



# Power Grid Corporation of India Limited Corporate Presentation (Feb-2012)





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- Conversion rate of 1US\$=INR50 has been used throughout the presentation







# **Company Overview**

**Key Highlights** 

**Future Business Plan** 

**Financial Summary & Investment Programme** 

**Appendix** 



# **Company Overview**



#### **Overview**

Largest **Transmission Utility in India** 

- Carrying about ~50% of total power generated in India in FY11
  - 3rd largest transmission utility in the world1
  - Owned 69.42% by Government of India

Growth linked to India's Energy Needs

- Increase in regulated asset base driven by:
  - Generation capacity addition
  - Grid strengthening

Stable Returns

- Low operational risk with limited exposure to general business cycles
- Cost plus tariff for the projects in hand enables the Company to recover its entire costs

Strong Execution Track Record

- Extensive experience & expertise in implementing transmission projects
- Rated consistently "EXCELLENT" against GOI MoUs since FY 1994

Other **Businesses** 

- Consulting<sup>2</sup> in both Domestic and International markets and Telecom broadband businesses experiencing steady growth
- Unlocking value from leasing transmission towers to telecom infrastructure service provider
- Source: World Bank Report
- Consultancy in relation to Transmission. Load Dispatch & Communication. Distribution & Telecom
- As per Closing Price on Bombay Stock Exchange
  - Standalone financials and market cap converted at INR/ US\$: 50

**Transmission Lines** 90,100 ckm

**Sub-Stations** 145 Nos. **Transformation Capacity** 102,100 MVA

**System Availability** > 99.9%

**Telecom Network** 25.000 km

+ 800kV HVDC System **Under Construction** 

1,200kV UHV AC System **Under Development** 

**Employees** 9,716

Established National Grid IR capacity 23,800 MW

As of 9 February 2012

#### **Key Financials**

Income State	ement (4)		Balance S	heet (4)	
(In US\$ mn)	FY11	9m FY12	(In US\$ mn)	FY11	9m FY12
Revenue	1,820	1,475	Total Debt	8,177	9,988
EBITDA	1,552	1,258	Cash	736	1,176
PAT	539	445	Net Debt	7,441	8,812
			<u> </u>		

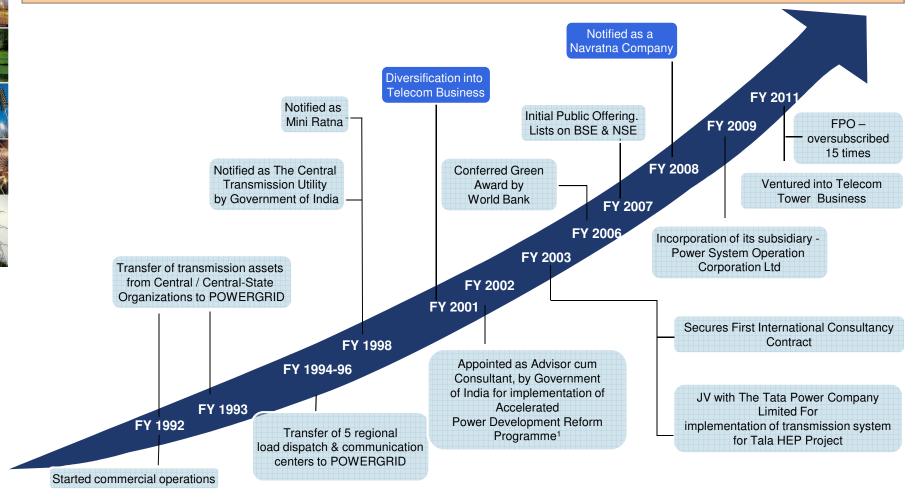
Market Capitalization of US\$10.55 bn as on Feb 24<sup>th</sup>, 2012<sup>(3)</sup>



