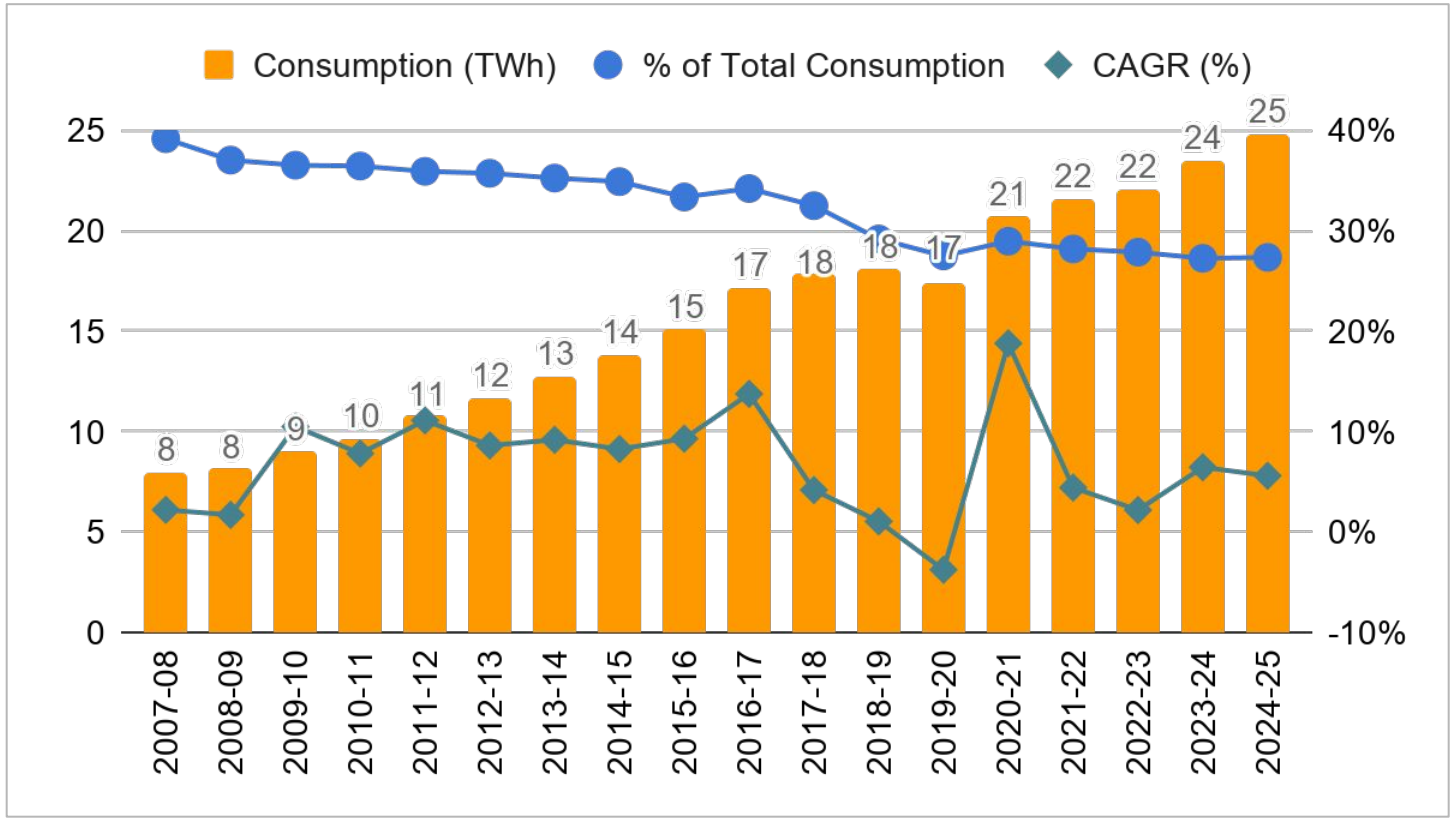
Sunlight to Savings

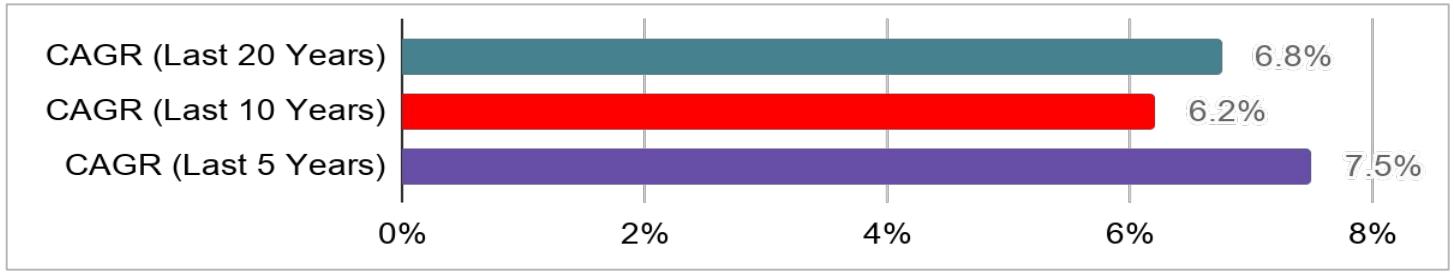
Environmental, Social & Economic Dividends of Solar Power in Bangladesh

