



Country Presentation Bangladesh



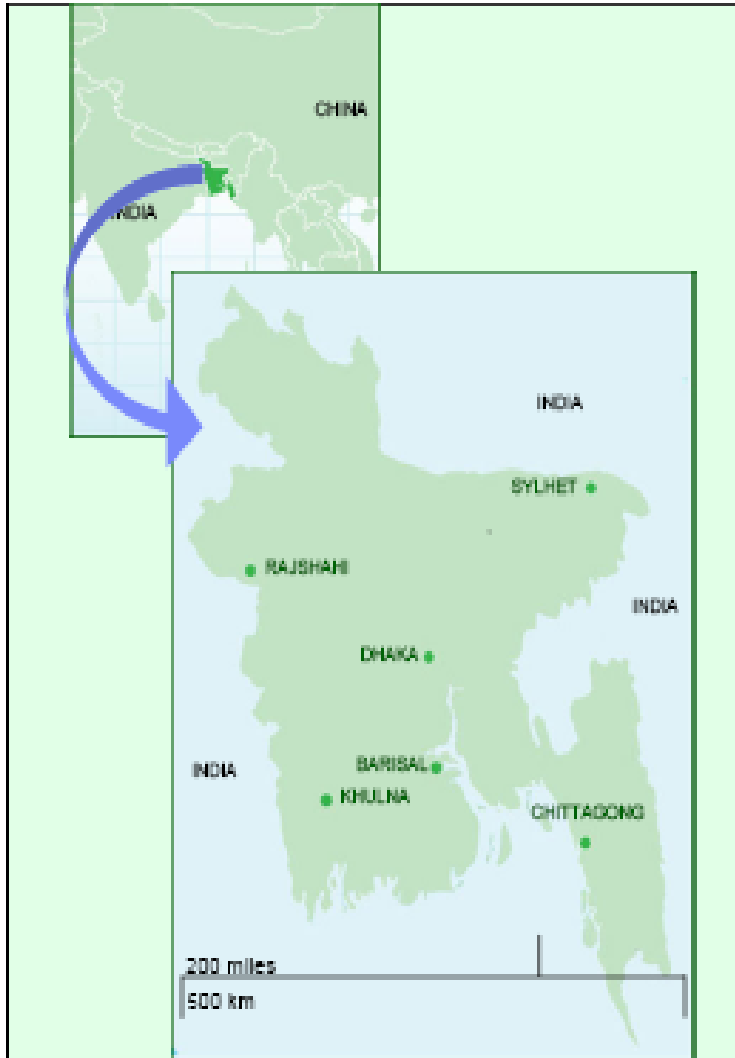
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Director General

Power Cell



Bangladesh At a Glance



- **Official Name** : **People's Republic of Bangladesh**
- **Political System** : **Parliamentary Democracy**
- **Population** : **159 Million**
- **Area** : **147,570 km**
- **Time Zone** : **GMT+6 Hours**
- **GDP Per Capita** : **USD 1192** (At Current Prices FY 2014-15)
- **FDI** : **USD 1.18 Billion (2014)**
- **Total Exports** : **USD 30.18 Billion (FY 2013-14)**
- **Total Import** : **USD 36.99 Billion (FY 2013-14)**
- **Foreign Reserve** : **USD 26 Billion (August 15)**
- **Currency** : **BDT (78 BDT = 1 USD)**



VISION-2021

Vision 2021-
To be a Middle-Income Country

Vision for Power Sector:

To provide quality electricity to all at an affordable price

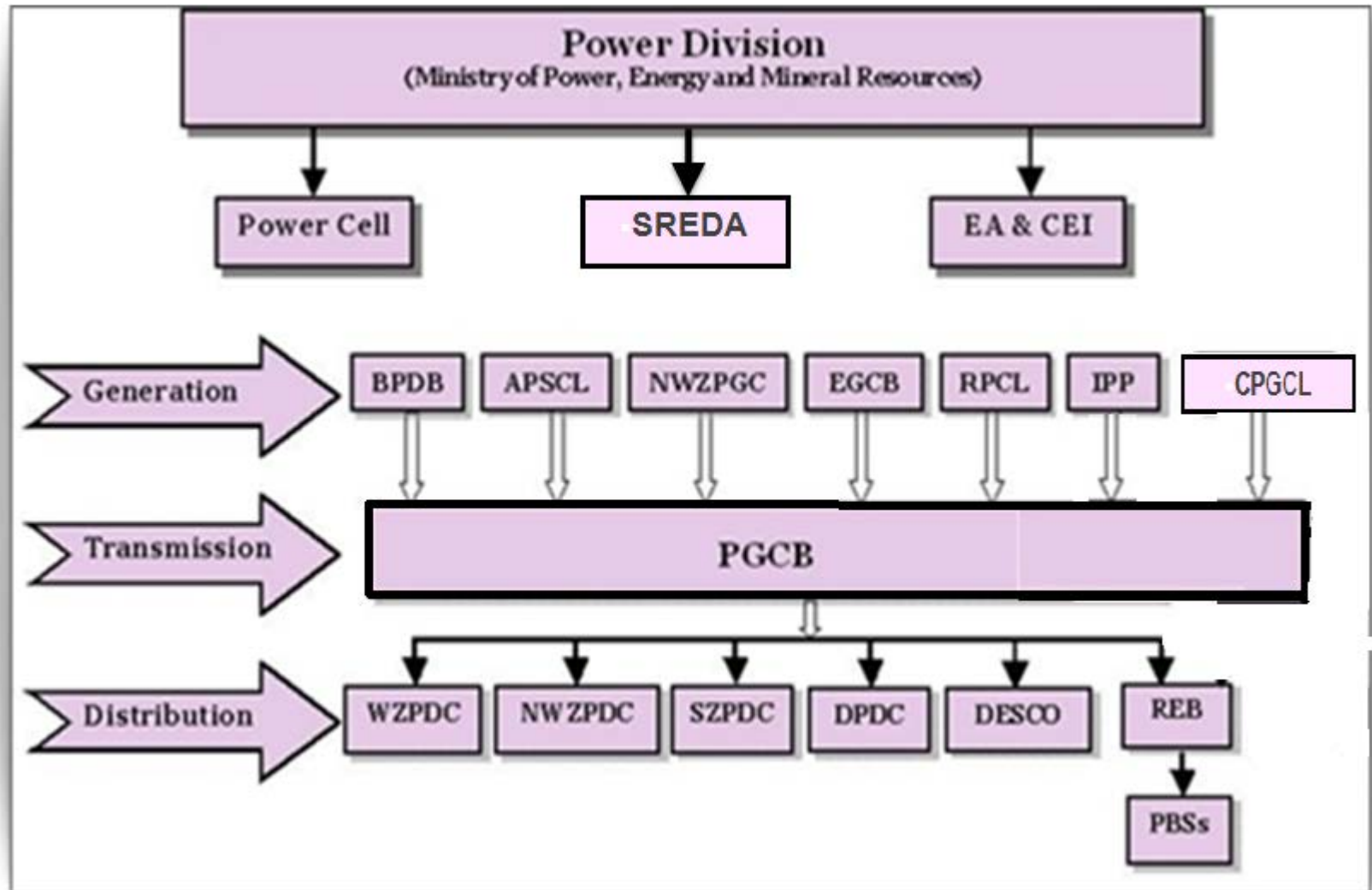


Bangladesh Power Sector: At a Glance

- **Electricity Growth** : 12 %
- **Generation Capacity (including captive)** : 14,077 MW
- **Total Consumers** : 17.8 Million
- **Transmission Line** : 9,695 Ckt. km
- **Distribution Line** : 3,41,000 km
- **Distribution Loss** : 11.36%
- **Per Capita Generation** : 371 kWh
- **Access to Electricity** : 74%



