Sustainable Energy Transition in Bangladesh

Opportunities and Challenges

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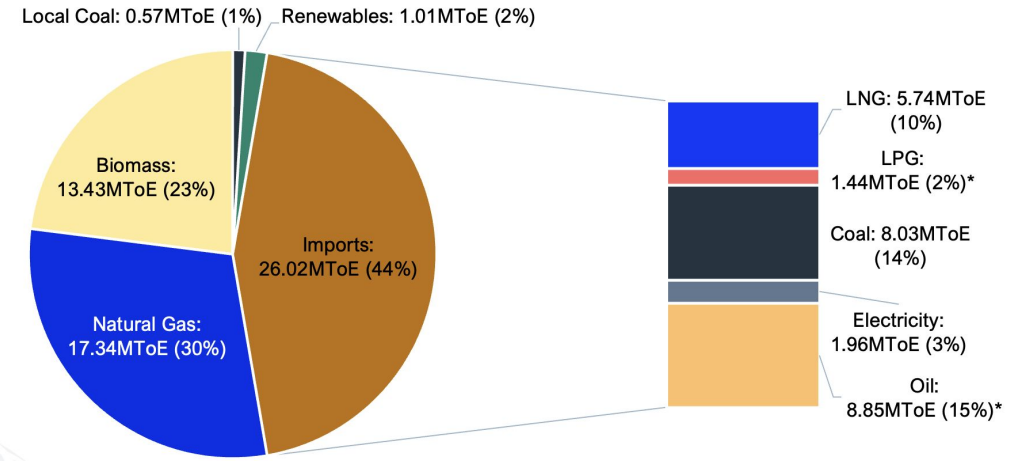
Bangladesh's Primary Energy Sources, FY 2023-24



*Source: HCU; * Most of the LPG and oil are imported*

While the high dependence on imported fossil fuels is a big challenge, it is an opportunity for Bangladesh to make a transition to sustainable energy!!

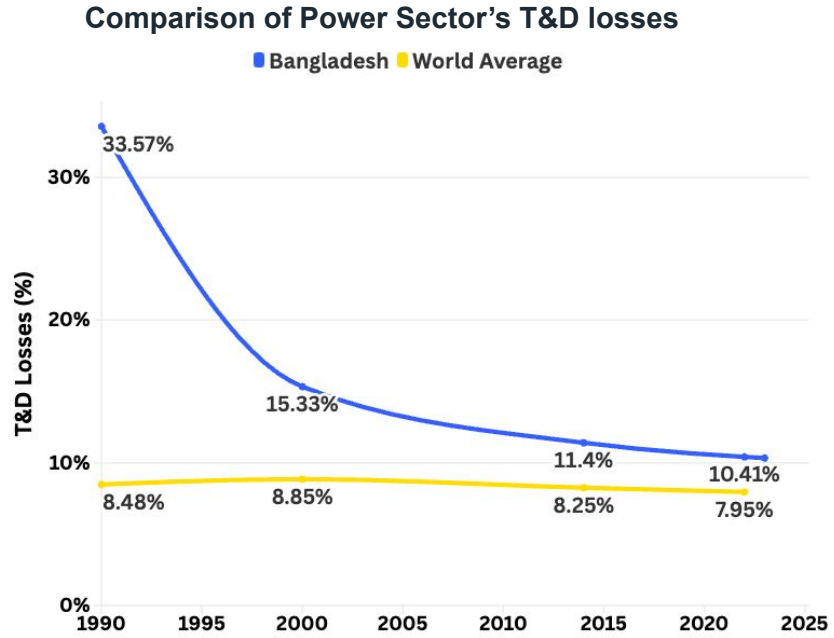
Opportunities for Sustainable Energy Transition – Energy Efficiency

- Energy efficiency opportunities in industrial production processes;
- Untapped energy efficiency potential in industrial captive power generation;
- Reduction in the power and gas sectors' transmission and distribution losses;
- Unexplored energy efficiency in residential and commercial buildings;

Greater energy efficiency in gas-fired captive power generation and productive use of waste heat can reduce LNG imports by 50.18Bcf and save Bangladesh US$460 million a year.

