



POWER GRID CORPORATION OF INDIA LIMITED

FY 2014-15

**Press & Analysts' Meet
Mumbai June 2, 2015**

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- Annual Accounts for FY2014-15 are yet to be approved by the shareholders.*

FY15: Major Highlights

POWERGRID Overview

Power Sector Overview

FY15- Financial Results

Highlights: Financial, Projects, Operational (Asset & Grid)

Highlights: Consultancy- International Business- Telecom

Investment & Funding Programme

Smart Grid & New Initiatives - Updates

Highlights- CSR & Sustainability

Way Forward

FY15 – Major Highlights

₹ 5,000 crore

Profit After Tax crosses ₹ 5,000 crore for the first time in Company's history
(Consolidated Basis)

Fastest Growing Electric Utility in the World as per Platts Top250¹

5th Largest Gross Assets as per DPE², GoI

Highest ever Capitalization

Successful in 3 out of 4 TBCB projects

Inclusive Growth – Intra State [Bihar JV-operational] [NER, J&K, UP, Odisha, Delhi, Sikkim]

RE Integration gathers pace-Green Energy Corridors & Trans. for Ultra Mega Solar Parks commence

ERP goes live

JV with RINL for TL Tower manufacturing

(Consolidated Basis)

Timely & effective Disaster Management support – Delhi Storm; J&K floods; HUDHUD, AP

POWERGRID Today

A 'NAVRATNA' ENTERPRISE	CENTRAL TRANSMISSION UTILITY	LISTED in NSE, BSE since 2007	GOVT. SHAREHOLDING 57.90%	PAYING DIVIDEND SINCE 1993-94	Market Capitalization ₹ 74,812 crore¹
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Vision
World Class, Integrated, Global Transmission Company With Dominant Leadership in Emerging Power Markets Ensuring Reliability, Safety and Economy

Transmission Lines

116,625 ckm

961 Nos.

MVA & S/S

234,709 MVA

195 Nos.

Operating Parameters (FY14-15)

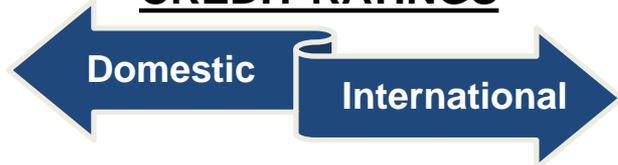
Availability: 99.87%

Reliability: 0.53 Trippings per line

CREDIT RATINGS

Domestic

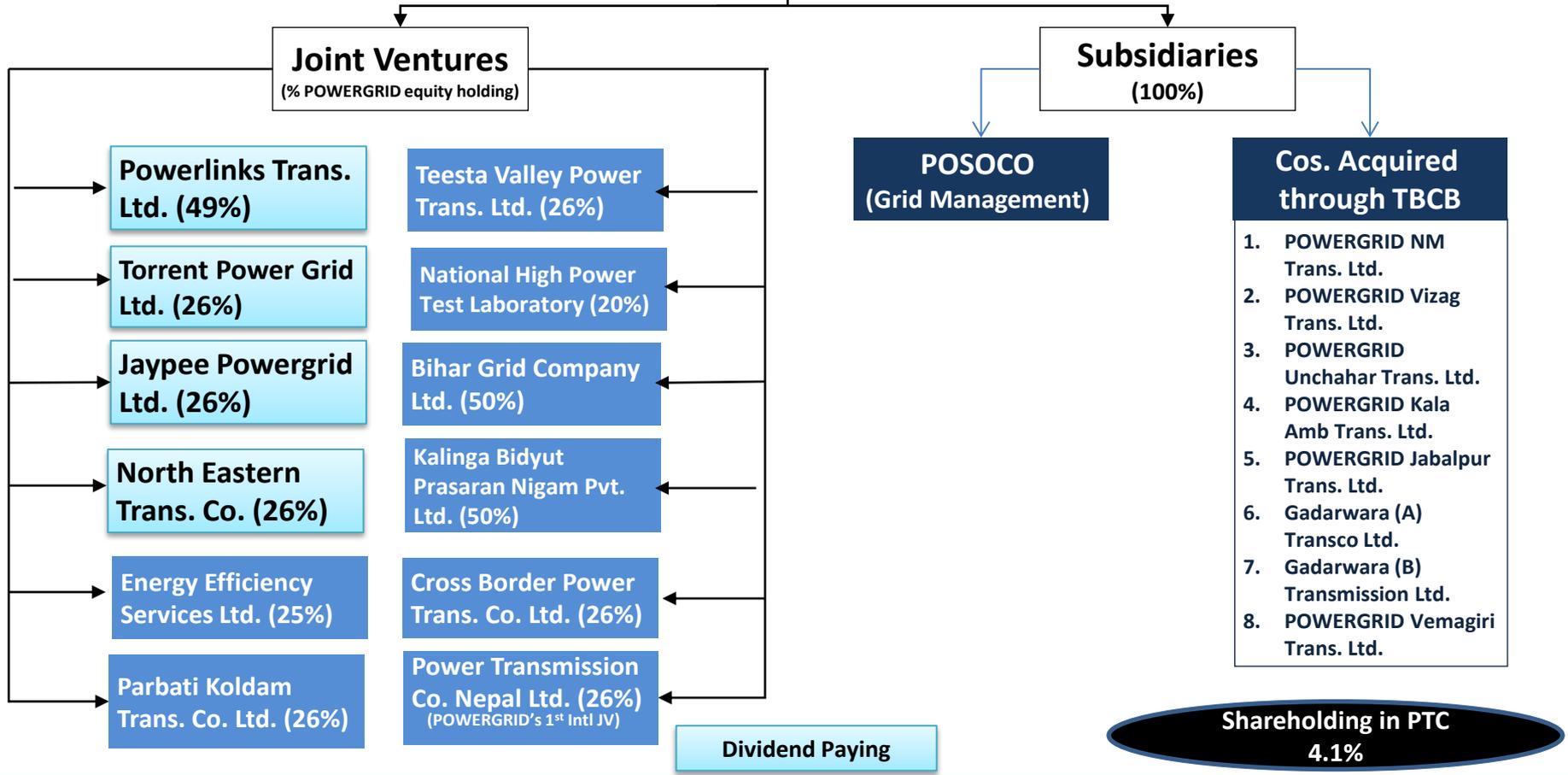
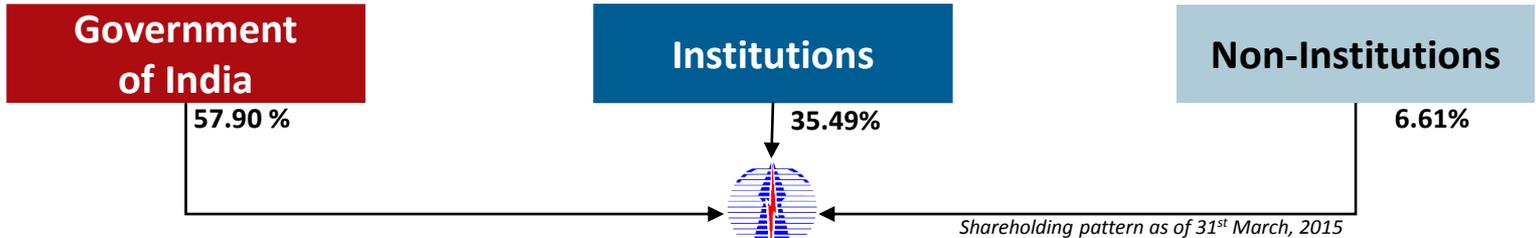
- AAA Stable (CRISIL)
- AAA Stable (ICRA)
- AAA (CARE)