Rapid Energy Transition Conference
7 September 2026 | Dhaka, Bangladesh

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Coastal Livelihood and Environmental Action Network (CLEAN)

Industrial Demand for Electricity

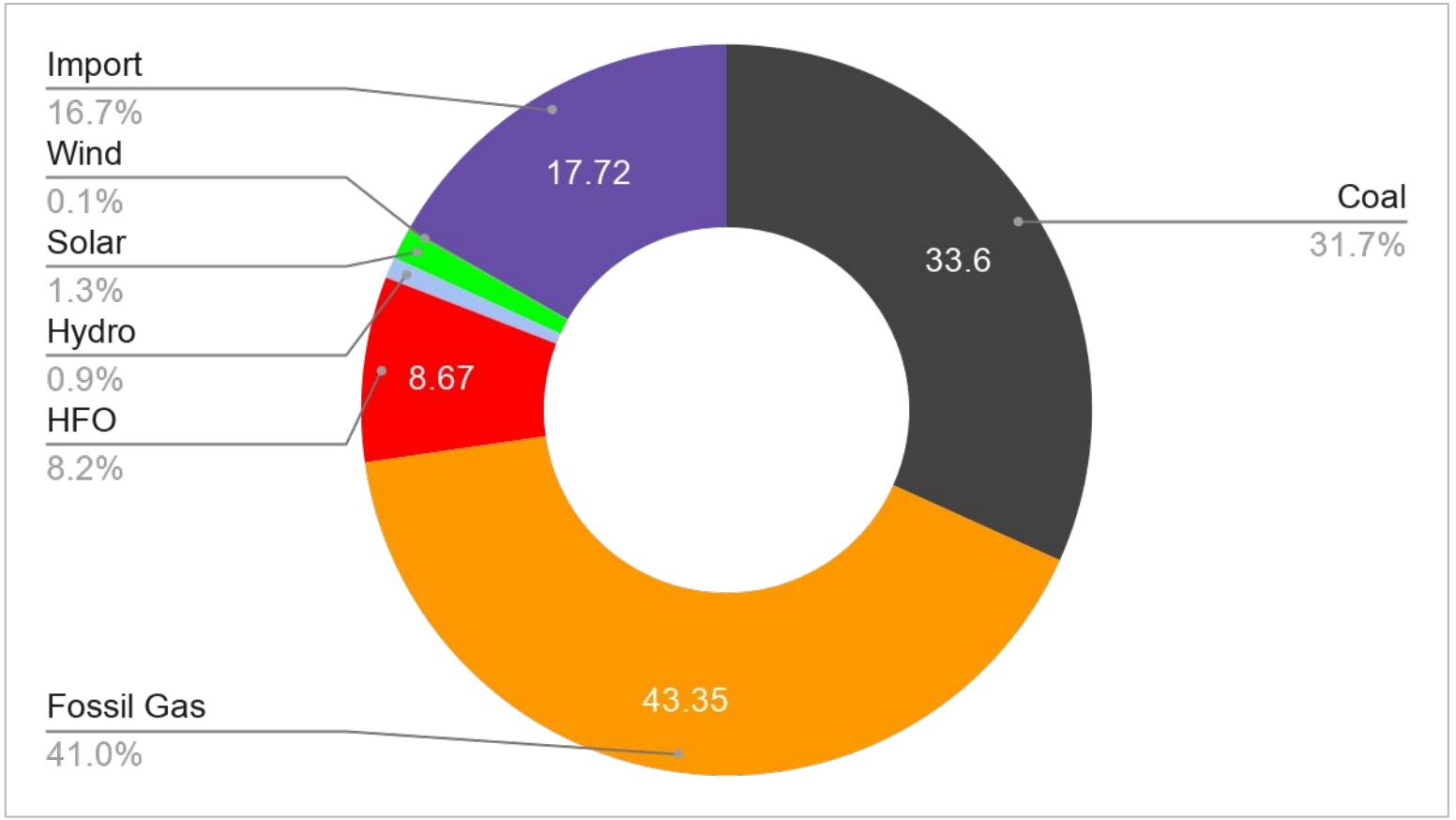




- The industrial sector, Bangladesh's second-largest contributor to GDP (37%) and employment (18.5%), currently consumes 24.83 billion units (TWh) of electricity, representing 27.3% of the 2024-25 total.
- Annual consumption growth has accelerated from a 6.8% long-term average to 7.5% over the last five years, signaling increased mechanization.
- The sector's share of national electricity use has steadily declined by 2% annually, falling from 39.2% in 2007-08 to 27.3% today, suggesting relatively slow industrial progress.

