BANGLADESH'S THIRD NATIONALLY DETERMINED CONTRIBUTION (NDC 3.0)

Government of the People's Republic of Bangladesh
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Executive Summary

1 National Context

Bangladesh has made remarkable socio-economic progress over the past two decades and is committed to aligning its development pathway with the Sustainable Development Goals (SDGs) and the Paris Agreement, striving for low-carbon, climate-resilient development while ensuring poverty eradication, food security, and economic growth. Bangladesh's development trajectory requires balancing urgent socio-economic needs with long-term climate resilience. Urbanization, rising energy demand, industrialization, and infrastructure development are reshaping the economy, but also increasing greenhouse gas (GHG) emissions, which remain negligible compared to global averages. As of 2022, Bangladesh contributed less than 0.5% of global emissions, underscoring its minimal responsibility yet high vulnerability to the global climate crisis.

Bangladesh faces growing risks from sea-level rise, saline intrusion, floods, tropical cyclones, river erosion, droughts, and rising temperatures. The impacts threaten key sectors such as agriculture, fisheries, water resources, health, industries and urban infrastructure. Therefore, the glaring disparity between Bangladesh's small contribution to global emissions and its significant vulnerability to climate risks emphasizes the importance of climate justice and the necessity of international collaboration to help its adaptation and mitigation initiatives.

Bangladesh has taken proactive steps to integrate climate action into its national development policies in recognition of these challenges. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP, 2009) laid the foundation for integrated adaptation and mitigation planning. Subsequent frameworks, such as the National Adaptation Plan (NAP, 2023-2050), the Delta Plan 2100, the Bangladesh Climate Prosperity Plan (BCPP, 2022–2041), and the Bangladesh Climate Change Gender Action Plan (ccGAP, 2024), provide a comprehensive vision for building climate-resilient, inclusive, and low-carbon development pathways.

Bangladesh's Third Nationally Determined Contribution (NDC 3.0) advances beyond its INDC (2015) and Updated NDC (2021) by setting more ambitious climate targets for 2035. The country has agreed to take unconditional initiatives with domestic resources and more ambitious conditional targets depending on climate finance, technology transfer, and capacity building. This two-tiered approach reflects both the country's determination to act within its means and the reality that additional support is essential to unlock higher levels of ambition.

The Sustainable Development Goals (SDGs) are strongly associated with Bangladesh's NDC 3.0, especially SDG 7 on clean energy, SDG 11 on sustainable cities, SDG 13 on climate action, SDG 15 on life on land, and SDG 17 on partnerships. Accordingly, by integrating climate action to broader development goals, the NDC shows that addressing climate change is an opportunity to enhance resilience, create green jobs, and encourage equitable growth rather than a burden.

Bangladesh proposes its NDC 3.0 as a global commitment to the Paris Agreement as well as a national plan for low-carbon, climate-resilient development, given its status as a Least Developed Country (LDC) with high exposure but low historical responsibility. At the same time, it represents justice, goals, and equity, demonstrating that when accompanied by strong national leadership and effective international collaborations, climate action and sustainable development may move forward together.

2 GHG Emission Reduction Target for 2035

Bangladesh submitted its initial climate change mitigation commitment, known as Intended Nationally Determined Contributions (INDC), to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015. This commitment proposed a 5% (12 Million Tonnes CO2eq) reduction in greenhouse gas (GHG) emissions below Business-as-Usual (BAU) by 2030 through unconditional target, alongside an ambitious conditional target of additional 10% (24 Million Tonnes CO2eq) reduction below BAU for those sectors by 2030. In particular, the INDC initially prioritized only three sectors: Energy, Transport, and industry, which had an enormous impact on greenhouse gas emissions during that period. Bangladesh submitted its second climate change mitigation commitment as Updated NDC to the UNFCCC in 2021, increasing the unconditional target to a 6.73% (27.56 Million Tonnes CO2eq) reduction below BAU by 2030, and the conditional target to an additional 15.12% (61.9 Million Tonnes CO2eq) reduction below BAU by 2030. The Updated NOC specifically encompassed additional sectors, including Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry, and Other Land Use (AFOLU), and Waste.

2.1 Base Year Scenario 2022

The total GHG Emission from all sectors such as Energy, IPPU, AFOLU, and Waste is about 252.04 Million Tonnes CO2eq in the base year of 2022. The Energy sector accounts for the majority share of total GHG emissions, around 123.01 Million Tonnes CO2eq, mostly due to the combustion of fossil fuels in electricity generation, transportation, industrial energy consumption, fugitive emissions, and additional sources. Among the subsectors of the energy sector, electricity generation is the leading contributor to greenhouse gas emissions, followed by energy consumption in industry, transportation, and other sectors.

The second highest contributing sector is AFOLU, emitting 95.35 million tonnes of CO2 equivalent. The AFOLU Sector includes enteric fermentation and manure management from the cattle subsector, rice production, fertilizer application, aquaculture from aggregated sources, and the forest land subsector. Within the AFOLU subsectors, livestock accounts for the largest proportion of GHG emissions, succeeded by agricultural and forestry/land use changes.

The waste sector is the third largest emitter, accounting for 26.95 million tonnes of CO2 equivalent, comprising solid waste, biological treatment of solid waste, incineration and open burning, and the wastewater treatment subsector.

The IPPU sector contributes the least to emissions, estimated at 6.73 million tonnes of CO2 equivalent. Emissions from this sector generally originate from the production processes of ammonia fertilizers, cement, chemical industries, refrigerants, and other ozone-depleting substances.

Consequently, this GHG emission profile indicates that the Energy and AFOLU sectors contribute 48.81% and 37.83% respectively of total GHG emissions in 2022, underscoring the necessity of prioritizing mitigation efforts in these sectors.

Table 1: GHG Emission Scenario of Base Year 2022

Sector	Sub Sector	Base Year 2022	
		Emission (Million Tonnes CO2eq)	% of Grand Total
Energy	Power	42.53	16.87
	Transport	18.74	7.44
	Energy Usage in Manufacturing Industry	23.83	9.45

Sector	Sub Sector	Base Year 2022	
		Emission (Million Tonnes CO2eq)	% of Grand Total
	Construction (Brick kilns)	7.51	2.98
	Households	14.10	5.59
	Commercial	1.74	0.69
	Energy Usage in Agriculture	4.56	1.81
	Fugitive	10.00	3.97
	Energy Total	**123.01**	**48.81**
IPPU	-	**6.73**	**2.67**
AFOLU	Agriculture	42.94	17.04
	Livestock	46.29	18.37
	Forestry and Other Land Use	6.12	2.43
	AFOLU Total	**95.35**	**37.83**
Waste	**Solid Waste and Wastewater**	**26.95**	**10.69**
Non-Energy Total		**129.03**	**51.19**
Grand Total		**252.04**	**100.00**

2.2 Business As Usual (BAU) Scenarios for 2035

Bangladesh's greenhouse gas emissions for 2035 are projected to rise significantly due to growing energy demand, ongoing industrialization, and population expansion. This Business As Usual (BAU) scenario is developed based on a series of sector-specific assumptions that consider current policies, past trends, and expected growth paths in the economy.

The BAU scenario in the energy sector has been developed using information from the Renewable Energy Policy 2025, the National Rooftop Solar Program 2025, the 15% Electricity Consumption Reduction Action Plan, important feedback from stakeholder consultations, and the Integrated Energy and Power Master Plan (IEPMP) 2023. The transport sector's business-as-usual scenario is based on trends from previous increases in vehicle use, changes in modes of transportation, and fuel use. It also considers the Electric Vehicle Registration and Operation Policy of 2023. In brick industry scenarios created from the Brick Manufacturing and Brick Kiln Establishment Control Act, 2013 (Amendment 2019), which is based on certain assumptions. The refrigerant BAU scenarios are in line with the goals of the Montreal Protocol for F-gases. In the waste sector, BAU scenarios are projected by extrapolating current waste generation trends, employing urban population forecasts and waste generation rates recorded in the Municipality Solid Waste Management Survey 2022 by the Bangladesh Bureau of Statistics (BBS) and the Waste Database 2021 by Waste Concern.

Therefore, these assumptions for developing BAU scenario ensure they accurately represent feasible emissions growth trajectories informed by existing policies, historical patterns, and sectoral development strategies.

Table 2: GHG Emission Scenario of Business As Usual 2035

Sector	Sub Sector	BAU 2035	
		Emission (Million Tonnes CO2eq)	% of Grand Total
Energy	**Power**	**61.66**	**14.74**
	Transport	30.00	7.17
	Energy Usage in Manufacturing Industry	**108.82**	**26.01**
	Construction (Brick kilns)	25.59	6.12
	Households	**18.87**	**4.51**
	Commercial	0.83	0.20

Sector	Sub Sector	BAU 2035	
		Emission (Million Tonnes CO2eq)	% of Grand Total
	Energy Usage in Agriculture	8.43	2.01
	Fugitive	9.80	2.34
	Energy Total	**264.00**	**63.10**
IPPU	-	8.30	1.98
AFOLU	Agriculture	38.69	9.25
	Livestock	53.57	12.80
	Forestry and Other Land Use	18.63	4.45
	AFOLUTotal	**110.89**	**26.50**
Waste	**Solid Waste and Wastewater**	**35.21**	**8.42**
Non-Energy Total		**154.40**	**36.90**
Grand Total		**418.40**	**100.00**

2.3 GHG Emission Mitigation Scenarios for 2035

The Unconditional Scenario demonstrates Bangladesh's greenhouse gas mitigation commitments utilizing internal resources, policies, and capabilities without external assistance. The Conditional Scenario is formulated based on Unconditional actions and presumes sufficient foreign cooperation in funding, technology transfer, and capacity building. These scenarios were prepared by incorporating crucial inputs from sector-specific expert consultations with key ministries, agencies, departments, civil society, academics, and technical experts. Additionally, these scenarios illustrate Bangladesh's enhanced ambition for 2035 to decrease GHG emissions in alignment with the global goals for temperature reduction by effectively implementing mitigation measures throughout the energy, IPPU, AFOLU, and waste sectors.

