

Draft

Energy & Power Sector Master Plan 2026 (EPSMP 2026) (2026-2050)



Ministry of Power, Energy and Mineral Resources

8 February 2026

07/02/2026

1

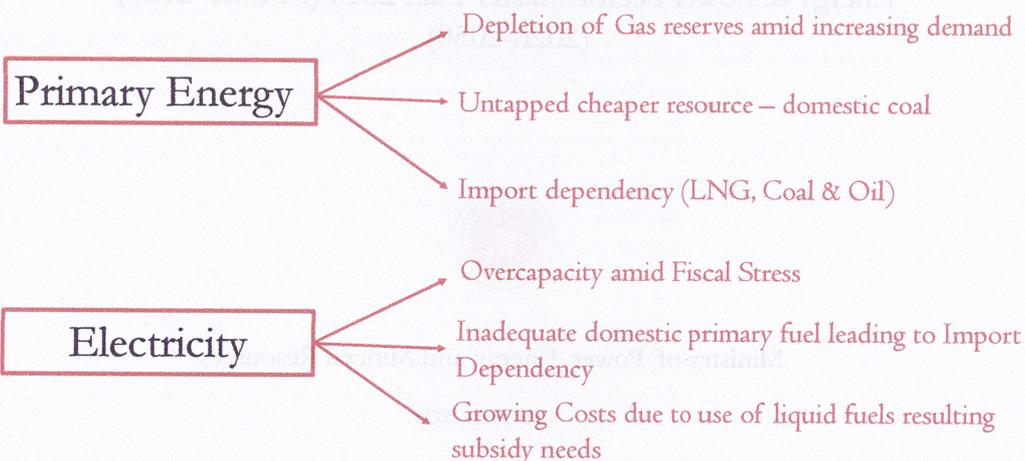
Presentation Outline

1. Background & Introduction
2. Policy Gap Analysis: Review of Previous Master Plans
3. Baseline Assessment – The Fresh Approach
4. Primary Energy Demand Forecasts & Supply Plan
5. Electricity Demand Forecasts & Supply Plan
6. Financial Sustainability
7. Environment and Social Plan
8. Policy Recommendations
9. Expected Outcome
10. EPSMP At a Glance

07/02/2026

2

Where do we stand?



07/02/2026

3

How have we ended up here?

Primary Energy	Limited Exploration Efforts	Despite of high success ratio - 1:3.3 in compared to world average 1:10, total well drilled only 100 till date.
	High volatility of global LNG/oil/coal prices	COVID-19, Russia-Ukraine War resulted a long-term global economic recession and high volatile LNG/Oil/Coal market
	High technical & non-technical losses	Total current system loss is 6.38% against the international norm of 2%
Electricity	Overstated Demand Forecasts	Unrealistic peak demand projections (70.5 GW by 2050) led to excess generation and capacity payments.
	Unsustainable Fuel Mix	>70% import dependency on primary fuel - LNG, coal, and oil, exposing the economy to volatility and foreign currency depletion.
	Financial Unsustainability	Escalating subsidies (Tk 40,273 crore - FY 2023-24 & Tk 43,170 crore - FY 2024-25)
	Tariff adjustments	Not adjusted in last 17 months
Both	Technological Unrealism	Assumed large-scale CCS, hydrogen, and Ammonia
	Lack of Adaptive Governance	No mechanism for rolling updates, data integration, or scenario-based revisions
	Institutional Fragmentation	Over 30 agencies operating under two divisions with weak coordination and overlapping mandates

07/02/2026

4

Review of Previous Master Plans

Plan & (Period)	Focus	Contribution & Limitations
PSMP 1985 (1985–2005)	<ul style="list-style-type: none"> Gas-based Generation strategy Identified key hubs (Meghnaghat, Baghabari) 	<ul style="list-style-type: none"> First long-term power sector plan with clear capacity and demand targets. No fuel diversification.
PSMP 1995 (1996–2015)	<ul style="list-style-type: none"> Dual fuel scenarios: Sufficient Gas vs No New Gas. Introduced coal (Barapukuria) and expanded CCGT plans. 	<ul style="list-style-type: none"> Strengthened long-term grid vision- 230/400 kV Limited diversification beyond gas & coal.
PSMP 2006 (2006 – 2025)	<ul style="list-style-type: none"> Introduced major coal-based and 700 MW CCGT options. Emphasized 230 kV expansion and regional power import. 	<ul style="list-style-type: none"> Delivered highly accurate long-term forecasts Limited focus on renewables
PSMP 2010 (2010–2030)	<ul style="list-style-type: none"> Fuel diversification: Large-scale coal (domestic & import) development; Oil-based Rental & IPP 	<ul style="list-style-type: none"> Lacked renewable integration (10% by 2030) Became outdated due to rapid demand growth.

07/02/2026

5

Review of Previous Master Plans

Plan & (Period)	Focus	Contribution & Limitations
PSMP 2016 (2016 – 2041)	<ul style="list-style-type: none"> 3E: Energy Security, Economic Efficiency, and Environment Heavy Coal import & LNG imports introduced 	<ul style="list-style-type: none"> Provided a structured analytical base Unrealistic projections Incomplete integration with energy sector;
PSMP 2016 (Revisited 2018) (2016 – 2041)	<ul style="list-style-type: none"> Aligned with Vision 2041 Less Renewables (10-15% by 2041) 	<ul style="list-style-type: none"> Introduced energy efficiency, but slow pace Gradually Oil-based generation phase out
GSMP 2017	<ul style="list-style-type: none"> Largely gas-dependent but import-driven; LNG projected > 50% of total gas by 2030 	<ul style="list-style-type: none"> Oil minimal; ignored renewables potential
IEPMP 2023 (2023–2050)	<ul style="list-style-type: none"> (S+3E: Safety, Energy Security, Economic Efficiency, and Environment); Promoted “clean energy” and net-zero pathways. 	<ul style="list-style-type: none"> First Integrated energy-power framework Over optimistic GDP-linked demand (>8% GDP Growth – 70 GW in 2050). Overly reliant on fossil fuels (>70% primary fuel imports) & unproven tech H2, Ammonia

07/02/2026

6

EPSMP Origin, Vision, Philosophy & Pillars

Collective Recognition

Existing path is no longer tenable

Strategic Reset – Home Grown Solution - **EPSMP**

Vision

“To ensure reliable, affordable, and sustainable primary energy & electricity for all Bangladeshis through domestic resource optimization, energy security, efficiency, and environmental responsibility.”