International

- BBB (-) Stable Outlook (S&P)
- BBB (-) Stable Outlook (Fitch)

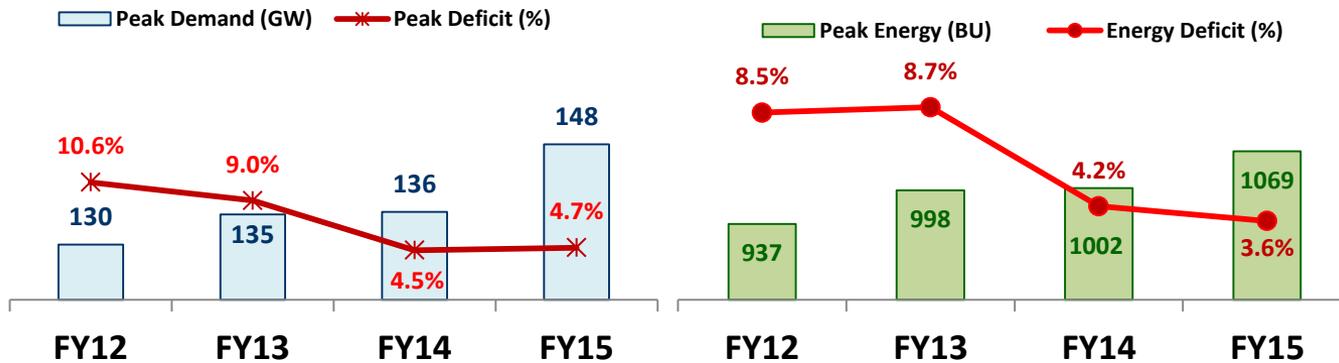
POWERGRID Group



Power Sector Overview

	Installed Capacity (GW)	RE Capacity (GW)	Transmission (ckm)	I-R Capacity (GW)
At the end of XI Plan	200 incl. RES	24.5	257,481	27.75
At the end of FY15	268 incl. RES	31.7	313,437	46.45
Targeted addn. during XII Plan	88	30	107,440	37.8
Addn. in XII Plan (Apr12-Mar15)	68	7.2	55,956	18.7
Addn. in FY15	24.6 incl. RES	2.2	22,101	7.9 (4.2 PG; 3.7Pvt.)

Per Capita Consumption: 1010 kWh (2014-15 Prov.)



Peak Load (GW)

- FY17: 200; FY22: 283

Peak Energy (BU)

- FY17: 1355; FY22: 1905



Financial Highlights FY15

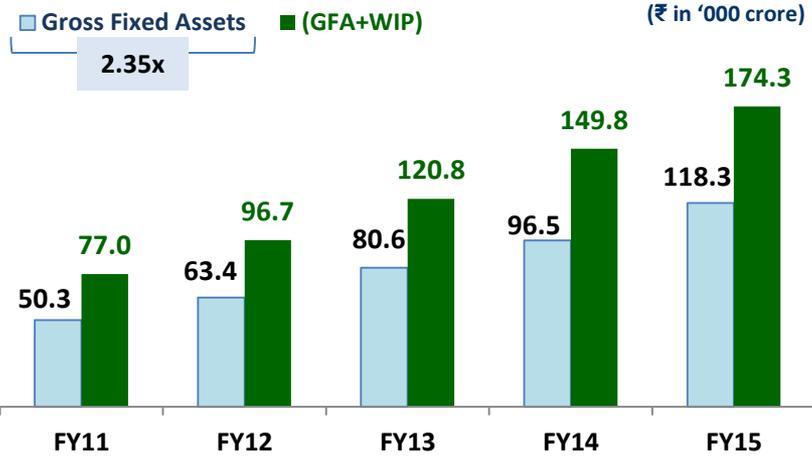
(₹ in crore)						
Description	Quarter ended		Year ended			
	Standalone		31.03.2015		31.03.2014	
Income	31.03.2015	31.03.2014	Consolidated	Standalone	Consolidated	Standalone
- Transmission Charges	4,468	3,752	16,999	16,521	14,770	14,327
- Consultancy – Services	157	147	385	381	335	333
- Consultancy – Sale of Products	0	22	0	0	294	294
-Telecom	79	65	275	275	276	276
- Other Income	206	197	574	603	471	491
Total Income	4,910	4,183	18,233	17,780	16,146	15,721
Operating Expenses (including prior period adjustment)	645	603	2,580	2,426	2,454	2,295
EBITDA-Gross Margin	4,265	3,580	15,653	15,354	13,692	13,426
Depreciation	1,418	1,075	5,173	5,085	4,079	3,996
Interest	1,038	819	4,081	3,979	3,254	3,167
Extraordinary Items (Net of Tax exp.)	-	-	(3)	0	0	0
Tax	397	510	1,356	1,311	1,811	1,766
Profit after Tax	1,412	1,176	5,046	4,979	4,548	4,497

Financial Highlights FY15

(₹ in crore)		
Description	As on 31.03.2015	As on 31.03.2014
Gross Fixed Assets	118,264	96,504
Capital Work-in-Progress	56,292	53,330
Debt	93,845	80,470
Net Worth	38,037	34,413
Earning Per Share (₹)	9.52	9.36
Book Value per Share (₹)	72.71	65.78
Key Financial Ratios		
Debt : Equity	71:29	70:30
Return on Net Worth	13.09%	13.07%