Table 3:GHG Emission Mitigation Targets for 2035

Sector	Sub Sector	BAU 2035	Unconditional Targets 2035		Conditional Targets 2035		Total Emissions Reduction	
		Emission (Million Tonnes CO_2eq)	Reduction From BAU (Million Tonnes CO_2eq)	%	Reduction From Unconditional (Million Tonnes CO_2eq)	%	Million Tonnes CO_2eq	%
Energy	Power	61.66	6.14	9.95	11.48	18.61	17.62	28.57
	Transport	30.00	2.32	7.74	4.21	14.03	6.53	21.77
	Energy Usage in Manufacturing Industry	108.82	10.04	9.22	17.17	15.78	27.21	25.00
	Construction (Brick kilns)	25.59	2.56	9.99	4.30	16.79	6.85	26.78
	Households	18.87	1.15	6.11	2.21	11.71	3.36	17.82
	Commercial	0.83	0.04	4.48	0.08	9.94	0.12	14.42
	Energy Usage in Agriculture	8.43	0.66	7.81	1.55	18.44	2.21	26.24
	Fugitive	9.80	0.00	0.00	5.94	60.62	5.94	60.62
	Energy Total	**264.00**	**22.90**	**8.67**	**46.94**	**17.78**	**69.84**	**26.46**
IPPU	-	8.30	0.00	0.00	0.64	7.71	0.64	7.71
AFOLU	Agriculture	38.69	1.19	3.08	2.73	7.06	3.92	10.13
	Livestock	53.57	1.18	2.20	3.63	6.78	4.81	8.98

Sector	Sub Sector	BAU 2035	Unconditional Targets 2035		Conditional Targets 2035		Total Emissions Reduction	
		Emission (Million Tonnes CO_2eq)	Reduction From BAU (Million Tonnes CO_2eq)	%	Reduction From Unconditional (Million Tonnes CO_2eq)	%	Million Tonnes CO_2eq	%
	Forestry and Other Land Use	18.63	1.47	7.89	2.51	13.47	3.98	21.36
	AFOLU Total	110.89	3.84	3.46	8.87	8.00	12.71	11.46
Waste	Solid Waste and Wastewater	35.21	0.00	0.00	1.78	5.06	1.78	5.06
Non-Energy Total		154.40	3.84	2.49	11.29	7.31	15.13	9.80
Grand Total		418.40	26.74	6.39	58.23	13.92	84.97	20.31

Bangladesh's GHG emissions are projected at 418.40 Million Tonnes CO_2eq under BAU 2035, reduced to 391.66 Million Tonnes CO_2eq with unconditional actions, and further down to 333.44 Million Tonnes CO_2eq with conditional measures, underscoring the critical role of international support in achieving this target.

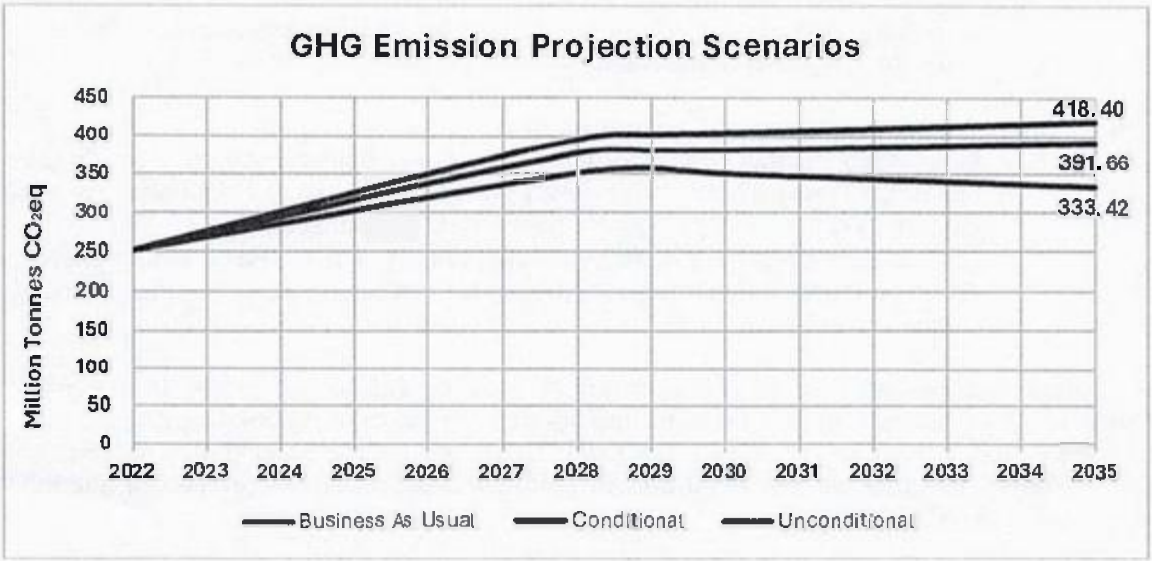

Figure 1: GHG Emission Projection Scenarios

2.4 Contribution to Global Stocktake (GST)

2.4.1 Contribution to the Outcome of the First Global Stocktake (GST1)

Informed by the Outcome of the first global stocktake (GST1) and recognizing the need for deep, rapid and sustained reductions in greenhouse gas emissions in line with 1.5 °C pathways, Bangladesh's Third Nationally Determined Contribution (NDC 3.0) reaffirms its strong commitment to the objectives of the Paris Agreement by enhancing ambition in both mitigation and adaptation. The targets of achieving 25% of total power generation from renewable energy sources by 2035, enhancing energy efficiency by 19.2%, transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, are central to Bangladesh's contribution to the global response to climate change. The NDC 3.0 commitments are designed not only to

reduce greenhouse gas (GHG) emissions but also to accelerate the just energy transition, promote zero- and low-emission technologies, and enhance climate resilience. Through NDC 3.0, Bangladesh provides transparent and measurable contributions to the Global Stocktake (GST) by:

- **Strengthening Mitigation Ambition**
  - The renewable energy, energy efficiency and modal shift targets contribute to reducing projected emissions in the power, transport, and industrial sectors.
  - These actions are aligned with global pathways to limit temperature rise to 1.5°C and demonstrate Bangladesh's readiness to contribute to collective emission reduction goals despite being a low-emitting, climate-vulnerable country.

- **Advancing Adaptation and Resilience**
  - NDC3.0 integrates adaptation measures across agriculture, water, health, forestry, disaster management, and urban development to reduce vulnerability of communities, ecosystems, and critical infrastructure.
  - These actions will provide valuable input to the GST on the progress and gaps in global adaptation efforts, particularly from the perspective of a climate-vulnerable developing country.

- **Ensuring Equity and Just Transition**
  - Bangladesh emphasizes a just and inclusive transition, balancing economic growth, poverty reduction, and social equity.
  - The NDC highlights gender equality, youth participation, and protection of marginalized groups, which will contribute to the GST's assessment of fairness and equity in global climate action.

- **Enhancing Transparency and Accountability**
  - Bangladesh commits to reporting progress on implementation through the Enhanced Transparency Framework (ETF), ensuring that its achievements and challenges contribute to the global pool of data informing the GST.
  - Lessons from Bangladesh's innovative adaptation practices and renewable energy actions will provide evidence-based insights for other developing countries facing similar challenges.

Bangladesh underscores that its enhanced ambition is conditional on access to adequate international support in terms of finance, technology transfer, and capacity-building. Aligned with the GST1 Outcome, the country calls for Financial Mechanism and the development partners to play a catalytic role in ensuring scaled-up and predictable support flows to enabling the full realization of the NDC 3.0.

3 Mitigation Targets and Actions

3.1 Energy Sector

In the Energy sector, Bangladesh's NDC 3.0 outlines mitigation actions that together will reduce 69.84 million tonnes of CO_2eq emissions by 2035. In the Power sub-sector, key measures include expanding renewable energy generation within the electricity mix through solar, wind, biogas, and storage solutions, alongside reducing transmission and distribution losses and replacing liquid fuel–based peaking plants with cleaner alternatives. In the transport sub-sector, mitigation will be achieved through modal shifts to MRT/BRT systems, promotion of electric vehicles, electrification and efficiency improvements in rail, and deployment of solar-powered railway infrastructure. Energy usage in the manufacturing industries and construction sub-sector will contribute through cleaner brick technologies, improved industrial energy efficiency, and rooftop solar systems in industrial buildings. In terms of energy usage in commercial, institutional, and residential sub-sectors, the focus is on energy-efficient appliances, modern cooking systems, rooftop solar expansion in government and social infrastructure, and renewable energy integration in hospitality and tourism. Furthermore, for energy usage in agriculture and allied activities, solar irrigation pumps will enhance renewable energy penetration. Finally, in fugitive emissions, significant reductions will be pursued through gas leakage control supported by international carbon trading under Article 6 mechanisms. Together, these sub-sectoral actions form a comprehensive package to decarbonize the energy sector while advancing energy security and climate.

Table 4:Mitigation Actions in Energy Sector

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
Energy	Energy Industries - Electricity Generation	Expansion of renewable energy in the electricity mix (MW)	Renewable energy will share 25% of the total electricity demand by 2035 (11,200 MW cumulative). 20% of this target will be unconditional. Solar (2,240 MW, Cumulative) - Rooftop Solar - Solar Park - Solar Irrigation - Solar Charging System - Solar Drinking Water System - Agrivoltaics	Renewable energy will share 25% of the total electricity demand by 2035 (11,200 MW cumulative). 80% of this target will be conditional. Solar (4,860 MW, Cumulative) - Rooftop Solar - Solar Park - Solar Irrigation - Solar Charging System - Solar Drinking Water System - Agrivoltaics Wind (4000 MW) Biogas (100 MW)

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
		Reduced Electricity Transmission and Distribution Loss	Reduced transmission and distribution loss at 9.48% (transmission loss 2.98% and distribution loss 6.5%)	Reduced transmission and distribution loss at 8.95% (transmission loss 2.95% and distribution loss 6%)
		Replace liquid fuel-based peaking capacity powerplant with cleaner alternative, including battery storage	Replace 90% of liquid fuel-based peaking capacity power plants with cleaner alternatives, including battery energy storage system. 20% of this target will be unconditional.	Replace 90% of liquid fuel-based peaking capacity power plants with cleaner alternatives, including battery energy storage system. 80% of this target will be conditional.
	Transport - Road Transportation	Modal shift to MRT/BRT		Construction of following MRT lines in Dhaka city: - MRT-1 - MRT-2 - MRT-4 - MRT-5N - MRT-5S Construction of BRTs in major cities
		Electric vehicle penetration in the public vehicle fleet	30% of passenger cars will be EVs	25% of buses in the Dhaka city area will be EVs
	Transport - Rail Transportation	Improvement of fuel efficiency and electrification	Implement solar-equipped railway stations and install solar energy plants on at least 30% of railway-owned vacant land. 20% of this target will be unconditional. This target will complement the RE total unconditional target. 348 km railway route electrification, of which 20% will be unconditional.	Implement solar-equipped railway stations and install solar energy plants on at least 30% of railway-owned vacant land. 80% of this target will be conditional. This target will complement the RE total conditional target. 348 km railway route electrification, of which 80% will be conditional.