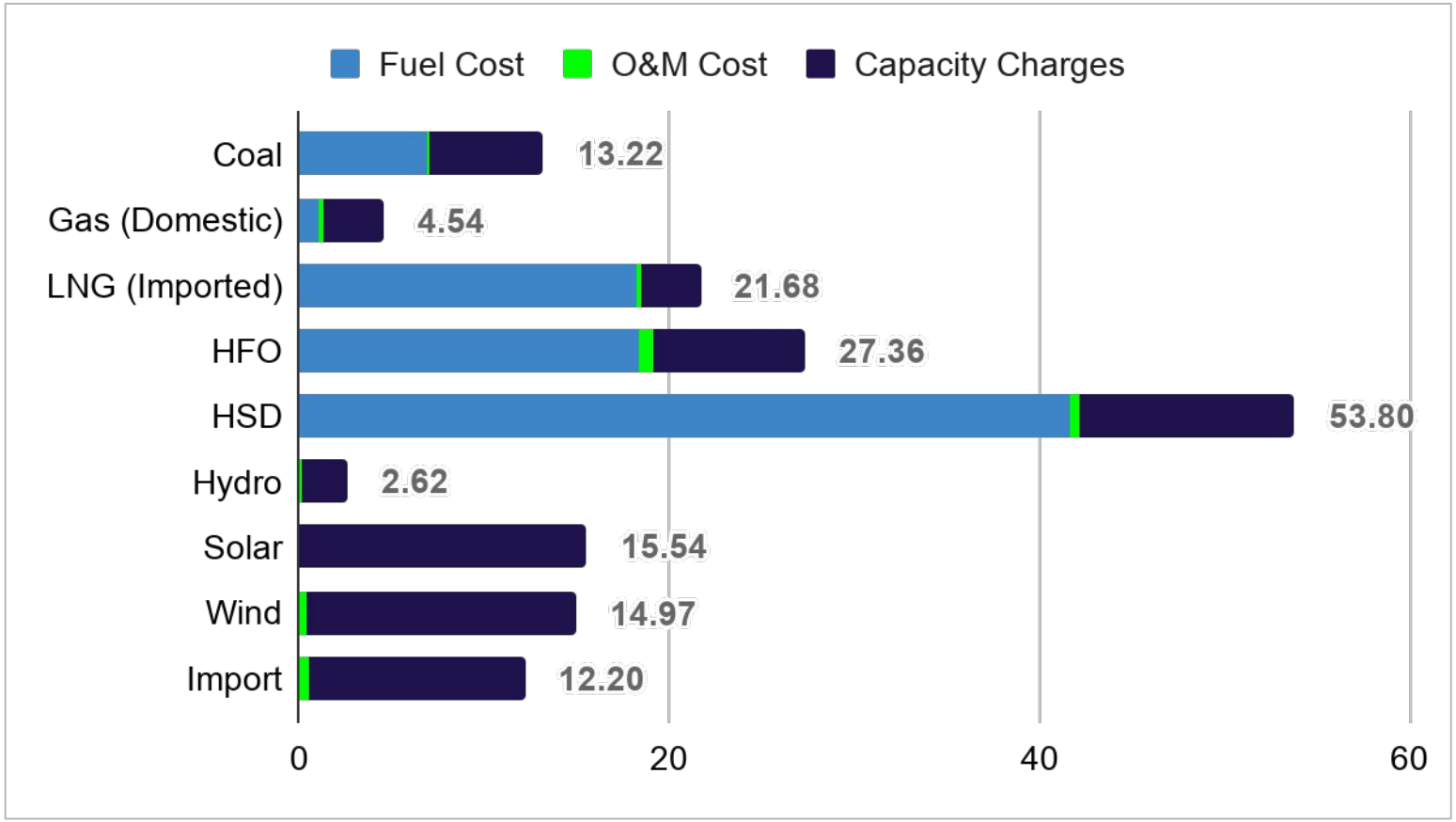
Source of Electricity

- Fossil Gas (domestic gas and imported LNG) is still the highest energy source (41%) in power generation.
- Reducing Heavy Fuel Oil (HFO) from 22.5% in 2024-25 to 8.2% in 2025-26, the imported coal took the second position in power generation from 21% in 2024-25 to 31.7% in 2025-26.
- The share of imported power has been increased further to 16.7% in 2025-26 from 9.7% in 2024-25.



Overall, 67% of the power sector is dependent on imported energy sources.