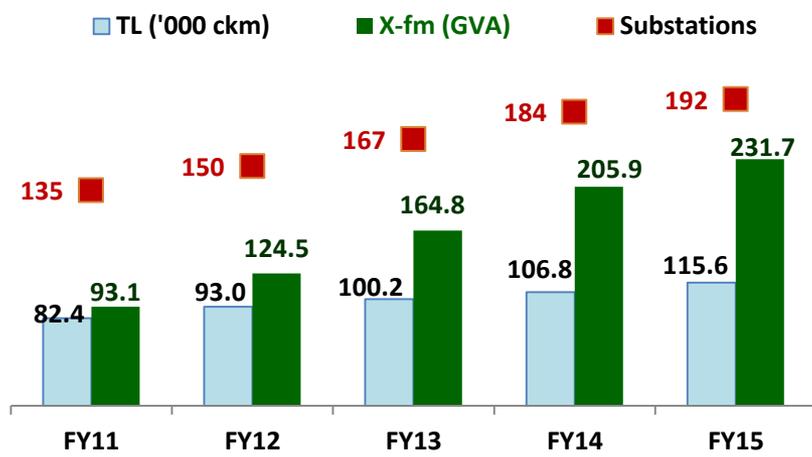
Asset Based Returns- FY11 to FY15

Investment-led Asset Growth

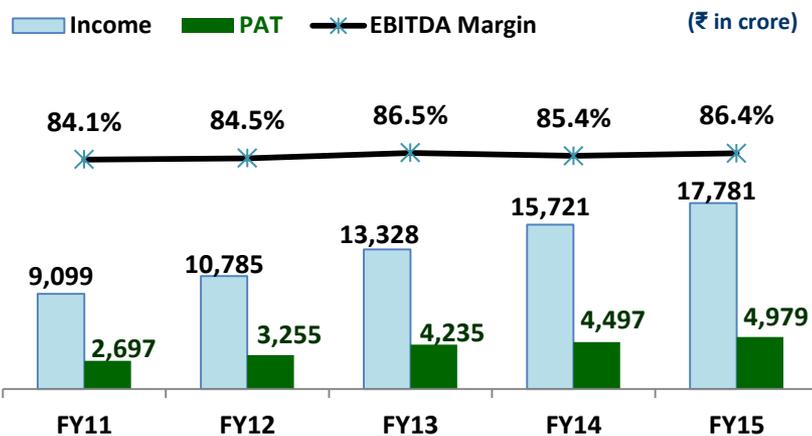


5th Highest Gross Block (11.8% of aggregate of all CPSUs)¹

Consistent increase in Physical Assets

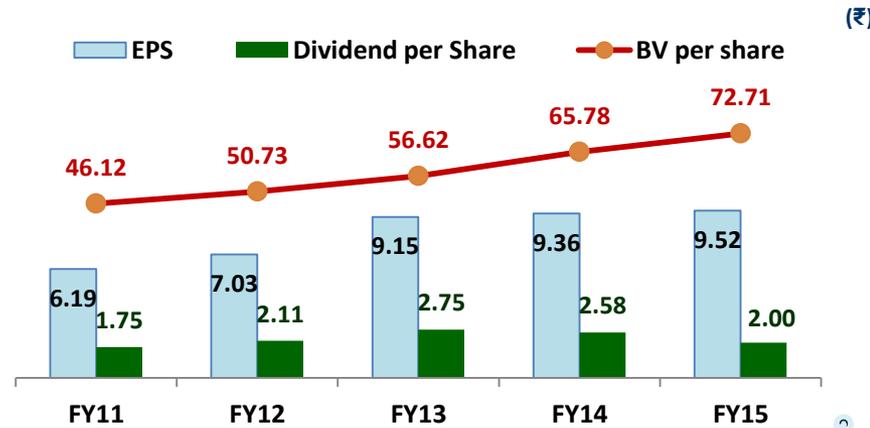


Sustained Profitability....



Forbes Global 2000 (Apr'15): Overall Rank 980; El. Utilities Rank: 54

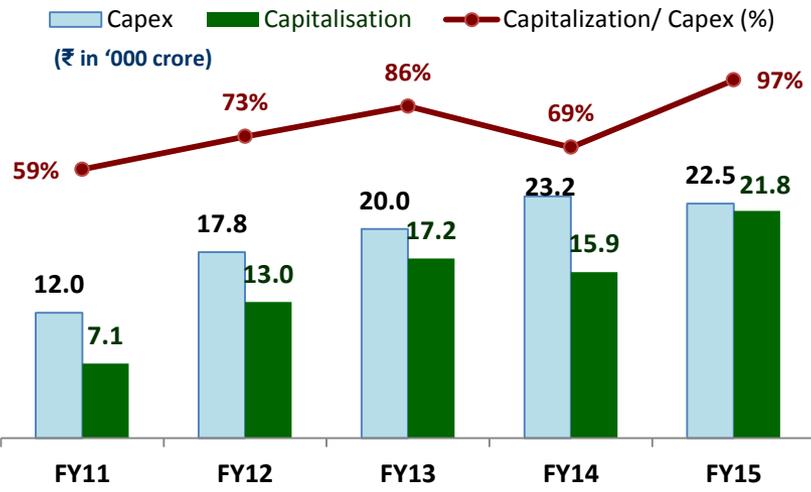
....and enhanced Shareholder returns ...



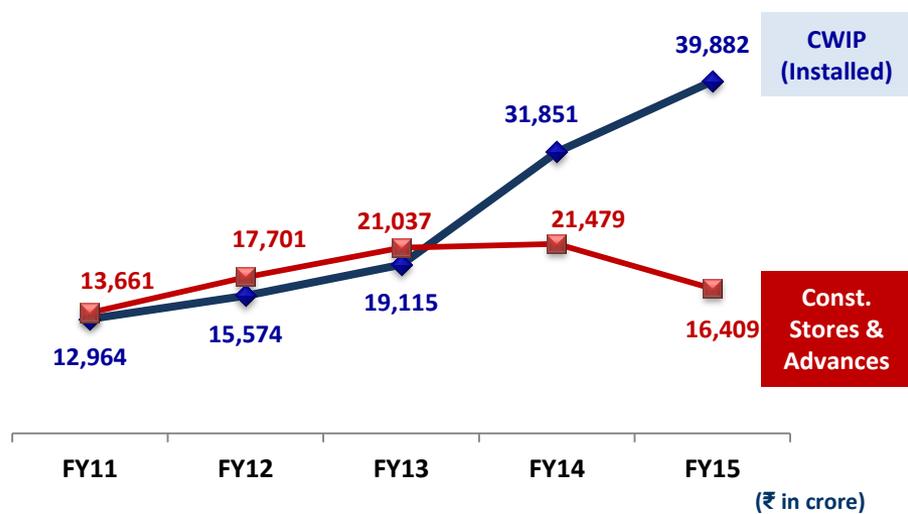
Growth³ in Mkt Cap. between Mar14 and Mar15: 38%

