

Knowledge Co-Creation Program on Energy Policy



Country Report of Bangladesh

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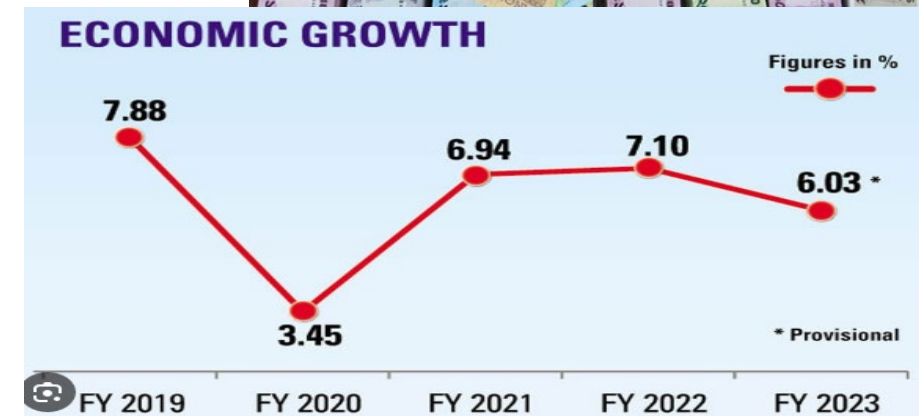
Senior Assistant Secretary

Power Division

Ministry of Power, Energy and Mineral Resources

Country Profile & Economic Indicators

- ❑ Name of the Country : Government of the People's Republic of Bangladesh
- ❑ Capital City : Dhaka
- ❑ Country Area : 148,460 Sq.Km (57,320 sq mi)
- ❑ GDP in FY 2023-24 : 50,480 Billion Tk. (Provisional)
- ❑ GDP Growth in FY 2023-24 : 5.82% (Provisional)
- ❑ Population : 17.15 Cr. (Census 2022)
- ❑ No. of Households : 4,10,10,051 (P&H Census 2022)
- ❑ Population Density : 1,173 Per Sq. Km
- ❑ Annual Avg. Growth : 1.33%
- ❑ Per Capita Income : 2,784 USD (FY 2023-24)
- ❑ Inflation Rate : 9.88% (May 2024)
- ❑ Foreign Exchange Reserve : 24161.40 M. US \$ (May 2024)

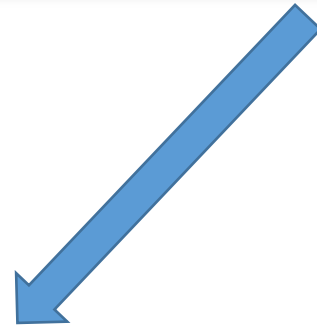


Administrative Unit Map of Bangladesh

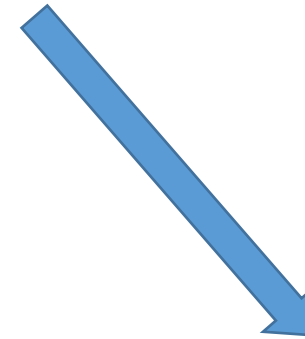


Ministry of Power, Energy and Mineral Resources

(Government of the People's Republic of Bangladesh)



**Energy and Mineral
Resources Division**



Power Division



Organizational Structure

Ministry of Power, Energy and Mineral Resources

Energy and Mineral Resources Division

Geological Survey of Bangladesh (GSB)

Bangladesh Petroleum Institute (BPI)

Bureau of Mineral Development (BMD)

Hydrocarbon Unit

Department of Explosives

Bangladesh Energy Regulatory Commission (BERC)

Petrobangla

BAPEX

BGFCL

SGFCL

GTCL

TGTDCL

GDCL

JGTDSL

PGCL

KGDCL

SGCL

RPGCL

BPCMCL

MGMCL

Bangladesh Petroleum Corporation

POCL

MPL

JOCL

ERL

LPGI

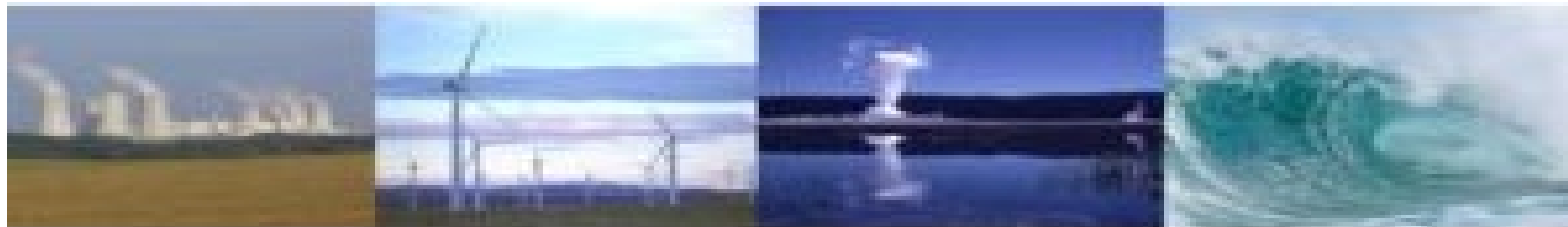
Power Division

Org/Cell	Generation	Transmission	Distribution
EPRC	BPDB	PGCB	BPDB
SREDA	APSCCL		BREB
CEI	EGCB		DESCO
Power Cell	NWPGCL		DPDC
BPMI	RPCL		WZPDCO
	CPGCBL		NESCO
	BRPL		