Source: IEEFA's Study 'Industrial Energy Efficiency to Curb Bangladesh's Short-term LNG Demand Growth';

Opportunities for Sustainable Energy Transition – Energy Efficiency



Sources: IEEFA's study 'Fixing Bangladesh's Power Sector'; IEEFA's insight 'Bangladesh's Interim Government should Prioritise Energy Sector Issues';

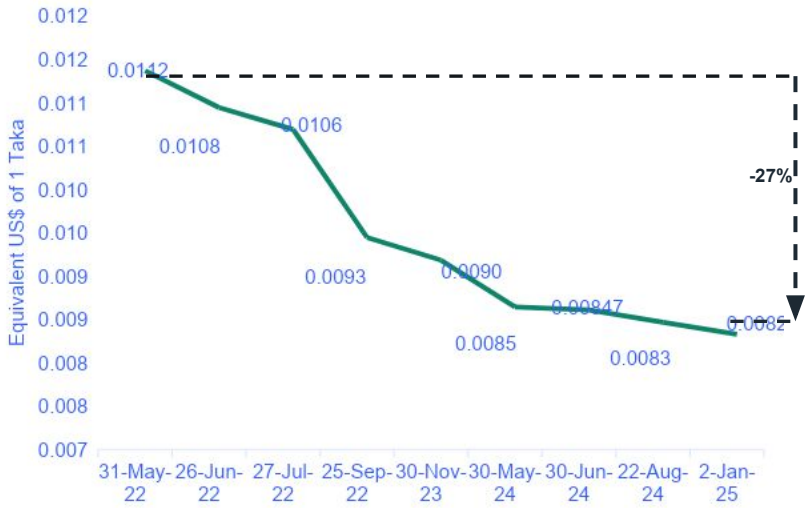
Opportunities for Sustainable Energy Transition – Energy Efficiency

- **Policy Risks**: Abrupt policy changes in the renewable energy project contracting process from unsolicited to competitive bidding affected the investors' confidence in the utility-scale renewable energy projects; Foreign investors have not shown any interest in recent tenders;
- **Land Constraints**: A lack of land resource mapping affects the utility-scale renewable energy expansion;
- **Limited Motivation of Industries**: This affects both rooftop solar and energy efficiency project implementation in industries;
- **Downgraded Credit Ratings**: The country's credit ratings downgraded from B1 to B2 may raise the borrowing cost in foreign currency;

- IEEFA's estimates show that Bangladesh may require up to **US$980 million** per annum between July 2025 and December 2030 to achieve the renewable energy goal (20%) as per the new Renewable Energy Policy.
- Post-2030, Bangladesh may need up to **US$1.46 billion** per annum to attain the 2040 renewable energy target (30%).
- Additional finance will be needed for energy efficiency;

Challenges in the Energy Transition

Devaluation of Taka against US$

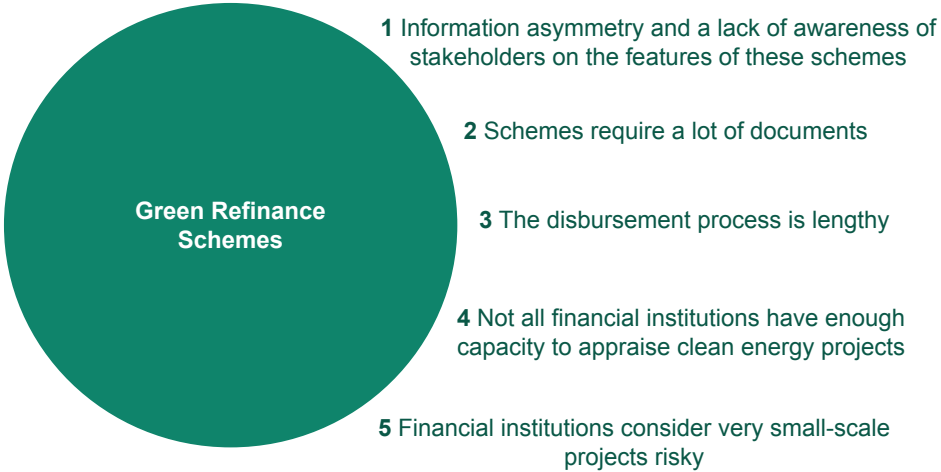


Falling Trajectory of FDI

Source: IEEFA's Study 'Ctalalysing Renewable Energy Finance in Bangladesh';