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
			Purchase of modern rolling stock Introduction of color light signaling system	
	Manufacturing Industries and Construction	Improvement of technology use in brick	Conversion of 40% of existing clay bricks into non-fired block. 25% of this target will be unconditional.	Conversion of 40% of existing clay bricks into non-fired block. 75% of this target will be conditional.
		Energy Efficiency in Industry Industry	Achieve 19.2% Energy efficiency in the industry (reduction potential 7.4 Mtoe). 40% of this target will be unconditional. Promote rooftop solar systems in newly constructed industrial buildings, 30% will be unconditional. This target will complement the RE total unconditional target.	Achieve 19.2% Energy efficiency in the industry (reduction potential 7.4 Mtoe). 60% of this target will be conditional. Promote rooftop solar systems in newly constructed industrial buildings, 70% will be conditional. This target will complement the RE total unconditional target.
	Other Sectors - Commercial/ Institutional and Residential	Enhanced use of energy efficient appliances in household and commercial buildings	Use energy-efficient appliances in household, institutional, and commercial buildings to reduce 15% emissions respectively (energy-efficient lighting, fan, television, oven, washing machine, refrigeration, cooling systems, geyser). 50% of this target will be unconditional. Promote rooftop solar systems in 50% of existing government buildings, institutions, schools, and hospitals,	Use energy-efficient appliances in household, institutional, and commercial buildings to reduce 15% emissions respectively (energy-efficient lighting, fan, television, oven, washing machine, refrigeration, cooling systems, geyser, water purification). 50% of this target will be conditional. Promote rooftop solar systems in 50% of existing government buildings, institutions, schools, and hospitals,

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
			and 100% of new government buildings, institutions, schools, and hospitals. 30% of this target will be unconditional. This target will complement the RE total unconditional target.	and 100% of new government buildings, institutions, schools, and hospitals. 70% of this target will be conditional. This target will complement the RE total conditional target. Promote modern cooking systems - 30% of Cooking Energy Mix will be energy-efficient modern electric cookstoves - 20% of Cooking Energy Mix will be energy-efficient improved cookstoves (ICS) - 30% of Cooking Energy Mix will be energy-efficient LPG Hospitality and Tourism - At least 10% of electricity consumption should be from renewable energy sources. This target will complement the RE total conditional target.
	Other Sectors -Agriculture/ Forestry/Fish Farms	Enhanced use of solar energy in Agriculture	Implementation of 45,000 Nos. Solar irrigation pumps (generating 1000 MWp). 10% of this target will be unconditional. This	Implementation of 45,000 Nos. Solar irrigation pumps (generating 1000 MWp). 90% of this target will be conditional. This

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
			target will complement the RE total targets.	target will complement the RE total targets.
	Fugitive Emission	Gas leakage reduction		70% emission reduction from Gas leakage through international carbon trading, including Article 6 market and non-market mechanisms.

3.2 Industrial Process and Product Use (IPPU)

In the IPPU sector, Bangladesh targets a reduction of 0.64 million tonnes of CO_2eq emissions by 2035 through the adoption of CCUS technology in ammonia fertilizer production and the phasedown of ozone-depleting substances in line with international commitments.

Table 5: Mitigation Actions in IPPU Sector

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
IPPU	Chemical Industry Ammonia Production	CCUS technology		Implement CCUS technology in new ammonia fertilizer production plant
	HFC	HFC Phase-down as per the Kigali Amendment to the Montreal Protocol	Reduce HFC consumption by 10% from the baseline by 2029 and 30% from the baseline by 2035, in line with the Kigali Amendment commitment.	Reduce HFC consumption by 5% from BAU by 2029 and 10% from BAU by 2035.

3.3 Agriculture, Forestry & Other Land Use (AFOLU)

In the AFOLU sector, Bangladesh's mitigation efforts encompass agriculture, livestock, and forestry sub-sectors, each contributing significantly to the country's climate goals. In agriculture, actions include scaling up Alternate Wetting and Drying (AWD) in rice cultivation, expanding short-duration rice varieties, and promoting precision fertilizer application. For livestock, the focus is on feed management to improve animal diets and manure management through biogas, vermicompost, and biochar solutions. Within forestry, interventions emphasize large-scale reforestation, coastal afforestation in vulnerable ecosystems, and conservation initiatives to protect existing forests. Together, these integrated measures across sub-sectors aim to lower emissions while enhancing productivity, sustainability, and ecosystem resilience.

Table 6: Mitigation Actions in AFOLU Sector

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
AFOLU	Rice Cultivation	Scaling up Alternate Wetting and Drying (AWD)	Bringing a Total of 30% of the country's Boro rice cultivation area under AWD irrigation practice. 10% of this target will be unconditional.	Bringing a Total of 30% of the country's Boro rice cultivation area under AWD irrigation practice. 90% of this target will be conditional.
		Expand areas under short-duration rice varieties	Implement 30% of Aman and Boro rice area under short-duration rice varieties. 40% of this target will be unconditional.	Implement 30% of Aman and Boro rice area under short-duration rice varieties. 60% of this target will be conditional.
	Urea Application	Precision fertilizer application		Implement 10% of the total rice cultivation area under Push Type Prilled Urea Applicator technology to improve fertilizer use efficiency and reduce emissions.
	Livestock - Enteric Fermentation & Manure Management	Feed Management	Feed improvement by replacing straw/low quality roughage with HYV fodder/silage: 0.2 million crossbred dairy cows	Feed improvement by replacing straw/low quality roughage with HYV fodder/silage: 1.5 million crossbred dairy cows
		Manure Management	Improve 30% manure management of total manure: - Biogas (15%) - Vermicompost (10%) - Biochar (5%) 10% of this target will be unconditional.	Improve 30% manure management of total manure: - Biogas (15%) - Vermicompost (10%) - Biochar (5%) 90% of this target will be unconditional.
	Forestry	Reforestation	Restore the deforested forests – 2,30,000 ha at the hill and plain land sal forest. 30% of this target will be unconditional.	Restore the deforested forests – 2,30,000 ha at the hill and plain land sal forest. 70% of this target will be unconditional.
		Coastal Afforestation	Afforestation and reforestation in the coastal areas, islands,	Afforestation and reforestation in the coastal areas, islands,

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
			and degraded areas – 100,000 ha. 20% of this target will be unconditional.	and degraded areas – 100,000 ha. 80% of this target will be conditional.
		Conservation	Existing forest area	Engage community to strengthen forest conservation to reduce forest degradation and deforestation

3.4 Waste

In the Waste sector, a mix of solid waste and wastewater management measures will be taken to curb emissions while improving environmental services. In solid waste sub-sector, key actions include establishing waste-to-energy plants or landfill gas recovery systems, along with the development of material recovery facilities to promote resource efficiency and recycling. For wastewater sub-sector, priorities focus on the establishment of sewage treatment plants and sludge treatment facilities to reduce emissions. These interventions will contribute to lowering emissions from the waste sector while fostering sustainable waste and sanitation systems.

Table 7: Mitigation Action in Waste Sector

Sector	Sub-Sector	Priority Actions	Actions by 2035	
			Unconditional	Conditional
Waste	Solid Waste	Establishment of Waste to Energy Plant / Landfill gas recovery system		Establishment of 04 Landfill gas recovery system/ Waste to Energy plant
		Establishment of Material Recovery Facility (MRF)		Establishment of 26 Integrated Landfill and Resource Recovery Facilities, including compost plant
	Wastewater	Establishment of Sewage Treatment Plant (STP)		06 sewage treatment plant
		Establishment of Dry-Sludge Treatment Plant		01 dry-sludge treatment plant

4 Policy Measures for NDC Implementation

4.1 Overview of National Climate Policies & Acts

Bangladesh, recognizing its vulnerability and the urgent need to act, has proactively established a comprehensive framework of national policies and acts to address climate change. Key instruments include the Bangladesh Delta Plan 2100, the National Adaptation Plan (NAP) 2023–2050, the Bangladesh Climate Change Strategy and Action Plan (BCCSAP), Nationally Determined Contributions (NDCs), and many other sub-sectoral policies and guidelines with a focus on reducing GHG emissions. Together, these provide a long-term vision for building climate resilience, adapting to impacts such as sea-level rise and extreme weather, and promoting sustainable, low-carbon development.

Crucially, all future development projects in Bangladesh are systematically aligned with the objectives and targets of the NDC and the NAP. This alignment ensures that climate action is not just a standalone initiative but is deeply embedded across national planning processes in water, agriculture, energy, industry, and ecosystems.

At the same time, Bangladesh needs to undertake huge investments in human capital required to achieve a fair and inclusive transition. By 2030, green skills are bound to be included in all education levels with emphasis on Technical and Vocational Education and Training (TVET). Whether in trade courses or at the diploma level of engineering programs, curriculum reform inculcates sustainability, renewable energy, energy efficiency, and climate-smart practices, which are essential components of this effort. The government is also piloting Green School Guidelines that promote WASH, solarization, waste management, and tree-planting, supported by monitoring systems and incentive mechanisms.

This integrated approach ensures that Bangladesh's climate policies meet emission targets and prepare its people, institutions, and future generations to thrive in a low-carbon, climate-resilient economy.

4.2 Energy and Renewable Energy Policies

Bangladesh has released its most recent renewable energy policy setting renewable energy targets of 20% and 30% of power demand by 2030 and 2040 respectively. If situations prove favorable, Bangladesh can revise these targets to get more renewable energy. Net metering has been in operation since 2018 to promote rooftop solar. The Sustainable and Renewable Energy Development Authority (SREDA), has been entrusted with promoting energy efficiency and renewable energy, especially utilizing government-owned land.

Bangladesh is an energy-importing country experiencing heavy pressure on its foreign currency reserves. The difficulties in importing coal, oil, and LNG are causing economic activities to suffer. In this context, government feels renewable energy can be a way out. The government is putting heavy emphasis on grid-tied solar and wind, but cannot make much progress due to numerous barriers. This affords an excellent opportunity for investors to explore the NDC conditional options to promote RE in Bangladesh. Opportunities exist in the full range of RE options from irrigation pumps, agrivoltaics PV solutions to utility-scale power plants.

Bangladesh is updating its masterplan for generating electricity. The updated Integrated Energy & Power Sector Master Plan (IEPMP) will focus on all low carbon options including import of hydrogen/ammonia, hydroelectricity imports from neighboring countries and Battery Storage & Solution (BESS). The fundamental principle in the choice would be cost effectiveness, sustainable development contribution and just energy transition. BPDB is working on diversifying from fossil fuels, enhancing grid reliability, smart grids, and smart metering.

In the year 2025, Bangladesh's grid achieved a peak generation of 16,900 MW. The demand growth in the last 10 years has been around 7%. This type of growth is expected to continue, thus affording an excellent opportunity for RE investments. The renewable energy penetration in the grid is considerably low; less than 3.7% of the total installed capacity and less than 6.1% of the present peak demand is renewable power. In terms of electricity, it is around 2%. The scope of RE expansion is substantial.