ENERGY AND MINERAL RESOURCES DIVISION

Vision of Energy & Mineral Resources

To achieve energy security for the country through supply of sustainable energy services for all at affordable prices and exploit mineral resources in an environmentally sustainable manner.



Primary Energy in Bangladesh



TOTAL
PRIMARY ENERGY
57.27 MTOE

41% NATURAL GAS

25% BIOMASS

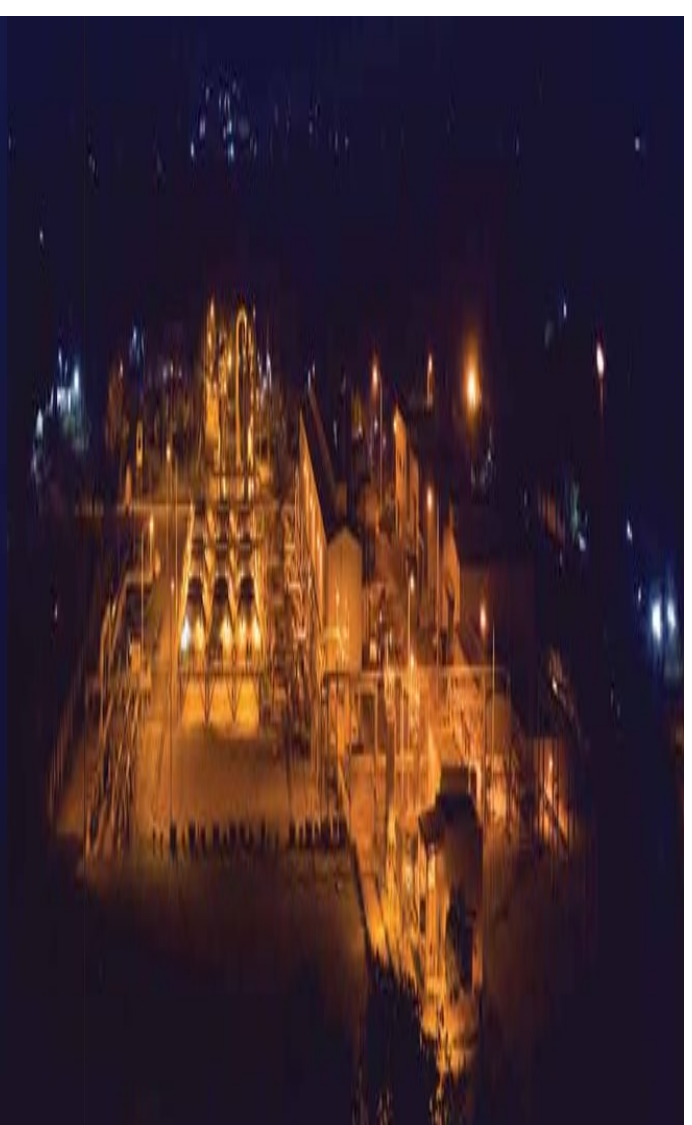
18% OIL (CRUDE AND REFINED)