# Long History & Rich Experience in Power Industry in India

#### **Mission**

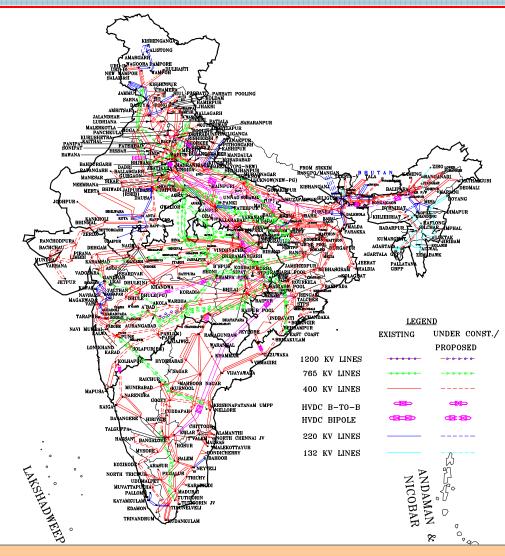
Establishment and Operation of Regional and National Power Grids to facilitate transfer of electric power within and across the regions with reliability, security and economy, on sound commercial principles



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



# **POWERGRID Network**



The Central Transmission Utility and National/Regional Grid Operator<sup>1</sup>

1. Through Power System Operation Corporation Limited (POSOCO), a fully owned subsidiary of POWERGRID



# **Key Business Lines**



#### **Transmission**

#### Development of Central Sector Transmission System

- Associated
   Transmission
   System (ATS) for
   Central Sector linked
   Generation
- ATS for Ultra Mega Power projects
- Grid Strengthening
- Inter-State, Interregional and International links
- Transmission corridors for IPPs

### Grid Management<sup>1</sup>

- Real-time Grid Operation
- Optimum scheduling & dispatch
- Energy accounting including settlements
- Administering REC<sup>2</sup>
   Mechanism

# Consultancy (National & International)

- Provides in-house expertise in various facets of Transmission, Sub- transmission, Distribution, Telecom and Load Dispatch Centers
- Provides services both nationally and internationally including SAARC countries

#### **Telecom**

- Owns & Operates more than 25,000 kms of telecom network
- Leasing transmission line towers for mounting telecom antennae
- Implementing National Knowledge Network (~ US\$0.18bn) and National Optic Fiber Network (~ US\$0.8bn)

% of FY11 Revenue: 85%

% of FY11 Revenue: 3.3%

% of FY11 Revenue: 2.1%

1. Power System Operation Corporation Limited (POSOCO), a fully owned subsidiary of POWERGRID, as per Government of India Directive; 2. Renewable Energy Certificates.





# **Key Highlights**



- 2 Established execution track record
- 3 Proven Growth Track Record and Conservative Capital Structure
- 4 High Operational Efficiency and Effective Project Management
- 5 Government ownership and Stable returns with low business risk
- 6 Attractive and Visible Growth Prospects in Consulting and Telecom Business
- 7 Seasoned Management Team with Extensive Industry Experience



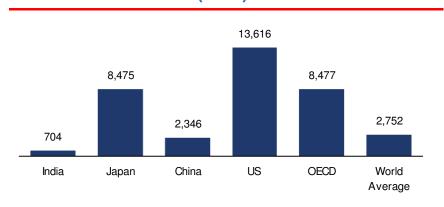


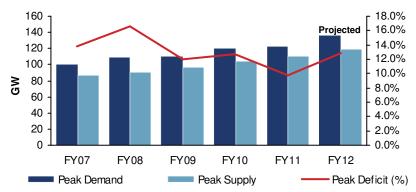
# Positioned to Capitalize on India's Growing Energy Demand

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>



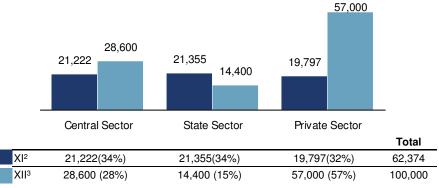




# Major Plans for Capacity Addition (MW)....

....Driving Investment in Transmission Sector (US\$ bn)