Institutional Arrangements





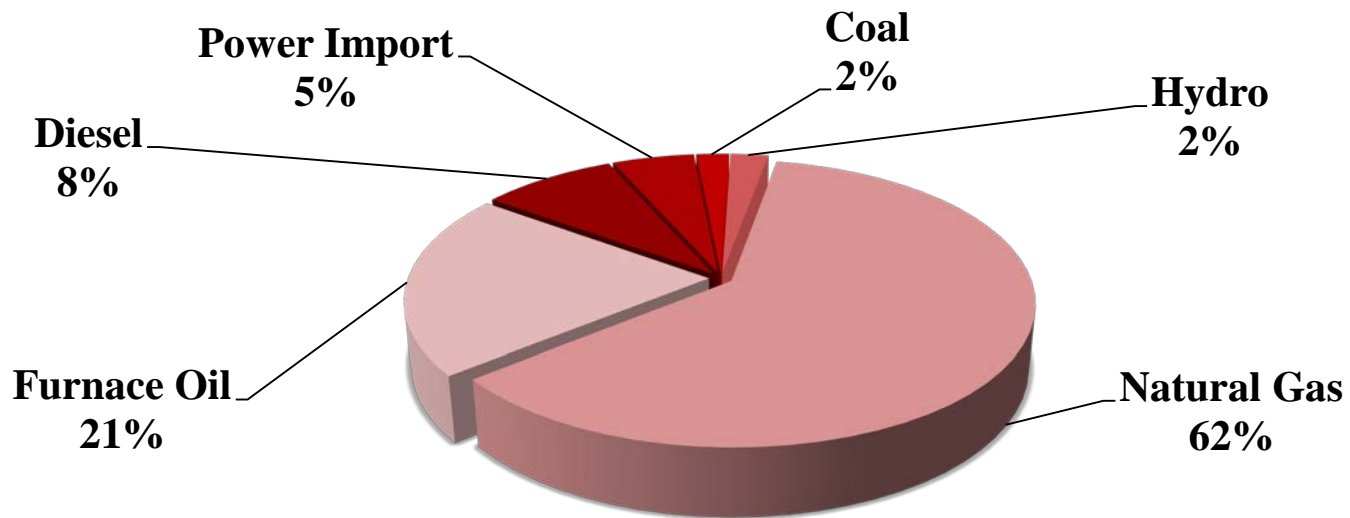
Power Generation Capacity

Sector	Generation Capacity (MW)	(%)
Public	6365	54
Private	5012	42
Import	500	4
Sub-total (Grid Connected)	11,877	100
Captive	2,200	-
Total	14,077	-



Present Generation: Fuel Mix

**Generation Capacity
(By Fuel Type)**



■ Diesel ■ Power Import ■ Coal ■ Hydro ■ Natural Gas ■ Furnace Oil



Upcoming Power Generation Projects

Sl.	Description	Projects (Number)	Capacity (MW)
01	Under Construction	25	6082
02	In the Process of Tendering	21	7648
03	Under Planning Process	6	4685
-	Total	52	18415



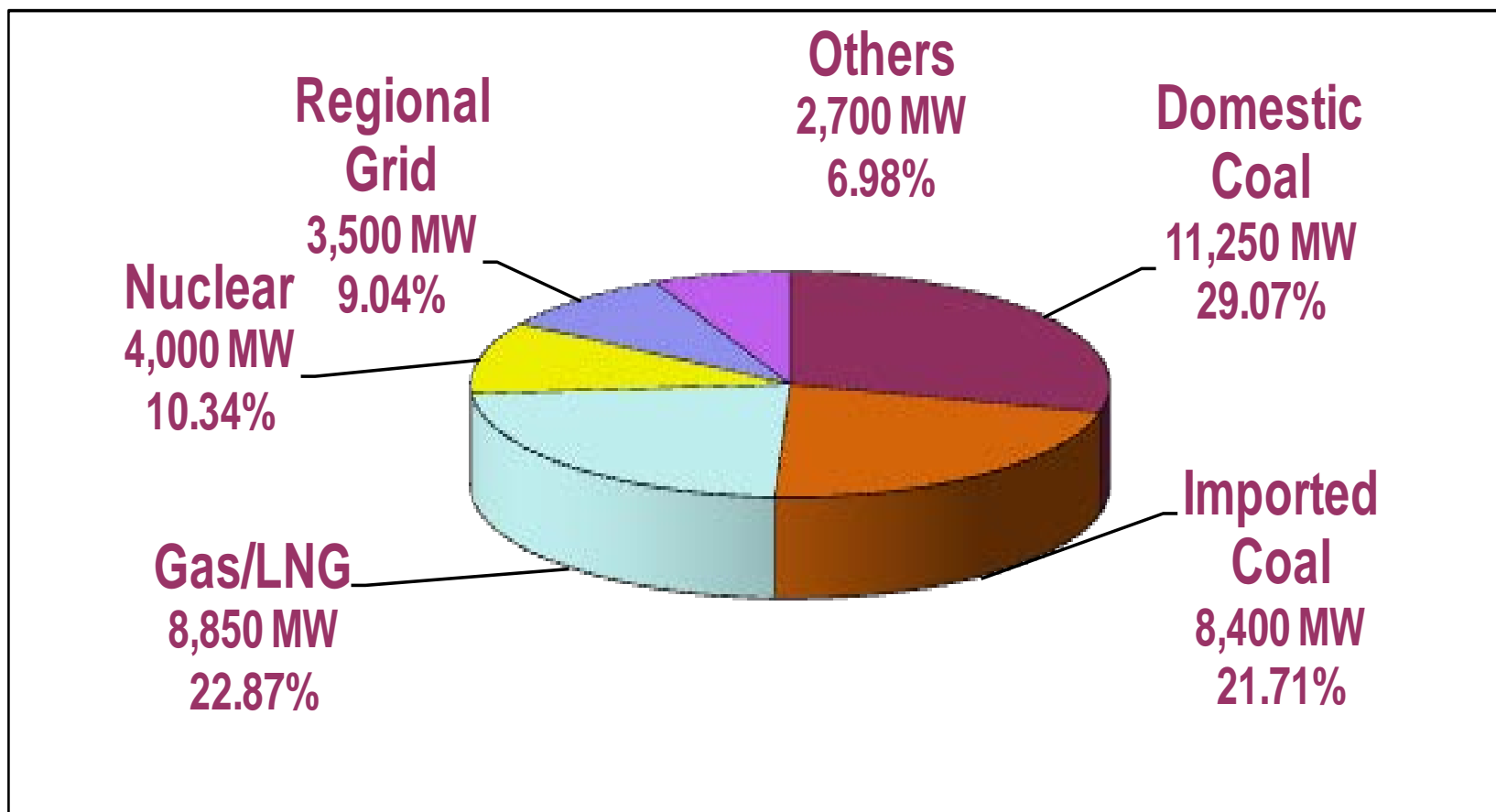
Power Generation Targets

According to the “Power System Master Plan, 2010 (PSMP)” Power generation targets up to 2030:

Year	Target (MW)
2016	16,000
2021	24,000
2030	40,000



Power Sector Road Map: Fuel mix by 2030



Source: PSMP-2010



T & D Loss

FY	Transmission Loss (%)	Distribution Loss (%)	T & D Loss (%)
2010-11	2.66	12.75	14.73
2011-12	2.96	12.26	14.61
2012-13	2.94	12.03	14.36
2013-14	2.74	11.96	14.13
2014-15	2.75	11.36	13.54



Bangladesh Transmission System: At a Glance

Transmission Line:

400kV	:	164.7	Circuit Km
230 kV	:	3194.1	Circuit Km
132 kV	:	6260	Circuit Km
132 kV (DPDC & DESCO)	:	76.2	Circuit Km

Grid Substations:

HVDC BtB	:	01	(500MW)
230/132 kV	:	16	(8775 MVA) + 2 Nos. Switching
230/132 kV (BPDB & APSCL)	:	2	(550 MVA)
132/33 kV	:	89	(11568 MVA)
132/33 kV (BPDB, DPDC, DESCO & Others)	:	20	(2425 MVA)



Power Transmission: Future Plan

Transmission Line Plan up to 2021

Voltage (kV)	Length (Ckt-km)
132	10,297
230	5,081
400	3,711
800	180
Total	19, 269

Substation Capacity addition Plan up to 2021

Voltage (kV)	Capacity (MVA)
132	32,000
230	37,225
400	14,970
Total	84, 195



Power Distribution: Future Plan

Parameters	2015 (At present)	2021	2030
Consumers (Mill.)	17.8	24.2	36.3
Line Constr (Thou KM)	341	481	641
Sub-Station (MVA)	24,720	35,700	66,500
Peak Demand (MW)	8,177	18,800	33,700
Distribution System Loss	11.36 %	9.50 %	8.70 %



Transboundary Power Trade

Present cooperation :

- 500 MW (Bheramara-Baharampur)
- 500 MW (Bheramara-Baharampur) (Under Process)
- 100 MW (Comilla-Tripura) (Under Construction)

Feasibility Study started to construct 800 KV Bipole DC transmission Line from Rangia-Rowta to Barapukuria to Mugaffarpur, Bihar for transmitting 6500-7000 MW.

Bangladesh intends to import about 2000 MW from this Line.



Renewable Energy Development

Policy Targets

10% (2000 MW) of total energy generation from RE by 2020

10% (4000 MW) of total energy generation from RE by 2030

Year wise generation plan to reach the targets								
Year	2015	2016	2017	2018	2019	2020	2021	Total
(MW)	77	375	680	594	552	410	415	3103

Achievement:

☐ 415MW

☐ 4.4 million SHS



Large Scale Grid Tied RE Projects

❑ Public Sector Projects:

- Solar: 455MW
- Wind: 600MW

❑ Private Sector Projects:

▪ Solar

- Sonagazi: 100 MW
- Panchagarh: 200 MW
- Tchnaf: 200 MW
- Rangunia: 60 MW
- Gangachora: 55 MW
- Dharla: 30 MW

▪ Wind

- Cox's Bazar: 60MW
- Rajpalong: 15MW



Regulatory Framework

- ❑ **Bangladesh Energy Regulatory Commission (BERC)
Created under BERC Act 2003.**
 - **Regulates energy price, issue license & protect consumers right.**
- ❑ **Sustainable and Renewable Energy Development
Authority (SREDA) Created under SREDA Act 2012.**
 - **Regulate RE & EE related issues**
- ❑ **Power Cell**
 - **Formulate power sector policies**
 - **Prepare future development plans**
 - **Implement reform activities**



Constraints in Power Sector

- Old Electricity Act'1910. New Electricity Act, 2015 is under preparation
- Independent System Operator (ISO) has not yet been established
- Coal Import and construction of deep sea port for coal handling
- LNG import & construction of terminal
- Development of Regional Grid and lack of dedicated organization for Power Trade
- Scarcity of land for grid connected RE projects
- High upfront cost for RE project
- Huge financing for upcoming power sector projects
- Implementation of coal and nuclear base mega projects
- Electricity tariff is not cost reflective



Thank You