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Generating Power from Renewable Energy in Bangladesh: Governance Challenges and Way Forward

(Executive Summary)

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1. Background and Rationale of the Study

Renewable energy refers to "net-zero carbon" energy produced from natural resources (sunlight, wind, water, biomass, biogas, etc.) that are continuously replenished. The Transition to renewable energy (RE) refers to the global energy sector's pathway to shift entirely from fossil-based energy production (oil, natural gas, and coal) to renewable sources (sunlight, wind, water, etc.) by 2050. At COP-28, countries committed to transitioning away from fossil fuels by 2030, tripling renewable electricity generation, and doubling energy efficiency. In Bangladesh, total installed electricity capacity is 28,616.5 MW, but only 1,314.7 MW (4.6%) comes from renewable sources (Table 1). Despite attracting nearly USD 30 billion in foreign investment in the power sector between 2010 and 2023, 96.7% went to fossil fuel–based projects, while only 3.3% was invested in renewable energy.

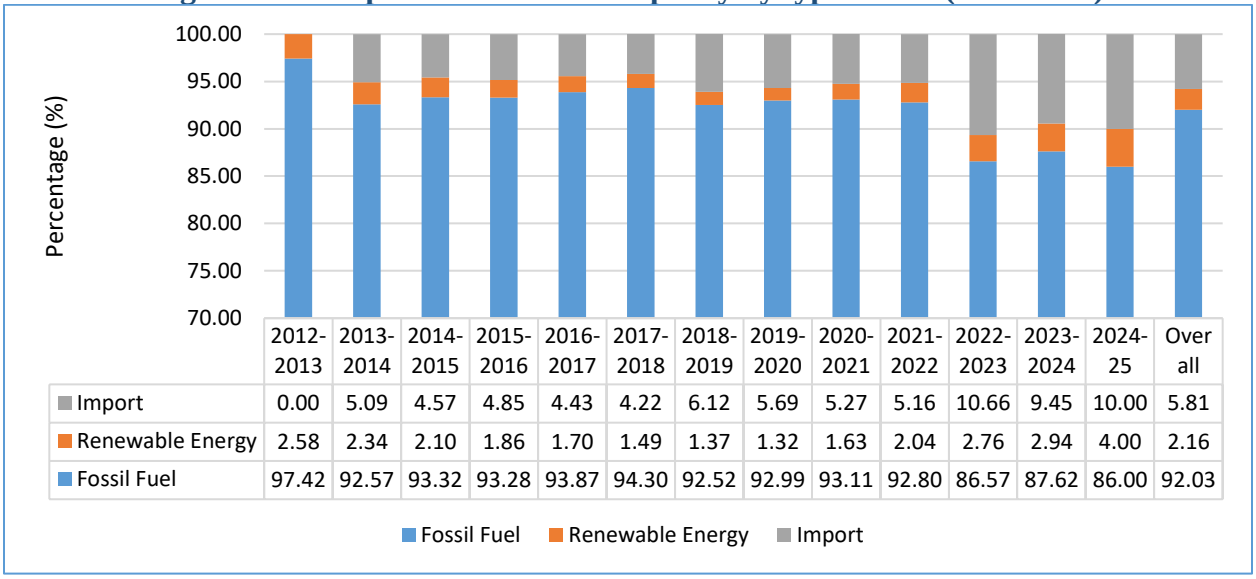
Table 1: Current Status of power generation capacity in Bangladesh

Current Electricity Generation Mix			Existing Renewable Energy Installed Capacity				
Types of Fuel	Installed Capacity (MW)	Share (%)	Type of Renewable Energy	Offgrid (MW)	Ongrid (MW)	Capacity	
						Total (MW)	Total (%)
Gas	12,512	43.97	**Solar**	92.23	929.4	1021.6	77.71
Coal	5,683	19.97	**Hydro**	0	230	230	17.49
Heavy Fuel Oil (HFO)	5,641	19.83	**Wind**	0	62	62	4.72
Renewable (Solar, Hydro, Wind, Biogas, Biomass)	1,314.7	4.62	**Biogas**	0.69	0	0.69	0.05
Imported	2,696	9.48	**Biomass**	0.4	0	0.4	0.03
High Speed Disel (HSD)	606	2.13					
Total	**28,616.5**	**100.00**	**Total**	**93.32**	**1,221.4**	**1,314.7**	**100.00**

Source: BPDB and SREDA Database, August 2025

Bangladesh currently has only 17 grid-connected utility-scale renewable energy projects, with total grid-connected capacity (including net-metering) of 1,221.4 MW. Although land scarcity is often cited as a barrier to renewable expansion, recent studies identify this as a myth, showing sufficient non-agricultural and rooftop land to meet electricity demand through solar power. The government is alleged to prioritize purchasing high-tariff renewable power from IPPs over developing public-owned projects, and most renewable projects are unsolicited and lack competitive bidding. Meanwhile, energy-sector CO_2 emissions rose from 41 million tons in 2008 to 89 million tons in 2019 and may reach 170 million tons by 2030, contradicting Paris Agreement, INDC, and SDG commitments. Growing dependence on imported fuel and electricity further threatens long-term energy security (Figure 1).

Figure 1: Total power installation capacity by type of fuel (2012-2025)



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-25	Over all
Import	0.00	5.09	4.57	4.85	4.43	4.22	6.12	5.69	5.27	5.16	10.66	9.45	10.00	5.81
Renewable Energy	2.58	2.34	2.10	1.86	1.70	1.49	1.37	1.32	1.63	2.04	2.76	2.94	4.00	2.16
Fossil Fuel	97.42	92.57	93.32	93.28	93.87	94.30	92.52	92.99	93.11	92.80	86.57	87.62	86.00	92.03

Given the slow progress of renewable energy projects, achieving 100% renewable electricity by 2050 remains uncertain. A previous TIB study on fossil fuel–based power projects found that donor-driven policies, planning processes, investor influence, vested interests, and legal weaknesses facilitated excessive fossil fuel imports. In this context, the present study examines renewable energy governance by reviewing existing policies, stakeholder roles (Appendix 1), and institutional and financial challenges to achieving a just transition to renewable energy by 2050.

2. Research Objectives

The primary objective of this study is to identify and analyze the governance challenges of of power generation from renewable energy in Bangladesh.

The specific objectives of this study are to:

- To review the policies, plans, laws and regulations related to power generation from this energy;
- To identify the institutional and financial challenges in increasing renewable energy generation capacity, including the role of relevant stakeholders;
- To identify the type, extent and causes of irregularities and corruption in the planning, approval and implementation stages of selected renewable energy projects in the study; and
- To suggest recommendations to overcome the challenges

3. Scope of the study

The research includes analysis of renewable energy policies, plans, laws and regulations from 2008 to 2025; as well as analysis of information related to irregularities and corruption in the planning, approval and implementation stages of renewable energy-based power projects from 2012 to 2025.

4. Research Methodology

This is primarily a qualitative study; however, quantitative data has been used in some cases depending on the needs of the study.

4.1 Sources of Data

Data was collected from primary and secondary sources and analyzed in accordance with the objectives of the study. The data collection method along with the type of data and source of data are mentioned in the following table (Table 2).