9% COAL

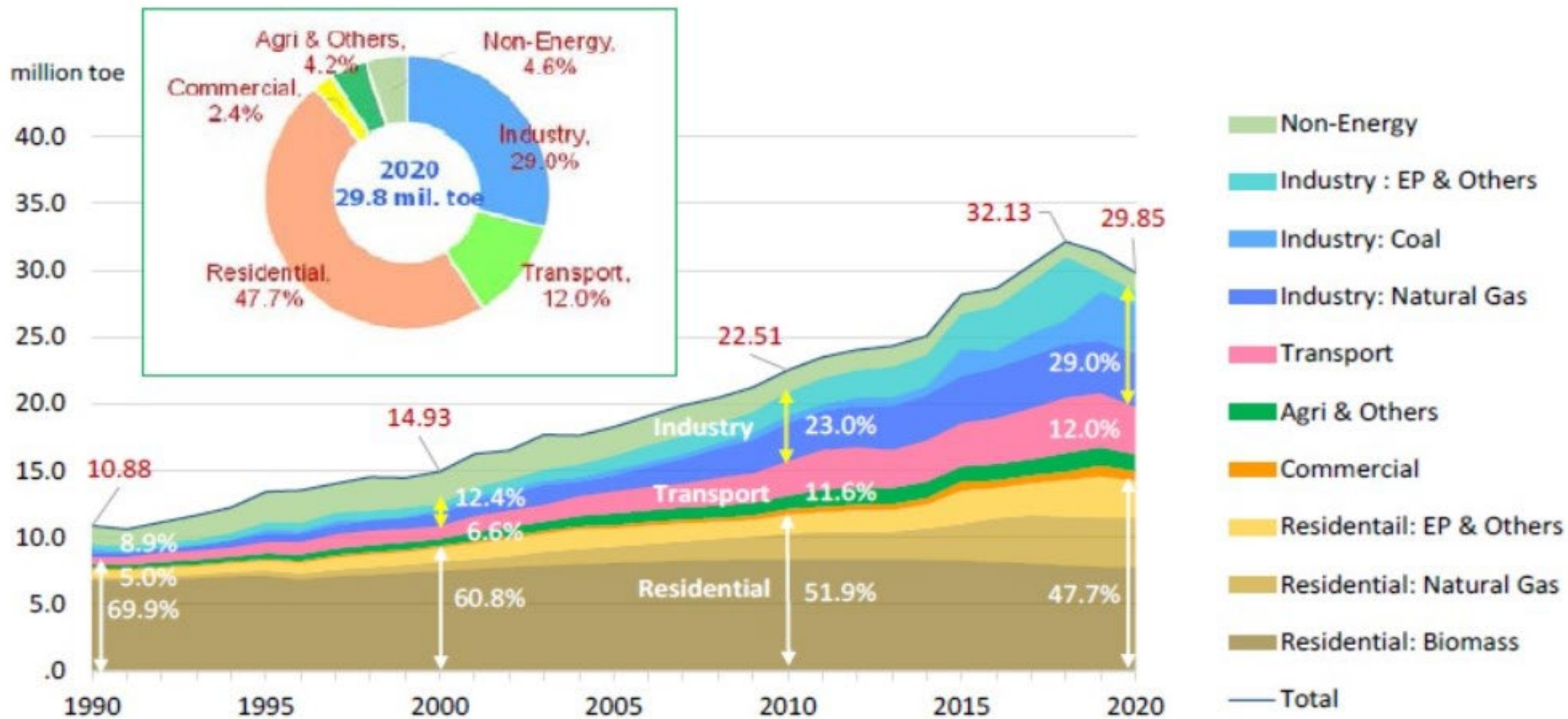
3% POWER (IMPORTED)

2% LPG

2% RENEWABLE



Energy Consumption by Sector



Source: IEA World Energy Balances 2022

POWER DIVISION

Vision of Energy & Mineral Resources

Universal access to quality electricity in a cost-effective and affordable manner.