\$48.0





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

3. Provisional

XI Plan 13% XII Plan 21%

\$28.0

<sup>2.</sup> Revised target





# **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

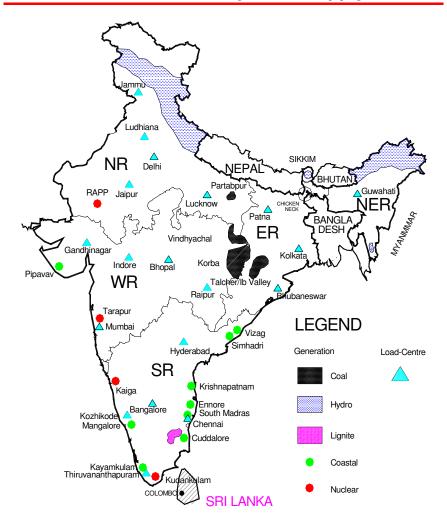
### .. Expected to Drive the Need For Transmission...

- Long Distance inter regional transmission system
- Higher capacity power lines to have economic as well as optimal use of Right-of-Way
- Eleven High Capacity Transmission Corridors have been planned with POWERGRID's scope of US\$13.2 bn

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

- 400kV established as backbone network
- 765kV network gradually increasing
- <u>+</u> 800kV HVDC system-under construction
- 1200kV UHVAC under development. 1200kV Class transformer successfully tested Pioneering effort to introduce the world's highest voltage

#### **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
  - 90,100 ckm of transmission lines carrying ~50% of total power generated in the country
  - 145 substations with transformation capacity of 102,100 MVA
  - 25,000 km of telecom network

#### **Accolades and Awards**



Rated consistently "EXCELLENT" against Govt MOUs since FY1994

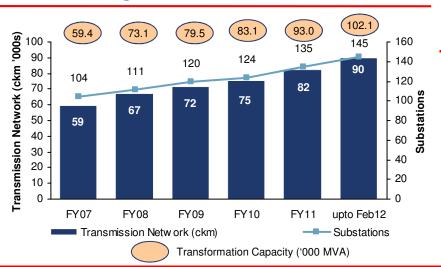


Consistent recipient of 'National Awards for Meritorious Performance" nstituted by Gol

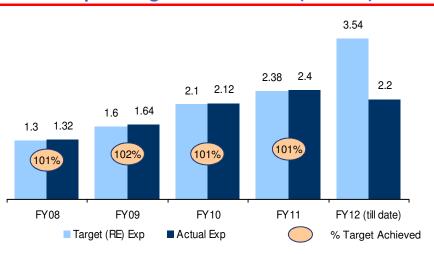


Recognized by Platts, as 8th Fastest Growing Asian Energy Co. and 18th Fastest Growing Global Energy Company during 2010

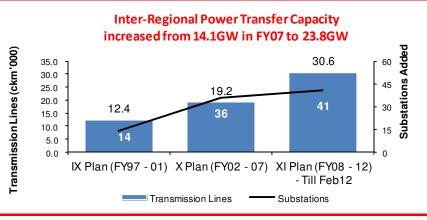
## ...Delivering Transmission Network Growth



### Capex Targets Achieved... (US\$ bn)



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



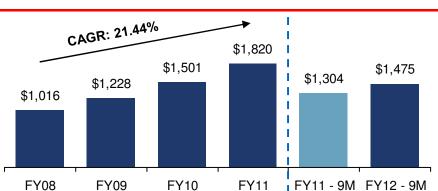




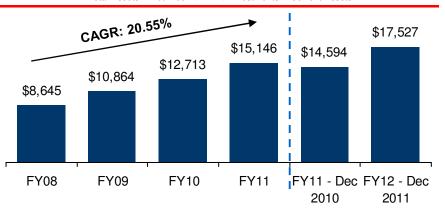
# **Proven Growth Track Record**







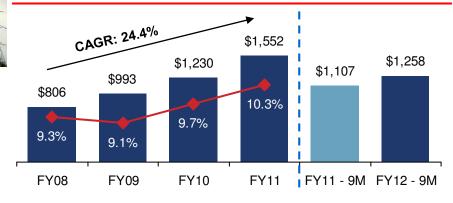
# Total Assets<sup>1</sup> (US\$ mn) 1 - Total Assets = Net Block + WIP + Investments + Current Assets