Challenges in the Energy Transition

Difficulty in Accessing Green Refinancing Schemes



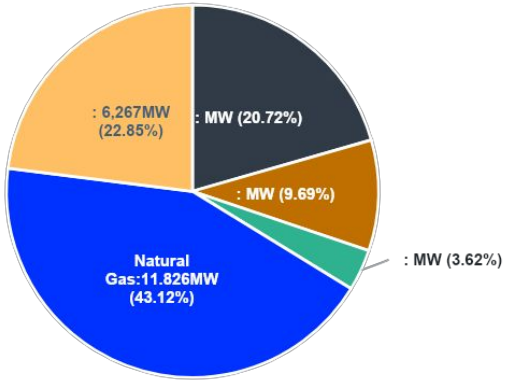
Source: IEEFA's Analysis;

Concluding Remarks

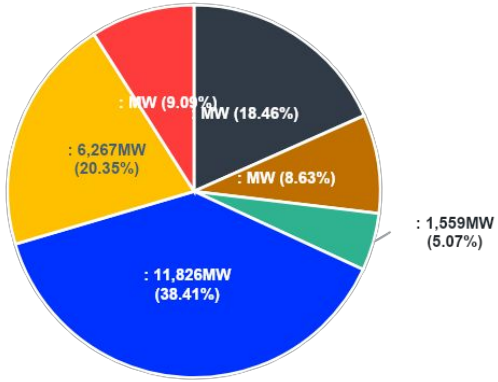
- ✔ Bangladesh is at a fundamental disadvantage as it heavily relies on imported fossil fuels. Therefore, renewable energy and energy efficiency could provide the country a significant relief;
- ✔ A coordinated approach is necessary with proper monitoring to expedite both renewable energy and energy efficiency in the country;
- ✔ Policy certainty will be key to attracting large-scale investment from local private sector and foreign companies in the clean energy sector;
- ✔ Bangladesh should explore long-term and low-cost financing facilities;
- ✔ The country should take measures to address the risks associated with currency depreciation;
- ✔ Capacity development of key stakeholders, including financial institutions and project implementers, is essential;
- ✔ Bangladesh must prepare for the long-term sustainable energy transition, which would necessitate the engagement of today's youth in policy formulation, project implementation and monitoring.

Energy Mix in Bangladesh's Power Generation

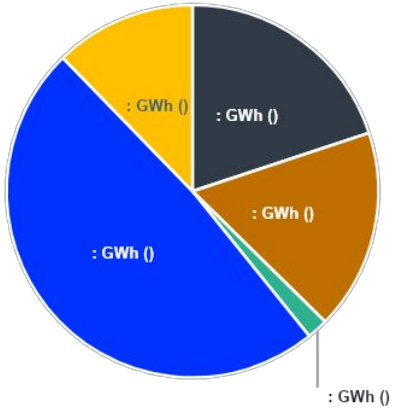
Fuel mix in Installed Capacity (excluding off-grid systems), April 2025