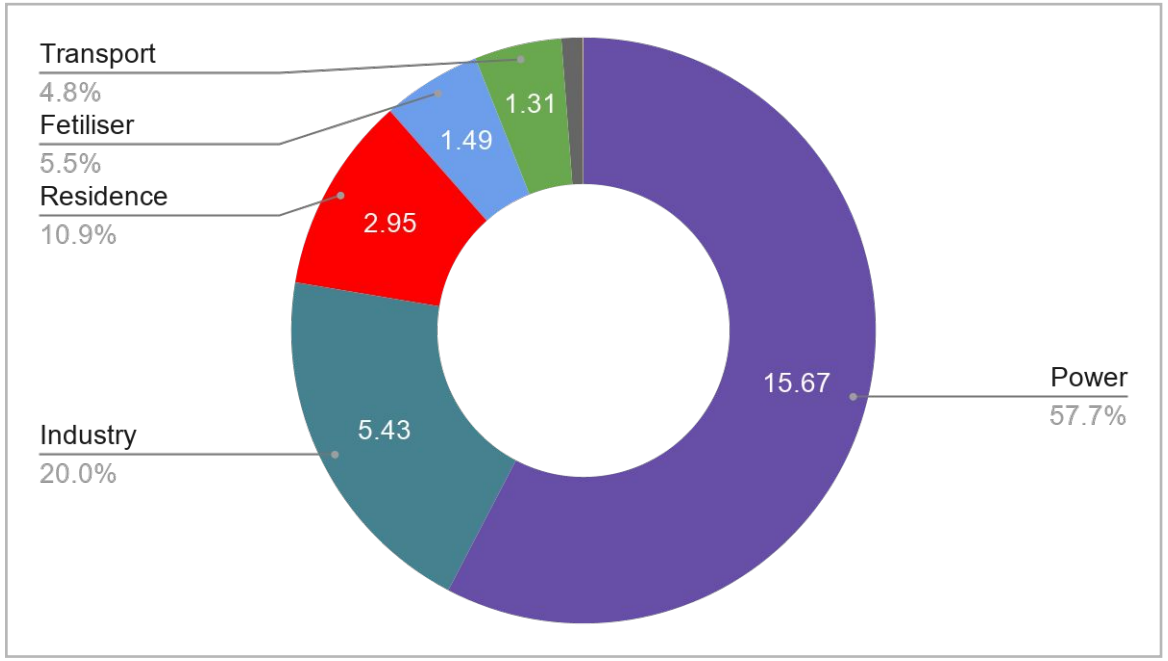
Levelized Cost of Electricity

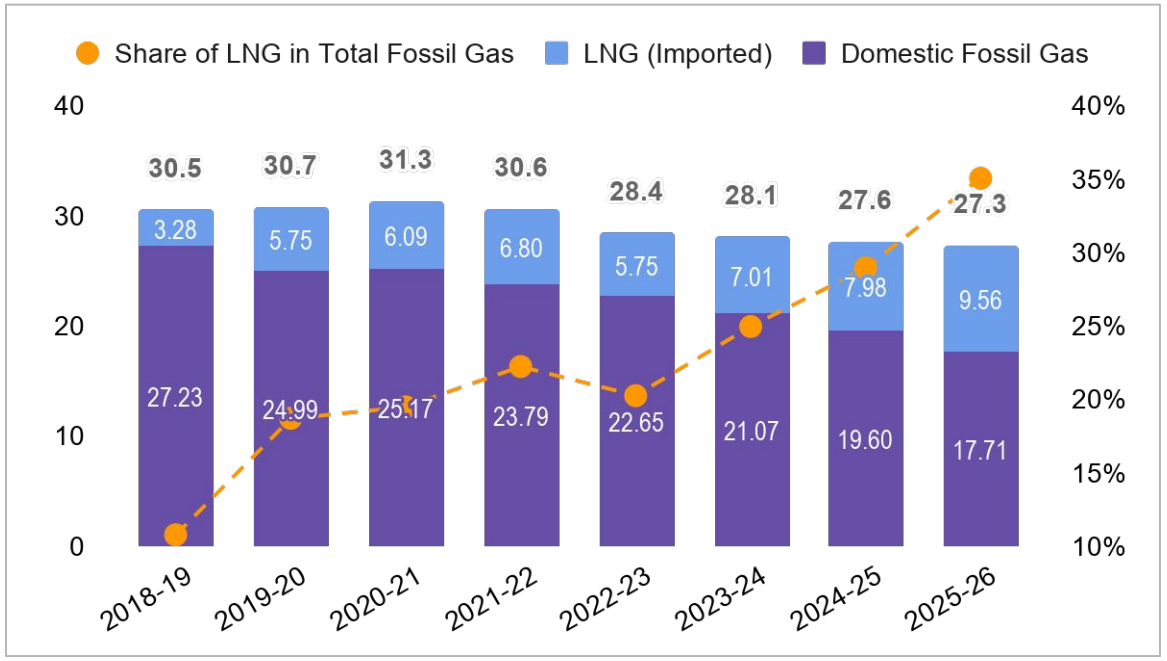


FUEL COST
HFO: BDT 18.41 per kWh
LNG: BDT 18.19 per kWh
HSD: BDT 41.62 per kWh

- HSD (High Speed Diesel) is the most expensive energy source in power generation, followed by HFO and imported Liquefied Natural Gas (LNG).
- At least 18.19 BDT cost of LNG required to generate each kWh of electricity.
- The fuel import takes around USD 13 billion per year, creating enormous pressure on the national economy.