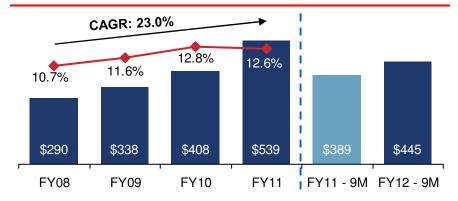


# EBITDA and ROA<sup>2</sup> (US\$ mn)

2 - Due to expansion plans, WIP is not fetching any EBITDA

## Net Income and ROE (US\$ mn)





- Listed on Indian Stock Exchanges, BSE and NSE with oversubscribed public offers in last 4 years IPO in 2007 and FPO in 2010
- **Highest Domestic Credit Rating**
- Amongst the biggest beneficiaries of The World Bank & ADB

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

Note: Exchange rate of INR/US\$: 50 for all fiscal years and items.

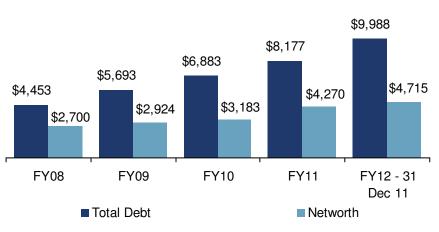


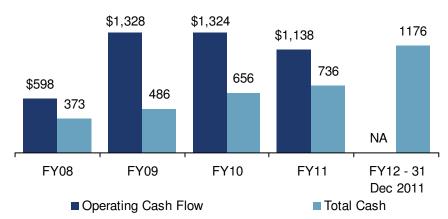


# **Conservative Capital Structure**



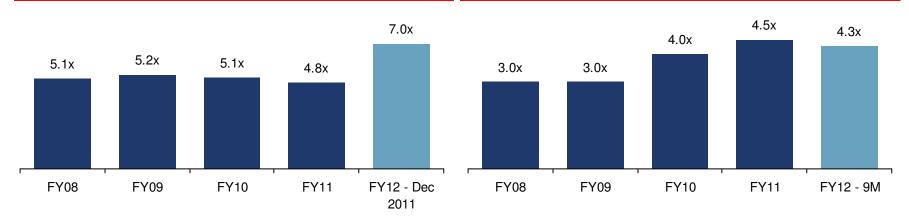
## **Operating Cash Flow and Total Cash (US\$ mn)**





#### **Net Debt / EBITDA**

#### **EBITDA / Interest**



Note: Exchange rate of INR/US\$: 50 for all fiscal years and items.



# 3

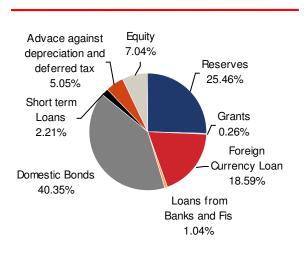
# **Debt Structure and Liquidity position**

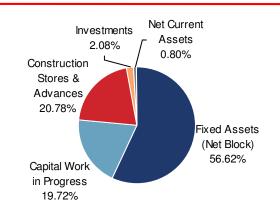


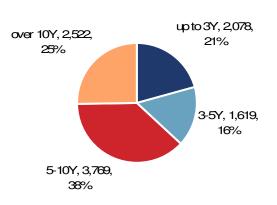
#### Sources of Funds(%) 2010-11

### Application of Funds (%) 2010-11

## **Debt maturity Profile (US\$ mn)**







# **Current Lending Base...**



Tapping several onshore sources of debt funding through domestic INR bonds, banks & financial institutions