Table 2: Source of information

Type of Information	Method of Data Collection	Source of Information
Primary Information	Interviews with key informants (61)	Relevant officials (ministries, BPDB, SREDA, Environment, Land & Fisheries Department, BERC, IDCOL, District administration, government project authorities, IPP operators, DESCO); energy & EIA experts; economists; human rights activists; people representatives; media personnel; etc.
	Focus Group Discussions (FGDs) (10)	Local communities living in the project area
Secondary Information	Analysis & review	Relevant laws, rules & regulations; pertinent research reports; news published in media; environmental impact assessment (EIA) reports; relevant government and private reports; official websites

4.2 Project Selection

14 renewable energy-based power projects were selected in line with the objectives of the study **(**Table 3**)** and the following factors were considered in the project selection-

(a) Project location- potential and quality of renewable resources, ecologically critical areas, climate risk;
(b) Project type- renewable technology, producer (IPP/government) and financier, national grid connection, solicited;
(c) Production capacity;
(d) Project size and budget;
(e) Project implementation progress;
(f) Impact on natural resources, biodiversity, ecosystem and livelihoods of the people in the project vicinity

Table 3: Selected 14 Renewable Energy Based Power Projects

SI	Project Name	Location	Capacity (MW)	Financier	Ownership	Budget (BDT)	Year	Current Status
Solar Power Projects (Public– On-Grid)								
1	Kaptai 7.4 MW	Rangamati	7.4	ADB, GoB and BPDB	BPDB	104.23 crore	2019	Completed and operational
2	Madarganj 100 MW	Jamalpur	100	EXIM Bank of India, RPCL	RPCL	1,511 crore	-	Under implementation (Expected COD 2026)
3	Barapukuria 20 MW	Dinajpur	20	—	BPDB	—	—	Under planning

SI	Project Name	Location	Capacity (MW)	Financier	Ownership	Budget (BDT)	Year	Current Status
Solar Power Projects (IPP – On-Grid)								
4	Teesta 200 MW	Gaibandha	200	Beximco and China's TBEA Xinjiang Sunoasis	Beximco (Unsolicited)	1800 crore	2023	Completed and operational
5	Lalmonirhat 30 MW	Rangpur	30	Local banks, IDCOL	Intraco (Unsolicited)	567 crore	2022	Completed and operational
6	Mongla 100 MW	Bagerhat	100	IDCOL, Bangladesh Bank	Energon (Unsolicited)	1,702 crore	2021	Completed and operational
7	Sirajganj 68 MW	Sirajganj	68	BCRCEL, and BPDB	BCRECL (Unsolicited)	947 crore	2024	Completed and operational
8	Manikganj 35 MW	Manikganj	35	ADB	Spectra (Unsolicited)	150 crore	2021	Completed and operational
Wind Power Projects (IPP – On-Grid)								
9	Cox's Bazar 60 MW	Khurushkul, Cox's Bazar	60	Chinese company Speak Willing Power Corporation	US-DK Green Energy BD Ltd. (Unsolicited)	900 crore	2024	Completed and operational
Wind Power Projects (Government – On-Grid)								
10	Muhuri 0.9 MW	Sonagazi, Feni	0.9	BPDB	BPDB	7.5 crore	2006	Closed
Biomass Projects (Off-Grid)								
11	SEAL Biomass-based Power Project	Thakurgaon	0.4	IDCOL	SEAL Limited	—	2015	Completed and operational
Hydro Projects (On-Grid)								
12	Kaptai Hydroelectric Power Plant	Kaptai, Rangamati	230	—	BPDB	—	1962	Completed and operational
Net Metering Projects (On-Grid)								
13	20 KW Net Metering Rooftop Solar System	Gulshan, Dhaka	0.02	—	BTI Landmark	—	2019	Completed and operational
14	Walton High-Tech Rooftop Solar (MW scale)	Chandra, Gazipur	7.6	IDCOL	Walton High-Tech Industries	—	2023	Completed and operational

*The solar power plant was financed by the Asian Development Bank (ADB), the KfW Development Bank, and the Canadian Climate Fund for Private Sector Development in Asia. Only ADB's investment is shown

5. Timeline of the study

This study has been conducted from October 2024 and November 2025. Research-related data was also collected, compiled, verified, and analysed during the period.

6. Analytical Framework

The data required for this study were collected, verified and the data obtained in the study were analyzed in the light of six indicators (Table 4).

Table 4: Analytical framework based on the indicators of good governance

Governance Indicator	Specific Monitoring Domains
Law & Policy	• National policies, plans, laws, and regulations on electricity generation from renewable energy • International commitments and pledges related to electricity generation from renewable energy
Capacity	• Institutional & technical infrastructure • Investment framework & financial management; project progress • Coordination Across Institutions and Stakeholders
Transparency	• Disclosure of information — proactively and upon request • Website and up-to-date information management
Accountability	• Oversight & audit; complaint reception & resolution; environmental & social assessments • Procurement & bidding processes; execution of various contracts for project approval; incentive mechanisms
Participation	• Site selection; assessment of environmental & social impacts and determination of compensation • Rehabilitation of affected local communities, livelihood measures and employment
Irregulaties & Corruption	• Project approval & implementation; carrying out environmental impact assessments and issuing environmental clearances • Land acquisition / purchase, determination & distribution of compensation; interests of various stakeholders

7. Key Findings

7.1 Limitations and Challenges in Formulating Relevant Laws and Policies and Ensuring Compliance

There are significant obstacles in both the formulation and effective enforcement of policies, plans, laws, and regulations related to the energy sector.

7.1.1 Inconsistencies and Ambiguity in Energy Policy and Plan Formulation

During the period from 2016 to 2025, various ministries have formulated and implemented numerous policies and plans, including visions for 2030, 2041 and 2050, with the aim of generating

electricity from renewable energy (Appendix 2). However, the targets for electricity generation from renewable energy in these plans vary and in many cases are inconsistent with national and international commitments, including the Paris Agreement and the Intended Nationally Determined Contributions (INDCs). In addition, there is a lack of clear coordination among different stakeholders in formulating policy and planning.

> "Only God knows who sets these targets and policies. Because we do not get the opportunity to analyze what resources we actually have or how much we are capable of doing. If someone from the high level simply says that meeting 40% of electricity demand from renewable sources is possible, and then the target is fixed at 40% without any research, how is this supposed to be implemented?"
>
> — *A key informant*

The Integrated Energy and Power Master Plan (IEPMP) 2023 lacks a clear roadmap for transitioning to renewable energy. Instead of prioritizing renewables, the plan places greater emphasis on other forms of "clean energy," such as nuclear power, carbon capture and storage (CCS) units, and relatively new and untested technologies like hydrogen and ammonia. Of the target to generate 40% of total electricity by 2050 from clean sources, only 10% is expected to come from renewable energy, while the remaining 30% would be sourced from these other clean energy options.

7.1.2 Limitations and Applied Challenges of Renewable Energy Policy, 2025

Although Section 2.2 mentions "RE Targets," these are not aligned with IEPMP, BCPP, INDC, or any clearly defined benchmarks, nor is it clear whether "green energy" includes nuclear energy, creating scope for misinterpretation. The section also refers to cost reduction, technology expansion, and energy security without specifying implementation mechanisms, inter-ministerial coordination, or investor incentives. Section 4.0 assigns overall responsibility to the Power Division but provides no clear framework for inter-institutional coordination, nor does it define authorities responsible for audit, monitoring, and grievance redressal, potentially weakening oversight and accountability. In Section 6.0, social and environmental considerations in land allocation are inadequately addressed, risking food security and environmental harm, while the phrase "using public land" may legitimize excessive state intervention and legal ambiguity. Finally, Section 14.0's call to "simplify" environmental clearance processes may create opportunities for misuse and undermine transparency and accountability.

7.1.3 Limitations and Applied Challenges of Integrated Energy and Power Master Plan (IEPMP), 2023

Section 1.0 shifts the commitment from 40% renewable energy to up to 40% clean energy including nuclear, hydrogen, ammonia, and CCS, thereby diluting the renewable energy share and creating inconsistency with the original commitment. This change in terminology weakens the RE narrative and may cause confusion and coordination gaps during implementation. Although Section 5.7.3 outlines plans for hydrogen and ammonia fuel supply, it lacks carbon-intensity criteria and mandatory green certification, increasing environmental risk. Additionally, Section

6.2.3's focus on LNG imports through Matarbari heightens import dependence, poses energy security risks, and reinforces fossil fuel reliance with associated environmental concerns.

