share (US\$)	0.137	0.107	27.63%
Book Value per Share (US\$)	1.025	0.840	21.98%
<b>Gross Fixed Assets</b>	<b>11,189</b>	<b>9,600</b>	<b>16.55%</b>
Debt	9,085	7,648	18.79%
<b>Net Worth</b>	<b>4,745</b>	<b>3,536</b>	<b>34.16%</b>
<i>Return on Net Worth</i>	12.63%	12.83%	
Debt Equity Ratio	65:35	68:32	
Capitalisation	1,625	802	102.58%
1US\$=INR 45 , YOY Growth has been calculated based on INR figures			

# 4 High Operational Efficiencies

- Rated as one of the best transmission companies in terms of system availability <sup>1</sup>
- No major grid disturbance since Jan'03
- Higher than targeted system availability facilitates incremental profit through incentives
- Establishing a 'National Transmission Asset Management Center' for operation and control of sub-stations remotely at central place and through Maintenance Service Hubs.
- Implementing technologically advanced operational techniques like Live line maintenance using hotline maintenance equipment and ERS for the restoration of collapsed transmission lines
- Initiatives undertaken for aerial patrol of transmission lines by helicopters, Mobile sub-stations and automated line inspection using robots

## Modern Technology

### Emergency Restoration System (ERS)

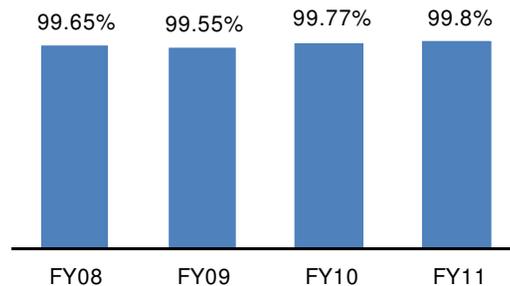


### Insulator Cleaning with Helicopter



### System Availability

**99.94% during Apr11-Aug11**

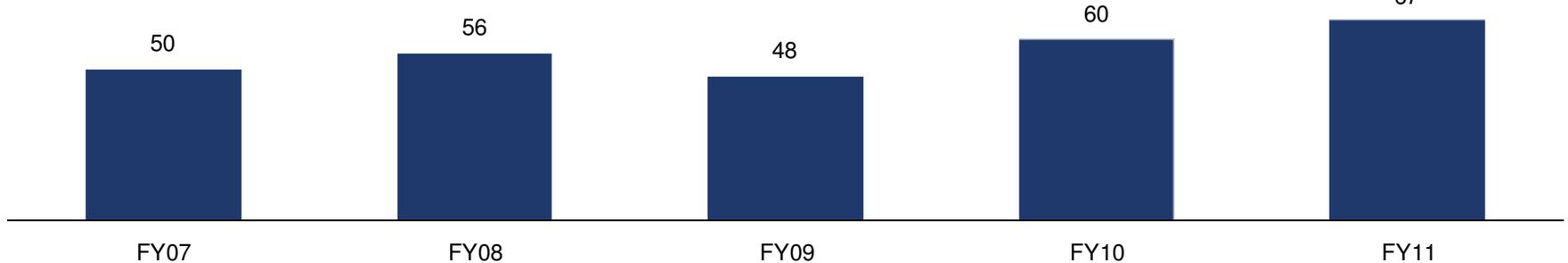


<sup>1</sup>. According to Booz & Company's comparative benchmarking across global transmission companies.

# Growth Potential in Consulting Business

	Description	Major Clients
<b>Consultancy Business – Domestic</b>	<ul style="list-style-type: none"> <li>■ Bagged 45 new orders for projects worth US\$ 133 million for consultancy during FY10-11</li> <li>■ Power Grid has served &gt;100 clients since beginning by giving consultancy</li> <li>■ Repeat orders from customers implies customer satisfaction</li> </ul>	
<b>Consultancy Business - International</b>	<ul style="list-style-type: none"> <li>■ Providing consultancy services in 7 countries namely Afghanistan, Bhutan, Bangladesh, UAE (Dubai), Nepal, Sri Lanka and Nigeria</li> <li>■ Venturing into Burma, Vietnam, China, Ethiopia, Uzbekistan etc.</li> </ul>	