There is a big push from the government to increase small and medium on-grid and off-grid solar applications. Most significant is the instruction to set up strategically solar PV parks in vacant land adjacent to railway lines. All government organizations including educational institutions have been instructed to set up rooftop solar. Also, health complexes, fisheries establishments, and agricultural complexes, i.e. those that have spare land, are exploring ways to increase low-carbon energy use. Promotion of sustainable and renewable energy sources across education, health, WASH, and child protection sectors while ensuring uninterrupted child-focused services is a key government strategy. There are ongoing efforts to ensure that 100% of new and 50% of retrofitted WASH facilities in schools and health centers are solar-powered by 2030, prioritizing climate-vulnerable districts, and strengthening low-carbon child protection systems by scaling up digital case management, solarizing child protection service points, and reducing energy-related emissions in service delivery. In the health sector there are ongoing efforts to upgrade 20% of public health facilities by 2030 with low-carbon, climate-resilient standards and implement low-carbon medical waste guidelines by 2030 with digital monitoring.

4.3 Transport Policies

Bangladesh's transport sector, a key driver of economic growth, is also a significant contributor to greenhouse gas emissions. Although current policies like the National Land Transport Policy (2004) and the National Logistics Policy (2024) are concerned with multimodal integration, efficiency, and involvement of the private sector, clear policies on low-carbon transport are yet to be established. However, with the introduction of NDC 3.0, which brings new commitments to align transport development with climate goals, the urgency and significance of these policies in achieving our NDC 3.0 commitments cannot be overstated.

Bangladesh requires incorporating the following in the current policy instruments to facilitate sustainable and low-carbon transport:

4.3.1 Road Transport

Bangladesh needs to take the following measures to promote e-mobility.

- Prepare an e-mobility policy roadmap and action plan at the central level covering all vehicle categories and laying out mandates and targets to be achieved at an interval of 5 years.
- Set-up a nodal agency for EV implementation. Set-up an institutional structure defining roles and responsibilities of each ministry and department within EV ecosystem.
- Develop and enforce stringent technical standards for vehicles and batteries to ensure quality products and increase consumer confidence
- Offer fiscal incentives for EVs including
    - Waive-off or substantially reduce import duty on EV, particularly incentivizing local EV assembly and manufacturing plants.
    - Registration tax waiver or reduction for EV and its components
    - Offer exemption in VAT and free parking for EV
- Take measures to Increase awareness on electric vehicles including designated parking space, charging station and

- Conduct a skill-gap study to understand what electric and shared mobility related skill sets the workforce possesses as the baseline for a skilling strategy
- Develop a national skilling and certification program for electric vehicle operators, technicians, and mechanics.
- Enhance infrastructure and traffic control, focusing on fuel-efficient and electric vehicles.

4.3.2 Rail Transport

- Improve and expand the rail network as a low-carbon transport for freight and passengers on the roads.
- Electrify and digitalize the signaling system to increase efficiency and decrease emissions.

4.3.3 Waterways

- Expand inland waterways as a cheaper and cleaner alternative to road strains.
- Encourage low carbon vessel systems and transport hubs to reduce river transport emissions.

4.3.4 Urban Transport

- Enhance the existing Mass Rapid Transit (MRT) and Bus Rapid Transit (BRT) systems to divert commuters to use the transport instead of their own cars.
- Support the electrification of urban buses to meet a conditional NDC goal of 25% of the Dhaka bus fleet being electrified by 2035.
- For a 30 percent passenger EV penetration target by 2035, charging Infrastructure and safety standards have to be developed.

4.3.5 Cross-cutting Measures

- Rework the EV policy framework to encompass incentives on local production, implementation of charging infrastructure, and battery recycling.
- Consider carbon and blended finance to finance MRT, BRT, and EV implementation jointly.
- Develop an MRV system associated with the Enhanced Transparency Framework to monitor transport emissions reduction.

By embedding these measures, Bangladesh's transport policies will move beyond infrastructure expansion to actively support the country's NDC 3.0 mitigation commitments, ensuring that mobility growth is compatible with a low-carbon development pathway.

4.4 Industrial Low-Carbon Polices

Bangladesh is actively implementing industrial low-carbon policies by increasing renewable energy and energy efficiency, adopting green industrial guidelines in Export Processing Zones (EPZs). A key initiative is establishing low-carbon zones within EPZs, demonstrating success in cutting emissions and energy use while reducing costs through stakeholder engagement and technology adoption. Three firms in the Chittagong EPZ implemented recommendations from the low-carbon zone guidelines, resulting in significant reductions in annual carbon emissions and energy savings within 18 months. The country aims to develop a roadmap for cleaner industrial processes, such as replacing conventional steel furnaces by electric arc furnaces and hydrogen reduction in the steel industry; vertical roller mills (VRMs) and high-pressure grinding rolls (HPGRs) in the cement industry; low-liquor ratio dyeing and waterless supercritical CO_2 dyeing, which eliminates water consumption, in the textile dyeing industry; and cross-cutting technologies such as high COP chillers, IE4 motors, cogeneration/trigeneration and heat pumps. SREDA has started operationalizing the Energy Efficiency and Conservation Masterplan. In the first phase they have instructed large, designated industries to perform mandatory audits and

submit their environment management plan. Using the masterplan many energy efficiency GHG reduction projects can be formulated.

The Bangladesh Chemical Industries Corporation (BCIC) has incorporated Carbon Capture and Utilization (CCU) technology in a new urea fertilizer plant. They are considering mandating that all new fertilizer plants should have CCU as an integral component of their design and operation.

4.5 Waste Management Policies

Bangladesh has enacted the Solid Waste Management Rules 2021 and the Hazardous Waste (e-waste) Management Rules 2021 to manage waste more effectively, promoting the National 3R (Reduce, Reuse, Recycle) Strategy. Policies emphasize source segregation, improved collection and disposal systems, and the establishment of sanitary landfills, though implementation challenges persist due to inadequate infrastructure and public participation. The following is a summary of the policies relevant to GHG mitigation.

Table 8: Waste Management Policies

Policies, rules and regulations	Main feature
National 3R Strategy (Reduce, Reuse, Recycle), 2010	nation's approach to waste management, aiming to minimize waste generation and promote sustainable practices
Jute Packaging Act, 2010	encourages the use of jute bags as an alternative to plastic packaging
Extended Producer Responsibility (EPR), 2021; Updated 2025	Holding producers accountable for the waste generated by their products.
Hazardous Waste (e-waste) Management Rules, 2021	requires producers to follow systematic processes for storing and recycling electronic waste
Solid Waste Management Rules 2021	Detailed guidelines for the segregation, collection, transportation, and disposal of solid waste.

Methane emissions from unmanaged municipal solid waste landfills and dumping sites are a matter of concern for the country. The government is actively searching for the right mix of technologies to manage urban municipal waste. In a26-town integrated solid waste and fecal sludge management project methane emission will be significantly lowered. By 2035, municipal solid waste generation will be more than 46,000 Tons/day. This huge quantity of urban waste needs to be managed to reduce methane emissions. From its own resources, through unconditional NDC projects, the GoB will be able to manage only a small percentage of this waste. Bangladesh needs to seek international climate finance through Article 6 carbon market to undertake methane reduction projects. These can be sanitary landfills, composting and/or any of the waste to energy (WtE) technologies. If implemented adhering to the DoE's sustainable development guidelines, RDF and plastics pyrolysis/gasification can be considered. Production of biofuels and biochar from MSW can also be considered based on their merits in sustainably managing solid waste. The government is particularly keen on WtE using AD technology because it has the highest sustainable development co-benefits.

- Bangladesh needs to prepare a National Waste-to-Energy (WTE) policy to ensure regulatory norms defining the standard of technology/ies and Power Purchase Agreement.
- Promote markets for compost and RDF by means of public procurement/markets and linkage to agriculture sector.
- Actualization of National Circular Economy Strategy in enhancing of a resource recovery (composting, recycling, RDF production).

4.6 Agriculture and Forestry Policies

Bangladesh's economy, livelihoods, and future climate are built around agriculture and forestry, which are essential in determining food security, rural employment, biodiversity, and disaster resilience. The fact that they contribute a considerable amount to the national greenhouse gas emissions is a key factor that leads to considering them not only as a challenge but also an opportunity in the context of NDC 3.0. The government's policies, such as the National Agriculture Policy 2018 and the National Forest Policy 1979, aim to modernize the sector through improved extension services, farmer-research linkages, and sustainable practices like agroforestry. The country has updated its policies to include the National Agriculture Policy 2018 and the National Agricultural Extension Policy (NAEP), which emphasize decentralized, demand-driven extension services. The main policy goals are listed below.

The following activities are being considered in the agriculture, fisheries and livestock sectors to enhance sustainability and lowering GHG emissions in the process –

Table 9: Agriculture and Forest Policies

Sub-sectors	Main feature
Agriculture	➢ Promote smart agriculture practices to ensure food and nutrition security ➢ Technological advancement like Apps, IoT for Precision agriculture ➢ Training of farmers for the larger scalability of AWD, Prilled or Deep placement of Urea Applicators and other Climate Smart Agricultural practices ➢ Biochar production from agricultural waste for application in soil enhancement and other industrial purpose through international carbon market.
Fisheries	➢ In aquaculture, solar pumps for water supply in ponds or tanks; solar-powered air pumps to supply oxygen in fishponds ➢ Solar dryers for fish drying, thus ensuring faster processing and maintaining quality ➢ Promote low carbon smart Aquaculture practices in Bangladesh.
Livestock	➢ Breed & feed Improvements of Large and Small Ruminant livestock (Promoting high productive cross-breed animals) and bio-gasification as a means of methane reduction from manure management ➢ A unified national real-time livestock database that harmonizes conflicting data sources is vital for tracking sector performance, guiding evidence-based policymaking, and driving effective, equitable, and sustainable outcomes in a climate-resilient livestock system. Such a database will enable precise GHG assessments and support the formulation of innovative policies for low-emission and high-efficiency livestock system development ➢ Strengthening national livestock R&D and innovation capacity for developing country-specific emission coefficients that reflect local animal genotypes, physiological traits, and climatic conditions

4.6.1 Agriculture

In the improved policy framework, the agriculture policy, which has always been concerned with food security and production, is also shifting to fight the shocks posed by climate change. Mainstream planning has the future of:

- Water and soil management: promoting practices that save water and reduce methane emissions, while keeping yields stable.
- Crops diversification and hardy varieties: ensuring farmers can adapt to the changing rain and temperature patterns.
- Management of livestock and manure: enhancing efficiency, decreasing methane, and sustaining rural incomes.
- Extension services/farmers training: instilling climate awareness in daily farming choices, particularly among women and the youth.