Philosophy

- **Evidence-based**, Transparent, and Efficient

Pillars

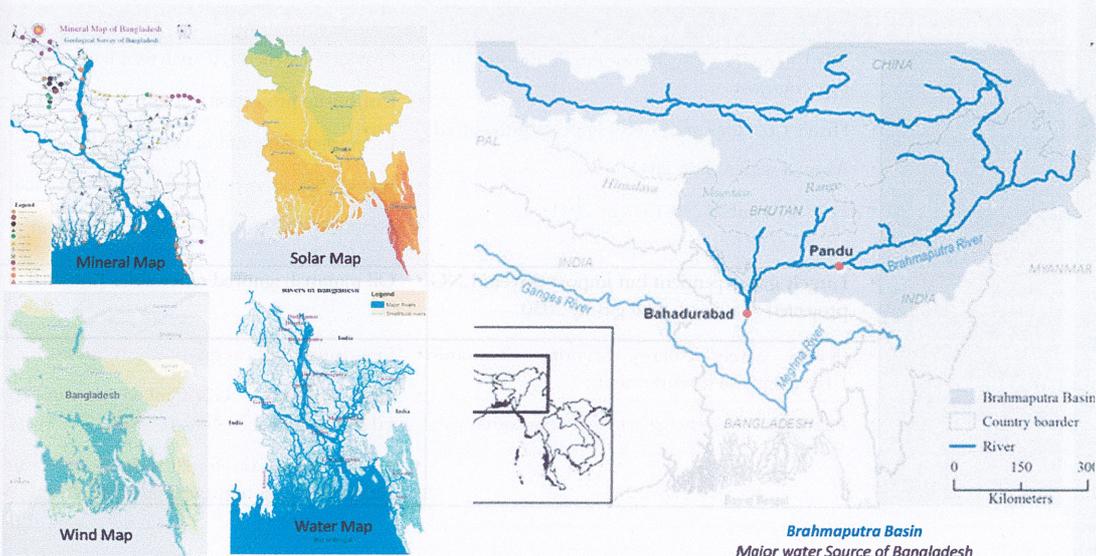
- Realism and Adaptive Planning
- Resource Optimization and Energy Security
- Fiscal and Environmental Sustainability

“The Fresh Approach”

07/02/2026

7

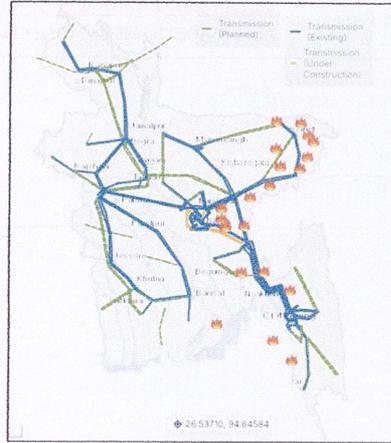
Primary Resources (Minerals, RE, Water Bodies)



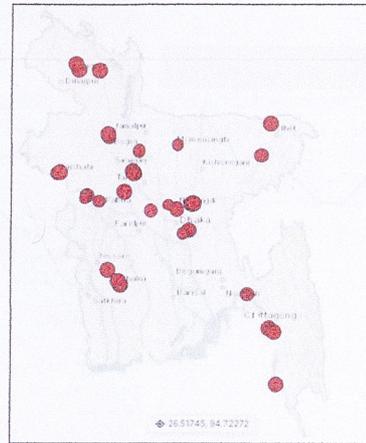
07/02/2026

8

Primary Energy Infrastructure (Gas)