Power Sector: At a Glance

 **Generation Growth** : 10 % (Av.)

 **Installed Capacity (Inc. Captive & RE)** : 30,277 MW

 **Power Import** : 2,656 MW

 **Consumers** : 47 Million

 **Transmission Line** : 15,357 Ckt. km

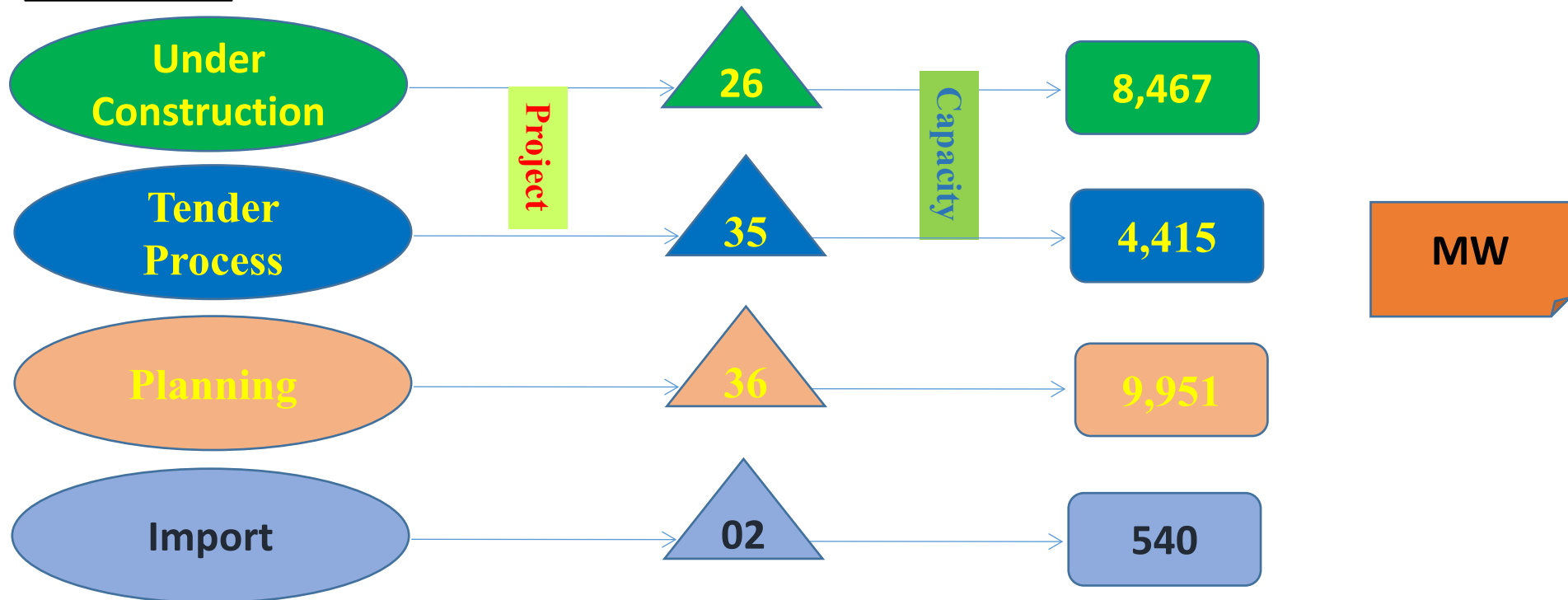
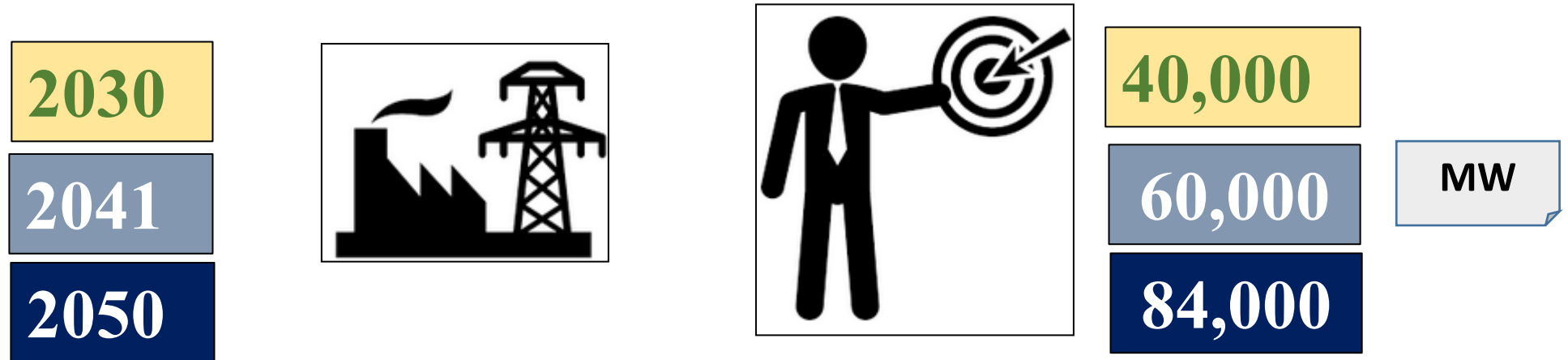
 **Distribution Line** : 6,43,000 km