With respect to forestry sector policies, it is worth mentioning that Bangladesh has robust polices to check illegal logging. As early as 1989, revised in 2001, the Brick Burning Control Ordinance, 2001 stipulated that Construction (Brick kilns) cannot use firewood in their furnace. The Forest Policy 1994 explicitly identified afforestation of degraded and denuded forest lands as one of its long-term targets. It marked a major departure from commercialization to recognition of rights and participation of people. The policy targeted to bring 20% land area under forest cover. Social and agro- forestry has had tremendous success in halting deforestation of the last century that was assuming alarming proportions.

4.6.2 Forestry and Land Use

Bangladesh's forests, from the Sundarbans mangroves to community woodlots, are vital carbon sinks and natural buffers against cyclones and sea-level rise. Yet deforestation and land degradation remain challenges. The policy direction is shifting towards:

- Community-based and agroforestry: empowering local people to manage forests sustainably while earning income.
- Mangrove restoration: protecting coastlines and sequestering carbon at the same time.
- Forest governance and monitoring: aligning with REDD+ and Article 6 mechanisms to attract international finance.

4.6.3 Integration and Policy Coherence

- One of the most significant gaps in the past has been that agriculture, forestry, and climate policies often worked in silos. The improved framework of the NDC 3.0 focuses on integration:
- Connecting the national adaptation plan (NAP) and food security plans to agricultural and forestry action measures and rural development programs.
- Adaptation and livelihood benefits are also realized by ensuring mitigation actions (such as the reduction of methane or planting trees).

4.7 Urban Policies

Bangladesh's urban policies aim for balanced and sustainable urbanization by decentralizing development, enhancing local government capacity, and improving urban infrastructure and services. Key policy documents include the National Urban Policy and initiatives like the Local Government (City Corporation) Act 2009 and the Municipality (Pourashava) Development Plan, which guide local governments to manage urban growth, economic development, and environmental challenges. The overarching goal is to create livable urban environments that provide economic opportunities, access to basic services, and security for all citizens, including vulnerable groups.

Urban policies can influence GHG emissions as it is connected to urban transport, municipal waste management and emissions from buildings. This realization has prompted significant GHG emission reduction programs and projects in the urban context.

4.8 Incentives and Subsidies

Bangladesh's incentives and subsidies for Nationally Determined Contributions (NDCs) focus on renewable energy, energy efficiency, and climate-resilient agriculture through various policy mechanisms like green bonds, Public-Private Partnerships (PPPs), and potential carbon pricing. The following incentives are available for renewable energy projects –

- Tax incentive for importing machinery for utility scale solar and wind power plants
- Merchant power plant to facilitate electricity wheeling from RE power generation
- Government owned land leased for solar PV projects
- Lucrative PPA and tariff by international standards for WtE projects

The Bangladesh government has two funds available for sustainable development projects –

- Bangladesh Climate Change Trust Fund (BCCTF): Established by the government in 2010, allocates resources from the national budget to public and private sector projects focusing on climate change adaptation, mitigation, and disaster risk reduction
- Climate Bridge Fund: This fund, managed by BRAC, supports local NGOs in implementing climate adaptation and, by extension, some mitigation projects, emphasizing community empowerment and ownership
- Sustainable Green Finance – The Sustainable Refinance Scheme is part of Bangladesh Bank's ongoing efforts to integrate sustainable practices into the financial sector, encouraging investments that are designed to support environmental sustainability, renewable energy, energy efficiency, and other green initiatives.

5 Adaptation and Loss and Damage

Adaptation is central to Bangladesh's response to climate change, given the country's high vulnerability to sea-level rise, extreme weather events, salinity intrusion, river erosion, floods, and droughts. These hazards undermine agriculture, water resources, health, ecosystems, livelihoods, and infrastructure, putting sustainable development gains at risk. Building resilience and reducing risks for people, ecosystems, and the economy are national priorities. Adaptation measures enhance the capacity of vulnerable individuals, households, communities, and institutions to withstand climate shocks while ensuring long-term socio-economic security and sustainable development. Integrating adaptation into national planning and sectoral development strategies also contributes to safeguarding food and water security, protecting livelihoods, and reducing displacement risks.

5.1 National Adaptation Priorities for NDC 3.0

Bangladesh has developed strong policy and institutional frameworks to advance climate adaptation, guided by the National Adaptation Plan (NAP) 2023-2050, the National Adaptation Programme of Action (NAPA), the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009, and the Bangladesh Delta Plan 2100. Among these, the National Adaptation Plan (NAP) 2023-2050 serves as the priority document for Bangladesh in the area of adaptation, providing a long-term roadmap to reduce climate risks and build resilience across sectors.

The NAP identifies 113 adaptation interventions across 8 thematic sectors:

- Water resources;
- Disaster, social safety, and security;
- Agriculture;
- Fisheries, aquaculture, and livestock;
- Ecosystems, wetlands, and biodiversity;
- Urban areas;
- Policies and institutions; and
- Capacity development, research, and innovation

To ensure consistency and synchronization among the country's policies, plans, and international commitments, NDC 3.0 draws directly from the NAP in defining its adaptation priorities. Out of the 113 interventions identified in the NAP, 65 interventions have been included in NDC 3.0 as the national adaptation priorities. These priorities reflect the short- to medium-duration interventions identified in the NAP and are considered implementable by 2035, aligning with the timeframe of this NDC 3.0.

Table 10: National Adaptation Priorities for NDC 3.0 aligned with NAP sectors.

Sector	Interventions for NAP sectors
Water resources	Integrated management of coastal polders, sea dikes and cyclone shelters against tropical cyclone, sea-level rise and storm surges
	Management of freshwater resources and monitoring of salinity for reducing vulnerabilities in existing and potential salinity-prone areas
	Strengthen early warning and dissemination services for climate change-induced slow-onset and sudden extreme water hazards using ICT and AI
	Community-based rainwater harvesting through indigenous techniques and conservation of wetlands, reservoirs and natural springs for drinking water supplies in hard-to-reach and water-stressed areas
	Dredging of all major and medium rivers for accommodating the smooth drainage of excess floods during climate-induced extreme events

Sector	Interventions for NAP sectors
	Drainage management of economic/industrial zones and critical infrastructure, and reinforced climate resilience through risk assessment
	Protection against flash floods, wave action, erosion and sedimentation
	Erosion risk management through erosion prediction, improved early warning and its dissemination
	Drought management measures for enhanced groundwater recharge and increased soil moisture in water-stressed areas
	Development of a national drought monitoring system
	Transboundary river basin management and basin-level cooperation
	Development of a basin-wide and participatory watershed management framework to restore, harvest and optimize the use of water resources
Disaster, social safety and security	Construction and rehabilitation of gender-, age- and disability-sensitive, multipurpose, climate-resilient, and accessible cyclone and flood shelters with safe drinking water, sanitation and livestock shelter facilities
	Implementation of thunderstorm and lightning risk management measures in highly susceptible areas
	Protection and enhanced resilience of climate migrants with a particular focus on gender and disability
	Increase the resilience of vulnerable poor communities by introducing gender-, age- and disability-responsive diversified livelihoods, effective insurance mechanisms and climate resilience funds
	Behavioral change and development of awareness among vulnerable communities for emergency responses and livelihood protection due to climate-induced disasters
	Halt child abuse, early marriage and domestic violence triggered by climate-induced disasters
	Introduction of risk transfer and insurance mechanisms for protection of critical and disaster protection infrastructure, vulnerable MSMEs and farmers
	Building climate-resilient houses and education & communication infrastructure in areas with high climate risk
Agriculture	Extension of climate-smart technologies for increasing irrigation water use efficiency
	Augmentation of surface water for irrigation and multipurpose use
	Extension of stress-tolerant, pest- and disease-resistant rice and non-rice crops
	Strengthening and development of impact-based early warning systems and data management for agriculture
	Development of agrofood processing industries based on climate-sensitive crop zoning
Fisheries, aquaculture and livestock	Extension of climate-resilient technology for combating climate-related stresses in aquaculture
	Monitoring, evaluation and enforcement to ensure the conservation of fish biodiversity and habitat
	Development of shrimp culture planning and zoning
	Development of fish industries based on climate-sensitive crop zones
	Extension of climate-stress-tolerant livestock and poultry breeds, farms, feed and fodder

Sector	Interventions for NAP sectors
	Climate-resilient infrastructure development for the safety of livestock and poultry during disasters
Ecosystems, wetlands and biodiversity	Extension and expansion of the coastal greenbelt for protecting coastal habitats, including the Sundarbans, mangroves, salt marshes, etc.
	Expand ecosystem-based adaptation for the restoration of mangroves, hill areas and wetlands to tackle the adverse impacts of climate change
	Strengthening ecosystem and biodiversity monitoring and law enforcement systems
	Combat desertification through planting regenerative indigenous species
	Halda River ecosystem restoration and conservation
	Watershed management of Kaptai Lake for ecosystem resilience and water retention
	Develop and update ocean ecosystem management policies, guidelines and institutional capacities for management of the blue economy
	Restoration of the coral reef ecosystem and associated fish and benthic communities in the St. Martin Islands
	Development of a national management system for wetlands, biodiversity, oceans and coastal information for supporting monitoring and surveillance
Urban areas	Improvement of natural and artificial stormwater drainage networks for reducing vulnerabilities to urban flooding and drainage congestion
	Expansion and conservation of green and blue infrastructure for improvement of urban environments and drainage systems
	Development of city climate action plans for major urban and peri-urban areas emphasizing the resilience of urban-poor communities and climate migrants
	Expand innovative climate-resilient, gender-, age- and disability-sensitive WASH technologies and facilities for urban communities
	Increase access to water supply, sanitation and hygiene services in cities for reducing exposure to flooding and waterborne diseases during or after extreme weather events
	Establishment of climate-resilient health-care facilities in urban areas
	Development of heatwave and disease outbreak advisory services for city dwellers
Policies and institutions	Preparation of a roadmap for implementing the NAP
	Development of a regulatory and institutional framework for advancing the NAP
	Update and reform policies and plans for mainstreaming CCA
	Operationalize the NAP monitoring, evaluation and learning framework based on a theory of change
	Reform local government institutes towards the inclusion of community-based organizations, women, people with disabilities and youth in the implementation of locally led adaptation
	Innovative, appropriate and enhanced financial instruments for supporting CCA
	Private sector finance in leading CCA implementation
Capacity development, research and innovation	Transformative capacity development and knowledge management for integrating CCA into planning processes and climate financing
	Awareness-raising and training on skills for enhanced adaptive capacities and improved diversified livelihoods at the community level
	Capacity development for the implementation of nature-based solutions and locally led adaptation

Sector	Interventions for NAP sectors
	Generation of national, regional and local-level evidence and scenario-based climate information through climate downscaling and publication of a national climate outlook, risk and vulnerability atlas
	Action research and field demonstrations on climate-smart agriculture
	Research and innovation related to climate-resilient fisheries and aquaculture
	Research and innovation related to climate-smart livestock and poultry
	Action research for locally led and indigenous climate change adaptation
	Research and popularize climate-stress-tolerant plant species
	Research on and piloting of climate-resilient infrastructure, improved health measures and WASH technologies
	Action research for low-impact development techniques, green infrastructure and integrated drainage management for smart city development

Through the implementation of these adaptation priorities, Bangladesh seeks to accelerate adaptation measures, safeguard its most vulnerable populations, and strengthen ecosystem and institutional resilience against the adverse impacts of climate change, while advancing the nation's long-term sustainable development vision.