**Growth of Consultancy Revenue (US\$ in millions)**



## 6 Opportunities In Telecom Business

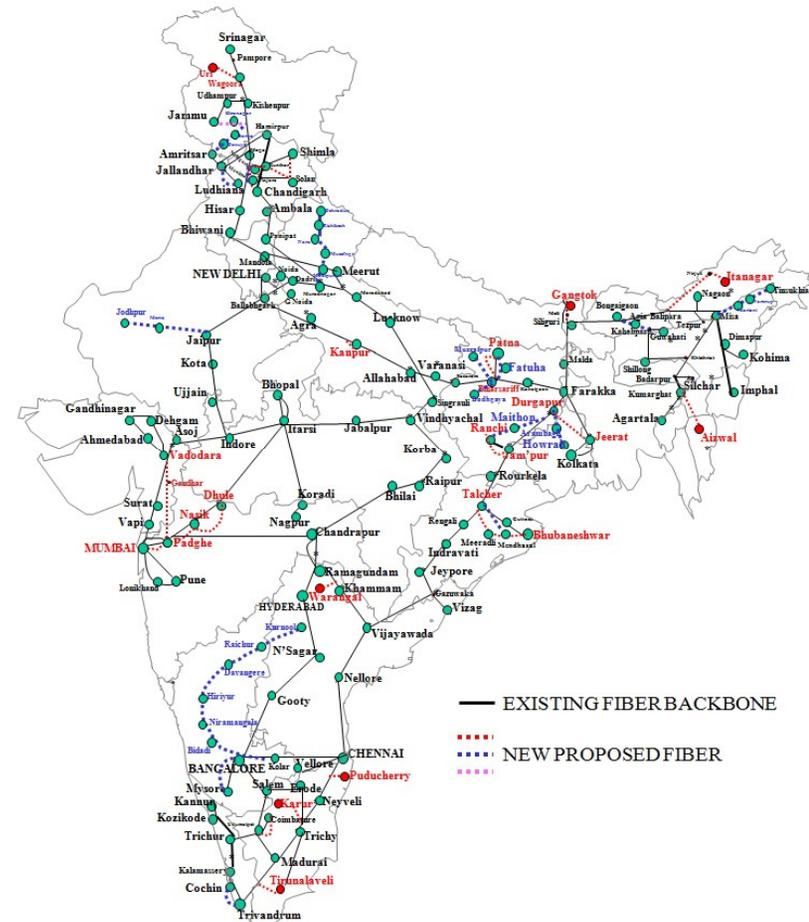
### Telecom: Fiber Optic Business

- Network Coverage: Presently 20,600 km
  - Backbone 17,820 km (15,478 km overhead OPGW & 2,342 km Underground) with > 99.9% availability
  - Access Network 4,180 Km Underground
- Network Reach: All India; covering about 110 cities (including remote Areas of North Eastern Region and Jammu & Kashmir)
- Faster Roll-out (~4 km in 2-3 days) & Live line installation
- Licenses: National Long Distance (NLD) and Internet Service Provider (ISP) and Infrastructure Provider (IP) Category - I
- Customer base: Major Telecoms, MNCs, BPOs, Govt, Corporate & Media
- Partner in implementation of 'National Knowledge Network' project of Govt. of India
- Involvement in becoming a part of National Optic Fiber Network (NOFN) project of Govt. of India

### Telecom: Tower Leasing Business

- Infrastructure Sharing Agreement with Telecom Infrastructure Service Provider for using power line towers for mounting Telecom antennae

### POWERGRID Broadband Telecom Network



Map not to scale

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# Commitment Towards Green Environment

*Environment and Social Policy & Procedure (ESPP) based on principles of Avoidance, Minimization and Mitigation  
Certified to Social Accountability Standard (SA-8001: 2008)*

Specially designed high- rise towers (75m)  
to reduce tree cutting

Application of Multi circuit and Compact towers  
to reduce corridor requirement

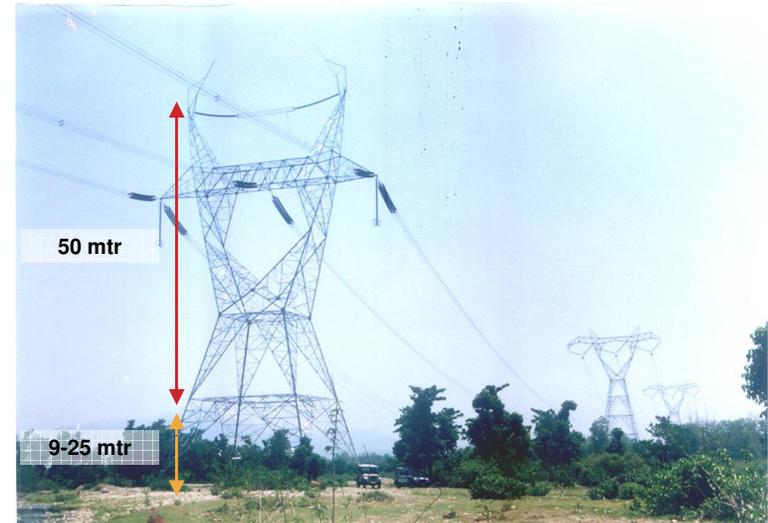
Total Forest involvement reduced  
after implementation of ESPP

Selected by The World Bank for Use of Country System (UCS)

Conferred "International Best Practices in  
Transmission" Award – World Bank

Conferred Green Award – 2006  
by World Bank

POWERGRID became the first Public Sector Undertaking in  
Power Sector to come out with a Sustainability Report