Gas Consumption by Sector

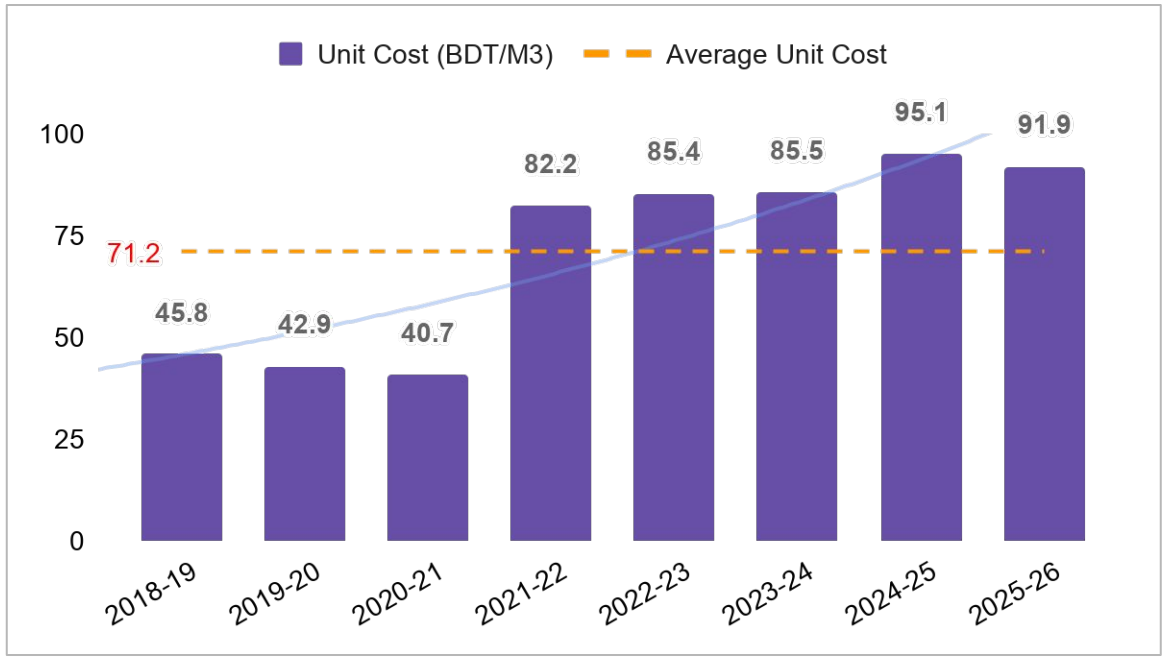


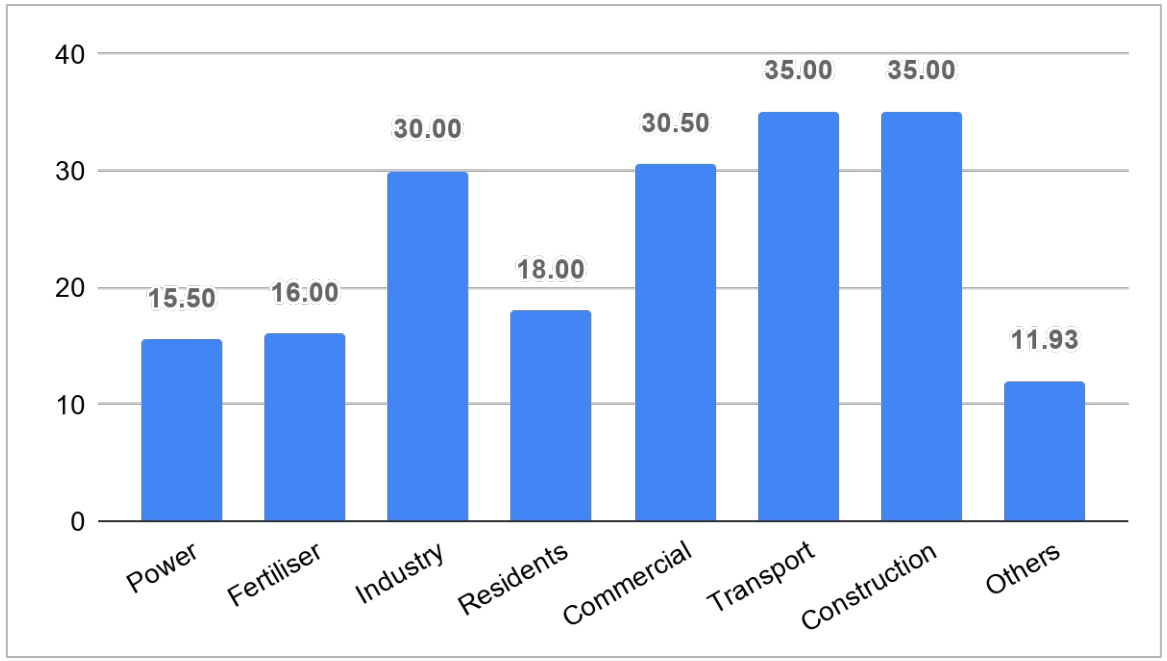


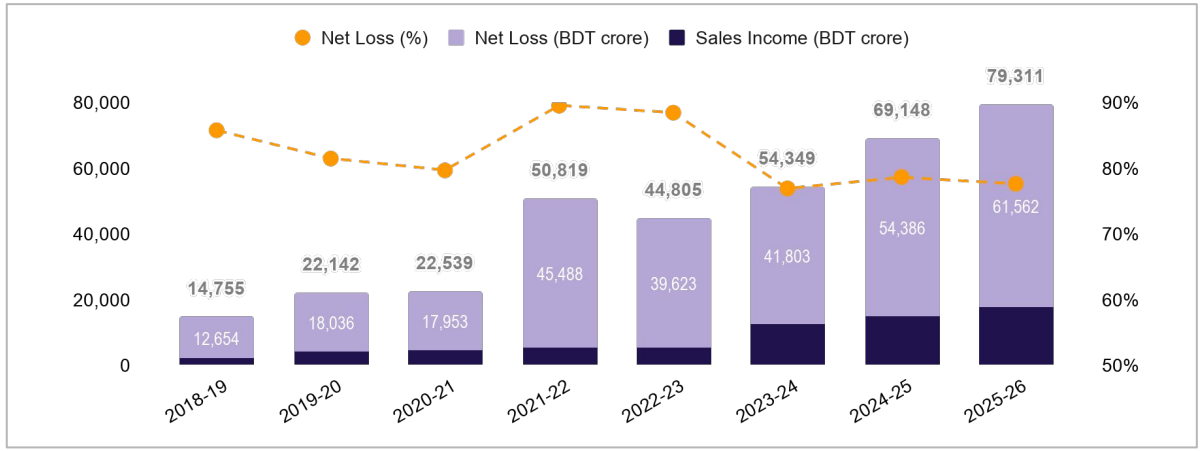
Power Sector (including captive power of the industries) consumes largest (58%) of the total supplied gas, while industrial sector (including captive power) consumes around 37% of the total gas. The residential sector (especially cooking) consumes around 11% gas while fertiliser (agriculture) consumes around 6% of total gas supply.

Share of Imported LNG in gas has been increased dramatically. Imported gas contributed only 11% in 2018-19, which has been increased to 35% in 2025-26. A massive plan of converting industrial boilers to electric boilers, converting cooking ovens from gas to LPG and electricity and reducing chemical fertilizers in agriculture is essential.