Project & Employee Efficiency- FY11 to FY15

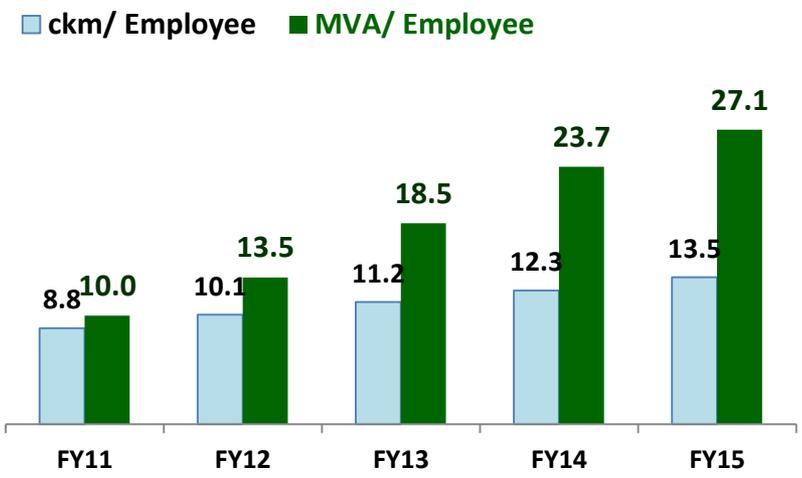
Thrust on Capitalization



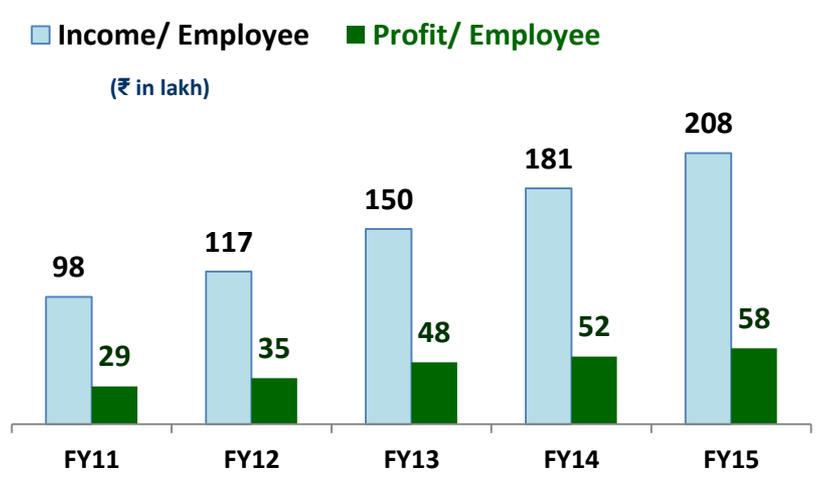
...and Efficient Project Management



Increased Employee Productivity....



....and Employee Efficiency



FY15: Billing & Realization

Billing

₹ 16,409 crore

Realization

₹ 15,848 crore

%age realization

97%

Avg. Monthly Billing: ₹ 1,367 crore => 2mnths (60 days') billing = ₹ 2,734 crore



Highest ever Revenue Collection in a month: ₹ 1880 crore (Mar'15)

Dues as on 31.05.2015

Balance due but not outstanding (<60 days allowed as per CERC) = ₹ 1,425 crore

Description	₹ in Crore
Outstanding > 60 days	274*
Payments (in installments)	5

Outstanding equivalent to ~6 days' billing

Transmission Lines

~ 12,600 GW-ckm



Major Lines

- Nellore-Thiruvalem
- Bina – Gwalior
- Champa-Raipur, Champa-Dharamjaygarh
- Indore - Vadodara
- Raichur – Kurnool, Nellore - Kurnool
- Rihand – V'chal,
- Jharsuguda – Dharamjaygarh
- Thiruvalem – Sholinganallur
- Annupur - Jabalpur
- Balipara - Bongaigaon
- Satna – Gwalior
- Wardha – Aurangabad, Raipur - Wardha
- Kurnool – Thiruvalem
- Sholapur - Pune
- Angul-Jharsuguda
- Silchar-Imphal

Aggregate ckm: ~8,800 (765kV: ~64%)

Sub-Stations

8 Nos.

~ 25,800 MVA



Sub-stations

- Rangpo (GIS)
- Shahjahanpur
- Magarwada (GIS)
- Chaibasa
- Tuticorin
- Pune (GIS)
- Bareilly
- Nagapattinam (GIS)

Inter-Regional Capacity

4,200 MW



Inter-Regional

- Jharsuguda – Dharamjaygarh (4,200MW)

Projects in FY16

Transmission Lines

20,500 GW-ckm



Major Lines

- Bareilly-Kashipur, Kashipur-Roorkee
- V'chal – Satna,
- Meerut – Moga, Kanpur – Jhatikara
- Raigarh-Champa
- Barh-Gorakhpur
- Silchar – Purba Kanchan Bari
- Vijayawada – Nellore
- Biswanath Chariyali – Agra (NE-NR/WR Interconnector) & associated AC system
- Aurangabad-Solapur, Kudgi-Kolhapur
- Aurangabad-Boisar
- Gooty – Madhugiri
- Angul – Jharsuguda (2nd line)
- Ranchi-Dharamjaygarh–Jabalpur
- Raipur PS - Wardha(2nd line),Wardha- Aurangabad
- Gwalior – Jaipur, Jaipur-Bhiwani(2nd line)
- Dehradun-Baghat, Roorkee-Saharanpur
- Pasighat – Roing – Tezu
- Mysore-Kozhikode
- Balia – Varanasi, Gaya-Varanasi, Varanasi-Kanpur
- Kishenganj-Patna
- Kurnool-Raichur
- LILOs- Meerut-Kaithal; Baripada-Mendhasal;
- 800kV Champa-Kurukshetra HVDC (Pole-I)

Sub-Stations

20 Nos.



Sub-stations

- Vindhyachal PS
- New Melli (GIS)
- Champa AC
- Vadodara (GIS)
- Navi Mumbai (GIS)
- Kanpur
- Biswanath Chariyali HVDC
- Agra HVDC
- Kudgi
- Kishenganj
- Varanasi
- Kolhapur
- Kozhikode
- Pandiabil (GIS)
- Saharanpur
- Bagpat (GIS)
- Dehradun
- Mokokchung (GIS)
- Champa HVDC
- Kurukshetra HVDC

Inter-Regional Capacity

15,200 MW



Inter-Regional

- Barh – Gorakhpur
- Gwalior-Jaipur
- Biswanath Chariyali – Agra (NE-NR/WR Interconnector) HVDC
- Ranchi-Dharamjaygarh
- Gaya-Varanasi
- Narendra - Kolhapur
- Champa-Kurukshetra HVDC Pole-I



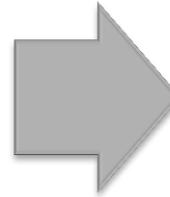
Transnational Interconnections

- India-Bangladesh (Surjyamaninagar-Comilla)
- India-Nepal (Muzzafarpur-Dalkebar)

Green font indicates assets commissioned in FY16

TBCB Projects

Participation
18 Projects



Success
9 (50%)

Licenses
received.
Contracts
awarded.