Gas Network

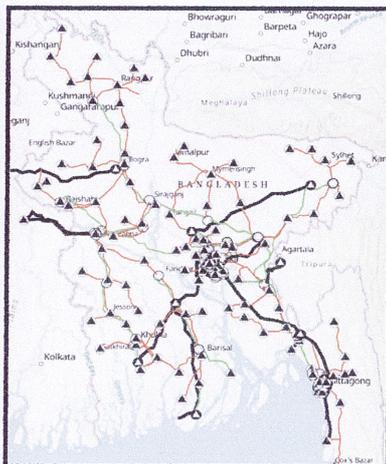


Gas Network Bottleneck

07/02/2026

9

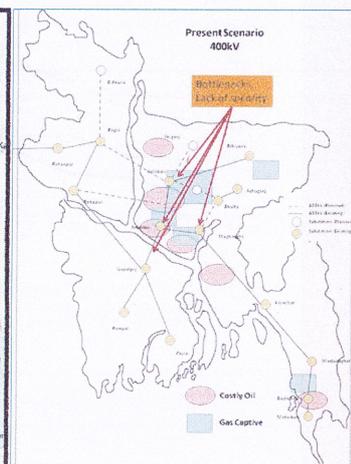
Electricity Infrastructure



Electricity Network



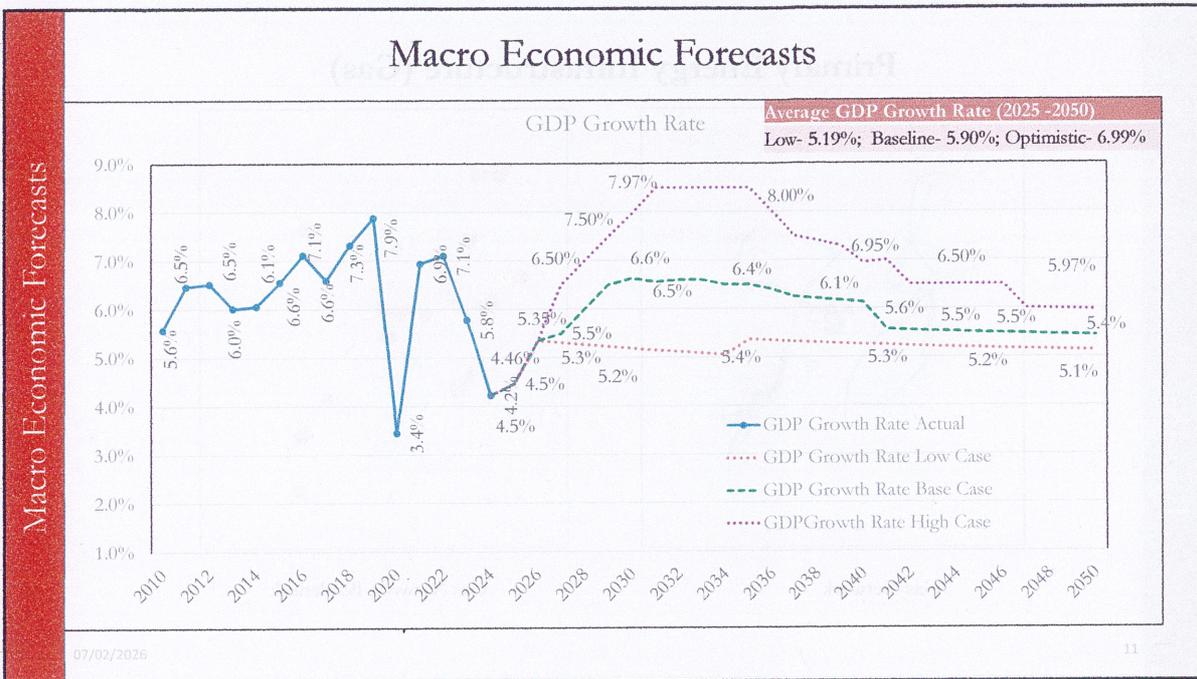
Load Centers (Electricity)