Import Cost of LNG and Sales Price



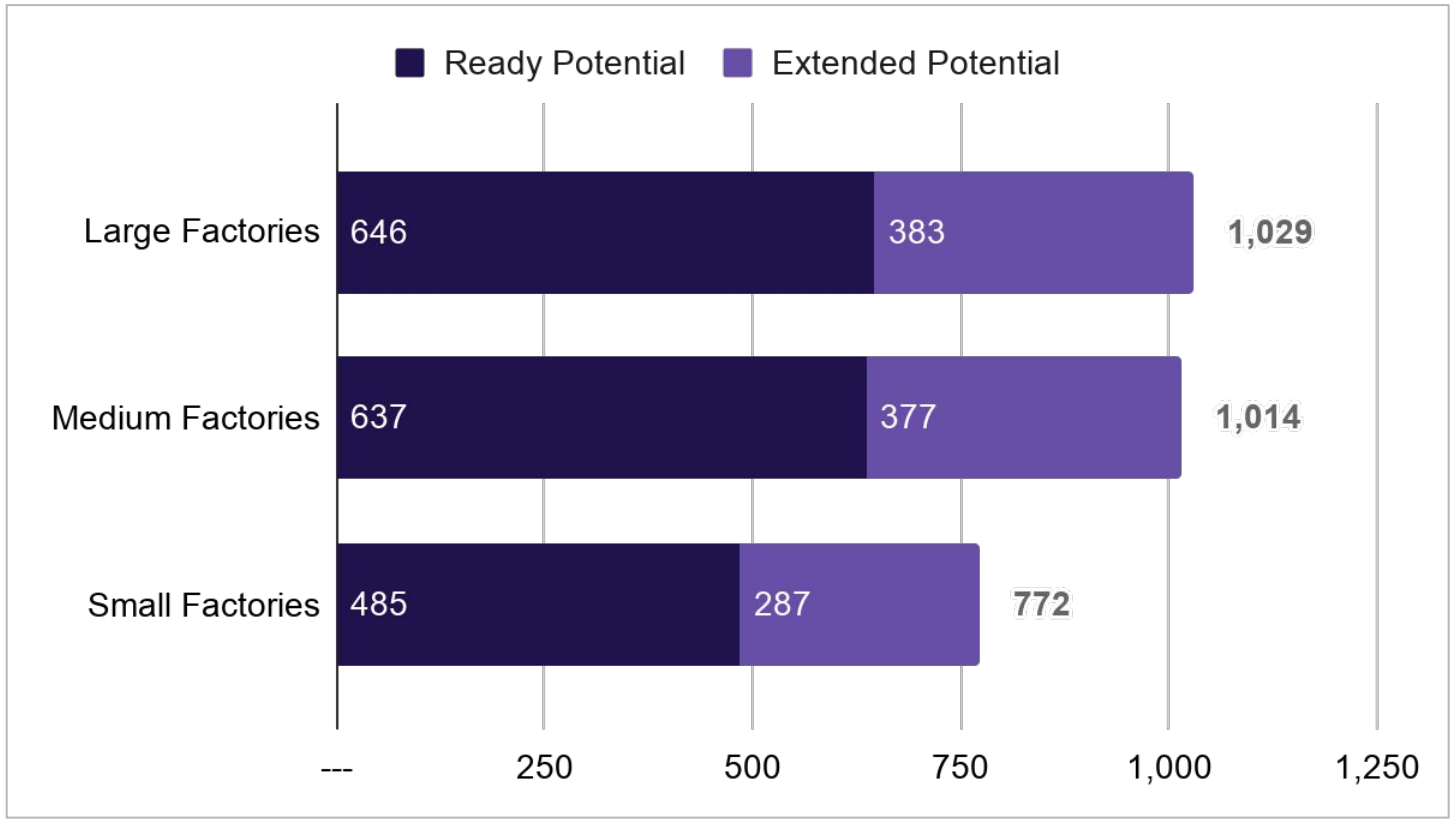


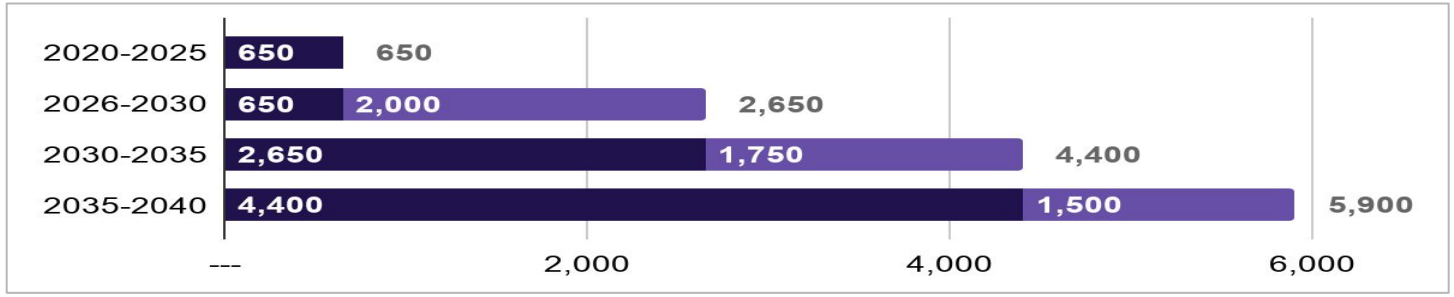


The Petrobangla incurred a loss of BDT 291,506 crore in LNG operations in the last 8 years since 2018-19, showing a trajectory of unwise energy planning in Bangladesh.