 **Distribution Loss (FY 2022-23)** : 7.65 %

 **Per Capita Generation** : 602 kWh

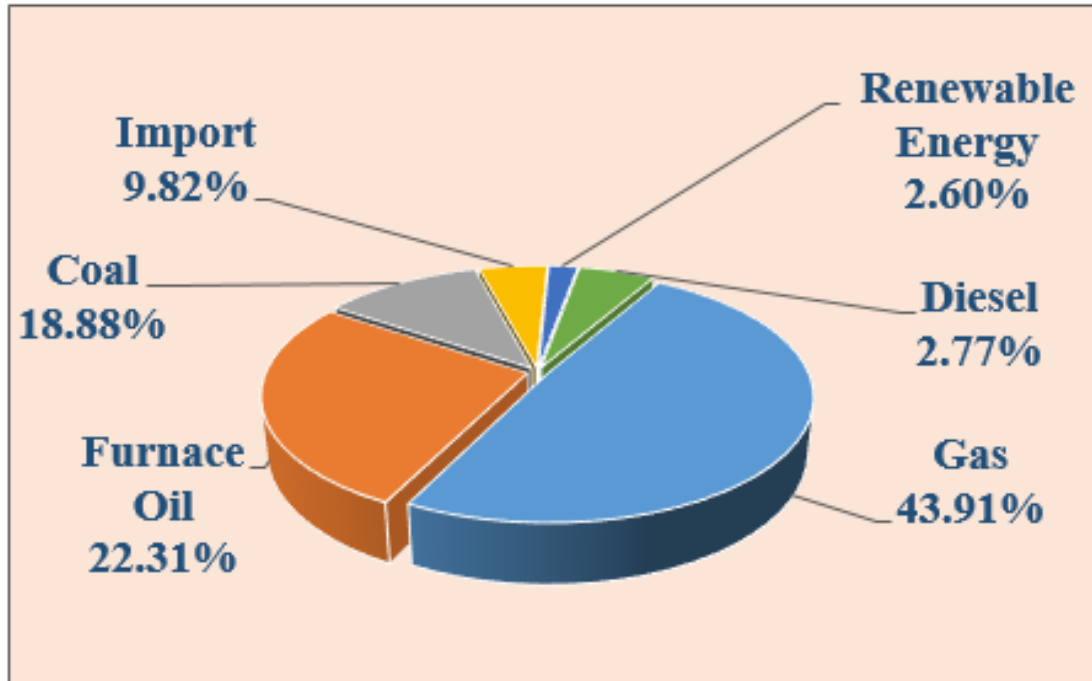
 **Access to Electricity** : 100%

Power Generation Targets



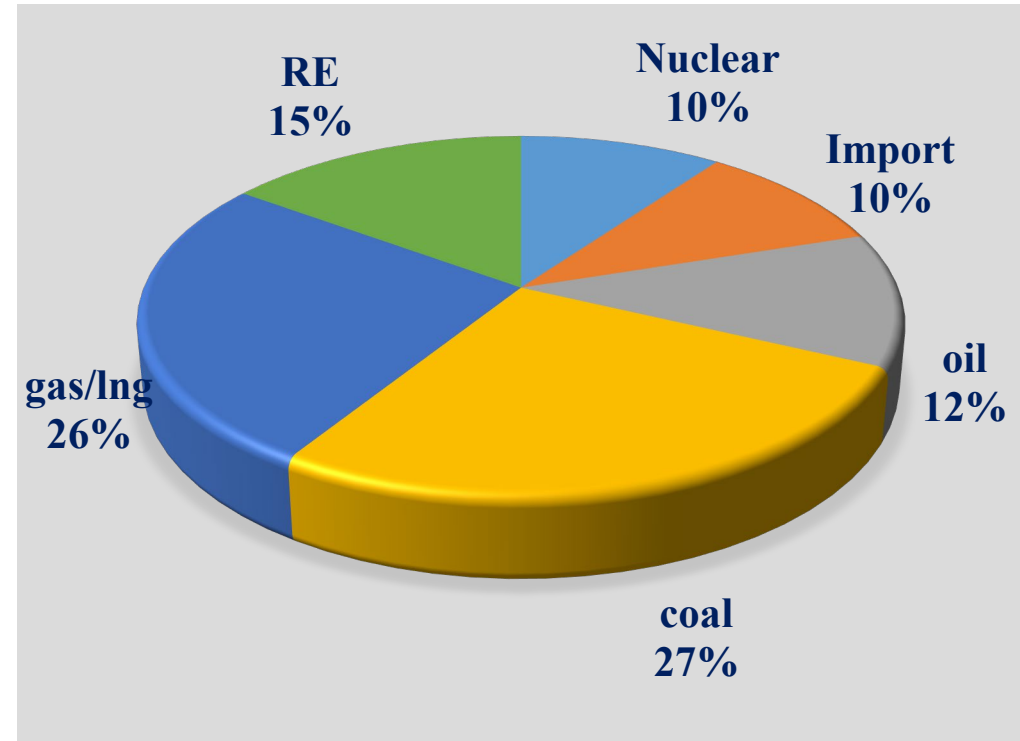
Fuel Mix: Generation Capacity (Grid)