**POWERGRID NM
Transmission Ltd.** **Completion-Dec'15**
ALTC*: ₹ 99 cr.

**POWERGRID Vizag
Transmission Ltd.** **Completion-Aug'16**
ALTC: ₹ 231 cr.

Construction
under
progress.

**POWERGRID
Unchahar Trans.
Ltd.** **Completion-Sep'16**
ALTC: ₹ 17 cr.

**POWERGRID Kala
Amb Trans. Ltd.** **Completion-Jul'17**
ALTC: ₹ 59 cr.

**POWERGRID
Jabalpur Trans Ltd.**

- Acquired on 26.02.15
- ALTC - ₹ 211 crore

**Gadarwara (A)
Transco Ltd.**

- Acquired on 24.04.15
- ALTC - ₹ 290 crore

**Gadarwara (B)
Transmission Co. Ltd.**

- Acquired on 24.04.15
- ALTC - ₹ 257 crore

**TS for connectivity
of NCC Power
Projects**

- Bidding annulled.
Being implemented on regulated
tariff mechanism by POWERGRID

**POWERGRID
Vemagiri Trans.
Ltd.-**

- Discontinued

* Annual Levelised Trans. Charges

Projects in RfQ stage – 5 (Estimated Cost: ₹ 21,000 cr.)

Projects in RfP stage – 6 (Estimated Cost: ₹ 4300 crore)

Operational Highlights

Assets under management (Mar-15)

Tr. lines

- 950 nos.
- 115,637 ckm

Sub-stations: 192 Nos.

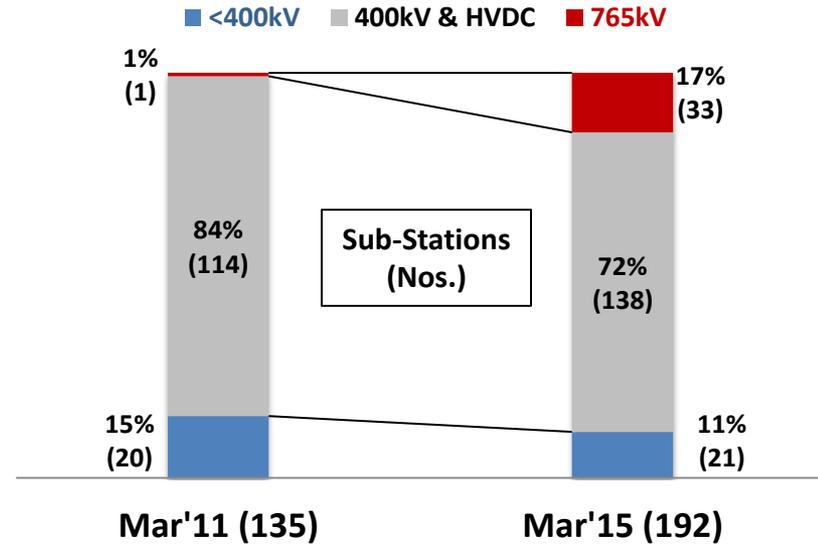
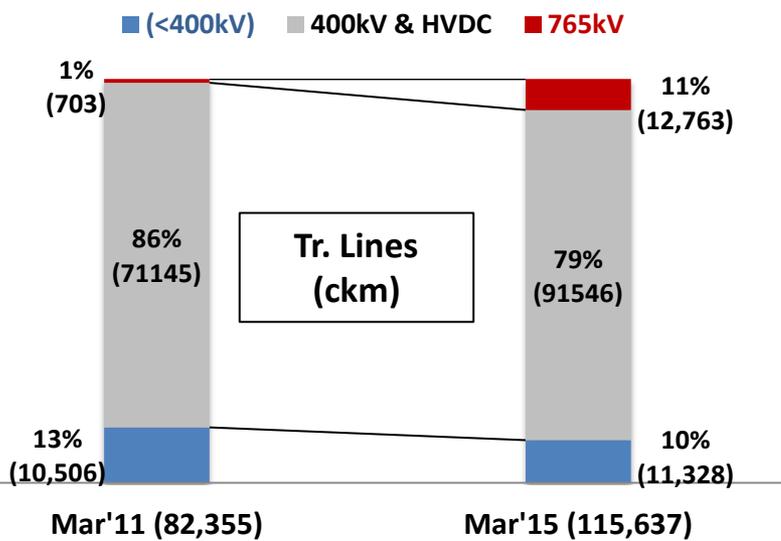
- 13 GIS
- 75 remotely managed
- ✓ 44 managed through NTAMC

X-formers: ~750 nos.

Xfn Capacity: 231,709 MVA

Reactors: ~ 1050 nos.

Voltage Landscape poised for a major migration to 765kV in the coming years



Asset Management Initiatives

NTAMC - Operational



- Centralized Operation of 65 S/S taken up till date
- **Attributes:** SCADA; Remote Accessibility System & Real time Video Monitoring System; Maintenance Service Hubs
- **Regional Control Centers (9)** - Jammu, Manesar (Haryana), Dehgam (Guj.), Nagpur, Patna, Subhashgram (W.B.); Hyderabad, Bengaluru, Shillong
- Back Up Control Center at Bengaluru

Aerial Patrolling



Bids invited for
~ 17,000 km of
transmission
lines in
Northern
Region



Hot Line Maintenance of 765kV transmission lines

- Successfully taken up in India for the first time
- On 765 kV Moga-Bhiwani transmission line
- Carried out by in-house team