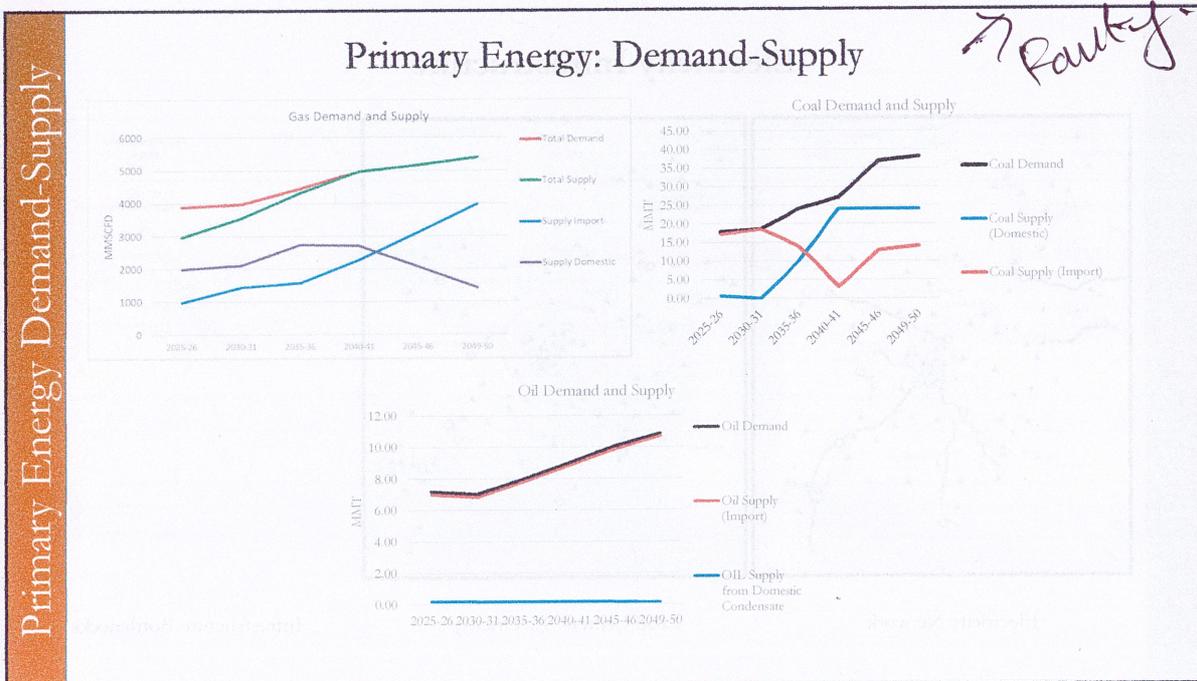
Infrastructure Bottlenecks

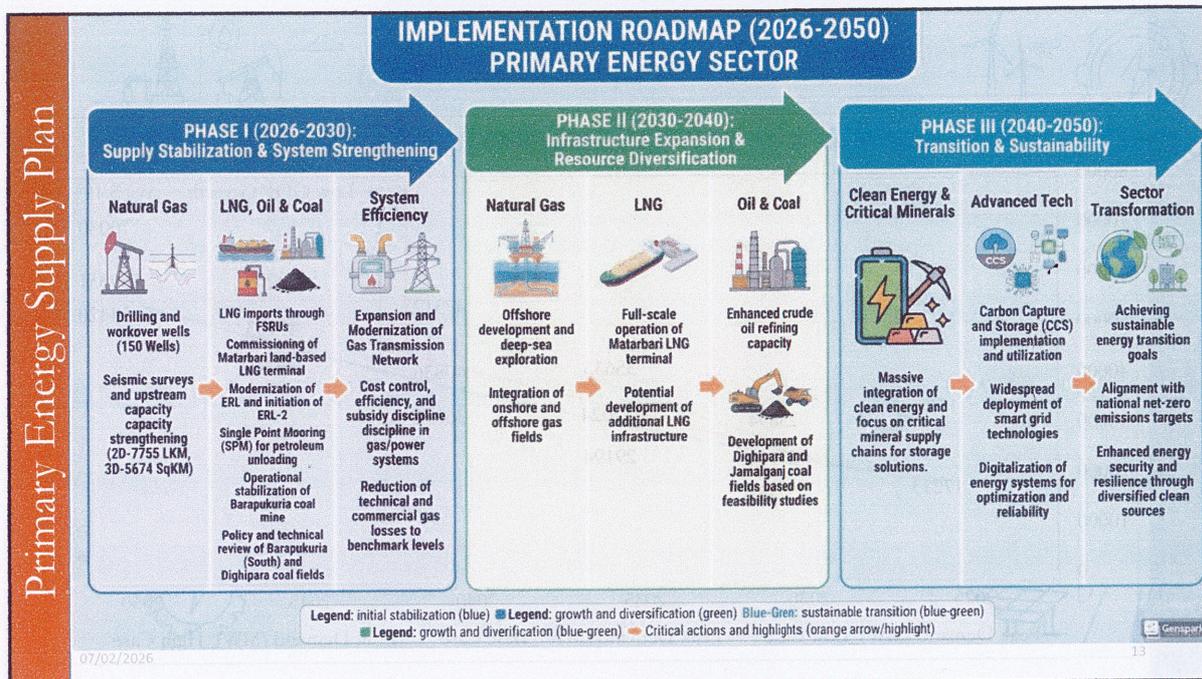
07/02/2026

10



*GDP has
effie
behavi?
→ Faulty*





Priority & Strategic Projects

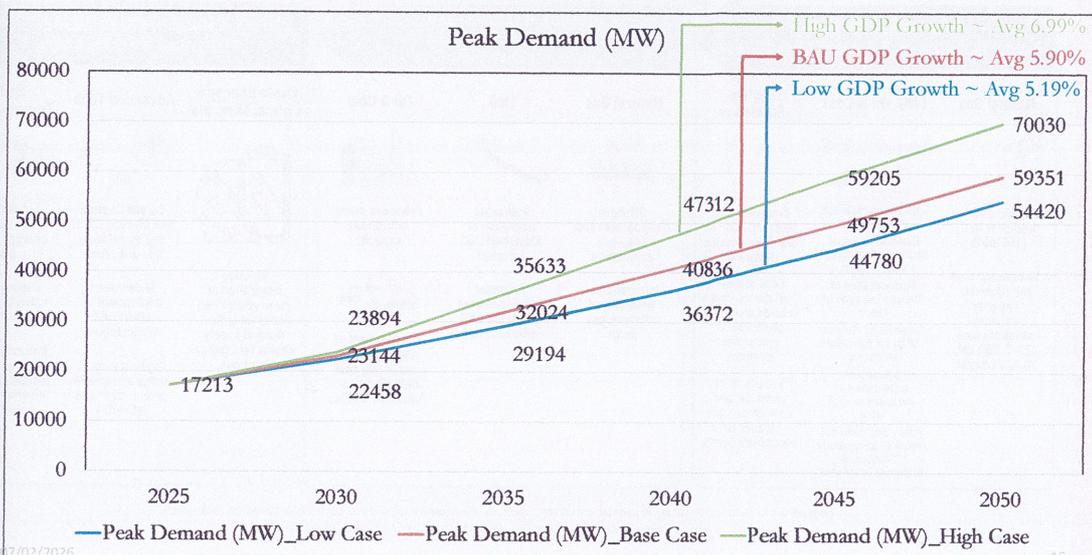
Fast-Track Priority Projects (2026-2030)	Long-Term Strategic Projects (2030-2050)
Offshore Exploration Round -2026 <ul style="list-style-type: none"> ▪ Immediate launching of PSC bidding ▪ Priority for shallow & deep-water blocks 	Offshore Gas Development <ul style="list-style-type: none"> ▪ Production from deep-water & frontier blocks ▪ Expansion of offshore pipelines and landing stations
Gas Production Boost <ul style="list-style-type: none"> ▪ 150 new wells (onshore) in next 5 years ▪ Accelerated 3D seismic in Chattogram & Sylhet 	Large-Scale Refining & Petrochemical Expansion <ul style="list-style-type: none"> ▪ New oil refinery (10-15 MTPA) ▪ Integrated petrochemical complexes
LNG Supply Security <ul style="list-style-type: none"> ▪ 1 new FSRU (quick) ▪ Start construction of 1 land-based LNG terminal 	Hydrogen & Ammonia Infrastructure <ul style="list-style-type: none"> ▪ Green hydrogen production hubs ▪ Ammonia import/export terminals ▪ Hydrogen-ready industrial clusters
Refinery Capacity Expansion <ul style="list-style-type: none"> ▪ Fast-track ERL-2 ▪ Approve new 10-15 MTPA refinery under G2G/PPP/GoB 	Geothermal Development & Tidal Wave <ul style="list-style-type: none"> ▪ Commercial-scale geothermal in Chattogram Hill Tracts ▪ High-enthalpy resource development
Strategic Storage Expansion <ul style="list-style-type: none"> ▪ Petroleum storage for 45-60 days ▪ Expand LPG coastal terminals 	

Primary Energy Supply Plan

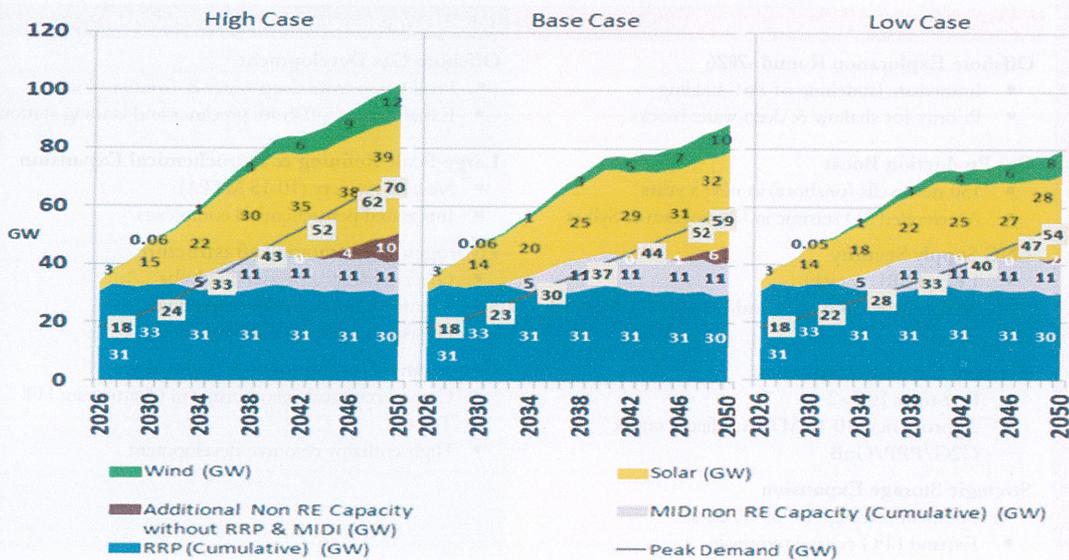
07/02/2026

14

Electricity Peak Demand (MW)

