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- Annual Accounts for FY2011-12 have been approved by the shareholders.

- Conversion rate of 1US$= ₹ 55 has been used throughout the presentation, unless otherwise stated.
Company Overview

Key Highlights

Investment Programme

New Initiatives
**Vision**

*World Class, Integrated, Global Transmission Company*  
*With Dominant Leadership in Emerging Power Markets*  
*Ensuring Reliability, Safety and Economy*

Existing Business:  
- Transmission  
- Grid Management  
- Consultancy  
- Telecom

New Business Opportunities:  
- Intra-State Trans.  
- Renewable Energy Integration  
- Smart Grid/ Smart City  
- Acquisition, Asset Mgt 
  & EPC in Intl. 
  Business  
- R-APDRP & RGGVY  
- Backward Integration  
- Energy Efficiency  
- Distribution

**POWERGRID Today**

- A NAVRATNA ENTERPRISE
- CENTRAL TRANSMISSION UTILITY
- LISTED COMPANY
- GoI Shareholding 69.42%
- DIVIDEND PAYING SINCE 1993-94
- CONSISTENTLY RATED 'EXCELLENT' BY GoI

**One Nation, One Grid**
POWERGRID Today

Tr. Lines 95,850 ckm

Sub-stations 157

X-formation Capacity 144,300 MVA

Availability 99.94%
Reliability 0.59 trippings/line

Inter-Regional Capacity 28,000 MW

Carries 50% of total power generated in India

Telecom Network 25,000 km

Innovation Technology (1200kV)

FY11-12 Market Design

1- Highest transmission voltage level in the world

One Nation, One Grid
Long History & Rich Experience in Power Sector in India

- One Nation, One Grid

- FY 1992
  - Starts commercial operations

- FY 1993
  - Transfer of transmission assets from Central / Central-State Organizations to POWERGRID

- FY 1994-96
  - Transfer of 5 regional load dispatch & communication centers to POWERGRID

- FY 1998
  - Notified as Mini Ratna

- FY 2001
  - Diversification into Telecom Business

- FY 2002
  - Appointed as Advisor cum Consultant, by Government of India for implementation of Accelerated Power Development Reform Programme

- FY 2003
  - Notified as The Central Transmission Utility by Government of India

- FY 2004
  - Confers Green Award by World Bank

- FY 2005
  - Initial Public Offering. Lists on BSE & NSE

- FY 2006
  - Incorporation of its subsidiary - Power System Operation Corporation Ltd

- FY 2007
  - JV with The Tata Power Company Limited For implementation of transmission system for Tala HEP Project

- FY 2008
  - FPO – oversubscribed 15 times

- FY 2009
  - Ventured into Telecom Tower Business

- FY 2010
  - FPO – oversubscribed 15 times

- FY 2011
  - Notified as The Central Transmission Utility by Government of India

- FY 2012
  - Incorporation of its subsidiary - Power System Operation Corporation Ltd

- FY 2013
  - Secures First International Consultancy Contract

1. Consultancy and Advisory on Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGYY) in rural areas.
Physical Growth over past two decades

(As on 15.09.2012)

Transmission Lines (Ckm)  | Transformation Capacity (MVA)  | Substations (Nos.)
---|---|---
1992-93: 22,228 92,981 95,850  | 2011-12: 12,201 124,525 144,300  | At Present: 39 150 157
Financial Growth over past two decades

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td></td>
<td>1,961</td>
<td>43</td>
<td>592</td>
<td>11,525</td>
<td>6,167</td>
</tr>
<tr>
<td>1,961</td>
<td></td>
<td>11,525</td>
<td>640</td>
<td></td>
<td></td>
<td>9,670</td>
</tr>
</tbody>
</table>

- Turnover: 16x
- Profit: 13x
- Asset Growth: 17x
- Manpower: 0.6x
The Central Transmission Utility and National/Regional Grid Operator

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

Key Highlights

Investment Programme

New Initiatives
## Key Highlights

1. Established execution track record
2. Proven Growth Track Record
3. Conservative Capital Structure
4. High Operational Efficiency
5. Attractive and Visible Growth Prospects in Consulting and Telecom Business
Established Execution Track Record

Execution Track Record

- Consistent successful execution of projects
  - 95,800 ckm of transmission lines carrying ~50% of total power generated in the country
  - 157 substations with transformation capacity of 144,000 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" instituted by GoI
- Recognized by Platts, as 8th Fastest Growing Asian Energy Co. and 18th Fastest Growing Global Energy Company during 2010

...Delivering Transmission Network Growth

...leading to consistent Transmission Network Growth over years

Capex Targets Achieved… (US$ bn)