Foreign currency borrowings in USD, JPY, CHF, SEK and EUR via multilateral & bilateral agencies like World Banks and Asian Development Bank with undrawn lines of approx. US\$ 2.8 billion

 CERC Tariff Regulations permit recovery of hedging cost or exchange rate fluctuations for interest payment and repayment of foreign currency loans corresponding to debt component admitted in capital cost

.... that POWERGRID is looking to diversify given its growth plans





# **High Operational Efficiencies**











- Rated as one of the best transmission companies in terms of system availability1
  - System availability in 2010-11: 99.8%
- No major grid disturbance since Jan'03
- Establishing a 'National Transmission Asset Management Center ' for optimal utilization of assets
- Implementing technologically advanced operational techniques
  - Aerial patrolling of transmission lines Global Tender floated for patrolling 15,000 km
  - Mobile sub-stations
  - Robots for condition monitoring of conductor / earth wire / hardware

### **Modern Technology**

#### **Aerial Patrolling**



**Robotics for condition monitoring** 

# **System Availability**

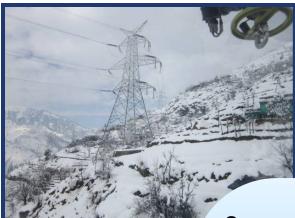




<sup>1.</sup> According to Booz & Company's comparative benchmarking across global transmission companies.



# Case Study: Jan-2012: Power Restoration in J&K





Successful restoration of power supply in J&K within 48 hours, after a line situated at 2,100m altitude in the Himalayas broke due to extreme snowfall in the region









# Government ownership and Low business risk



- Government of India owns 69.42% as of 31 Dec 2011
- POWERGRID is The Central Transmission Utility of the country and is responsible for grid management through its wholly owned subsidiary, POSOCO
- Under the administrative control of the Ministry of Power, Gol and has been conferred with "Navratna" status among public sector enterprises in India
  - Status empowers the Company an enhanced autonomy in its operations, investments and decision making vis-à-vis other public sector companies
- Concluded its IPO in September 2007 and FPO in November 2010 which saw overwhelming response

# **Favorable regulatory framework**

- POWERGRID's tariff structure¹ is set by the regulator, the Central Electricity Regulatory Commission ("CERC")
- Meeting CERC's benchmarks enables the Company to recover its entire costs, including debt servicing charges and provides for a fixed return on equity
- Tariff recovery is linked to transmission network availability and not impacted by actual power transmitted
- The regulatory framework is laid out for blocks of five years and tariff norms for POWERGRID are known with certainty upto March 31, 2014 ensuring stable cashflows

#### Strategic importance

- POWERGRID is strategically important to GoI because of the vital role it plays in the development of India's power sector
- Currently the largest transmission utility involved in inter-state power transmission in India with near absolute market share
- Expansion of India's power generation capacity necessitates a substantial expansion of inter-state transmission lines
- Although the transmission sector has been opened up to the private sector, POWERGRID is likely to be able to maintain its predominant position, given its expertise in execution and operational capabilities, largest pool of skilled human capital and the highly capital intensive nature of the business

#### **Collection Efficiency & Tariff**

- Present Tariff Regime (Period 2009-2014)
  - ROE: 15.5% (pre-Tax)
  - Other components like interest on Loan and Working capital / Operations and maintenance / Depreciation / Taxes and FERV<sup>2</sup> are passed through to the customer
  - Incentives based on timely execution of projects and availability of system are extra
- Collection Efficiency
  - Through Letters of Credit opened by beneficiaries
  - Rebate to Customers for timely payment

1. With effect from 5th Jan, 2011, new transmission lines are to be awarded under Tariff Based Competitive Bidding process

2. -FERV - Foreign Exchange Rate Variation



# **Growth Potential in Consulting Business**







- Orders for projects worth ~ US\$ 2.02 bn received in the current FY
- POWERGRID has served >100 clients since beginning by giving consultancy
- 22 projects worth US\$ 3.67 bn in hand