Adaptation Support Needs and International Cooperation
Bangladesh's adaptation financing needs will continue to grow. Based on NAP and sectoral estimates, by 2035 the annual adaptation investment requirement will reach USD 12–14 billion. While domestic resources will provide a portion, international support remains essential. Bangladesh calls for:

- Enhanced access to the Green Climate Fund (GCF) and Adaptation Fund.
- Fulfillment of the Paris Agreement commitment to scale up adaptation finance to be on par with mitigation.
- Expanded opportunities for technology transfer, South-South cooperation, and capacity building.

Bangladesh is committed to a climate-resilient development pathway that safeguards people, ecosystems, and infrastructure while ensuring equitable and inclusive growth. Through its NDC 3.0, with a target year of 2035, Bangladesh reaffirms its leadership in adaptation and calls for enhanced international solidarity, finance, and technology transfer to transform vulnerability into resilience and prosperity.

5.2 Loss and Damage

Recent Advisory Opinion delivered by the International Court of Justice (ICJ) clarified clearly that the Paris Agreement 2015 obliges states to work towards averting, minimizing, and addressing loss and damage (Article 8), and responsible states shall provide (Article 9) financial, technical, and capacity-building support to address the loss and damage associated with climate change impacts. It's worth noting that Advisory Opinion of ICJ further clarified that even if a State is not a Party to Paris Agreement, still responsible for providing support for addressing loss and damage. Bangladesh, as one of the most vulnerable countries, is committed to dealing with loss and damage to protect the fundamental human rights of the people of Bangladesh.

However, responsible States shall provide us necessary support to protect the rights of our people and to address loss and damage in Bangladesh. Bangladesh contributes 0.48 percent to global GHG emissions yet ranks ninth on the list of countries most vulnerable to climate impacts. In the last two decades (2000-2019), Bangladesh experienced 185 extreme weather events, suffering

economic losses worth 3.72 billion USD. The average annual loss due to climate change impacts in Bangladesh to climate-related disasters is estimated at around $3 billion, or 1–2% of GDP, though this figure can be much higher in individual years.

The most significant climate threats are tropical cyclones, sea level rise, heavy rain and floods, extreme heat, and droughts for Bangladesh. In 2024, heavy rainfall and flooding in the eastern part of Bangladesh had an economic cost estimated to be $1.2 billion USD (1.8% of GDP). Average losses per year from cyclone damage amount to an estimated $1 billion (0.7% of GDP). One extreme heat event could result in an average loss of 2% of potential fisheries-related jobs, equivalent to over 1 million jobs. In case of severe flooding, GDP may fall by as much as 9%.

By the end of the century, between 12% and 18% of Bangladesh's coastal area is projected to be submerged by rising seas. This will have devastating consequences for vital food crops, and more people will be forced to leave their homes. By 2050, one-third of agricultural GDP may be lost due to climate variability and extreme events. In southern Bangladesh, projected sea level rise could displace 0.9 million people by 2050, and more saline waters could disrupt fisheries, disproportionately affecting coastal communities. Sea level rise exacerbates the risk from tropical cyclones. If a cyclone the size of Amphan occurred in 2100, the number of people exposed to the storm surge would be 50–80% higher than when it made landfall in 2020. Currently, the government of Bangladesh spends approximately 6–7% of its annual budget on climate adaptation, about 75% of which comes from domestic sources. In 2023–2024, climate-related expenditure accounted for 9% of the total budget of 25 relevant ministries. Bangladesh will need an additional $12.5 billion USD (3% of GDP) in the medium term for climate action. Bangladesh commits to the following actions to address loss and damage with 100% conditionality with support from polluter countries:

Table 11: Proposed Actions in Loss and Damage

Sectors	Commitments and Sectoral policy	Conditionality (expressed as %)
Food security and Agriculture	Recovery and restoration	100
Infrastructure	Recovery, reconstruction, and rehabilitation	100
Water, fisheries, and natural resources	Recovery, reconstruction, and restoration	100
Environment and Biodiversity	Recovery, reconstruction, and restoration	100

Bangladesh will continue to push the Executive Committee of the Warsaw International Mechanism on Loss and Damage, the Santiago Network on Loss and Damage and Fund for Responding to Loss and Damage (FRLD) and other relevant funding entities for accessing required financial and technical assistance to address loss and damage in Bangladesh. Bangladesh also will collaborate with other vulnerable developing countries to mobilize the required financial resources to address loss and damage through constructive multilateral processes and other legal pathways. It is noted by one estimate that the projected economic cost for addressing loss and damage by 2030 alone is USD 400 billion a year and by 2050, is projected to be between USD 1 to 1.8 trillion. Bangladesh will be associated with other vulnerable countries for mobilizing the required financial, technical, and capacity-building support for addressing loss and damage nationally and regionally.

6 Cross-Cutting Issues

The impacts of climate change are so multidimensional that they cannot be reduced by only taking specified sector-specific actions. Therefore, cross-cutting issues such as gender equality, human rights, youth participation, education, health, food security, and inclusive infrastructure are playing a vital role in making climate actions viable, effective, and sustainable. In this context, Bangladesh seeks to enhance social justice, strengthen resilience, and create broader co-benefits for development. This approach ensures that mitigation and adaptation actions deliver not only environmental outcomes but also contribute to inclusivity, human dignity, and intergenerational equity by mainstreaming these dimensions in NDC 3.0.

6.1 Gender, Equality, Disability, and Social Inclusion (GEDSI)

Bangladesh acknowledges that the impacts of climate change are not experienced equally but fall disproportionately on women, youth, persons with disabilities, and other vulnerable groups. Mainstreaming GEDSI into NDC 3.0 is critical for guaranteeing that climate action is inclusive, equitable, and effective. This requires clear institutional mandates, dedicated focal points, and improved coordination among ministries. In line with the Bangladesh Climate Change Gender Action Plan (ccGAP, 2024) and global commitments such as the Lima Work Programme on Gender (LWPG), Action for Climate Empowerment (ACE), and the UN Convention on the Rights of Persons with Disabilities, NDC 3.0 mainstreams GEDSI principles across all mitigation and adaptation actions. This ensures that climate action is inclusive, equitable, and just, leaving no one behind.

6.1.1 Institutional Measures

- Establishment of dedicated GEDSI units and focal points with trained personnel, resources, and clear mandates to ensure effective coordination across ministries.
- Develop capacity-building programs for climate and inclusion focal points, youth, and underrepresented groups to integrate inclusion in sectoral actions.
- Ensure active participation of vulnerable groups in NDC implementation, with local governments promoting inclusive adaptation planning.
- Mainstreaming inclusive employment, skills development, Micro, Small, and Medium Enterprises (MSMEs), and innovation led by women, persons with disabilities, and vulnerable groups.

Table 12: Mitigation Measures in GEDSI

Sector	Key GEDSI Entry Points	Proposed Actions	Expected Outcomes
Energy & IPPU	Women and PWDs excluded from renewable energy jobs; reliance on biomass cooking.	- Promote women/youth entrepreneurship in solar, biogas, and clean cooking.- Provide targeted training and finance for women/PWDs in renewable and green manufacturing sectors.	- Increased women/PWD participation in clean energy workforce.- Improved household health and safety through clean cooking.
Transport	Lack of safe, accessible, and affordable transport for women, elderly, and PWDs.	- Ensure universal design in MRT/BRT and EV charging stations.- Introduce women- and disability-friendly public transport policies.- Promote female	- Safer, more inclusive mobility.- Increased employment opportunities for women and youth.

Sector	Key GEDSI Entry Points	Proposed Actions	Expected Outcomes
		employment in EV and public transport sectors.	
AFOLU	Women farmers have limited land rights; youth underrepresented in adaptation.Traditional knowledge underutilised.	- Support women and youth farmers in climate-smart agriculture.- Provide land tenure security and financial access to vulnerable groups.- Integrate traditional ecological knowledge in forestry management.	- Increased food security and resilience.- Enhanced carbon sequestration.- Empowerment of women and youth farmers.
Waste	Informal sector dominated by women and migrants with unsafe conditions.	- Formalize waste pickers' roles with social protection and safety training.- Support women- and youth-led recycling enterprises.- Introduce PWD-friendly waste facilities.	- Safer working conditions and fair wages.- Reduced methane emissions.- Empowerment of women and youth entrepreneurs.
Urban & Infrastructure	Vulnerable groups excluded from urban planning; infrastructure not inclusive.	- Enforce GEDSI-compliant building codes.- Ensure climate-resilient WASH and shelters are disability-accessible.- Expand participatory urban climate planning.	- More resilient and inclusive cities.- Improved disaster preparedness for vulnerable groups.- Equitable access to basic services.

6.2 Human Rights

Bangladesh acknowledges that climate change causes a direct threat to the fulfillment of fundamental human rights, encompassing the rights to life, health, food, water, housing, livelihoods, and a clean, healthy, and sustainable environment. Therefore, Bangladesh's NDC 3.0 adopts a rights-based approach to climate action, informed by the Paris Agreement and the UN Guiding Principles on Human Rights and Climate Change (2021).

Significantly, mitigation and adaptation measures will uphold, safeguard, and advance human rights in accordance with national development priorities and the right to development. Furthermore, emphasis will be placed on equality, non-discrimination, participation, accountability, and access to remedies. Climate policies will protect vulnerable populations, including women, youth, Indigenous Peoples, persons with disabilities, and marginalized groups, by ensuring their full participation in decision-making processes and equitable access to benefits.

Consequently, Bangladesh aims to integrate human rights principles across various sectors to ensure that climate action effectively reduces emissions, enhances resilience, and promotes dignity, justice, and inclusive development for all individuals.

6.3 Youth Participation

Bangladesh recognizes that young people are not only the leaders of tomorrow but also critical actors of today in driving climate action. With more than one-third of the country's population under the age of 35, youth bring innovation, creativity,, and strong civic commitment that are essential for achieving the targets of the Third Nationally Determined Contribution (NDC 3.0). Bangladesh therefore seeks to ensure meaningful youth participation in the implementation, monitoring, and evaluation of its NDC 3.0, both at the national and local levels.