Project 'Rupantar' (ERP) operationalized

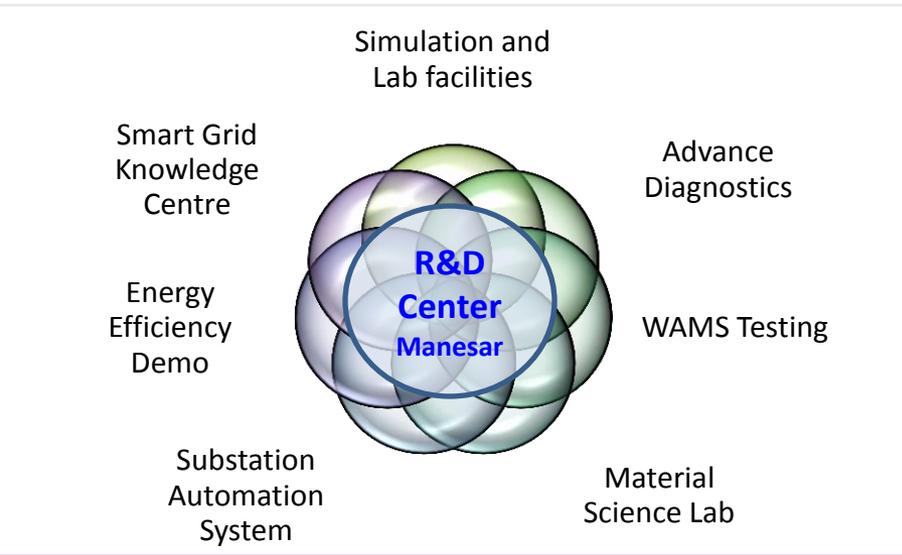
Upcoming Initiatives in O&M

TL maintenance (Live) with the use of helicopters

Insulated Bucket Trucks for Hotline Maintenance of TL & S/S

Mobile sub-stations

R&D/ New Technology Initiatives



Transmission Line Research Lab at Bina S/S

- Field Testing and Optimization Studies of TL

POWERGRID Academy of Leadership (PAL) becomes operational



- Field Trial since 2012
- Feedback satisfactory

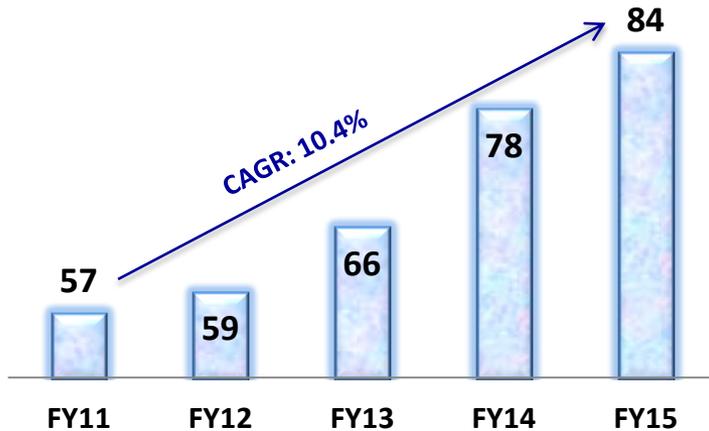
- Demonstration Project on 220kV HTS Cable – Bids invited

- Preliminary works under way

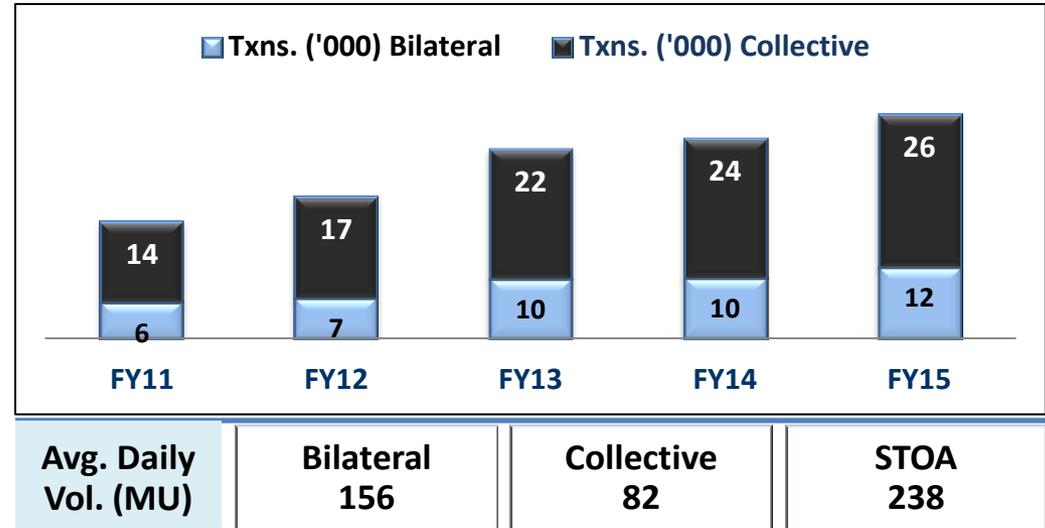
- Pilot Project successful
- 1st step towards digitization of S/S

Grid Management- Highlights

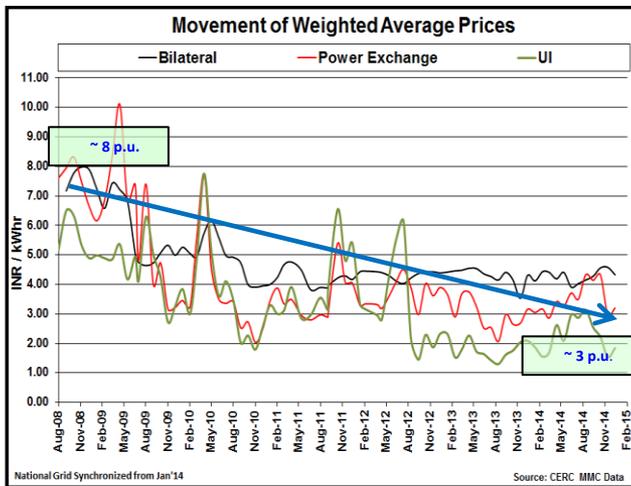
Inter-Regional Exchange (BU)



Short Term Open Access



Impact of STOA: Reduction in cost



REC Update

(As on 31-Mar-15)

1063 RE generators registered
Aggregate capacity: 4755 MW

FY15

RECs issued: 96.25 lakh (incl. 14.16 lakh Solar)
RECs redeemed: 30.62 lakh (incl. 1.64 Solar)

Since inception (Mar-11)

RECs issued (Nos.) upto March, 2015: 2.18 crore
RECs traded (Nos.) till March, 2015: 94.16 lakh
Traded value: ₹ 1710 crore (incl. ₹ 148 crore Solar [since May-12])

Highlights – Consultancy (Domestic)

FY15 Performance

New Orders

30 New Orders from 21 clients
Project Cost: ~ ₹ 7,100 crore

Under Execution

~ 120 assignments
Project Cost (Bal.): ~ ₹ 19,500 crore

Major assignments

- Strengthening of T&D System in Arunachal & Sikkim, NER States
- Delhi Transco Ltd. works
- Rural Electrification works (15 districts) in Odisha