The Alternative

Potential of Solar Power

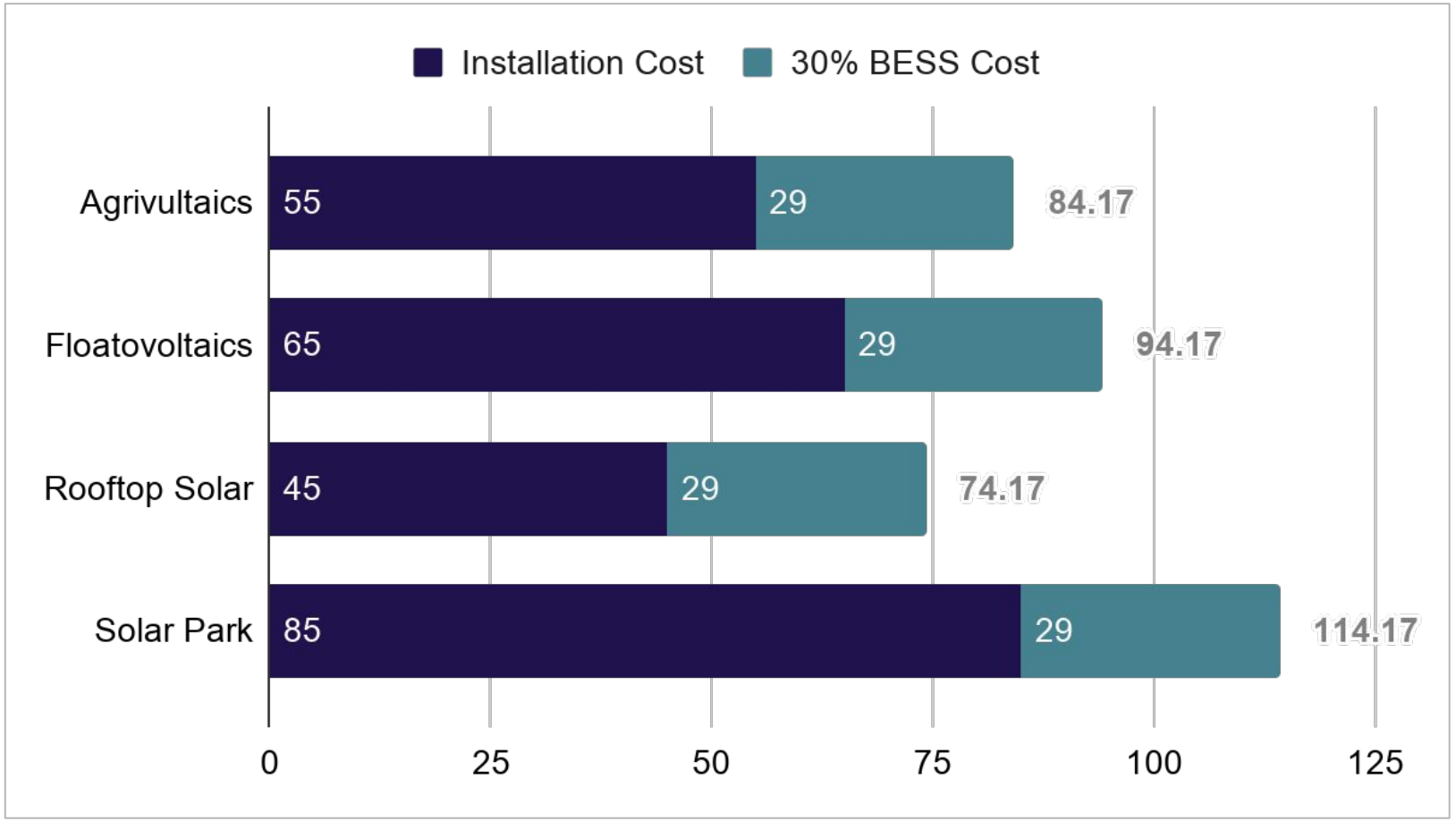




- According to the Infrastructure Development Company Limited (IDCOL), the textiles and garments industries have the potential to install 2,815 MW of rooftop solar power.
- Center for Policy Dialogue (CPD) estimated that 1768 MW of solar power can be installed instantly as ready potential.
- Other studies show that the textile and garment factories can install at least 6,500 MW of solar power.
- Long-term planning can ensure the full potential of decarbonizing the garments and textile sectors of Bangladesh.

Installation Cost of Rooftop Solar

- A 10 kWp Rooftop Solar System with 30% battery energy storage system (BESS) may cost BDT 750,000 including the EPC contract and designing.
- Let us analysis finances including 50% Bank loan at 14% interest rate with a 5 year maturity period.
- The equity investment required BDT 3,75,000 and a commercial loan of 3,75,000.
- Annual repayment BDT 75,000 and first year interest is BDT 52,500.00



A number of recurring cost may add annually, such as the interest and principal amount of the loan, O&M Cost, Demand Charge and Meter Charge of the utilities.

Power Generation Vs. Expenses

Power Generation

Lifetime Generation (20 Years)

310,325 Units

Annual Generation (Average)

15,516 Units

Monthly Generation (Average)

1,293 Units

Expense Breakdown

Equity Investment	**BDT 3,75,000**
Commercial Loan	**BDT 3,75,000**
Interest on Loan	**BDT 1,57,500**
Operation & Maintenance (O&M)	**BDT 3,10,325**
Demand Charge (BDT 90/KW)	**BDT 2,16,000**
Meter Charge (BDT 40/month)	**BDT 10,080**
Equipment Replacement (10 Years)	**BDT 4,50,000**
Return on Equity (15% Annually)	**BDT 11,25,000**
Total Expenses	**BDT 30,18,905**

Levelized Cost of Electricity

First 5 Years

LCOE Rate

14.66

BDT / kWh

Initial period reflecting higher early-stage financing costs.

First 10 Years

LCOE Rate

13.80

BDT / kWh

Mid-term rate reduction as initial debt obligations decrease.