- Amongst few PSUs to meet their XI Plan capex targets

... Inter-Regional Power Transfer Capacity increased from 14.1GW in FY07 to 28GW now
Proven Growth Track Record

- Listed on Indian Stock Exchanges, BSE and NSE with oversubscribed public offers in last 5 years - IPO in 2007 and FPO in 2010
- Highest Domestic Credit Rating
- Amongst the biggest beneficiaries of The World Bank & ADB

Revenues (US$ mn)

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>$924</td>
<td>$1,116</td>
<td>$1,365</td>
<td>$1,655</td>
<td>$1,961</td>
</tr>
</tbody>
</table>

CAGR: 20.70%

EBITDA and ROA\(^2\) (US$ mn)

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>$733</td>
<td>$903</td>
<td>$1,118</td>
<td>$1,393</td>
<td>$1,657</td>
</tr>
</tbody>
</table>

CAGR: 22.62%

Due to expansion plans, WIP is not fetching any EBITDA

Total Assets\(^1\) (US$ mn)

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>$7,859</td>
<td>$9,876</td>
<td>$11,557</td>
<td>$13,769</td>
<td>$16,766</td>
</tr>
</tbody>
</table>

CAGR: 20.86%

Net Income and ROE (US$ mn)

<table>
<thead>
<tr>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
</tr>
</thead>
<tbody>
<tr>
<td>$264</td>
<td>$307</td>
<td>$371</td>
<td>$490</td>
<td>$592</td>
</tr>
</tbody>
</table>

10.7% 11.6% 12.8% 12.6% 13.9%

CAGR: 22.37%

Net Income and ROE (US$ mn)

- Listed on Indian Stock Exchanges, BSE and NSE with oversubscribed public offers in last 5 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$: 55 for all fiscal years and items.
Conservative Capital Structure

Total Debt and Networth (US$ mn)

Operating Cash Flow and Total Cash (US$ mn)

Net Debt / EBITDA

EBITDA / Interest

Note: Exchange rate of INR/US$: 55 for all fiscal years and items.
Asset Management

<table>
<thead>
<tr>
<th>Lines</th>
<th>747 Nos.</th>
<th>95,850 ckm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Stations</td>
<td>157 Nos.</td>
<td>144,300 MVA</td>
</tr>
</tbody>
</table>

New Initiatives

Aerial Patrolling of Transmission Lines
- 800km stretch being undertaken
- Tender in process for another 15,000 km

NTAMC
- Implementation started
- Maintenance Service Hubs established

Developed Repair Capabilities
- In-House repair facility for Transformer & Reactor established at Hyderabad
- On-Site Repair capability developed

High Operational Efficiencies

FY11-12
- Availability 99.94%
- Reliability 0.59 trippings/line
116 Assignments for Projects worth USD 2.32 billion (balance cost) under execution

Major Clients include:
- Utilities in States/ UTs
- Central PSUs
- Central Govt. Organizations (Indian Navy, Railways)
- Private Utilities
- Companies in Private Sector

Major Projects
- Jharkhand Sub-transmission
- Smart Grid in Haryana & Chattisgarh
- OPGW network in J&K
5 Growth Potential in Consulting Business

19 Assignments for Projects worth USD 500 mn (balance cost) under execution

Footprints in 11 countries

Focus Geographies
- SAARC
- Africa
- Gulf countries

Focus Businesses
- Consultancy
- Asset Management
- EPC
- JV/ Acquisition

Existing Footprints
- Bangladesh
- Nigeria
- Bhutan
- Nepal
- Afganistan
- Tajikistan
- Myanmar
- UAE
- Ethiopia
- Kenya
- Sri Lanka
- Myanmar

Growth Potential in Consulting Business
**Growth Potential in Telecom Business**

- **Network Coverage:**
  - About 25,000 km

- **Network Reach:** All India; covering more than 200 cities (including remote Areas of North Easter Region and Jammu & Kashmir)

- **Customer base:** Major Telecoms, MNCs, BPOs, Govt, Corporate & Media

- Backbone availability 99.97%

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**Multi Protocol Label Switch (MPLS)-Virtual Private Network (VPN)**

- Pan India Implementation in progress:
  - To enhance customer base
  - Shall provide High Speed Communication links for NTAMC³/ ERP etc. (covering ~ 400 locations of POWERGRID across India)

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1. National Knowledge Network  
2. National Optic Fiber Backbone  
3. National Transmission Asset Management Center
Company Overview

