

Country Profile

BANGLADESH



173 million population (2024)



4.2 % GDP growth rate (2024)



32.3 GW total installed capacity (2025)



846 MW installed solar capacity (2024)

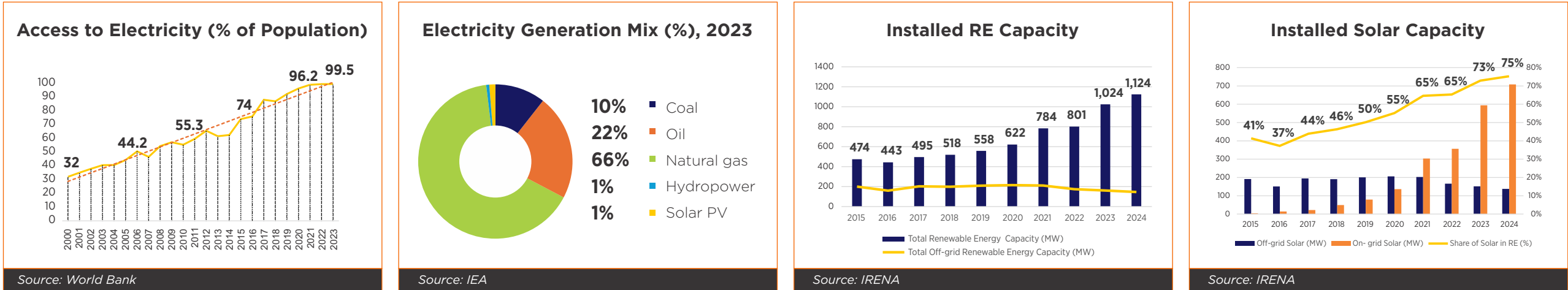


Target to cut carbon emissions by 89.5 MT by 2030



Targets 40 % share of RE in energy mix by 2041





KEY CHALLENGES

- **Lack of available land** for large-scale solar projects
- Financial constraints, with limited access to funding and investment
- **Lack of a robust grid infrastructure**
- **Abrupt policy changes** in the renewable energy project contracting process

POTENTIAL OPPORTUNITIES

- RE without storage can replace oil-fired peaking plants during the day; **declining battery storage costs allow replacement of oil-fired power at night with RE+Storage**
- **High Solar Potential:** Strong rooftop and utility-scale solar opportunities; government targets **4,100 MW renewable capacity by 2030** under the Renewable Energy Policy
- **Floating Solar Projects:** Growing interest due to land constraints; feasibility studies underway for large-scale floating solar on water bodies
- **Regional Power Trade:** Integration under **BBIN and SAARC frameworks** offers scope for cross-border electricity trade and renewable energy exchange
- **Carbon Market Participation:** Bangladesh's climate commitments and vulnerability to climate change position it well for **carbon credit trading and green finance**

ENERGY STORAGE AND GRID INTEGRATION

- **Competitive bidding process for 160 MW of battery energy storage systems launched:** 16 standalone projects, each rated at 10 MW/40 MWh, totaling 640 MWh of four-hour storage capacity
- **Smart Grid Modernization:** Introduction of Advanced grid management systems (automated substations, real-time monitoring, and load forecasting tools)
- **Hybrid and Microgrid Solutions:** Hybrid systems combining solar, wind, and diesel are being piloted in remote areas; Microgrids are being explored to serve island communities and disaster-prone regions

Key Policies and Framework

- **Energy Policy 2020** – Sets strategic direction for energy security, diversification, and sustainable development in Bangladesh
- **Guidelines for the Grid Integration of Solar Irrigation Pumps** – Provides technical and operational standards for connecting solar pumps to the national grid
- **Bangladesh Energy Regulatory Commission (Tariff for Rooftop Solar PV Electricity) Regulations, 2016** – Defines tariff structure and rules for selling rooftop solar power to the grid
- **Energy Efficiency and Conservation Master Plan up to 2030** – targets a 20% reduction in energy intensity by 2030, aiming to save 5.3 Mtoe annually and cut energy costs by BDT 768 billion
- **SREDA Standard and Labelling (Appliances & Equipment) Regulation-2018** - rules and procedures for ‘Prescribing minimum energy performance standard (MEPS)’ and ‘Labeling of appliances & equipment’ as per their energy efficiency performance

Climate & Sustainability Commitments

Nationally Determined Contributions (NDCs)

- Unconditional Target: Reduce 6.73% GHG emissions by 2030 from BAU
- Conditional Target: Additional 15.12% reduction with international support
- Total: 21.85% reduction by 2030 aligned with Paris Agreement
- (Source: MoEFCC, 2021)

Key Policy Frameworks

- **Mujib Climate Prosperity Plan (MCP):** Positions climate action as a driver of green economic transformation through renewable energy, resilient infrastructure, and green finance
- **Delta Plan 2100:** Long-term integrated water and climate resilience strategy for coastal and delta regions

In FY 2026, 25 ministries/divisions allocated 10.07% of the total budget to climate-related initiatives

Investment & Financing Landscape

- **Massive Investment Needs:** Bangladesh's Integrated Energy and Power Master Plan (2023) estimates that deploying 37.8 GW of renewable energy without storage will cost around \$37.4 billion under advanced technology scenarios
- **Storage-Enabled Renewables:** Installing 20 GW of renewables with battery storage for 30% capacity (four-hour backup) could require \$1 billion annually through 2050
- **Key investors:** Asian Development Bank, World Bank, Global Environment Facility, The United Nations Development Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Infrastructure Development Company Limited, Bangladesh Investment Development Authority, Summit Power International, Rahimafrooz Renewable Energy Ltd.