# **Major Clients**

















- Providing Consultancy Services in Afghanistan, Bhutan, Bangladesh, UAE (Dubai), Nepal, Sri Lanka & Nigeria
- Negotiation in advance stage for new assignments from Bangladesh, Nepal and Myanmar
- 19 projects worth US\$ 1.80 bn in hand















## **Growth of Consultancy Revenue (US\$ mn)**







# **Opportunities In Telecom Business**

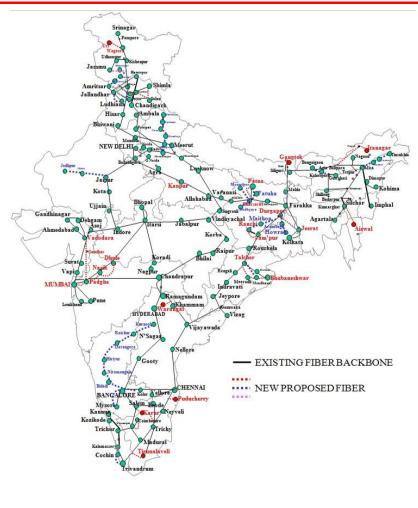
# **Telecom: Fiber Optic Busilness**

- Network Coverage: Presently 25,000 km
- 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
- Partnering Gol in implementation of
  - 'National Knowledge Network' (NKN) project to connect knowledge centers: POWERGRID share- US\$ 180 mn
  - √ 'National Optic Fiber Network' (NOFN) project to connect Gram Panchayats: POWERGRID scope- US\$ 800 mn

#### **Telecom: Tower Leasing Business**

- 800 transmission towers leased for mounting telecom antennae in North India
- New tenders floated for leasing additional towers in other states of the Country

#### **POWERGRID Broadband Telecom Network**







# **7 Seasoned Management Team**

		_		
	Name	Designation	Educational Qualification	Industry Experience
R.N.	R.N.Nayak	N.Nayak Chairman & Managing Director	<ul> <li>Engineering from REC Rourkela</li> <li>Post Graduation in M.Tech(Electrical) from IIT Kharagpur</li> </ul>	<ul><li>33 years of work experience, primarily in the power sector</li></ul>
				<ul> <li>More than 19 years in POWERGRID as a founder member and handled multi-disciplinary functions</li> </ul>
				<ul> <li>He has previously held the positions of Director (Operations), Executive Director (Engineering &amp; QA&amp;I), Executive Director (Human Resource), Executive Director (R&amp;D) at POWERGRID</li> </ul>
				<ul> <li>He has also played a pivotal role in the Telecom, Commercial and Procurement functions of the Company</li> </ul>
				<ul> <li>Prior to joining POWERGRID in 1991, he has worked for about 7 years in NTPC and had a stint with SAIL</li> </ul>
	R.T.Agarwal	Agarwal Director Finance	■ Chartered Accountant	<ul> <li>More than 30 years of experience in multifarious roles</li> </ul>
				<ul> <li>He has played a pivotal role in the successful Follow-on Public Offer of POWERGRID in 2010</li> </ul>
				<ul> <li>Before joining POWERGRID in 1991, he had worked in NTPC Ltd. project sites for 10 years</li> </ul>
	V.M.Kaul	Director Personnel	<ul> <li>Bachelor of Mechanical Engineering from IIT, Delhi</li> <li>MBA Degree from IGNOU</li> </ul>	<ul> <li>Over 37 years of work experience primarily in the power sector</li> </ul>
				<ul> <li>He has previously held the position of Executive Director (Human Resource), Executive Director in-charge of Private Investment and Business Development and Corporate Planning</li> </ul>
			<ul> <li>Prior to joining our company Shri Kaul has worked for 23 years in NTPC</li> </ul>	
I.S.Jha	I.S.Jha	Director Projects	tor Projects   Electrical Engineer from NIT,  Jamshedpur	<ul> <li>Well known Electrical Power System Professional, he has successfully served as Executive Director (Engineering) in the company</li> </ul>
			<ul> <li>He has also worked as Executive Director - Corporate Monitoring Group and held the position of Executive Director of North Eastern Region.</li> </ul>	