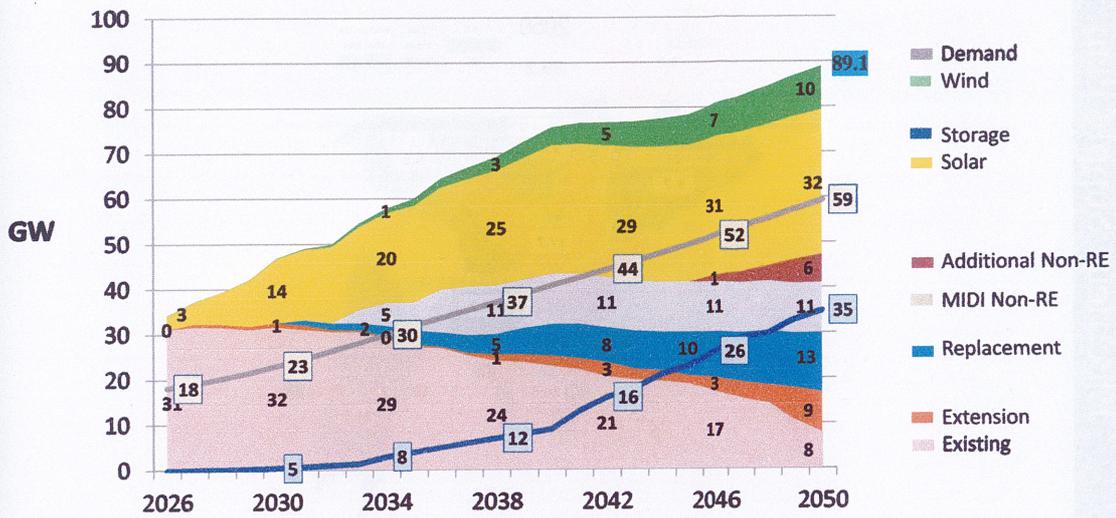


Demand Scenarios Wise Generation Plans



Electricity Supply Plan

Generation Plan vs. Demand

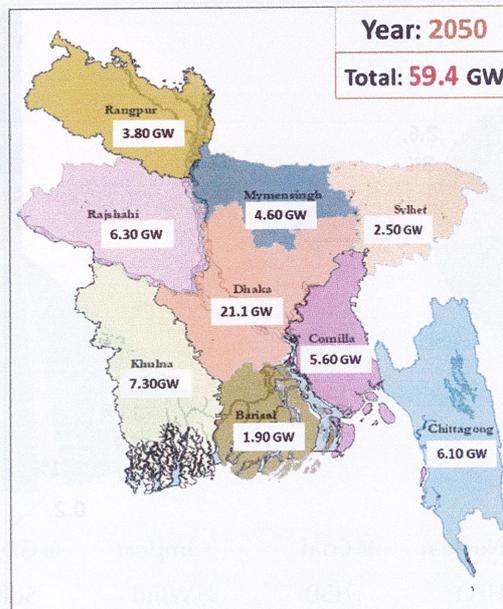


07/02/2026

17

Electricity Demand Projection

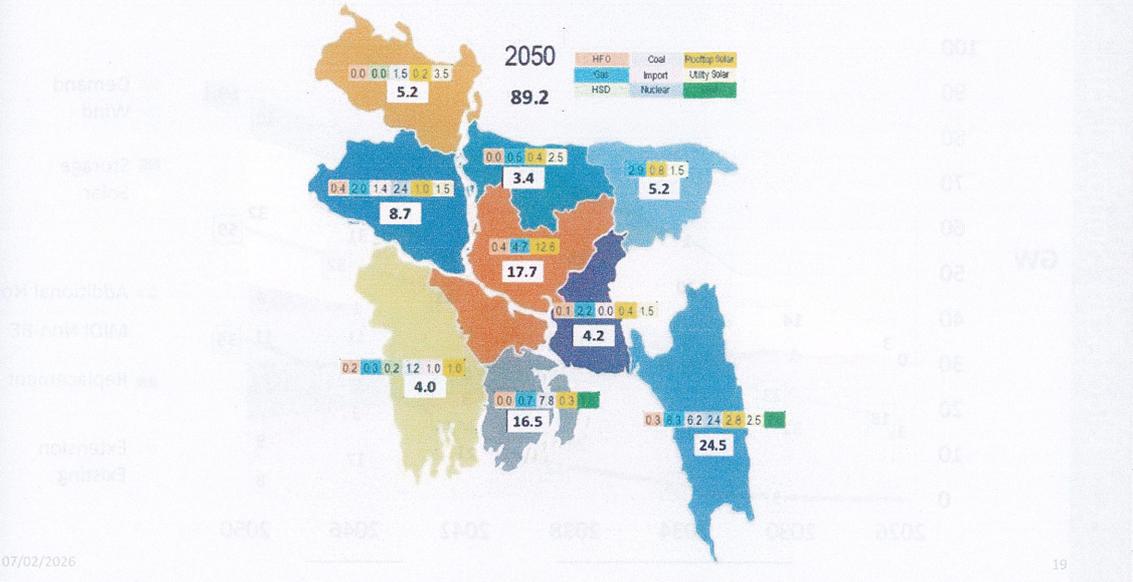
Zone wise Peak Demand



07/02/2026

18

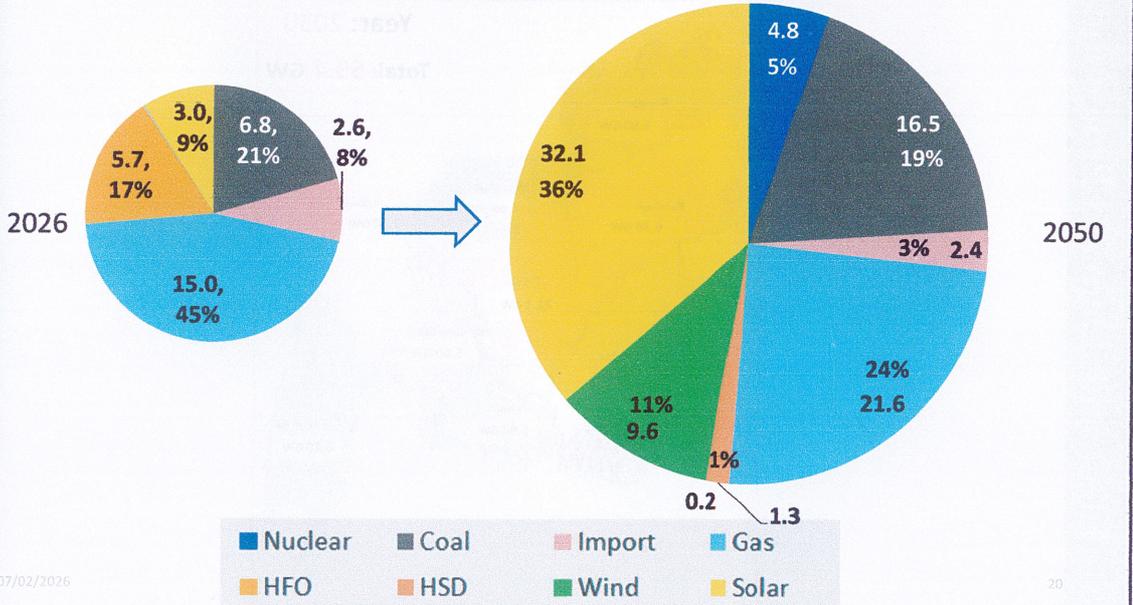
Zone wise Electricity Generation Plan (GW)



07/02/2026

19

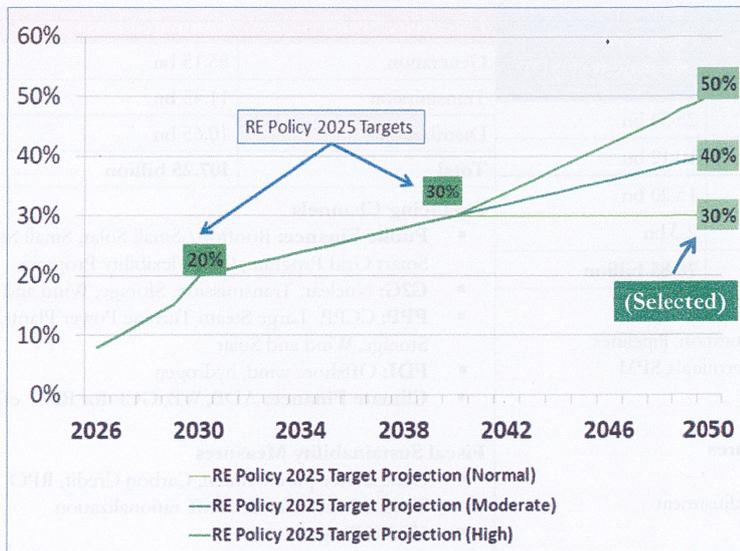