27,054 MW



Present

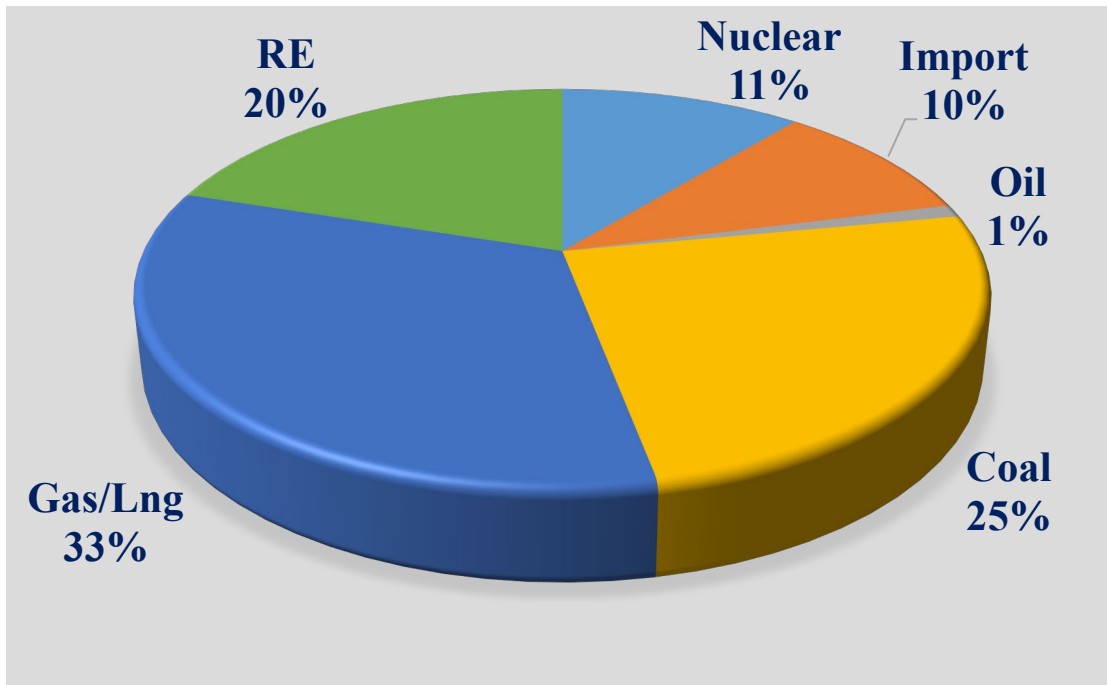
40,000 MW



2030

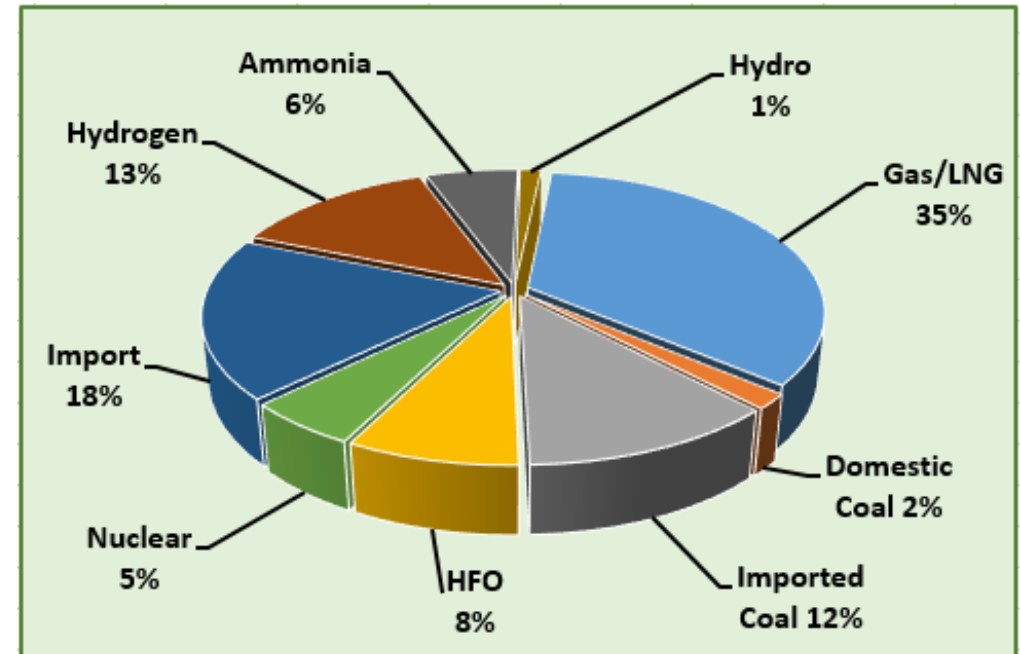
Fuel Mix: Generation Capacity (Grid)

60,000 MW



2041

84,900 MW



2050

Present & Future

Transmission

2024

2030

2041

15,357

24,000

36,870

Circuit KM

Distribution

6,43,000

6,60,000

7,83,000

(KM)

Nuclear Power Project

Rooppur Nuclear Power Project

Unit-I

- 1200MW
- Commissioning: 2024

Unit-II

- 1200MW
- Commissioning: 2025

RE Achievements



Solar Home System



Solar Irrigation System

Technology	Off-Grid (MW)	On-Grid (MW)	Total (MW)
Solar	373.8	704.89	1078.69
Wind	2	0.9	2.9
Hydro	0	230	230
Biogas to Electricity	0.69	0	0.69
Biomass to Electricity	0.40	0	0.40
Total	376.89	935.79	1312.68



Solar Mini Grid



Grid-tie Solar Park

Technology-wise Progress of RE

Solar Home System (SHS)

6.04 million (263.70 MW)

Solar Park

11 (536 MW)

Solar Irrigation

3402 (57.6 MW)

Solar Roof-top

Except Net-Metering: 240 (80.5 MW)

Net Metering: 2392 (110.78MW)