# **Business Plan**



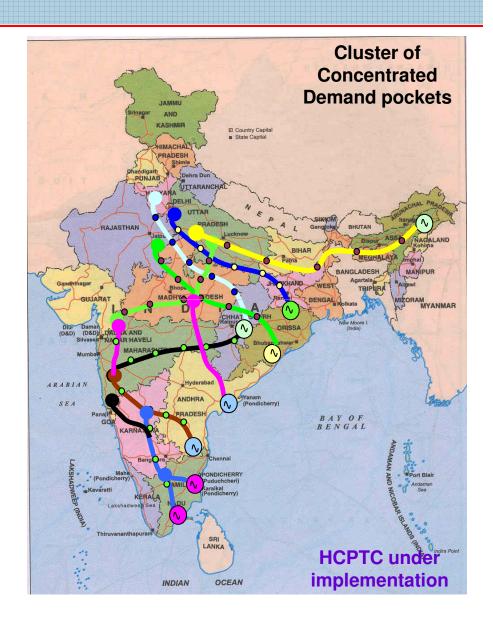








- XI and XII Plan capacity addition targets of 62GW and 100GW respectively involving 32% and 57% participation by private sector
- Independent Power Producers ("IPPs") setting up power generation plants, mainly in resource rich areas
- POWERGRID Nodal agency for granting Long Term Open Access ("LTOA") for inter-state transmission of power
- 11 High Capacity Power Transmission Corridors ("HCPTC") (400kV/765kV AC and +/-800kV HVDC transmission highways) being developed in phases
- Estimated cost of corridors about US\$ 13.2 bn (POWERGRID scope)
- Regulatory approval from CERC obtained
- IPPs have
  - Signed BPTA/ TSA with condition that if some of IPPs fail/delay to execute their projects, balance IPPs shall share transmission charges
  - · Provided bank guarantee towards their commitment to LTOA





# **Business Plan (contd.)**



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#### **Associated Transmission Systems for UMPPs**

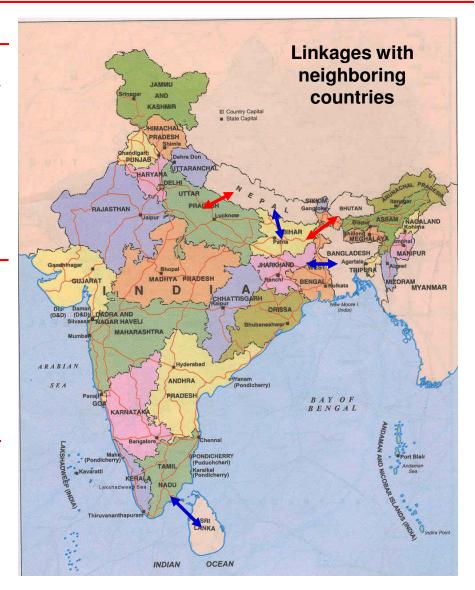
- POWERGRID given the responsibility to implement transmission systems associated with Ultra Mega Power Projects ("UMPPs")
- Four UMPPs (namely Sasan, Mundhra, Krishnapatnam and Tilaiyya) awarded
- Transmission System associated with Mundhra commissioned by POWERGRID

## Linkages with neighboring countries

- India-Bangladesh inter-connection through 500MW HVDC
- Initiated steps to establish
  - High Capacity transmission link with Nepal
  - Additional transmission links with Bhutan
  - Under-sea link to Sri Lanka

### **Backward Integration**

 With a view to achieve competitive edge, POWERGRID is exploring joint venture with companies for manufacturing major equipments