7.1.4 Limitations and Applied Challenges of Bangladesh Climate Prosperity Plan (BCPP), 2022

Section 6A sets ambitious targets of 40% renewable energy by 2041 and 100% by 2050 but lacks a phased implementation roadmap, which may constrain effective execution. The focus on advanced and largely hypothetical technologies such as offshore wind, the Bay of Bengal Giga Array, green hydrogen, tidal power, and ocean thermal energy conversion does not adequately reflect Bangladesh's current infrastructure and investment capacity, increasing reliance on foreign finance and technology. Although a $10 billion investment is mentioned, the absence of clarity on financing sources and mechanisms heightens implementation risks. Moreover, while past failures to meet targets under the Renewable Energy Policy 2008 and the 8th Five Year Plan are acknowledged, the lack of analysis on their causes and corrective measures raises the risk of repeating previous shortcomings.

7.1.5 Limitations and Applied Challenges of Electricity Act, 2018

Although Articles 4 and 5 of the Electricity Act, 2018 address power sector development and Independent System Operators, they provide no clear guidance on renewable energy–specific generation, transmission, supply, or distribution, potentially constraining RE expansion. Article 14 also lacks provisions on protecting local rights or ensuring community consultation in land acquisition, and offers no guidance on additional land requirements or dispute resolution for RE projects such as solar parks or wind farms, increasing the risk of rights violations and irregularities in land acquisition.

7.1.6 Limitations and Applied Challenges of Bangladesh Energy Regulatory Commission Act, 2003

According to the Bangladesh Energy Regulatory Commission Act, 2003, although Chapter 7 contains provisions related to tariff determination, the Feed-in Tariff model for the generation and sale of electricity from renewable energy is not clearly mentioned. As a result, uncertainty and complexity may arise in determining the tariff for electricity generated from renewable energy, which may reduce investor interest and hinder progress in the renewable energy sector.

7.2 Challenges Related to Capacity

7.2.1 Deficit in institutional capacity of BPDB

Although BPDB implements projects through both public and independent power producers (IPPs) modalities, its institutional capacity gaps are evident in forecasting, planning, negotiating, and managing renewable energy initiatives. BPDB has an institutional deficiency in conducting feasibility studies for government renewable energy projects, leading to heavy reliance on external consultants. It has limited capacity in negotiating contract terms with IPPs, setting tariffs, and dealing with various aspects of project implementation. Weaknesses also persist in EPC contractor selection, work order issuance, contract oversight, quality assurance, financial record-keeping, reporting, and compliance follow-up.

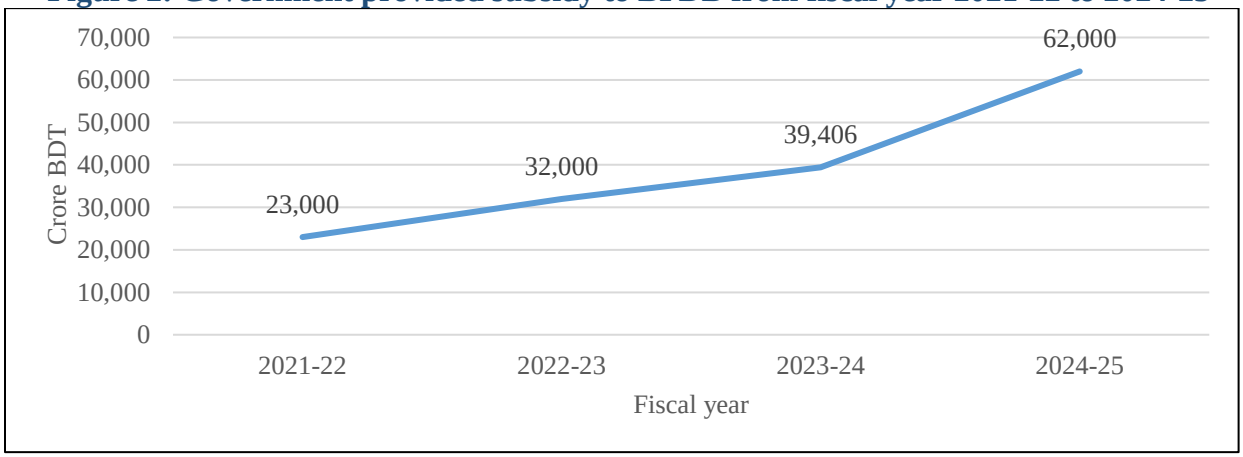
"Whether the government admits it or not, the excessive subsidies in fossil-fuel-based power generation and the massive wastage and looting of thousands of crores of taka in the name of 'capacity charges' have led to the institutional and financial deterioration of BPDB. The situation has worsened to the point that they have even lost the capacity to negotiate with the IPPs."

— *A key informant, 2025*

7.2.2 Deficit in financial capacity of BPDB

Due to the lack of adequate funding of BPDB, it is not possible to implement large-scale renewable energy projects in the public sector. On the one hand, the burden of government subsidies for fossil fuel is increasing every year (Figure 2), on the other hand, there is a shortage in incentives and financial allocation for renewable energy. Moreover, the PDB's delay in paying bills to IPPs is reducing the confidence of foreign investors. In addition, considering the high risk in project implementation, investors are demanding high tariffs and tightening contract terms, which is further hindering progress in the renewable energy sector.

Figure 2: Government provided subsidy to BPDB from fiscal year 2021-22 to 2024-25



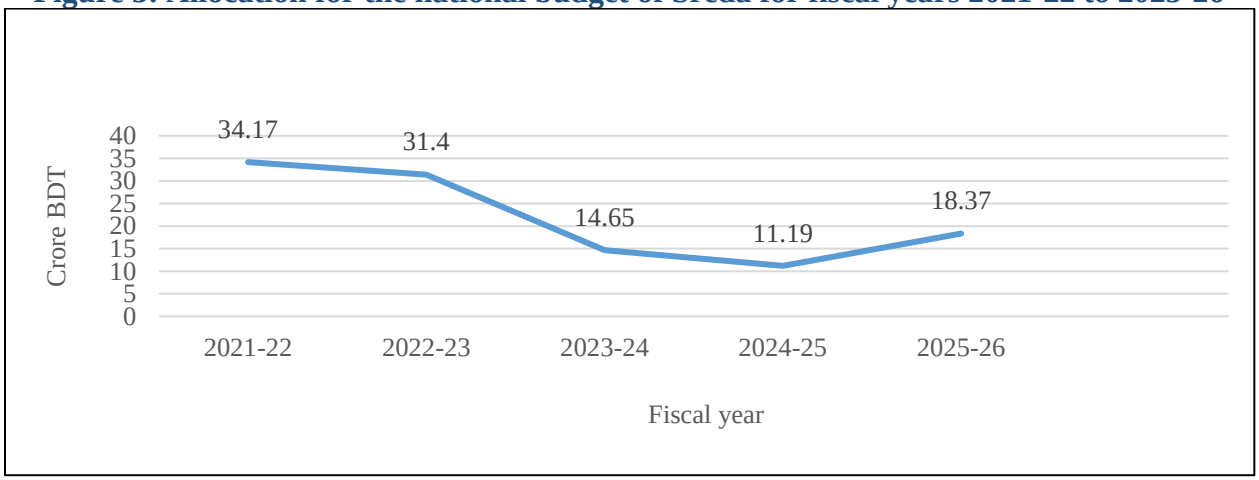
7.2.3 Deficit in institutional capacity of SREDA

The role of SREDA is largely confined to issuing policy directives, lacking the institutional framework, mechanisms, or capacity necessary for effective implementation. Human resources are severely constrained. Despite the provision of a SREDA research cell, it is not possible to conduct effective research activities due to the lack of adequate manpower, one member and a driver in research cell, resulting in minimal research capacity. While the policy aims for the establishment of a "Renewable Energy Hub," SREDA has no offices at divisional, district, or regional levels. Despite the nationwide implementation of renewable energy projects, the shortage of personnel has limited SREDA's operational effectiveness. Furthermore, the organization lacks the capacity to maintain a comprehensive database on the country's renewable energy potential, grid load, and environmental impacts.