Solar Charging Station

15 (0.29 MW)

Solar Drinking Water System

82 (0.1 MW)

Wind Power Plant

3 (3 MW)

Biomass & Biogas

9 (1.4 MW)

Hydro

230 MW

Pillars as Master Plan of Power & Energy Division

As per IEPMP 2023 supported by JICA & IEEJ

- **S+3E**

- 1. Safety:** Energy must be supplied safely and stably
- 2. Energy Security:** Maximize the use of indigenous energies and prepare energy import infrastructure
- 3. Economic Efficiency:** Provide modern/convenient energies at an affordable cost
- 4. Environment:** Secure sound environmental conditions and lower the GHG (Green House Gas) emissions to a lowest possible level.

CO2 Emission Reduction

Aim of IEPMP 2023

- Energy consumption will follow past trend
- Increase share of Renewable Energy in generation mix
- Effort to keep energy based emissions of GHG as low as possible
- Zero emissions of energy based GHGs by 2050; and
- Reduce effect of climate change

In 2021, China is the largest emitter of carbon dioxide gas in the world. It accounts for 28% of the world's emissions, the United State of America has 15%, India 7%, and **Bangladesh only 0.09%**.

Bangladesh pledges to reduce 22% carbon emissions by 2030

Impact of COVID-19 on these Sector

- Approximately **30% electricity demand reduced** due to shut down of educational Institutes, Industries, Offices and all business area.
- Development works specially **transmission networks were in difficulty**.
- About **176,660 million taka revenue lost** due to less electricity generation instead of demand.
- About **44,110 million taka subsidize** for Bulk Tariff payment from IPPs and Imports.
- Overall country **economic growth were less**.

Current Energy Policy Measures

Act & Policy in **Energy Sector**

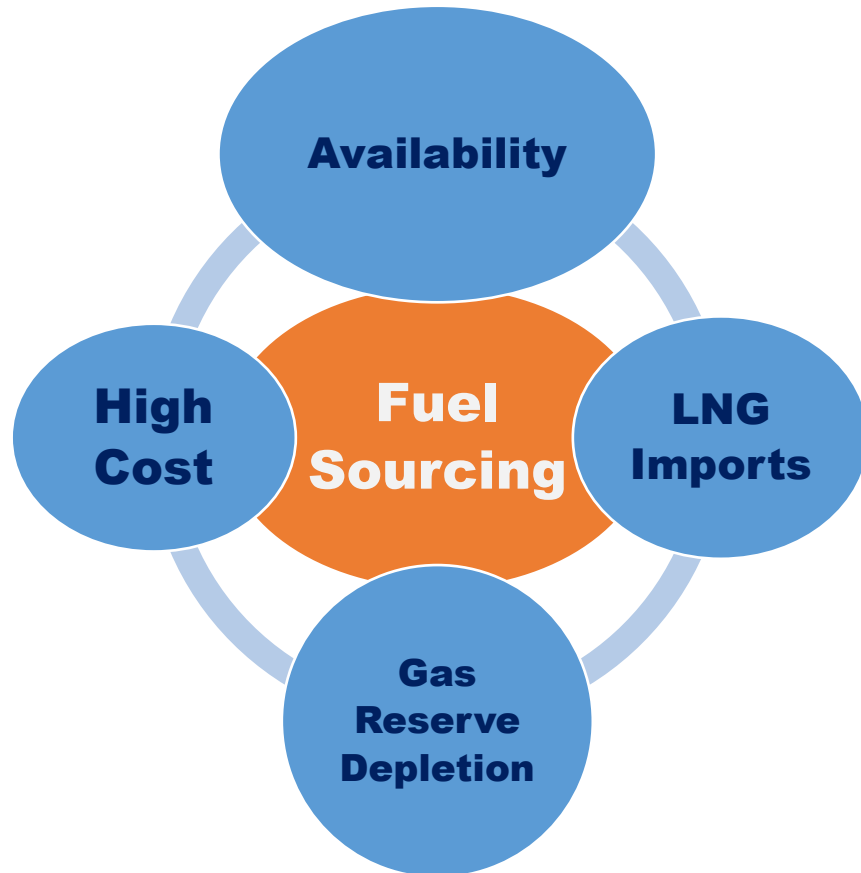
- **Bangladesh Energy Regulatory Commission Act, 2003(Amendment)**
- **Bangladesh Oil, Gas and Mineral Resources Corporation Act, 2022**
- **Electric vehicle charging guideline**
- **The Mines and Minerals Rules, 2012**
- **Petroleum Law 2016**
- **Liquefied Petroleum Rules, 2004**
- **Bangladesh Energy Regulatory Commission Act, 2003.**
- **Bangladesh Gas Act, 2010**
- **National Energy Policy-2004**