To achieve this, Bangladesh will strengthen institutional platforms and networks that enable youth voices to be included in climate policy dialogue and decision-making. Youth organizations, climate clubs, and student groups will be engaged in awareness-raising, capacity-building, and grassroots mobilization, particularly in areas such as renewable energy,. energy efficiency,, sustainable agriculture, waste management and ecosystem restoration. Partnerships will be fostered between government institutions, academia, civil society,, and private sector actors to create opportunities for young people to contribute directly to NDC-related initiatives.

Efforts to engage youth in a meaningful way led to a dedicated consultation on the draft NDC 3.0 held with expert panels, youth activists, youth representatives and young people across Bangladesh. The following actionable measures presented are proposed to systematically, integrate youth and children into mitigation activities across key sectors.

Table 13: Mitigation Measures with Child and Youth Involvement

Sector	Proposed Action	Children and Youth Involvement	Expected Outcomes
Energy& Industrial Processes and Product Use (IPPU)	Community-Based Renewable Energy Projects	Youth-led installation & management of solar, wind, biogas systems	Adoption of renewable energy
	Solar Irrigation Awareness Campaigns	Youth outreach to farmers promoting solar irrigation	Adoption of solar irrigation systems.
	Innovation & Research on Energy-Efficient Technologies	Youth hackathons, university research, startup incubation	Energy savings, local innovation ecosystem strengthened
	Promoting Government Climate Commitments	Youth advocacy & campaigns for national targets	Public support for national emission reduction targets
	Greening Highways	Youth-led tree plantation along transport corridors	Carbon sequestration, improved roadside ecosystems
	Public Transport & Active Mobility Awareness	Youth-led campaigns for cycling, walking, public transport	Supports mode shift targets & transport emission cuts, Reduced vehicle emissions
	Green Building Awareness in Industry	Youth campaigns targeting RMG & industry sectors	Adoption of energy-efficient practices in industry
Agriculture, Forestry,, and Waste	Source-Based Waste Segregation	School & community-led segregation programs	Improved household & institutional waste management

Sector	Proposed Action	Children and Youth Involvement	Expected Outcomes
	Waste-to-Business Models	Youth entrepreneurship in recycling, composting, up-cycling	Circular economy, youth-led green enterprises
	Community-Based Biofertilizer & Biogas Promotion	Youth-led awareness & installation of units	Reduced chemical fertilizer use, renewable energy generation
	Community Forestry & Tree Plantation	Youth-led afforestation, reforestation, urban greening	Carbon sequestration, enhanced biodiversity
	Youth-Led Climate Smart Agriculture	Youth demonstration plots, agri-clubs, peer learning	Increased adoption of climate-smart farming practices
Cross-Cutting (Co-Benefits & Social Sectors)	Green Jobs Training for Youth	Vocational training in renewable energy, waste management, CSA	Expanded green workforce, livelihood opportunities
	Transport System Awareness Campaigns	Youth-led public campaigns for efficient transport	Reduce per capita transport emissions, Increased adoption of eco-friendly transport
	Funding Innovations in Schools & Universities	Student-led low-carbon solutions	Supports technology innovation & strengthened innovation culture in educational institutions
	Promoting Renewable Energy in Social Sectors	Youth-led RE installations in schools, health centers	Reduced operational emissions, energy cost savings
	Integrating Climate Change into Education	Youth advocacy for climate curriculum	Early climate literacy, long-term behavioral change

Bangladesh will also invest in building youth capacities through education, training, and innovation support. This includes integrating climate change issues into school and university curricula, providing technical and financial support for youth-led climate innovation projects, and creating avenues for green entrepreneurship. By empowering youth with the necessary skills and resources, Bangladesh aims to accelerate climate-smart solutions that support its low-emission and climate-resilient development pathway.

Finally, mechanisms will be developed to ensure youth engagement in NDC 3.0 monitoring and accountability frameworks. Young people will be encouraged to contribute to citizen-led climate data collection, local-level adaptation planning, and community-based renewable energy initiatives. Through these efforts, Bangladesh affirms its commitment to building an inclusive and participatory climate governance system where the aspirations and leadership of youth play a central role in delivering on the country's climate commitments.

6.4 Education

In line with NDC 3.0, Bangladesh will transform its education system to be climate-resilient, inclusive, and future-oriented by integrating climate education, disaster risk reduction (DRR), and green skills across all levels of formal and non-formal education. By 2030, at least 50% of teachers and students will receive digital training on climate education and DRR, supported by the development of training modules, nationwide roll out, and monitoring through EMIS. Green jobs and skills will be integrated into school, TVET, and university curricula, aligned with labour market needs in renewable energy, sustainable agriculture, and waste management, while educator capacity and youth-led green entrepreneurship will be strengthened through internships and partnerships with green industries. Furthermore, climate resilience, adaptation, and loss and damage will be embedded into curricula from preschool to higher education to prepare students and school leaders with essential knowledge and practices for addressing climate risks. To complement these efforts, green school guidelines—including WASH, renewable energy, waste management, and tree-planting—will be implemented, supported by awareness-raising, monitoring systems, and recognition programs to reward innovation and compliance. Collectively, these measures will empower future generations with the skills and values needed for a sustainable and climate-resilient Bangladesh.

6.5 Health and Wash

Bangladesh recognizes that sanitation, solid waste, water services and health facilities are important sources of methane and energy-related emissions. Decarbonizing these systems delivers major public-health co-benefits—particularly for children and climate-vulnerable communities. Under NDC 3.0, Bangladesh will advance a set of integrated measures that both reduce greenhouse gas emissions and strengthen resilience.

Table 14: Mitigation Masures in Health and Wash

Action Area	Mitigation Measures
Water Supply and Sanitation	• Encourage to establish methane baselines in sanitation hotspots to guide action and enable access to climate finance; • Support to expand non-sewered sanitation with integrated Fecal Sludge Treatment Plants (FSTPs) using co-composting of organic waste; • Promote expansion of sewer networks and energy-efficient Sewage Treatment Plants (STPs); • Encourage to reduce fossil energy use in water and wastewater services through solarization of large treatment plants, decentralized systems, and pumping stations; • Promote water conservation to lower treatment and pumping demand;
Health System Infrastructure and Operations	• Retrofit public health facilities with rooftop solar PV, flood-resilient structures, and energy-efficient WASH systems; • Adopt and apply climate-smart facility guidelines and carry out regular climate and energy audits in facilities; • Solarize and climate-proof child- and maternal-focused health centers in high-risk areas. • Implement low-emission healthcare waste management with segregation and non-incineration treatment technologies; • Promote green procurement and efficient operations (HVAC, lighting, pumps, energy management);

Action Area	Mitigation Measures
	• Encourage clean air and clean cooking initiatives around health and education facilities to reduce local pollution and improve child respiratory health; • Integrate climate-health training into medical curricula and workforce programs.

These measures will help Bangladesh cut methane and energy-related emissions while ensuring safe water, sanitation, and uninterrupted health services. By coupling emission reductions with improved public health outcomes, the country aims to enhance resilience, protect vulnerable populations, and open pathways to climate finance and carbon market opportunities.

6.6 Food Security

In pursuing emission reductions from rice cultivation and livestock within the agriculture sector, Bangladesh will ensure that food security and nutrition are not compromised. Rather, climate actions will be designed to promote resilient food systems, safeguard dietary diversity, and strengthen nutrition outcomes. Recognizing that floods, droughts, and salinity intrusion already challenge local production, policies and interventions will align mitigation with the goals of zero hunger, child nutrition, and climate-resilient food systems. Special emphasis will be placed on nutrition-rich rice varieties and livestock management practices that contribute both to lower emissions and improved food availability.

Table 15: Mitigation Measures in Food Security

Action Area	Mitigation Measures
Agriculture and Food Systems	Promote climate-smart and nutrition-smart agriculture (CSA-NS); encourage adoption of nutrition-rich rice varieties and diversified cropping systems; ensure livestock feed improvement that reduces emissions while maintaining milk, meat, and protein security.
Energy in Agriculture	Promote solar-based irrigation and cold chain systems to improve access to safe, diverse, and nutritious foods, particularly in vulnerable rural and peri-urban communities.
Forestry and Ecosystems	Embed community nutrition objectives into reforestation and afforestation programs, ensuring that homestead forestry and agroforestry contribute to both dietary diversity and emission reduction.
Water and WASH Linkages	Strengthen WASH–nutrition connections by ensuring safe water access and sanitation facilities, thereby reducing undernutrition linked to waterborne disease and environmental contamination.
Policy and Planning	Mainstream climate risk into national nutrition policies and contingency plans; encourage integration of nutrition indicators into climate response and Loss & Damage frameworks; promote alignment with SDG 2 and SDG 13 through a climate–nutrition integration framework.
Community and School Nutrition	Expand school- and community-based climate-resilient nutrition services; ensure shock-responsive delivery of nutrition support in disaster-affected areas.

By integrating food security and nutrition into mitigation and adaptation actions, Bangladesh will strengthen resilience, protect vulnerable populations, and ensure that climate action supports both emission reductions and the long-term goal of a healthy, well-nourished society.

6.7 Building Infrastructure

Bangladesh acknowledges the need to make its building and construction sector more climate-resilient and low-carbon. With rapid urbanization and growing demand for housing and infrastructure, the country will update codes, encourage energy efficiency, and promote sustainable materials and financing options to reduce emissions while ensuring resilient and inclusive growth.

Table 16: Mitigation Measures in Building Infrastructure

Action Area	Mitigation Measures
National Building Code (BNBC)	Bangladesh will seek to update and gradually enforce the BNBC to better integrate climate resilience and energy efficiency provisions, encouraging compliance across public and private construction.
Renewable and Passive Design	The country intends to encourage solar-ready designs, rooftop solar PV, and promote passive design measures such as natural ventilation, daylighting, green roofs, and reflective surfaces.
Sustainable Materials	Bangladesh aims to promote the use of non-fired bricks, compressed stabilized earth blocks, recycled materials, and energy-efficient glass, while exploring incentives to support local low-carbon material production.
Certification & Rating Systems	The government strives to introduce sustainable building certification for public infrastructure, with gradual expansion to private projects, and to encourage its integration into building plan approvals.
Green Finance	Opportunities will be explored to promote concessional loans, climate funds, and public–private partnerships for scaling up low-carbon building projects.
Energy Efficiency	Building energy audits for large and energy-intensive structures will be encouraged, alongside the expansion of appliance labelling programs in collaboration with national agencies.
Retrofitting & Resource Efficiency	Efforts will aim to promote retrofitting of existing buildings, water harvesting, efficient cooling and refrigeration, and reuse of construction and demolition waste.
Sustainable Road Construction	Road projects will be encouraged to consider reclaimed asphalt pavement (RAP) and recycled materials as a means to reduce embodied carbon.
Capacity & Governance	The capacity of RAJUK, LGED, PWD, and professional bodies will be strengthened to support sustainable design enforcement, while steps will be taken to encourage the establishment of a building regulatory authority.