Electricity Fuel Mix Transition Plan (From 2026 to 2050) in GW



07/02/2026

20

Renewable Energy Policy Targets

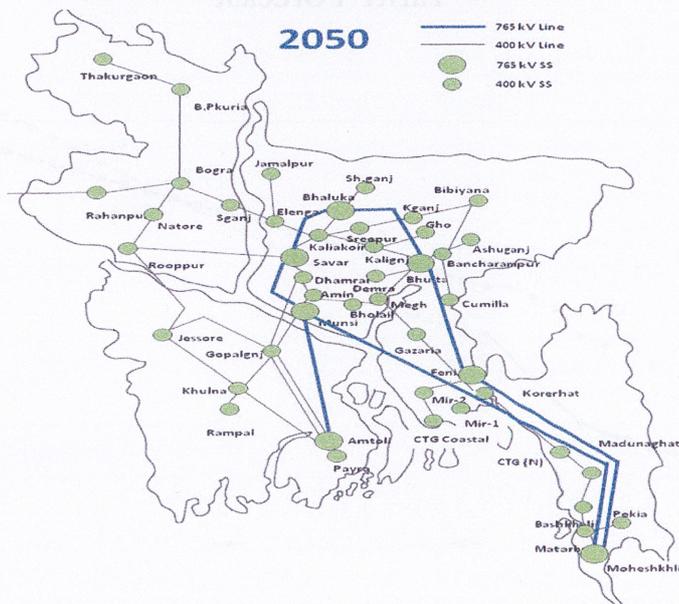


1. Large Scale Utility Solar
2. Large Scale Rooftop Solar
3. Onshore & Offshore Wind
4. Waste to Energy
5. Geothermal

07/02/2026

21

Transmission Network Development Plan



07/02/2026

22

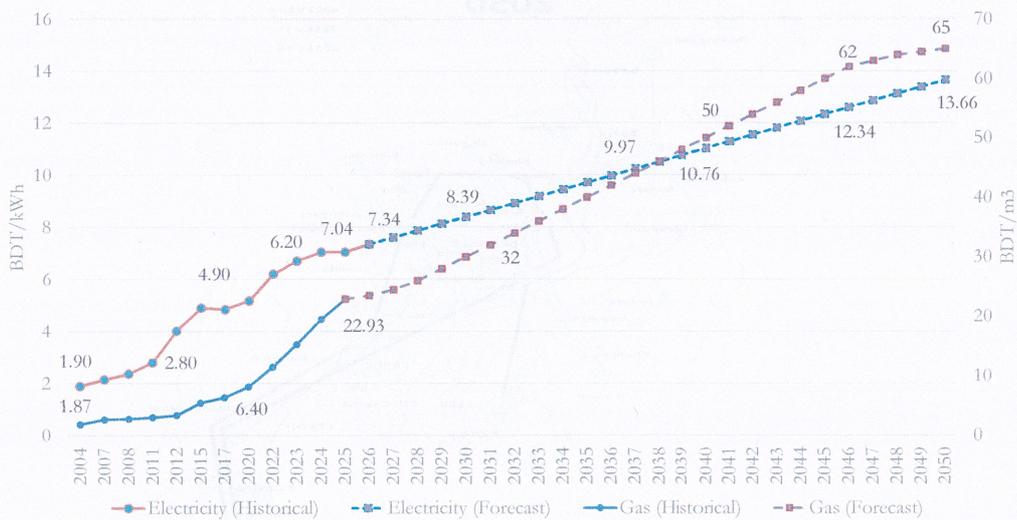
Financing Needs (2026-2050)