Key Highlights

Investment Programme

New Initiatives
Introduction

**Power Sector Overview – XII Plan**

**Generation**
- Peak Demand 198GW
- Capacity Addition 88 GW
- Capacity Addition RE 30 GW

**Transmission**
- Fund Reqt. ($ 32,727 million)
- inter-State (incl. Pvt) $22,728 million
- intra-State $ 10,000 million
- ckm addition 109,440
- MVA addition 270,000

**Distribution**
- Fund Reqt. $ 55,679 million
- incl. $ 1,727 million for Smart Grid
- ckm addn. (< 33kV) 13,05,000
- MVA addn. (33/11kV) 138,000 MVA

**Thrust Areas for POWERGRID**
- Transmission
- Distribution
- Energy Efficiency
- Smart Grid
- Renewable Integration
- Sub-Transmission

Source: Report of XII Plan Working Group on Power
Road Ahead....... POWERGRID

- Total Projects in hand worth US$ 22 billion

- Ongoing Projects: US$16 billion
  Projects include
  - Development of 11 High Capacity Power Transmission Corridors (HCPTC) - US$ 13.5 billion

- Transmission capacity addition by 2017
  - 24,000 ckm of 400 kV transmission lines
  - 13,000 ckm of 765kV transmission lines
  - +/- 800kV HVDC Bipoles
  - 90,000 MVA at 765kV
  - 30,000 MVA at 400kV
Investment for XII Plan

Investment Approved - $15,273 million
Contracts awarded for Project Cost: $12,727 million

Projects/ Schemes

Capital Outlay

Additional projects

Tariff Based Competitive Bidding
Consultancy assignment/ Sub-Transmission
Transnational interconnections

Projects assigned by GoI
Green Energy Corridors

**Funding for XII Plan**

**Investment planned in Debt-Equity ratio of 70:30**

**Requirement**

- **Equity**
  - $5,091 - $5,454mn through Internal Accruals

- **Debt**
  - $4,273 mn tied up.
  - $8,454 - $8,818 mn to be raised

---

**Sources**

- **Domestic Market**
  - Bonds
  - Line of Credit from SBI

- **Foreign Currency**
  - Govt. guaranteed funds from IFIs like World Bank & ADB
  - ECB including loans from ADB, IFC, Supplier’s Credit

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**Mobilised during the year**

- Bonds from Domestic Market: $727 million - coupon 9.3%
- Foreign Currency Commercial Loan from IFC: US$ 270 million

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One Nation, One Grid
### XII Plan Investment Programme (Year-wise)

(US$ in million)

<table>
<thead>
<tr>
<th>Investment</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capex</strong></td>
<td>3,636</td>
<td>3,455</td>
<td>3,636</td>
<td>3,636</td>
<td>3,818</td>
<td>18,182</td>
</tr>
<tr>
<td><strong>Debt Requirement</strong></td>
<td>2,546</td>
<td>2,418</td>
<td>2,546</td>
<td>2,546</td>
<td>2,673</td>
<td>12,727</td>
</tr>
<tr>
<td><strong>Already Tied Up</strong></td>
<td>1,454</td>
<td>946</td>
<td>654</td>
<td>509</td>
<td>436</td>
<td>4,000</td>
</tr>
<tr>
<td>Domestic</td>
<td>909</td>
<td>182</td>
<td>182</td>
<td>182</td>
<td>1,454</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>545</td>
<td>764</td>
<td>472</td>
<td>328</td>
<td>436</td>
<td>2,546</td>
</tr>
<tr>
<td><strong>Balance to be tied up through Domestic/ ECB (*)</strong></td>
<td>1,091</td>
<td>1,473</td>
<td>1,891</td>
<td>2,036</td>
<td>2,236</td>
<td>8,727</td>
</tr>
</tbody>
</table>

(*) The above figures are indicative and will depend on project execution, company’s strategy for funding and market conditions.
Foreign Currency Borrowings

Balance Loans to be utilized during XII Plan
$ 2,735 million

Loans signed (million $) | Balance (million $)
---|---
World Bank | 1,015 | 1,015
ADB | 1,035 | 1,035
Supplier's Credit | 767 | 685

1- Balance Loans as on 31st Mar, 2012
Domestic Borrowings – Bonds

Bonds issued during last 5 years

- **FY08**: $193 million
- **FY09**: $436 million
- **FY10**: $424 million
- **FY11**: $524 million
- **FY12**: $356 million

Tenure: Door-to-Door: 15 years

**Amounts in equivalent million USD**

- **FY12**: $1,763 million
- **FY11**: $1,158 million
- **FY10**: $984 million
- **FY09**: $673 million
- **FY08**: $504 million