# Commitment to Community

- Besides addressing rehabilitation & resettlement issues and community development through ESPP, POWERGRID has formulated its 'Corporate Social Responsibility policy' (CSR Policy) which addresses:
  - Community Development in the neighborhood areas around its offices/ sub-stations
  - Socio-Economic issues at National level like employment, conservation and environment etc.
  - CSR Policy primarily showcases POWERGRID's abiding commitment and concern to pay back to society and environment for benefits it has reaped
  - For FY12, 1% of FY11 net profit earmarked for CSR activities

## Corporate Social Responsibility

- CSR initiatives in the Areas of:



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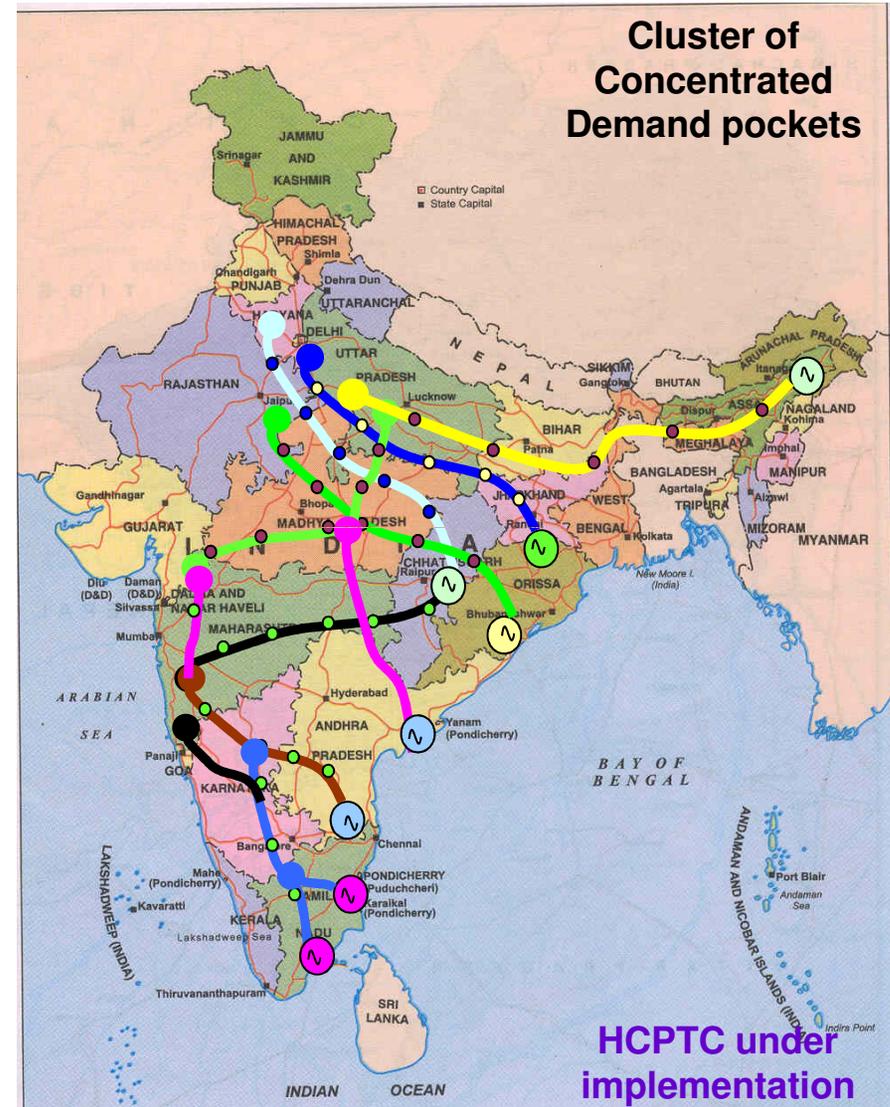
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# Business Potential

- XI and XII Plan capacity addition targets of 62GW and 100GW respectively involving 32% and 57% participation by private sector
- Independent Power Producers (IPPs) setting up power generation plants, mainly in resource rich areas
- POWERGRID - Nodal agency for granting Long Term Open Access (LTA) for inter-state transmission of power
- LTOA granted to 135 nos. of IPPs for about 90GW
- 11 nos. of High Capacity Power Transmission Corridors (HCPTC) (400kV/765kV AC and +/-800kV HVDC transmission highways) are being implemented
  - Regulatory approval for 9 corridors received
  - For balance 2, regulatory approval in process
- To be developed in phases matching with commissioning of the generation projects
- Estimated cost of corridors - about US\$ 16 billion



# Business Potential (contd.)

## Emerging Regulatory Environment in India

- Tariff Based Bidding norms adopted in India from 5<sup>th</sup> Jan, 2011
- POWERGRID also participating in these biddings

## Linkages with neighboring countries

- Taken initiative among SAARC member countries for optimizing the energy resources of the region
- **Transmission links exist between Bhutan and Nepal**
- **500MW HVDC interconnection is under implementation with Bangladesh**
- **Initiated steps to establish**
  - **Additional transmission links with Nepal & Bhutan**
  - **Establish an under-sea link to Sri Lanka**





*Thank You*