7.2.4 Deficit in financial capacity of SREDA

While the government continues to make various commitments to promote renewable energy, the financial allocation for SREDA has shown a declining trend in recent years (Figure 3).

Figure 3: Allocation for the national budget of Sreda for fiscal years 2021-22 to 2025-26



7.2.5 Deficit in capacity of other relevant institutions

Other relevant institutions in the renewable energy sector face significant structural and operational limitations, with capacity gaps. Under the previous government, the Bangladesh Energy Regulatory Commission (BERC) had no regulatory authority over the determination of tariffs for electricity generated from renewable energy sources, nor was it involved in setting the terms and conditions of Power Purchase Agreements (PPAs). Instead, the authority to determine prices and contractual terms rested unilaterally with the Ministry of Energy. On the other hand, due to manpower and logistical constraints at the local level, the Department of Environment (DoE) has been unable to effectively conduct EIA assessments, issue environmental clearance certificate, and ensure proper environmental monitoring in project areas. The lack of expertise in identifying solar products and the absence of advance directives in the Bangladesh Customs also leads to delays and harassment in importing new technologies or materials. Despite the mandatory requirement for renewable energy projects to obtain insurance through the government's insurance corporation Sadharan Bima Corporation (SBC), there are allegations regarding poor service quality, delays in payment of compensation, and allegations of bribery.

7.2.6 Lack of technical capacity in project implementation

Bangladesh has to rely on imported technologies to implement renewable energy projects due to the lack of its own technical capacity. Moreover, there is no specific national code or guideline in Bangladesh for the civil foundation design required for wind turbines, which poses a significant challenge for project development. In addition, due to the unavailability of reliable renewable energy resource mapping data, power producers have to procured data from foreign companies for solar and wind resource assessments. Furthermore, smart grid and energy storage technologies, which are essential for ensuring a large contribution of renewable energy to the energy mix, have not yet been implemented in Bangladesh, which is slowing down the progress of this sector.

7.2.7 Infrastructural deficits in the renewable energy sector

Shortage in securing suitable land poses major challenges for renewable energy projects. IPPs often must secure land themselves for ground-based solar projects due to limited government allocation, causing delays, cancellations, and potential community displacement. Requirements to locate projects near grid substations further driveup land prices, empower brokers, and hinder timely implementation. In addition, inadequate automated grid infrastructure limits project integration. At the same time, residential entrepreneurs show reluctance toward adopting net metering due to restrictions on the use of building roofs, increased maintenance costs and lack of cooperation from the utility company.

7.2.8 Challenges in mobilizing finance for renewable energy in line with policy

There is a gap in implementing projects and mobilizing the estimated US$2,027 million needed to meet the NDC renewable energy targets. No clear framework exists to secure the additional US$5,006.5 million required for renewable energy activities. In addition, no strategy or framework has been developed to mobilize the necessary funds to achieve the target set in the Renewable Energy Policy 2025. According to estimates, a maximum of US$980 million (approximately Tk 11,564 crore) per year will be required until 2030 and a maximum of US$1.46 billion (approximately Tk 17,280 crore) per year from 2030 to 2041. However, there is a lack of specific and time-bound guidance for mobilizing this large amount of fund.

7.2.9 Lack of investment in renewable energy projects

Although various organizations spend considerable time in feasibility studies, consultancy processes, and research on renewable energy projects; however, effective government initiatives to accelerate financing and implementation remain limited. The role of the public sector has been limited as international development partners such as the Asian Development Bank (ADB) and the World Bank are more interested in investing in the private sector than in the public sector. Although the government's plan is focused on IPP-based projects, an attractive incentive package for RE projects has not been created to attract them. The interim government canceled the 'Letter of Intent (LOI)' of 31 unsolicited renewable energy projects with a capacity of 3,287 MW with foreign investment of about $6 billion, although in 15 of these projects, non-refundable investments including land purchase, tax payment had already been made and in 4 projects there was direct investment from foreign company, of which 2 were 100% owned by foreign companies. These incidents have created a crisis of confidence among investors. Later, tenders were invited for 55 new projects, but foreign investors did not show interest due to the lack of a 'state guarantee'. The total number of tender submissions is very low compared to the number of tender documents sold. Out of a total of 55 packages, 22 packages received only a single bid, and 13 power plant packages did not receive any bids. In addition, although Bangladesh Bank has a 'refinancing' scheme, its practical use has been extremely limited due to the lengthy and complex process. Despite the potential to install approximately 500 MW of floating solar power projects using the extensive infrastructure of the country's only hydropower plant, bureaucratic complexities and a lack of investment have prevented the initiative from being implemented.

7.2.10 Delays in renewable energy projects

Procrastination and bureaucratic complexity have become major obstacles in the approval and implementation process of renewable energy projects. In many cases, RE project approval takes 2

to 5 years and even after approval, the project cannot be implemented on time. Average delay of approved projects is 908 days beyond their commercial operation date (COD) **(**Table 5**)**. Meanwhile, the interim government, canceled the 31 unsolicited renewable energy projects after a minimum of 120 days to a maximum of 1,760 days from the issuance of LOI. In addition, the tender period of 55 new projects invited in the renewable sector has been extended from 1 to 5 times in each package.

Table 5: Extension of Renewable Energy Project Duration (from COD)

Project Status	Days		
	Minimum	Maximum	Average
Ongoing Projects	**113**	**1402**	**908**

7.2.11 Lack of Coordination Across Institutions and Stakeholders

Lack of inter-institution coordination remains a significant barrier to the effective implementation of renewable energy projects in Bangladesh. Power producers have expressed concern regarding weak coordination among SREDA and the Bangladesh Standards and Testing Institution (BSTI) in equipment certification combined with the absence of an online tracking system and lengthy manual procedures which delays project implementation. In addition, local administrations and regional offices often operate with limited information-sharing mechanisms, resulting in poor synchronization.

7.3 Challenges Related to Transparency

It has been observed that none of the selected projects has disclosed various project related information, either pro-activity or on demand (see Table 6).

Table 6: Disclosure of information on demand or on its own initiative

Voluntary or Demand-Based Information Disclosure	Solar Projects							Wind Projects	
	Public		IPP					Public	IPP
	7.4 MW	100 MW	200 MW	30 MW	100 MW	68 MW	35 MW	0.9 MW	60 MW
Publish the project DPP	X	X	X	X	X	X	X	X	X
EIA/IEE Report	√	X	√	√	√	√	√	X	X
Information on Contract and Procurement Process	X	X	X	X	X	X	X	X	X
Information on Loan Rates and Terms	X	X	X	X	X	X	X	X	X
Profit Distribution and Income Tax on Profit	X	X	X	X	X	X	X	X	X
Providing accurate and complete information to local communities regarding land purchase/acquisition/lease	-	√	X	√	√	√	X	-	X
Audit reports including financial transactions	X	X	X	X	X	X	X	X	X
Regularly update project related information on information management and website	P	P	X	X	X	X	X	X	X

Net metering solar power systems, private off-grid biomass projects and hydropower projects are not shown. "√=" Yes; "X" =No; "P" = Partial

7.4 Challenges related to Accountability

7.4.1 Lack of monitoring

During project implementation, there is a lack of adequate monitoring mechanisms and planning to address potential damage caused by construction activities. Allegations exist that, in the name of projects, excess public and private land is occupied without proper oversight by the concerned local land offices and other responsible authorities. Environmental impacts arising from activities such as river embankment construction, river filling, or dredging during project construction are not adequately monitored. It is also alleged that environmental monitoring is conducted primarily through document review and the provision of consultancy reports, rather than through direct measurement or on-site observation. Moreover, in most cases, project construction is initiated based solely with site clearance without obtaining environmental clearance, and no effective monitoring mechanisms are in place to address this issue. Although 48,000 rooftop solar systems were approved in Dhaka with an estimated generation capacity of 67 MW, only about 4-5 MW is currently active due to lack of oversight and performance tracking.