Fuel mix in Installed Capacity (including off-grid systems), April 2025



Fuel mix in Generation, FY 2023-24

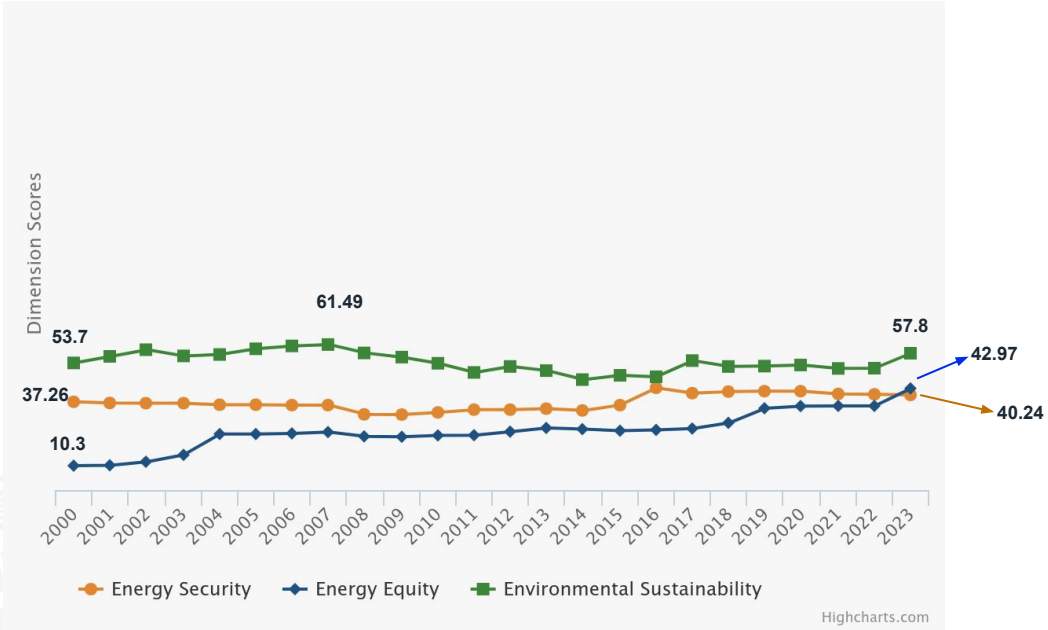


Source: BPDB; SREDA; IEEFA's Analysis;

Bangladesh relies on imports for more than 60% of its electricity

Bangladesh's Energy Trilemma

Energy Trilemma Score



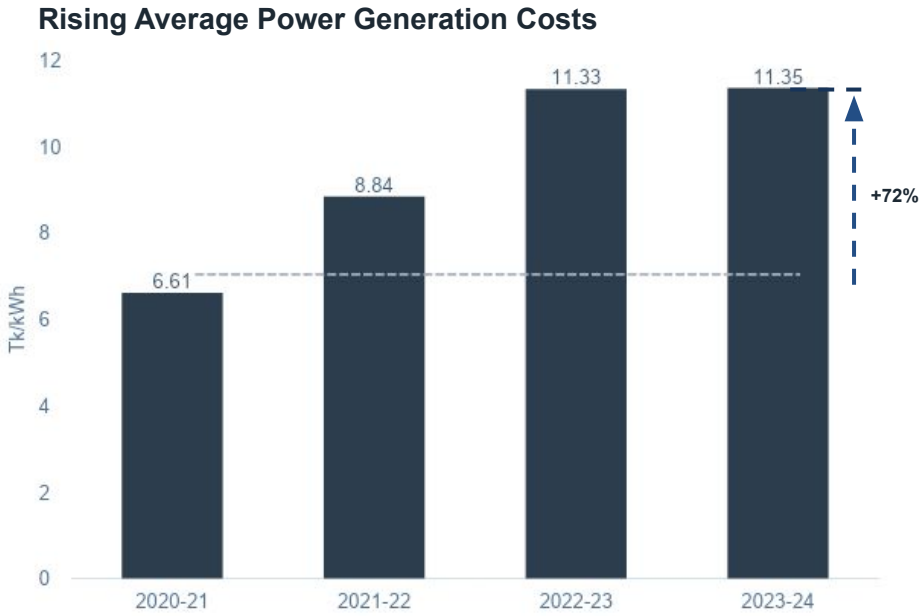
Source: WEC 2024;

The World Energy Council's **Energy Trilemma Index** measures a country's energy situation based on energy security, equity and environmental sustainability;

The 2023 energy trilemma index placed Bangladesh at **83rd place** among 99 countries considered for evaluation.