Primary Energy Sector		Estimated Investment (USD)	Electricity Sector	Estimated Investment (USD)
LNG terminals + pipelines	25-30 bn		Generation	85.15 bn
Gas exploration (on + offshore)	10-12 bn		Transmission	11.45 bn
Refinery + storage	15-20 bn		Distribution	10.65 bn
Hydrogen/geothermal	2-3 bn		Total	107.25 billion
Total	70-85 billion		Financing Channels	
Financing Channels			<ul style="list-style-type: none"> ▪ Public Finance: Rooftop/ Small Solar, Small Storage, Smart Grid Program, Grid Flexibility Program ▪ G2G: Nuclear, Transmission, Storage, Wind and Solar ▪ PPP: CCPP, Large Steam Turbine Power Plants, Large Storage, Wind and Solar ▪ FDI: Offshore wind, hydrogen ▪ Climate Finance: ADB, WB, GCF for RE + efficiency 	
Fiscal Sustainability Measures			Fiscal Sustainability Measures	
<ul style="list-style-type: none"> ▪ Targeted subsidies ▪ Demand-based tariff adjustment 			<ul style="list-style-type: none"> ▪ Competitive procurement, Carbon Credit, RPO ▪ Targeted subsidies & Tariff rationalization ▪ EE&C Program 	

07/02/2026

23

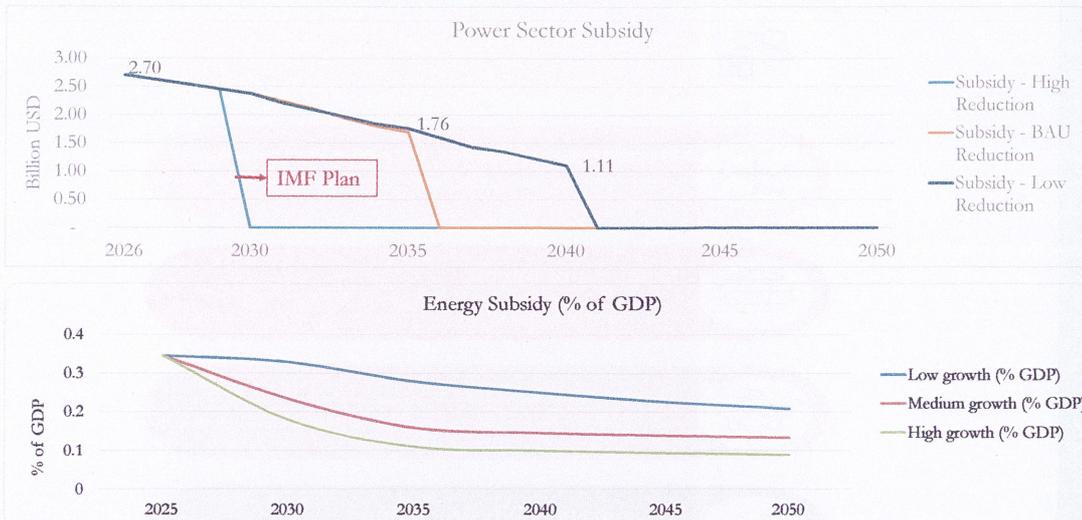
Tariff Forecast



07/02/2026

24

Subsidy Reduction Plan



07/02/2026

25

Environmental & Social Plan

POWER DEMAND GROWTH

17 GW → 59 GW
Current 2050 Forecast

This massive expansion creates new environmental & social pressures.

ABSOLUTE EMISSIONS (YEARLY)

2025 58.9 MtCO₂e
2050 129 MtCO₂e

EMISSION INTENSITY EFFICIENCY

0.62 ↓ 0.35
tCO₂e / MWh (2025 vs 2050)

Significant improvement in carbon efficiency per unit of power

ENVIRONMENTAL IMPACT (2050 SCENARIO)