7.4.2 Deficits in auditing

In violation of Bangladesh Securities and Exchange Commission (BSEC) regulations prohibiting the continuous appointment of the same firm for more than three consecutive years, the same audit firm has been appointed for annual audits of a project for the past six years. In addition, during the audit, explanations are not sought from the relevant authorities on how the allocated funds were spent. Although it is stated that annual audits of on-grid projects are conducted, the audit reports are not regularly updated or published on the website. In violation of regulations, an interest-free loan was provided from the project to a subsidiary company (contrary to IFRS 9 and the 2006 BSEC directive), but the fair value of the loan was not determined. This non-compliance was also not reflected in the audit report. Moreover, rental expenses related to a project were not reflected in the audited financial statements.

7.4.3 Deficits in redressing complaint and resolution system

Local offices show reluctance to receive and resolve complaints from the affected people, deliberately delay and show non-cooperation, and harass the complainants. At the same time, there are allegations of intimidation and harassment of complainants against the local administration. There are allegations of patronage of corruption and irregularities committed by the project authorities from various levels of local public representatives and administration, and influence of influential people in influencing the judicial process. In addition, although land owners were harassed or sued in the case of land acquisition, no effective action was taken against these irregularities.

7.4.4 Challenge related to Accountability in Conducting Environmental and Social Assessments

There are allegations that environmental and social surveys are not conducted by qualified subject-matter specialists; instead, a single individual often carries out the entire assessment, undermining both quality and objectivity. Furthermore, there are allegations that fabricated, incomplete, or company-aligned information is submitted in ESIA reports, yet these are still approved by the Department of Environment (DoE) without proper verification. In some cases, feasibility studies are conducted hastily at the field level without sufficient time, resources, or methodological rigor, and are sometimes completed entirely through desk-based assessments without on-site verification. The findings of Environmental and Social Impact Assessments (ESIA) are also not properly reflected in the conditions attached to environmental clearance.

7.4.5 Lack of accountability in executing various contracts for project approvals

BERC has not been involved in the terms of the power purchase agreement (PPA) for the last 10 years. Although the purchase agreements for all public and private projects with BPDB are made in dollars, there is a lack of transparent and controlled mechanisms regarding pricing and exchange rates. Although the commercial operation date (COD) of power plants has been repeatedly extended, penalties provided for delays have not been imposed. In addition, the interim government has canceled the letters of intent for 31 renewable energy projects that were approved without following the tendering process; however, investors have filed a writ petition in the High Court because the cancellation process is unclear.

> "The corruption that has taken place in the power sector has been completely unchecked. There are also several examples of irregularities and lack of accountability in renewable energy projects. Every project has a COD date, and if the work is not completed within that date, the project is supposed to be cancelled. But in such cases, the project authorities approach the minister to get the project period extended. In return, financial benefits or other favors are offered to the minister. The minister then extends the project timeline for that specific project."
>
> *—A key informant associated with IPPs, 2024*

7.4.6 Procurement and Tendering Process

Table 7: Procurement and Tendering Process

Types	Solar Projects							Wind Project
	Public		IPP					IPP
	7.4 MW	100 MW	200 MW	30 MW	100 MW	68 MW	35 MW	60 MW
Approval under Quick Enhancement of Electricity and Energy Supply (Special Provisions) Act, 2010	√	√	√	√	√	√	√	√
Project approval through agreement following the Standard Agreement Process	√	√	X	X	X	X	X	X
Project approval by preparing a complete DPP	√	√	X	X	X	X	X	X
Conclusion of various contracts as per the Public Procurement Act, 2008	X	X	X	X	X	X	X	X

**Net metering solar power systems, private off-grid biomass projects and hydropower projects are not shown. "√=" Yes; "X" =No; "-"= Not Applicable

7.5 Challenges in ensuring Participation

It has been observed that local experts were excluded from the preparation of the energy master plan. In addition, stakeholder engagement in the formulation of Renewable Energy Policy 2025 was insufficient. While draft policies typically provide 60 to 90 days for receiving public comments, stakeholders were given only 21 days to review the draft Renewable Energy Policy 2025 which had been under preparation for four years. Furthermore, no consultation meetings were organized after receiving stakeholder feedback, and the inputs provided by stakeholders were only minimally reflected in the final policy. The opinions of local communities and stakeholders in the selection of project sites were not taking into account. Incorrect and misleading information about the project has been provided without any consultation with the local community before the project implementation. In addition, the appointment of local influential people as intermediaries in the purchase of land has led to the emergence of brokers and middlemen and the opinions of the local community have been ignored. In addition, there is a lack of involvement of local communities in environmental and social impact assessment studies (IEE, EIA, and SIA). The assessments did not capture the perspectives of local communities regarding environmental risks, damages, livelihoods, and resettlement resulting from the projects. In some cases, the determination of compensation for certain projects did not ensure the involvement of local communities, representatives of local government, and other stakeholders.

7.6 Irregularities and Corruption

7.6.1 Corruption in Project Approval

Although the use of agricultural land is legally restricted for such development, in some cases collusion between project developers and local land administration officials has led to the reclassification of three-crop agricultural land as non-agricultural. Besides, by misusing the Special Provisions Act, 2010, power purchase agreements were made at high tariffs, violating the 'merit order' based on personal relationships. No international standards were followed in determining tarrif. Moreover, power purchase agreements (PPAs) were set in U.S. dollars instead of local currency (Table 8). As the value of the dollar rose, the cost of payments increased proportionally, placing additional financial burden on the government and consumers. Thus, the tariff in Bangladesh is nearly four times higher than in these countries (Table 9).

Table 8: Per unit electricity price of selected projects (dollar)

Types	Solar Projects						Wind Projects
	Public	IPP					IPP
	7.4 MW Project	200 MW Project	30 MW Project	100 MW Project	68 MW Project	35 MW Project	60 MW Project
Electricity price per unit (dollars)	**0.065**[1]	**0.15**[2]	**0.16**[3]	**0.138**[4]	**0.102**[5]	**0.13**[6]	**0.12**[7]

Table 9: Purchase price of solar power in different countries (dollar)

Country	Per unit (kWh) electricity price (dollar)
India	0.030
Pakistan	0.032
China	0.045
Bangladesh (average)	0.124

7.6.2 Irregularities Related to Environmental Clearance

Solar Power Project

Public: Although the project site comprises three-crop agricultural land, the Department of Environment issued site clearance for the project. In addition, construction activities commenced prior to obtaining environmental clearance, only with site clearance.

IPP: Allegations of irregularities related to EIA and environmental clearances also exist in solar power projects implemented by IPPs. These include the submission of flawed EIA reports, issuance of clearances by the Department of Environment despite objections from the Water Development Board, and illegal dredging in rivers with sand filling on project land before completing the EIA process. In some cases, three-cropped agricultural land was misrepresented as single-cropped land and and environmental clearance under the 'Yellow Category' was granted despite ignoring the risks of dredging activities and river erosion. Additionally, it is alleged that conditional environmental clearances were approved under pressure from high-level government authorities.