Source: World Energy Council

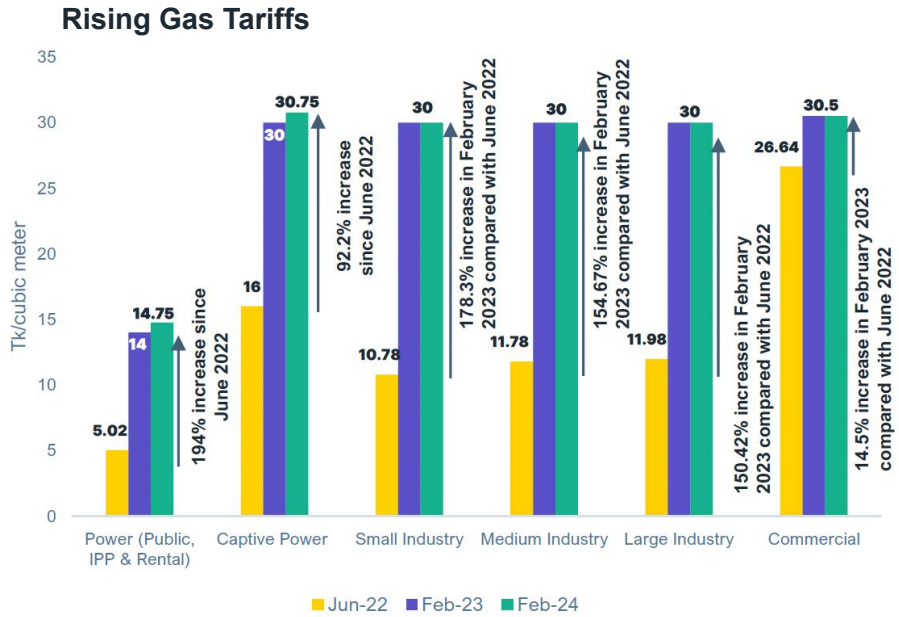
Bangladesh's Energy Trilemma – Rising Power Generation Cost



Source: BPDB; IEEFA's Analysis;

Average power generation cost might have crossed Tk12/kWh by the end of FY2024-25

Bangladesh's Energy Trilemma – Rising Energy Tariffs

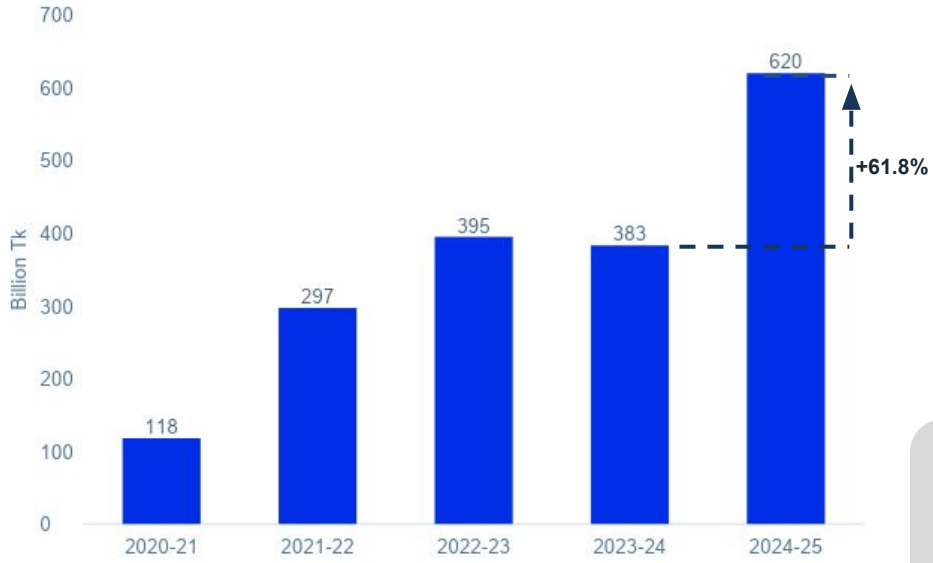


*Source: MPEMR; IEEFA's Analysis; * **New industries will pay Tk40/cubic meter for their industrial processes; likewise, they will pay Tk 42/cubic meter for captive power generation***