Works commenced

Major Orders under consideration

Trans. System for Dedicated Freight Corridor Corporation of India

Works for Ministry of Railways

Smart Grid related assignments

Areas of Consultancy & Clientele



GoI (NER, J&K)
Project Management
Rural Electrification



STUs
Turnkey Execution
Capacity Building



DISCOMs
Smart Grid
Rural Electrification



CPSEs
Turnkey Execution
SCADA & OPGW



Pvt Sector
Turnkey Execution
TL & S/S Engg

Highlights – Consultancy (International Business)

FY15 Performance

Activities

14 Eols submitted

4 New countries approached

Success

10 Orders received
3 New countries included

~50% of the works in the area of Capacity Building

Status

14 projects under Execution

Myanmar Project successfully completed

Major works

- 2nd Block of 500MW B2B Stn. in Bangladesh
- Capacity Building works in Asia & Africa
- Assignments from ADB & the World Bank

Major On-going Assignments

- ✓ EPC Consultant: CASA 1000 Project
- ✓ Management Contract – Ethiopia
- ✓ HVDC Back-to-Back Stn. - Bangladesh
- ✓ Implementation Support- Nepal

Recent Updates

- EPC assignment in Nepal- Bid under submission
- 'Trading House' status accorded to POWERGRID - Certificate of Recognition issued by Gol (Addl. DGFT)

Footprints in 18 countries

Asia



Afghanistan, Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, UAE

Africa



Congo, Ethiopia, Kenya, Nigeria, Senegal, **Tanzania**

CIS countries



Kyrgyz Republic, **Kazakhstan**, Tajikistan, **Uzbekistan**

Highlights – Telecom

Infrastructure & Licenses

- Infrastructure
 - Fiber Optic Network: ~ 33,200 km
 - Points of Presence: 352
- Licenses/ Registrations
 - NLD
 - ISP Category 'A'
 - IP-I

Services Offered

- Point to Point dedicated Bandwidth Leased Lines
- MPLS-VPN
- Internet Leased lines
- Dark Fiber
- Tower Space

Clientele

- NLDOs/ ILDOs
- Unified Access Providers (incl. all Leading Telcos)
- Global IT Companies
- ISPs
- Central & State Govt. incl. PSEs
- Corporates incl. MNCs

FY15



35 PoPs added



44 New Clients
[[Pvt. (15), Govt(29)]]



Backbone Availability
99.97%

Notable Projects

MPLS

- Commercial launch in Apr'14
- 8 Clients – both CPSUs & Pvt. (NTPC, GAIL, APTRANSCO etc.)
- In-house requirement for NTAMC and ERP

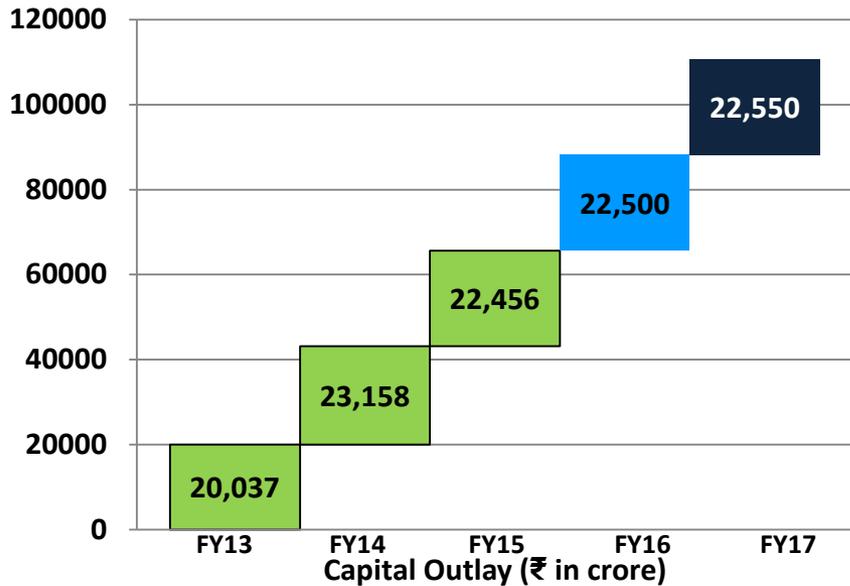
National Knowledge Network (NKN)

- POWERGRID Scope: ₹ 900 cr.
- Project completed - Under Operation

National Optical Fiber Network (NOFN)

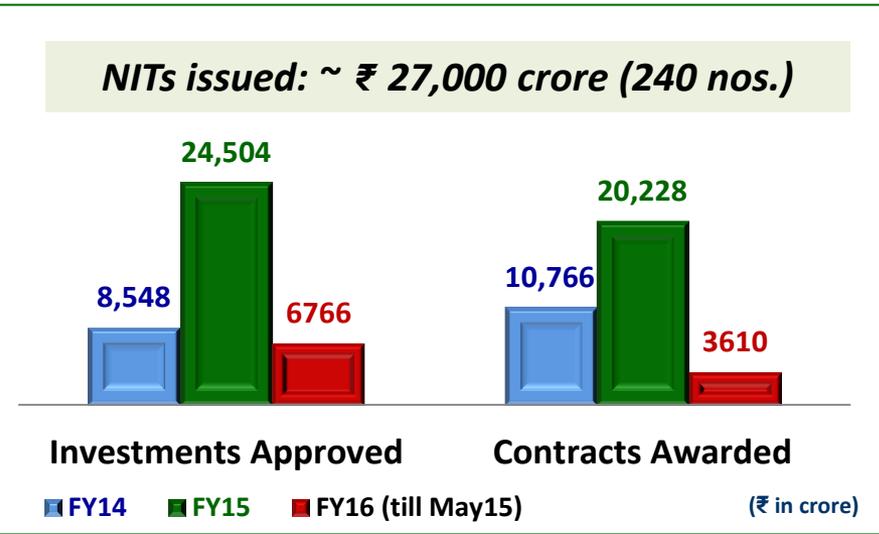
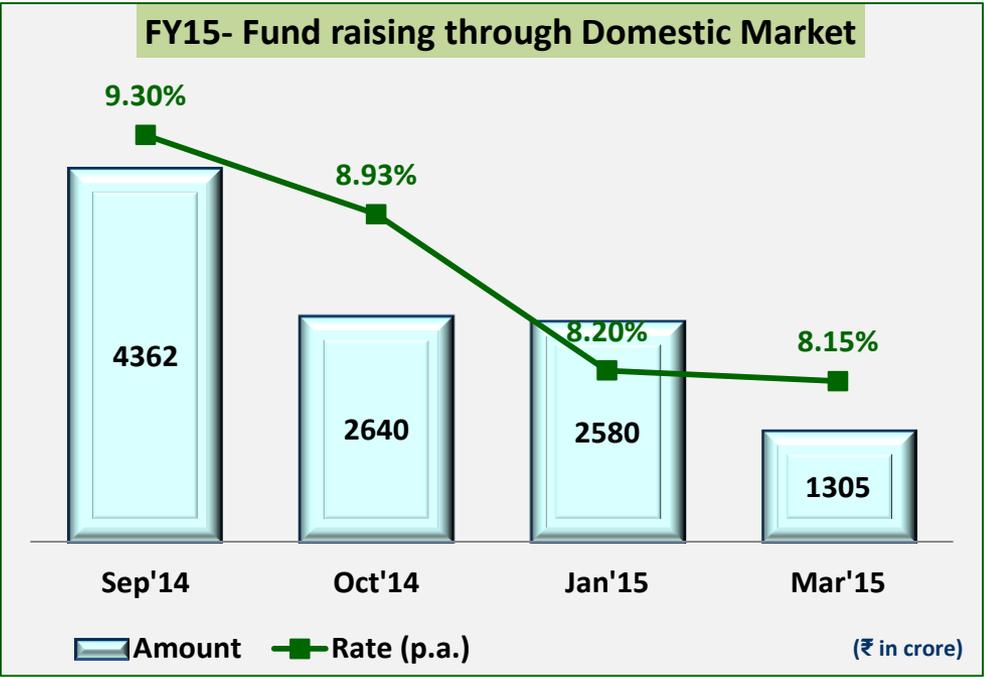
- Execution in 4 States
- Work commenced for 6,900 Gram Panchayats