[1] PV Magazine (2019), Retrived from: https://www.pv-magazine.com/2019/03/20/bangladesh-to-complete-7-4-mw-of-solar-capacity-in-april/ access on 13 August 2025
[2] Daily Sun (2017), Retrived from: https://www.daily-sun.com/printversion/details/264318 access on 19 August 2025
[3] Key Informant, Independent Power Producer, 31 December 2024
[4] Key Informant, Independent Power Producer, 6 February 2025
[5] The Business Standard (2023), Retrived from: https://www.tbsnews.net/bangladesh/energy/bangladesh-china-power-company-ink-deal-68mw-solar-park-sirajganj-564974 access on: 19 August 2025
[6] The Prothom Alo (2021), retrived from: https://en.prothomalo.com/bangladesh/solar-power-plant-in-manikganj-starts-commercial-operation access on: 13 August 2025
[7] Key Informant, Independent Power Producer, 30 January 2025

Wind Power Project

Public: The project was not sustainable due to lack of sufficient wind. Without conducting a proper environmental feasibility study, DoE has given clearance to set up the project in an area with low wind flow

IPP: The Environmental Clearance Certificate (ECC) was initially issued under the Red Category but was later reclassified as Orange Category. Additionally, it is alleged that environmental clearances were granted by the Department of Environment for project construction in areas adjacent to embankments, despite non-compliance with EIA approval conditions and the absence of a no-objection certificate from the Water Development Board.

7.6.3 Additional Project Cost Estimates

Since the determination of the price of electricity per unit is related to the overall cost of the project, the irregularities in showing additional costs compared to the actual costs are evident. According to BPDB accounts, while an average of BDT 8 crore per megawatt is required for solar power generation, the six projects covered by the study were estimated to cost an average of BDT 13.8 crore per MW, more than 1.5 times higher. These projects incurred a total excess expenditure of BDT 2,926.88 crore over the required amount **(**Table 10). Even in some cases, despite the government projects being set up on its own land where there is no issue of land acquisition or lease the cost of setting up per megawatt has been shown to be 14.08 crore taka (1.81 million US dollars), which is significantly more expensive than other solar projects in the country.

Table 10: Additional Project Cost Estimates for the Selected Project

Type	**Project**	**Required Fund (Tk)**	**Project Cost (Tk)**	**Additional Cost (Tk)**
Solar Project (Public)	100 MW Project (Under implementation)	800 Crore	1511 Crore	711 Crore
	7.4 MW Project	59 Crore 20 Lakh	104 Crore 23 Lakh	45 Crore 3 Lakh
Solar Project (IPP)	68 MW Project	544 Crore	947 Crore	403 Crore
	200 MW Project	1600 Crore	2138 Crore 85 Lakh	538 Crore 85 Lakh
	30 MW Project	240 Crore	567 Crore	327 Crore
	100 MW Project	800 Crore	1702 Crore	902 Crore
Total	**505.4 MW**	**4043 Crore 20 lakh**	**6970 Crore 8 Lakh**	**2926 Crore 88 Lakh**

*** Estimated additional costs are presented in full figures**

Besides, a total corruption of BDT 249 crore 15 lakh 59 thousands has been estimated for the land acquisition and compensation payment in the 5 IPP solar projects covered by the study (Table 11).

Table 11: Estimated amount of corruption in land purchase and the process of providing compensation in the selected projects

Type	Projects	Areas of corruption in land purchase and compensation payment Estimated amount of corruption (Taka)*		Recipient of Money**
		Embracement of Money from Purchase of Privately Owned Land Compensation	Embracement of Money from Purchase of Privately Owned Land Compensation	
Solar Projects (IPP)	68 MW	-	1 crore 99 lakh 73 thousand	A portion of IPP officials; A portion of local land registration, union and upazila land office staff; Local public representatives and politicians including members of parliament; Middlemen
	200 MW	32 crore 50 lakh	-	
	30 MW	5 crore 73 lakh 86 thousand	-	
	35 MW	174 crore 72 lakh 40 thousand	-	
	100 MW	34 crore 19 lakh 60 thousand	-	
Total		**247 crore 15 lakh 86 thousand**	**1 crore 99 lakh 73 thousand**	

* Partial estimates of corruption are presented in full figures; -- Specific information was not available

** The information provided is not equally applicable to all posts, employees and all periods

7.6.4 Irregularities and Corruption in Land Purchase/Lease/Acquisition

7.6.4.1 Solar power project

Public: There are allegations that, in collusion with certain local Members of Parliament (MPs) and administrative officials, privately owned land was forcibly taken by falsely presenting it as khas land.

IPP: Allegations of various irregularities in land acquisition also exist for IPP solar power projects. According to local affected communities, people were forced to sell their land at low prices through intimidation, including the use of police and local administration, and by filing false cases. In some cases, complainants allege that fake documents and fabricated ownership were used to seize khas land and privately owned land. Additionally, there are allegations of acquiring more land than necessary in the name of the projects. In one instance, local residents complained that a project implementation company began work on cultivated agricultural land without prior notice, seizing the land.

7.6.4.2 Wind Power Project

IPP: Although it was said that 16 acres of land would be used for the 60 MW wind project of Khurushkul, Cox's Bazar, only 2.8 acres of land was provided to the local land office. There are

also allegations of land grabbing through encroachment on private land, intimidation, land filling and damage to salt cultivation.

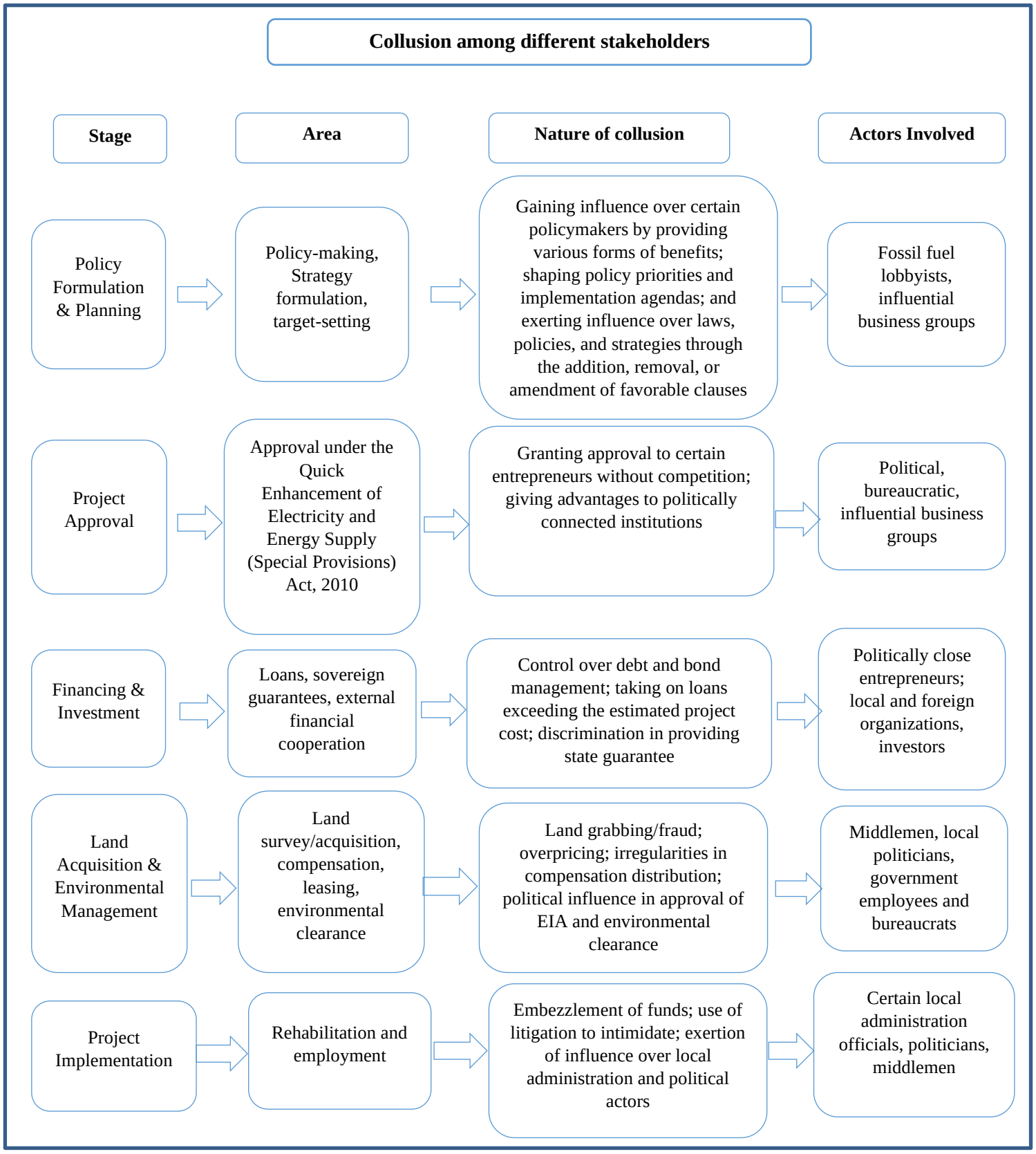
7.6.5 Irregularities in Payment of Compensation, Rehabilitation and Employment of the Affected People