20 Years Average

LCOE Rate

9.73

BDT / kWh

Long-term highly cost-effective average over project lifetime.

Savings in the Electricity Bill

Current Cost

Average Industry Tariff

BDT 15.36 / kWh

Tariff Range

BDT 13.82 - 18.43 / kWh

- Projections assume the tariff remains stable and does not increase over the next 20 years.

Estimated Savings

Lifetime Savings (20 Years)

BDT 17,47,681

Average Annual Savings

BDT 87,384 / year

Savings in the National Economy



10 KWp Rooftop Solar (Small Scale)

Saves BDT **285,654** annually
Saves BDT **5,713,076** in 20 years

** Reduces national foreign currency reserve pressure by cutting heavy fuel oil (HFO) imports.*

1 MW Rooftop Solar (Medium Industrial Scale)

Saves around BDT **2.86 Crore** annually.
Saves around BDT **57.13 Crore** in 20 years

** Ideal for medium-scale factories looking to optimize operating margins and enhance energy security.*

2,000 MW by 2030 (Industry Target)

Annual Savings: BDT 5,713 Crore

20-Year Savings: BDT 114,262 Crore

A monumental macroeconomic transition that significantly secures Bangladesh's energy sovereignty.

Recommendations for the Industry

Rapid installation of Rooftop Solar Systems under Offgrid-hybrid or net metering policies.

Signing Power Purchase Agreement (PPA) under the Merchant Power Plant Policy.

Conversion of gas-based boilers and machineries to electricity.

Ensure internal energy auditing regularly to ensure highest efficiency.



Policy Recommendations



Feed-in-Tariff (FIT): Ensure FIT of at least 20% of the grid tariff under Net Metering Guidelines.

Dedicated Fund: Create a dedicated fund of BDT 25,000 crore (USD 2 billion) for rooftop solar power.

Pre-Finance: Provide pre-finance with below 5% interest rate and 10 years maturity period.

Merchant Policy: Enact Merchant Power Plant Policy as soon as possible with a competitive wheeling charge.

Cash Incentives: Provide at least BDT 20,000 cash incentives up to 3 kWp of rooftop solar systems.

Thank You

100% RENEWABLES POSSIBLE