Bangladesh also increased power tariffs thrice in 2023 and twice in 2024;

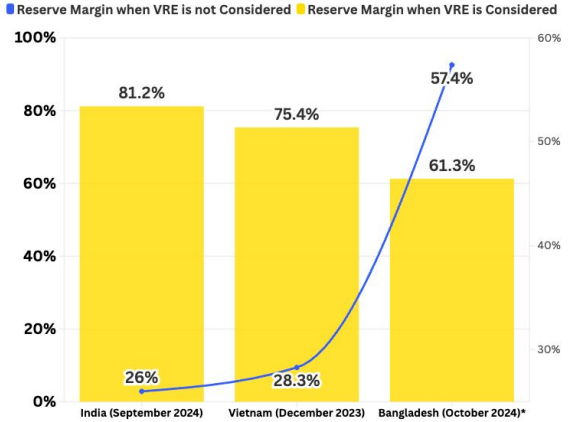
Bangladesh's Energy Trilemma – Subsidy Burden

Hefty Subsidy Allocation to the Power Sector



Source: BPDB; IEEFA's Analysis;

Bangladesh's Power Sector Has a High Reserve Margin

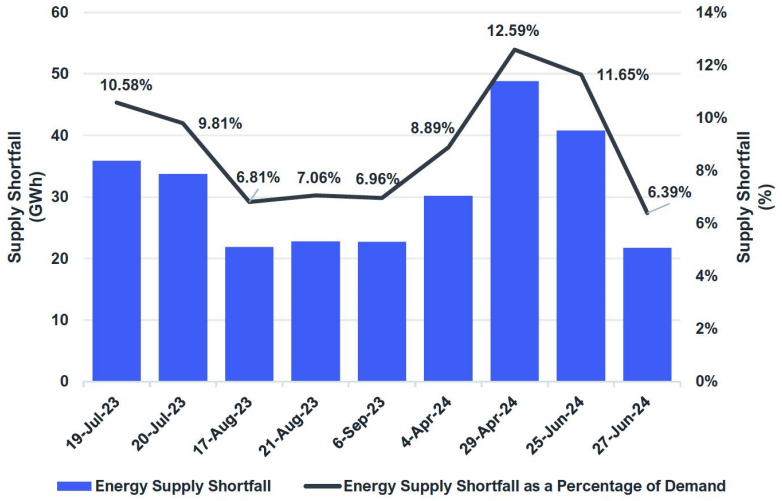


Subsidy allocation for FY2025-26:
Power sector - Tk370 billion (the government may need to revise it later); LNG – Tk90 billion

Source: Bangladesh' Budget for FY2025-26

Bangladesh's Difficulty in Addressing Energy Trilemma – Loadshedding Persists

Unserved Demand of Selected Days, FY2023-24



Load Shedding Frequency, FY2023-24

Source: IEEFA's study 'Fixing Bangladesh's Power Sector', December 2024; ***While the government has reduced loadshedding in FY2024-25, there is suppressed power demand;***

Opportunities for Sustainable Energy Transition – Renewable Energy

- Even without storage, renewable energy can replace oil-fired peaking plants during the day; As battery storage is becoming increasingly competitive, renewable energy with storage can reduce costly oil-fired power at night too;
- Rooftop solar is low-hanging fruit for industries; Industries with GHG mitigation goals may consider rooftop solar with batteries;
- Given that the Bangladesh Government recently reduced the customs duty for inverters from 10% to 1%, rooftop solar will be more profitable;
- Solar energy provides a huge opportunity to transform the diesel-run irrigation sector;

Opportunities for Sustainable Energy Transition – Renewable Energy

- 2,000MW rooftop solar capacity may save BPDB up to US$1 billion per annum;
- Renewable energy can significantly reduce average power generation costs and thus help minimise the power sector's subsidy burden;
- Transformation of the irrigation sector may save more than half a billion US$ in diesel imports;

Thank you!

Contact

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