Allegations of various irregularities and corruption exist against project implementation companies in the payment of compensation, resettlement, and provision of employment. Local affected communities claim that, despite promises, compensation was not provided, and in some cases, when compensation was demanded, complainants were subjected to legal pressure and intimidation. Informants also allege that compensation was often paid far below the actual loss, without considering the real market value of the land or its cultivability. No permanent arrangements for resettlement or alternative sources of income were made, and affected individuals were not provided employment opportunities in the projects as promised. Additionally, no skill-development programs were implemented to facilitate employment.

7.6.6 Collusion among different Stakeholders

Collusion in the energy sector is systemic, spanning the entire project lifecycle and involving interlinked stakeholders. At the policy stage, vested interests and fossil fuel lobbyists influence strategy, laws, and targets to favor their priorities. During project approval, opaque mechanisms under the 2010 Special Act allow preferential treatment, undermining competition. In financing, collusion inflates costs, distorts tariffs, and shifts financial risks to the public, with politically connected actors benefiting. Land acquisition and environmental clearances are manipulated through overpricing, fraudulent deals, and irregular compensation, facilitated by politicians, officials, and intermediaries. At implementation, collusion continues via rehabilitation and employment processes, with local and central actors extracting undue benefits, embedding earlier-stage collusive advantages into tangible outcomes.

Figure 4: Collusion among different stakeholders



7.7 Lack of Policy Priority

Bangladesh's power sector demonstrates policy and structural preferences for fossil fuel-based electricity in multiple areas, creating barriers to the development of renewable energy. Policy formulation and decision-making, financing and investment, incentives, infrastructural support, bureaucratic facilitation, and the influence of domestic and foreign lobbies all tend to favor fossil fuels (Table 12).

Table 12: Lack of policy priorities

Indicator	Priority on fossil fuels	Deficit on renewable energy
Policy formulation and decision-making	○ Estimatation of excess power demand and formulatation of new policies and laws (Special Provisions Act, 2010) to approve projects - The validity of the Act was repeatedly extended, effectively allowing it to override provisions of the *Public Procurement Act, 2006* ○ Formulation of Fossil Fuel-Centric and Import-Dependent Master Plan ○ Access to legal and policy strategies in decision-making, including the insertion and amendment of favorable clauses	○ Inconsistency in renewable energy generation targets in policies and plans and lack of clear renewable energy transition plans ○ Lack of a realistic roadmap to achieve the target of generating electricity from renewable sources ○ The master plan prioritizes clean energy (nuclear, carbon capture, hydrogen, and ammonia) over renewable energy
Financing and Investments	○ 96.7% of foreign investment in the power sector is used in fossil fuel-based projects ○ A structered framework exists for determining tariffs	○ Only 3.3% of foreign investment in the power sector is used in the renewable energy sector ○ LOIs for foreign-invested renewable energy projects were cancelled without clear procedural justification ○ Absence of a feed-in-tariff model and policy bias in tariff setting, leading to high tariffs
Incentive	○ Providing attractive incentives (tax and VAT exemption on import of capital equipment for projects, production tax and VAT	○ Fewer incentives compared to fossil fuels (including tax incentives, duty and VAT exemptions, insurance

Indicator	Priority on fossil fuels	Deficit on renewable energy
	concessions for IPPs, loan repayment guarantees, etc.)	facilities, and state guarantees)
Infrastructure Support	○ Government assistance in land acquisition for the project ○ Under the Private Sector Power Generation Policy, 1996, plant site selection is conducted by the government in consultation with the investor or project sponsor	○ Lack of government support in land acquisition/allocation for renewable energy projects ○ IPPs are required to acquire land independently ○ Lack of smart grids and adequate automated sub-stations
Bureaucratic Support	○ Relevant institutions demonstrate strong interest in fossil fuels ○ Continued growth in fossil fuel imports ○ Paying capacity charges to private power plants even when they remain idle for most of the year. ○ Supporting influential business groups and providing them with unfair advantages to establish monopolistic control	○ Limiting and centralizing the power of the SREDA ○ Lack of commitment and initiative in policy formulation and decision-making ○ Reluctance of utility companies to expand net metering ○ Contract and procurement process information, financial transactions and audit reports are not publicly disclosed
Influence of Local and International Lobbying	○ Attempts by global fossil fuel companies to influence and obstruct decision-making on carbon emission reductions ○ Plans by developed countries to provide new financing for the fossil fuel sector ○ Unsolicited fossil fuel projects were not cancelled despite allegations of irregularities and corruption. ○ In some cases, plans have been made to restart fossil fuel projects that were previously cancelled	○ Delays and reluctance in approving renewable energy projects in certain cases. ○ Policies prioritize relatively new and untested technologies (such as controversial hydrogen and ammonia) over renewable energy to accommodate the business expansion of foreign companies ○ Cancellation of Letters of Intent (LOIs) for 31 renewable energy projects has created a shortfall in achieving time-bound targets

8. Overall Observations

Renewable energy does not receive adequate priority in energy policies and plans. Variations, inconsistencies, and lack of coordination in setting targets for electricity generation from renewable energy pose significant challenges to achieving timely sectoral goals. Without sufficient analysis and assessment of realities, capacities, and existing frameworks, ambitious targets of electricity demand have been set in the energy master plan, but targets for electricity generation from renewable sources have not been aligned with national and international commitments and pledges. Due to investment-related interests of development partners, there is a risk of strategic influence over government policy-making and planning. Bangladesh's energy sector is heavily influenced by fossil fuel-based policies, leading to inefficient use of public resources through subsidies and capacity charges. At the same time, the lack of incentives for renewable energy generation and the policy of privatization collectively creates the risk of the sector being dominated by corporate entrepreneurs. Transparency deficits exist in the procurement and tendering processes for renewable energy projects. Irregularities in project approvals, various contracts, and electricity pricing influence tariffs and increase overall project costs. The absence of competitive mechanisms in electricity procurement, coupled with the requirement for investors to assume multiple risks during project approval and implementation, and to independently conduct time and resource intensive feasibility assessments, has undermined investor confidence. This lack of structured competition and high entry barriers discourages private investment, creating uncertainty and mistrust in the sector's governance and regulatory environment. Dependence on foreign technology for renewable energy, insufficient government investment in the sector, various bureaucratic complexities, and the weakening of the SREDA pose major challenges to sectoral growth. Lack of government support for adequate infrastructure, such as land and transmission lines, for renewable power projects not only increases project costs and tariffs but also creates long-term uncertainties regarding land use beyond the contract period. Although project implementation increases environmental pollution and threatens the livelihoods of affected communities, failure by relevant agencies to effectively enforce existing laws and regulations is causing long-term damage to natural resources, including forests, rivers, and khas land, as well as to local communities. During project implementation, especially in land acquisition, human rights violations occur through lawsuits, intimidation, and harassment of affected communities, and perpetrators often go unpunished, which encourages renewable project developers to engage in irregularities and corruption similar to actors in fossil fuel projects. Overall, renewable energy receives comparatively lower policy priority than fossil fuels, and even where policies and legal provisions exist for its transition and expansion, weaknesses remain in the policy framework. In addition, gaps in institutional capacity, failure of relevant state agencies and stakeholders to perform their roles effectively, and various deficiencies in investment and financing present significant governance challenges, which collectively pose major obstacles to the just and timely transition to renewable energy in line with set targets.