**Appendix** 



# Financial Summary



(US\$ mn)	FY08	FY09	FY10	FY11	9m FY12
Income Statement					
Net Sales	1,016	1,228	1,501	1,820	1,475
EBITDA	806	993	1,230	1,552	1,258
EBITDA margin	79%	81%	82%	85%	85%
EBIT	614	774	834	1,112	887
Net Income	290	338	408	539	445
Balance Sheet					
Total Assets	8,645	10,864	12,713	15,146	17,527
Total Debt	4,453	5,693	6,883	8,177	9,988
Cash & Equivalents	373	486	656	736	1,176
Net Debt	4,080	5,207	6,228	7,441	8,812
Net Worth	2,700	2,924	3,183	4,270	4,715
Cash Flow Statement					
Operating Cash Flow	598	1,328	1,324	1,138	N.A.

Source: Company Annual Reports

Note: Standalone Financial statements converted at INR/ US\$: 50



# **Investment Programme**









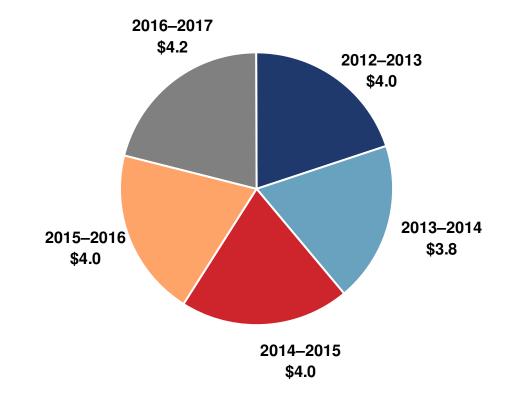




Period	Description	Amount	
XI Plan	CAPEX Plan	US\$ 11.0 bn	
(2007-2012)	CAPEX made till 9-Feb'12	US\$ 9.68 bn	
XII Plan (2012-2017)	Total CAPEX Plan	US\$ 20.0 bn	

Projects/ Schemes	Capital Outlay		
Central Sector Generation	US\$ 4.0 bn		
UMPP	US\$ 2.8 bn		
IPP	US\$ 11.0 bn		
Grid Strengthening	US\$ 2.2 bn		

# XII Plan – Capital Outlay US\$ bn



Investment Approved – US\$ 14.0bn Contracts Awarded – US\$ 11.2bn



# **Funding Requirement for XII Plan**



# Equity (US\$ 6.0bn)

- Internal Accruals
- FPO proceeds



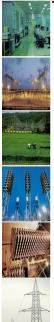
### **Debt (US\$ 14.0bn)**

- US\$ 2.8 billion already tied up from Multilateral Agencies, The World Bank & ADB and Supplier's Credit
- Domestic Bonds/ ECBs
  - Raised as per Annual Investment Plan





# **Key Competitive Strengths**





#### Leadership position in the Indian power sector

One of the world's Leading Power Transmission Utility - 90,100 ckm line with 145 Substations as on Dec 31,2011

Strategic position in Indian Power Sector

Regulated tariff structure and POWERGRID's superior operating efficiency

Strong execution track record

Established revenues off cost plus model generating stable cashflows and ROE

Strong balance sheet

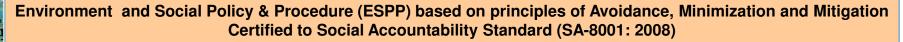
**Government support** 

Competent and committed workforce

**Emphasis on corporate governance** 



# **Commitment Towards Green Environment**



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/ substations
  - 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

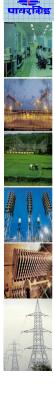
# **Corporate Social Responsibility**

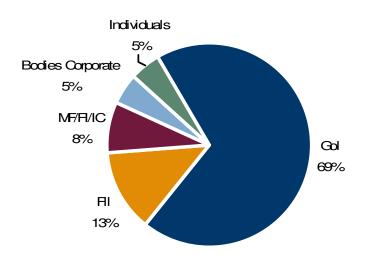
**■** CSR initiatives in the Areas of:





# Shareholding pattern as on 31st December 2011







# Thank You