Investment & Funding Programme



Funding of Projects

- Debt & Equity in the ratio 70:30 as per Tariff guidelines
- FPO funds raised in 2013- Utilized



₹ 2600 crore raised thru' SBI Line of Credit

Smart Grid - Updates

Green Energy Corridors	Implementation for Phase-I commenced (Inter-State portion: ₹13,000 crore)
	Report for Green Energy Corridors – II submitted to GoI
Ultra Mega Solar Parks	Transmission System Implementation commenced for Solar Park in NP Kunta, Andhra Pradesh
Power Quality Measurement	Under progress in 175 cities across the country



Smart Grid - Updates

Smart Grid Consultancy Works

- **Implementation commenced**
 - Punjab, Karnataka & Himachal Pradesh
- **Under Progress**
 - Tripura, West Bengal, Chhattisgarh
- **New Assignments**
 - Bangalore (BESCOM) - Secured
 - Puducherry – under Finalization

New Technologies

1000 kW Grid scale battery energy storage systems under implementation

Analytics for WAMS being developed along with IIT Bombay

New Products

Smart Home Energy Management System and Microgrid Controller

Energy Efficient All Season Roof Screening

Active power filter for power quality improvement

Smart Meter & Data Concentrator Units developed

Smart Ventilation System being developed

Meter Data Management System developed

Development of Automatic Power Factor Controller in progress

Patent applied

Developed & Patent will be filed

Under Development

New Initiatives- Updates



Energy Efficiency

- Certified as BEE Grade-1 Energy Service Co.
- Energy Audit assignment from SAIL - **Successfully Completed**
- >1300 Agricultural pumps replaced with energy efficient pumps in Karnataka
- 'Negawatt- Makes a Watt', An Energy Efficiency Report - **Released**



JVs for Intra-State Transmission

- Bihar Grid Co. Ltd.- Under implementation
- Kalinga Bidyut Prasaran Nigam Ltd. – Under discussion



JVs for Manufacturing

- Tower parts: POWERGRID & RINL – Shareholding Agreement signed
- Conductor: In-principle approval accorded by the Board
- Insulator: Under discussion



JV for Off-Shore Wind Power

- For Off-shore Wind Power in Gujarat: with NTPC, PFC, IREDA etc.
(POWERGRID to implement evacuation system)

Highlights – CSR & Sustainability



Environment and Social Policy & Procedure (ESPP)

- Principles of **Avoidance, Minimization and Mitigation**
- Certified to Social Accountability Standard (SA-8001: 2008)

POWERGRID's CSR Policy aligned to Companies Act, 2013 which came into effect from April 1, 2014

Thrust Areas Education - Rural Infrastructure - Health Environment - Tree Plantation – Livelihood - Restoration works

FY15 CSR Budget: ₹ 109 cr
(2% of Avg. Net Profit of last 3 years)

CSR Projects sanctioned in FY15
79 Nos. Cost: ₹ 157 cr.

Major Projects undertaken in FY15

Implementing 'Swachh Vidyalaya Abhiyan' under Swachh Bharat Mission of Gol	Skill Development to 5000 youth through NSDC ¹	Skill Development to 1500 handicapped persons thru' NHFDC ²	Installation of Solar Street Lights	Supply of Solar lanterns to school children	Scholarships to Students in Assam & Manipur	Supply of Aids and appliances to ~ 2500 persons through ALIMCO ³
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Sustainability Initiatives

- ✓ Solar plants & LED lights in new S/S Control Rooms
- ✓ Rain Water Harvesting in S/S
- ✓ 1000 trees planted in Gurgaon
- ✓ Renovation of village ponds- Odisha & Chhattisgarh

Complementing 'Make in India'



765kV Class Transformer/ Reactor	Foreign bidders to set up manufacturing facility to supply at least one Transformer/ Reactor
765kV GIS Equipment	Foreign bidders to set up manufacturing facility to supply at least one bay
±800kV HVDC Equipment	Thyristor- at least 50% to be assembled in India Convertor X-former- 90% indigenous
SVC & STATCOM	At least one SVC/STATCOM to be supplied from manufacturing facility in India
HTLS Conductors, Insulators & EHV cable	Suitable provisions being proposed to promote manufacturing in India



Swachh Bharat Abhiyan

- **Implementing ~ 10,000 toilets in Govt. Schools, by August, 2015**

Way Forward

Major works

6000MW HVDC Bipole/ Other Schemes between WR & SR	TS for Solar Park in 7 States	ISTS for Renewables in Northern Region	ISTS works in NCT of Delhi	Success in TBCB in recent projects
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Major Consulting Assignments in States

NER Power System Improvement Scheme in six States of NER; Sikkim & Arunachal	Transmission Project for Leh- Kargil (J&K) connectivity	Implementation of evacuation system for Lalitpur TPP in UP	Transmission System Strengthening works in Delhi
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Transmission Projects for FY15-16: ~ ₹ 100,000 crore

TBCB ~ ₹ 28,000 cr.	POWERGRID ~ ₹ 40,000 cr.	Consultancy ~ ₹ 9,800 cr.	Intra-State (GEC) ~ ₹ 14,000 cr.
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Thank You