9. Recommendations

1. The existing energy master plan 'Integrated Energy and Power Master Plan (IEPMP-2023)' should be immediately scrapped and a new master plan should be prepared and implemented

based on the principles of reducing the use of fossil fuels and increasing the amount of renewable energy in the energy mix.

2. All existing policies and plans including Renewable Energy Policy 2025 should set a common target for electricity generation from renewable sources.
3. The Electricity Act, 2018 should be amended to provide a legal basis for electricity generation from renewable energy, and to set out clear guidelines for the transmission, supply, and distribution of the generated electricity through the national grid and/or alternative grids.
4. Measures should be taken to simplify net metering for industrial and residential consumers, ensure the effective implementation of feed-in tariffs, and provide incentives to promote their adoption of solar power systems.
5. An independent monitoring and control authority should be formed consisting of relevant experts and civil society representatives to ensure accountability in the decision-making process related to this sector, including preventing conflicts of interest and ending policy capture in the energy sector.
6. All activities related to environmental impact assessments must be thoroughly monitored and verified, and environmental clearance, pollution control, and related oversight must follow transparent and proper procedures.
7. The Sustainable and Renewable Energy Development Authority (SREDA) should be given the status of an autonomous institution to lead the transition to renewable energy and its technical, human and infrastructural capacity should be enhanced.
8. Renewable energy generation should be given priority in the operations of the Bangladesh Power Development Board (BPDB), and project approvals and contract execution should be carried out free from conflicts of interest.
9. Necessary reforms should be made to enhance the legal and institutional capacity of the Bangladesh Energy Regulatory Commission (BERC) to ensure transparency and create a competitive market for public and private institutions; the institution should be given the power to work independently according to its mandate, including determining the price of renewable
10. Reliance on foreign technology for renewable energy should be reduced, and the capacity of both government agencies and private developers in the sector should be enhanced.
11. To implement international commitments and achieve renewable energy targets, renewable energy projects including solar should be developed on land acquired for already cancelled coal and LNG power projects, as well as on khas land and unused or abandoned government land
12. Project planning, approval, contract conditions, and implementation should be carried out ensuring transparency, accountability, and public participation.
13. Policies should be formulated and implemented to promote local and international investment in renewable energy.
14. Funding must be ensured for research and development of renewable energy technologies, and the participation of local communities in the renewable energy transition process should be enhanced.
15. To achieve net-zero targets by 2050 and ensure the transition to renewable energy, inclusive decision-making should be conducted, excluding stakeholders with conflicts of interest in the fossil fuel sector.

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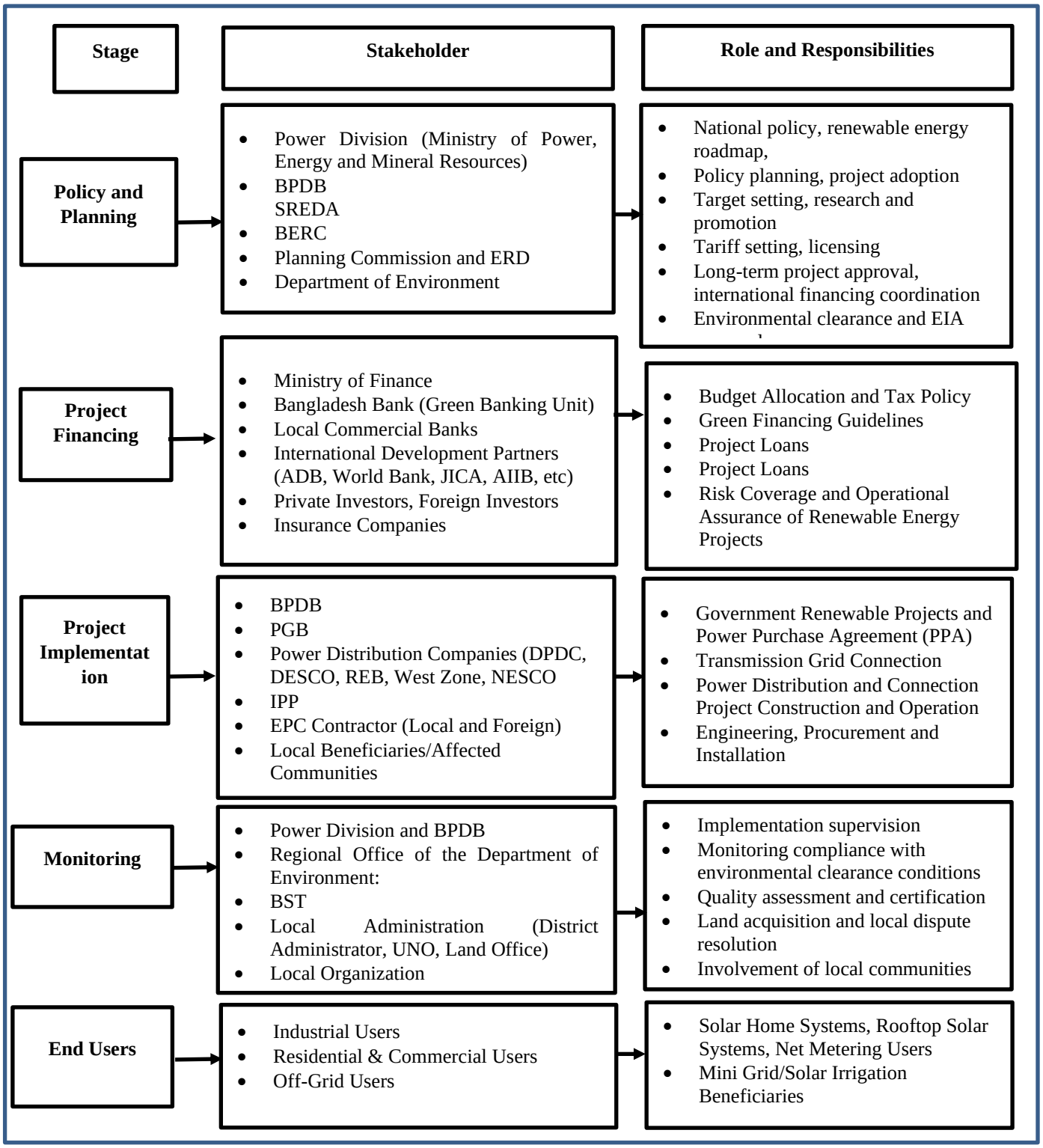
Appendices

Appendix 1: Stakeholders involved in renewable energy power generation in Bangladesh



Appendix 2: Power generation targets from RE in different national plans

National Plan	Year				
	2025	2030	2035	2041	2050
Renewable Energy Policy, 2025	–	20%	–	30%	–
Integrated Energy and Power Master Plan (IEPMP), 2023 *with clean energy	–	10%	–	40%	–
Bangladesh Climate Prosperity Plan (BCPP), 2022	–	30%	–	80%	100%
Nationally Determined Contribution (NDC), 2025	–	–	25%	–	–
Bangladesh Perspective Plan (2021–2041) / Vision 2041	–	10,888 MW	–	–	–
8th Five-Year Plan, 2020	10%	–	–	–	–
Bangladesh Delta Plan 2100	–	–	–	–	30%