64.5 M tCO₂
Annual Savings (Year 2050)

1,600 M tCO₂
Cumulative Savings

CARBON FINANCE POTENTIAL

\$20.68
Billion USD

Potential revenue via Carbon Credits

07/02/2026

26

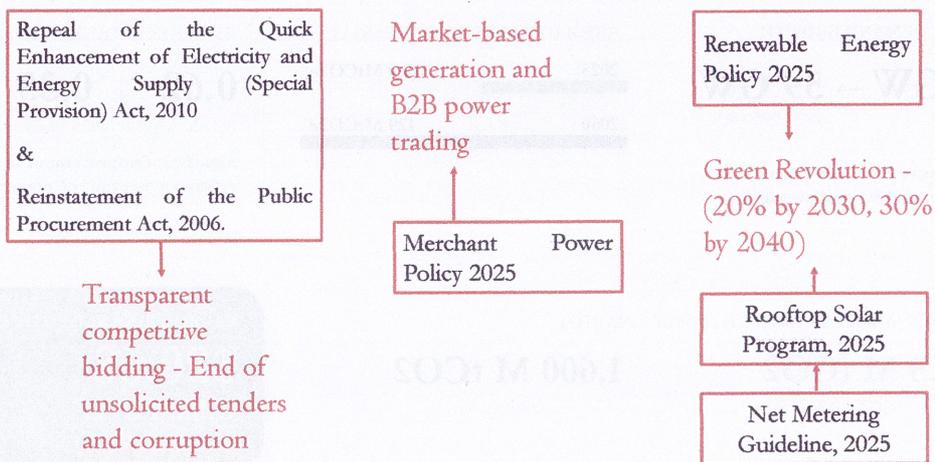
Landmark Policy Reforms

EPSMP supported by Landmark Energy Sector Policy Reforms



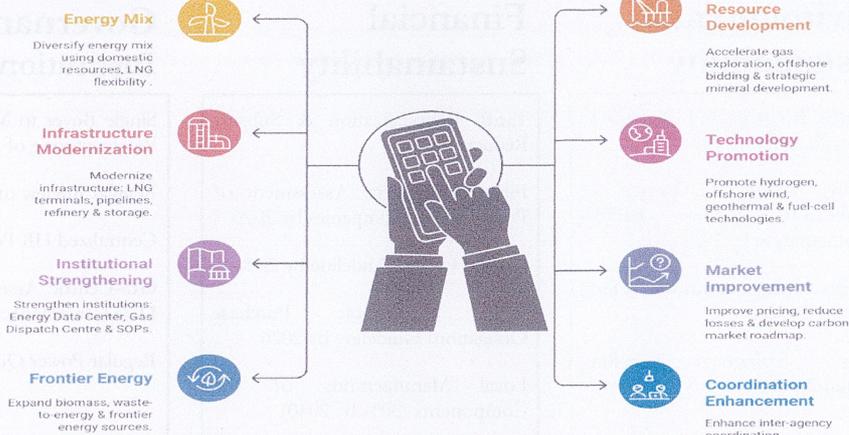
Landmark Policy Reforms

EPSMP supported by Landmark Power Sector Policy Reforms



Policy Recommendations for Primary Energy

Policy Recommendations for Energy Sector



07/02/2026

29

Policy Recommendations: Power Sector



Generation

Towards Zero-Oil Generation (Minor Grid Upgrades & Optimized Operation) by 2026

Towards Zero Captive (Industrial Grid Strengthening) (2030-2033)

MIDI Power Hub Development from 2033

Large-Scale Solar (Now) & Wind (from 2033) Power Generation

Energy Storage Roadmap (by 2026) & Large-Scale Storage Deployment (from 2035)



Transmission

National SCADA & Smart Grid Policy by 2026

Payra-Dhaka 400kV 2nd Transmission Line by 2031

765kV National Transmission Backbone by 2035

N-2 Reliability Standards for Critical Transmission Corridors by 2026

Grid Flexibility Program by 2036



Distribution

Smart Distribution Network (2026-2035)

Uniform Design Standards & Integrated Urban Utility Framework by 2027

Underground Cable Design & Layout Policy for Urban area by 2027

Distribution Transformer Metering and Monitoring System Policy by 2026

07/02/2026

30

Policy Recommendations: Power Sector

Policy Recommendations: Power Sector

Environmental Sustainability

- National Rooftop and Renewable Energy Registry by 2026
- Building Energy Efficiency & Environment Rating (BEER) Implementation by 2031
- Energy Saving Certificate Trade program (2026-2036)
- Energy Efficiency Labelling Program by 2035



Financial Sustainability

- Tariff Rationalization & Subsidy Reduction
- Financial Capacity Assessment of Power Sector Companies by 2026
- Carbon Credit Guideline by 2026
- RPO (Renewable Purchase Obligation) Guideline by 2026
- Local Manufacturing of RE Components (80% by 2040)



Governance/ Institutional Reform

- Single Buyer to Market, Functional Re-structuring of Utilities
- Regular Review of EPSP
- Centralized HR Policy by 2026
- GIS-Centric Asset Management & Data Governance by 2026
- Regular Power Quality Audits

07/02/2026
31

Expected Outcome: 2050 Primary Energy Sector

Dimension	Present Situation	2050 Outcome
Energy Security & Imports	High import dependence; strong exposure to global volatility	Import dependency ≤50% with adequate strategic supply buffers
Natural Gas Supply Balance	Declining domestic gas; rising LNG dependence	≥60% domestic gas; LNG ≤40% for balancing and peak use
Gas Network Performance	Transmission bottlenecks; regional gas shortages	Integrated and planned national gas network
Gas System Efficiency	High technical losses and methane leakage	≤5% system loss and ≥50% methane leakage reduction
Coal's Transitional Role	Domestic coal underutilized; import reliance	Selective, safe domestic coal supplying ≤10-15% of demand
Oil Supply Resilience	Heavy dependence on imported refined fuels	Refined fuel import dependency ≤70%
Refining & Strategic Storage	Aging refineries; limited reserve coverage	Modernized refining and ≥60 days strategic oil reserve
LPG Market Development	Rapid expansion with safety and affordability concerns	Safe, affordable LPG with nationwide access and market-based pricing
Fiscal Sustainability	High, volatile energy subsidies	Energy subsidies ≤1% of GDP, fully targeted

07/02/2026
32

Expected Outcome: 2050 Power Sector

Dimension	Present Situation	2050 Outcome
Annual Electricity	~100 TWh	~400 TWh
Primary Fuel Import Dependency	>70%	<50%
Fuel Mix	Fossil Fuel Dominated ~1-1.5% yearly energy from renewable	Renewable Centric 30%-50% yearly energy from renewable
Governance	Subsidized Single Buyer, Fragmented	Power Market, Coordinated
Transmission Network	Weak Interconnections, Weak Industrial Grid = Costly Oil, Captive, Under utilized Cheap Capacity	Strong Grid, 765kV Backbone, N-2 Reliability
Distribution Network	Fragmented, Unreliable	Uniform Network, Reliable
Grid Operation	Mostly Manual, Inflexible, Inefficient	Fully Automatic, Flexible, Efficient
Power Quality	Unstable Frequency and Voltage, Poor Quality Power	Stable Frequency and Voltage, High Quality Power
Local Manufacturing of RE Equipment	Minimal	Target is 80%
Financial	Highly Subsidized Power Sector	Competitive Power Sector
Energy Efficiency	Slow-paced, weak energy efficiency programs	24% Electricity Demand Reduction
Environment	Zero Carbon Credit	\$20 Billion Carbon Credit

07/02/2026

33

EPSMP 2026

Primary Energy



1. PSC Bidding for Shallow & Deep Water Blocks
2. 3D Seismic Survey
3. 150 new wells in 5 yrs
4. Assessment of potential coal mines
5. Geo Thermal & Tidal Wave



1. **Strong Gas Grid**
2. **Enhanced Oil Refining Capacity**
3. **FSRU**
4. **LNG Terminal**
5. **SPM**
6. **Enhanced Oil Storage**

Electricity



1. RE Target: 20% by 2030, 30% by 2040 & 30-50% by 2050
2. Large Scale Solar & Wind
3. Strong, Automated, Flexible & Smart Electric Grid (T&D)
5. Energy Storage Roadmap
6. Local RE Manufacturing & Power Quality Audit
7. Power Market



1. Towards Zero Oil
2. Towards Zero Captive
3. Country Wide EE&C Program

Thank You



Q & A

07/02/2026 35

Primary Energy

Electricity

IPSMIP 2026