FY13: 1st Bond Issue in June 2012: $727 million @ 9.30%
SBI Line of Credit for $909 million tied up
Domestic Borrowings – Bonds (Coupon)

- Coupon for POWERGRID
- G-Sec Rate
- AAA Bond Coupon

Bond Issue:

FY08-1: 7.74%
FY08-2: 7.92%
FY08-3: 8.27%
FY09-1: 6.58%
FY09-2: 6.66%
FY10-1: 7.23%
FY10-2: 7.95%
FY10-3: 8.02%
FY11-1: 7.76%
FY11-2: 8.32%
FY12-1: 8.57%
FY12-2: 8.72%
FY12-3: 8.52%
FY12-4: 8.69%
FY12-5: 8.83%

FY13-1: 9.35%
FY13-2: 9.25%
FY13-3: 9.25%
FY13-4: 9.34%
FY13-5: 9.46%

FY14-1: 9.48%
FY14-2: 9.50%
FY14-3: 9.29%
FY14-4: 9.64%
FY14-5: 9.99%

FY15-1: 10.00%
FY15-2: 10.29%
FY15-3: 9.24%
FY15-4: 8.80%
FY15-5: 8.91%
Company Overview

Key Highlights

Investment Programme

New Initiatives
Smart City (Puducherry)

- Work to commence in Aug’12 (interim arrangement)
- Phase-I expected by Sep’12 to demonstrate in limited area:
  - Advance Metering Infrastructure
  - Peak Load Management
  - Outage Management System

DPRs submitted
Firozabad (UP)/ Katra (J&K)

Pre-Feasibility Studies
Chitradurga (Karnataka)/ Tuticorin (TN)/
Gandhinagar (Jammu)/ Charar-e-Sharif, Gulmarg,
Pahalgaon (J&K)/ Bidhuna & Shikohabad (UP)/ Puri
(Odisha)/ District/cities of Tripura, Chhatisgarh,
Haryana, Punjab

CPSUs in Steel & Coal Sector have evinced interest for converting their establishments into Smart establishments

Smart Grid

- Unified Real Time Dynamic State Measurement (URTDSM) Techniques for efficient Grid Operation and Management integrating State Grid, ISTS, IPPs system
# Green Energy Corridors - Grid Integration of Renewable Energy

**GREEN ENERGY CORRIDORS**
Transmission Plan for Envisaged Renewable Capacity

$7,636 million investment in transmission for 40 GW

<table>
<thead>
<tr>
<th>Planning of intra-State/inter-State Transmission requirements</th>
<th>Study Report on Green Energy Corridors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide Mechanism to address Wind/Solar generation uncertainty</td>
<td>Submitted to MNRE/ CERC/ CEA/ Planning Commission/ MoP/ MoF</td>
</tr>
<tr>
<td>• Forecasting of generation</td>
<td>• Inputs from- MNRE, Forum of Regulators, State Nodal Agencies, State Transmission Utilities and CERC</td>
</tr>
<tr>
<td>• Provision of flexible generations, reserves</td>
<td>• Transmission System classified into:</td>
</tr>
<tr>
<td>• Demand side Management</td>
<td>• Connectivity Transmission System</td>
</tr>
<tr>
<td>• Energy Storage</td>
<td>• Intra-State Strengthening</td>
</tr>
<tr>
<td>• Policy and Regulatory Framework</td>
<td>• Inter-State Transmission System</td>
</tr>
</tbody>
</table>

Intra-State TS Strengthening: $3,636 million
Inter-State TS Strengthening: $4,000 million

includes

• Other associated works like Energy Storage, Real Time Monitoring System etc.
• Establishment of Renewable Energy Management Center
Green Energy Corridors-
Grid Integration of Renewable Energy

Perspective Transmission Plan
For RE Capacity by 2030

One Nation, One Grid
Business Opportunities

Backward Integration
- Joint venture companies contemplated for manufacturing of material and equipment

JVs with States for intra-State Transmission
- Discussions under way with Bihar, Odisha, Jharkhand, Chhatisgarh, Manipur, UP, MP, Tamil Nadu, Karantaka

Distribution
- RGGVY and APDRP projects under XII Plan
- Management Control of DISCOMs

Energy Efficiency
- To tap Energy Efficiency Scheme spearheaded by BEE

R&M of T&D activities of CPSUs
- T&D activities : a non-core area for most CPSUs
- Dialogue initiated with CPSUs in Coal/Steel/Mining Sector
- Future Opportunities in Fertilizer & Petroleum Sectors, both for R&M and Project Consultancy for Sub-Stations
Thank You