Current Energy Policy Measures

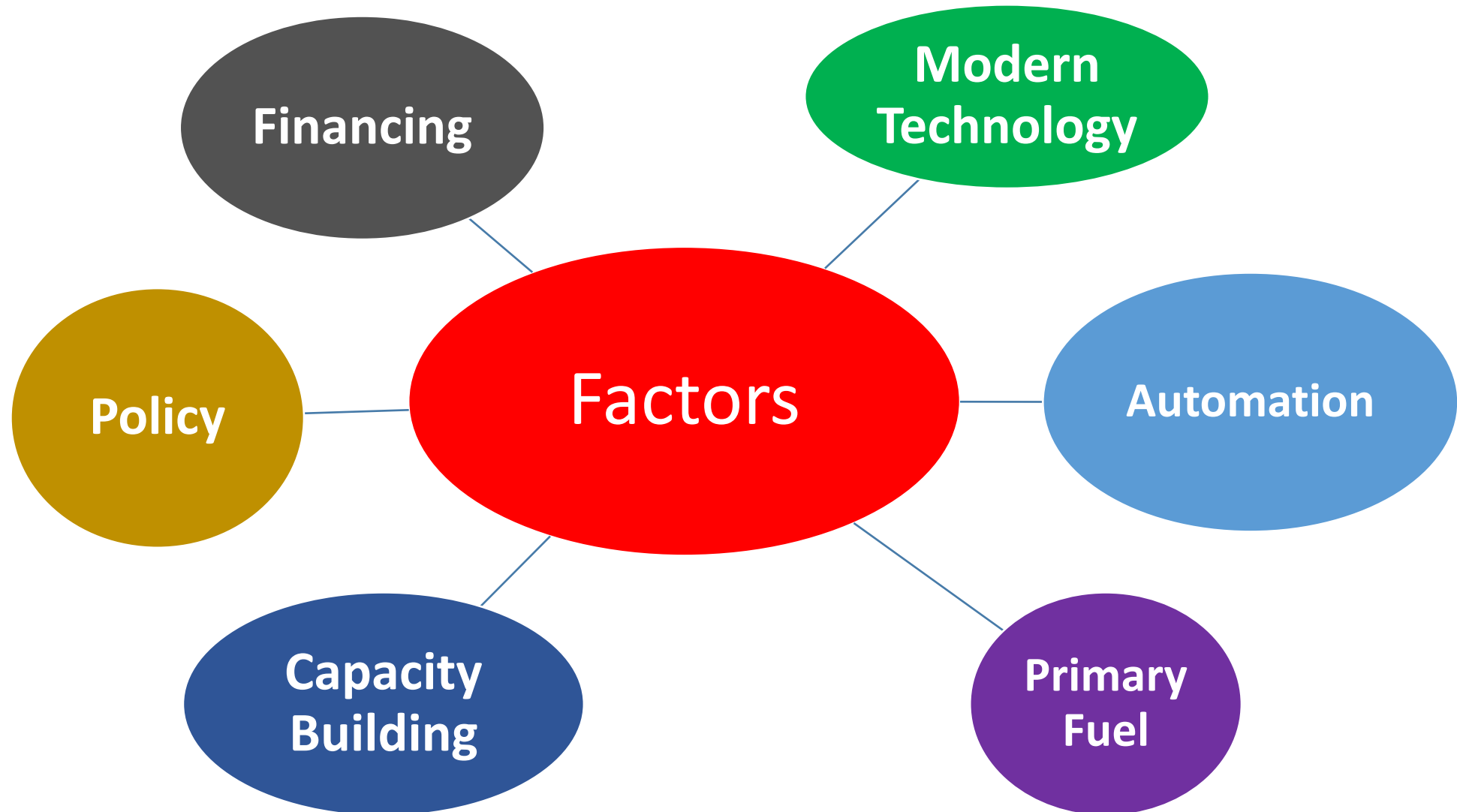
Act & Policy in **Power Sector**

- **Power & Energy Fast Supply Enhancement (Special Provision), Amnd. 2021**
- **The Electricity Act, 2018**
- **Bangladesh Energy & Electricity Research Council Act, 2015**
- **Rural Electrification Board Act, 2013**
- **Sustainable & Renewable Energy Development Authority Act, 2012**
- **Bangladesh Energy Regulatory Commission Act. 2003**
- **Private Sector Power Generation Policy of Bangladesh, 1996**
- **Amendment of Energy Efficiency and Conservation Rules, 2016**
- **Energy Efficiency and Conservation Rules, 2016**

Major difficulties and bottlenecks



Major difficulties and bottlenecks



Expectation from this Program

Adaptation of **policy mechanism** to existing power system improvement

Clean fuel i.e. RE, BESS (Battery Energy Storage System), Hydrogen, Ammonia and others based power generation technologies

Country Energy Security Mechanism

*Thank
you*





Q U E S T I O N S & A N S W E R S