By advancing these measures, Bangladesh will lower emissions from its built environment, improve resource efficiency, and ensure that infrastructure growth supports a safe, resilient, and sustainable future.

7 Just Transition

For transitioning to a low-emission, climate-resilient economy in Bangladesh, one of the most vulnerable developing countries in the world, it is crucial to ensure that climate action is not only environment-friendly but also economically viable, socially compatible, and inclusive. A "Just Transition" ensures that climate actions create decent work, reduce poverty, protect vulnerable groups, and leave no communities behind—especially workers and small enterprises linked to carbon-intensive sectors, construction (Construction (Brick kilns)), traditional transport, and informal sectors.

Bangladesh faces several challenges as it works toward low carbon in key sectors while promoting climate resilience, job creation, creating sustainable livelihoods, and fostering social equity. The NDC 3.0 offers a unique opportunity to operationalize just transition principles within NDC 3.0's mitigation and adaptation portfolios and aligns with national development priorities, ensuring that vulnerable populations are prioritized throughout the process.

7.1 Guiding Principles

The guiding principles for integrating Just Transition into Bangladesh's NDC 3.0 are:

- People-centered & decent work: Prioritize job quality, occupational safety, and social dialogue.
- Equity & inclusion: Target support to low-income households, women, youth, climate migrants, persons with disabilities, and informal workers.
- Do-no-harm: Anticipate and mitigate social risks (job losses, price shocks, and land-use change).
- Regional balance: Direct benefits to lagging regions and fossil fuel-based economic activity-dependent areas/clusters.
- Transparency & participation: Institutionalize tripartite processes (government–workers–employers) and local community engagement.
- Evidence-based & measurable: Embed clear indicators, baselines, and MRV.

7.2 Priority Sectors and Transition Pathways

7.2.1 Energy Sector

- Context: Rising energy demand, existing fossil fuel-based power plants, growing renewables, and power imports.
- Transition measures: Gradual fossil fuel reliance reductions via transitioning to renewable energies and sustainable alternatives (solar, wind, ammonia, battery storage).
- Worker support: skills mapping in coal, gas plants and the mining sector; targeted reskilling for O&M in solar, wind, storage, and grid; and income protection during redeployment.
- Community support: local infrastructure, promoting local ownership of RE projects, SME grants, and health services in plant-adjacent communities.
- Just transition safeguards: prior notice and consultation; financial support to affected workers; local hiring quotas for RE projects.

7.2.2 Industry

- Context: Decarbonizing carbon-intensive, hard-to-abate industries while providing green job opportunities for workers.
- Transition measures: industrial energy efficiency electrification, fuel switching (natural gas to RE/green hydrogen where feasible), waste heat recovery, clinker substitution, modern kiln retrofits, and brick sector transformation to clean materials.

- Worker support: concessional finance for cleaner tech, productivity-linked training and reskilling programs, certification for new green skills, and formalization pathways for informal workers.
- Just transition safeguards: prior notice and consultation; financial support to affected workers; local hiring quotas.

7.2.3 Transport Sector

- Transition Measures: public transport expansion, EV adoption for buses/three-wheelers/passenger cars, and freight efficiency.
- Worker support: micro-credit and scrappage incentives for drivers/owners to shift to cleaner vehicles and EV charging/maintenance training.

7.2.4 Agriculture, Forestry & Land Use Sector

- Transition Measures: climate-smart agriculture, organic farming, enteric methane reduction, alternate wet and dry (AWD), vermicompost, residue management, agroforestry, floodplain aquaculture, mangrove restoration, and coastal afforestation.
- Livelihood support: extension services, risk insurance, value-chain access for smallholders and SMEs for women-led enterprises and youth-led enterprises; promote community enterprise-based practices.

7.2.5 Waste Management & Circular Economy

- Transition Measures: source segregation, composting/anaerobic digestion, landfill gas capture, e-waste management; train local workers and job creation through repair, reuse, and recycling hubs.
- Worker protection: formalize waste pickers with PPE, contracts, and health coverage.

7.3 Cross-Cutting Actions

7.3.1 Stakeholder Engagement

- Ensure inclusive consultation processes that involve different industries, local communities, marginalized groups, the informal sector, the SME sector, and vulnerable workers in policy design and implementation.
- Facilitate social dialogue to ensure that climate policies are equitable, considering local contexts and needs.

7.3.2 Skills Development and Reskilling

- Reskill and upskill workers in carbon-intensive industries (e.g., fossil fuel workers, farmers in conventional agriculture) for green jobs.
- Focus on training programs for women, youth, climate migrants, and marginalized communities to ensure they have equal opportunities in sustainable industries.

7.3.3 Financial Support

- Mobilize appropriate climate finance through international mechanisms (e.g., Green Climate Fund, Global Environment Facility,, MDBs) to support smallholder farmers and workers transitioning to low-carbon practices.
- Introduce subsidies or incentives for businesses and communities adopting green technologies and climate-smart practices.
- International cooperation: Climate finance (GCF, GEF, CIF), multilateral development banks, and Article 6 cooperation to channel results-based payments with earmarks for social co-benefits; blended finance for SME retooling and worker reskilling.

7.3.4 Social Protection

- Establish social protection and labor measures programs (e.g., unemployment benefits, income support) to protect vulnerable workers during the transition.

- Implement social protection schemes that provide financial support for workers in the energy, agriculture, and waste sectors affected by climate action policies.
- Gender & Youth Inclusion: gender-responsive budgeting; targets for women and youth in training and reskilling programs.

7.3.5 Monitoring and Reporting

- Include indicators for tracking progress on the just transition.
- Establish annual reporting mechanisms to evaluate just transition efforts, ensuring transparency and accountability.

7.4 Policy & Regulatory Coherence

- Formulate a National Just Transition Policy Note/Framework to guide all sectoral plans and to ensure a coordinated approach that supports both emissions reduction and social equity without hindering the other national priorities, such as ensuring food security, water security, education, health, shelter, and energy access.
- Mainstream just transition criteria across all climate-related public and private investments.
- Introduce Just Transition clauses where applicable, for example, in power purchase agreements—local hiring, training, community funds/CSR.

8 Means of Implementation

8.1 Financing Strategy

8.1.1 Investment Need Assessment Methodology

Investment needs to implement the mitigation activities stipulated in NDC 3.0 of Bangladesh were estimated using sectoral strategies, budget documents, and project data. The UNDP assessment of Investment and Financial Flows (I&FF) methodology was utilized to assess investment needs to implement the mitigation activities during 2026–2035, considering inflation, technology changes, and demand growth. Capital and operational costs were built from feasibility studies and national data, then checked against international standards for accuracy.

8.1.2 Investment Needs for Implementing NDC 3.0

Effective implementation of its NDC 3.0 and achieve the target by 2035, Bangladesh needs USD 116.18 billion in total of which USD 25.95 billion is from domestic support (Unconditional) and USD 90.23 billion is from international climate finance support (Conditional).

The Investment need estimated provides an approximate cost and will be further segregated into sector and mitigation activity during the preparation of NDC 3.0 Implementation plan.
The summary of investment requirement of NDC 3.0 quantified mitigation targets by sector, conditional and unconditional scenario are given below.

Table 17: Investment Needs for Implementing NDC 3.0

Sector	Investment needs to Implement NDC 3.0 (billion USD)		
	Unconditional	Conditional	Total
Energy	25.07	80.89	105.96
IPPU		0.10	0.10
AFOLU	0.88	6.00	6.88
Waste		3.24	3.24
Total	25.95	90.23	116.18

8.2 Climate Finance

Average annual climate finance flow for mitigation in Bangladesh (FY 2021-2024) is approximately 3 billion USD with around 30% finance is coming from international sources. Average annual demand of 9 billion USD to achieve the conditional commitment indicating a 8 billion USD (89%) funding gap for NDC implementation.

Average annual adaptation climate finance flow in Bangladesh is 4 billion USD whereas Bangladesh needs 8.5 billion USD per year to implement the adaptation priorities. Bangladesh received around 0.4 billion USD annually (2021-2023) from international sources. 89% of the adaptation finance flow comes from the government budget. The annual Adaptation finance gap is around 4.5 billion (53%) funding gap for NAP implementation

Bangladesh needs substantial international climate finance support to address the finance gap. Unconditional commitment of the NDC 3.0 will be mainly financed through government budget and domestic debt and equity and to meet the conditional target of the NDC 3.0 Bangladesh will seek international climate finance in the form of grant, result based climate finance, concessional loans, policy credits and carbon finance.

Bangladesh is adopting the main streaming of climate action at every level of governance by integrating it in national, sector and local budgets. As it pursues a low-carbon, climate-resilient

development pathway, the country acknowledges that domestic resources alone would not be adequate to achieve its conditional targets and that international climate Finance and technical assistance are crucial.

To respond to climate vulnerabilities, build resilience and address loss and damage Bangladesh will also use domestic and international sources strategically. Commercial loans from Banks and FIs, credit guarantee schemes, green bond issuance, private equity, Public Private Partnerships and government budget will be the key sources of domestic climate finance. For availing international climate finance Bangladesh will prioritize concessional loans, FDI (Foreign Direct Investment), private sector equity, venture capital and impact investment funds, climate focused micro credits to vulnerable communities, result based climate finance and carbon pricing instruments.

The GCF has catalyzed Bangladesh's climate finance landscape with over USD 587 million in approved financing under 7 Single Country and 2 Multi-Country projects. These include projects in industrial energy efficiency, clean cooking, draught management, flood mitigation, resilient infrastructure and community-based adaptation and resilience.

In addition to the GCF, Bangladesh has accessed resources of the Global Environment Facility (GEF), Adaptation Fund (AF), Least Developed Countries Fund (LDCF), and Climate Investment Fund (CIF) for grant finance, institutional strengthening, climate resilient infrastructure and to support local capacity building in climate-vulnerable communities.

In addition to traditional financial instruments, innovative climate finance instruments such as green bonds, resilience bonds, blue bonds, blended finance instruments, debt for nature swap, result based climate finance, carbon pricing instruments and participation in the carbon markets under Article 6 of the Paris Agreement unlocking carbon finance will also be explored further by Bangladesh. To de-risk private sector participation and to reduce perceived high credit risk of green projects, new innovative instruments such as green credit guarantees for SME and corporates and climate risk insurance to provide financial protection to vulnerable communities will be explored and introduced to the domestic financial market in Bangladesh.

Bangladesh intends to build a robust climate finance tracking system adopting international best practices, methodologies and guidelines that would facilitate transparency, accountability and efficiency in the mobilization, management and use of funds for addressing climate change. A centralized climate finance tracking would support the flows of domestic and international public and private finance to ensure coherence with domestic priorities, such as NDCs and NAP implementation; and evidence-based policy decisions to ensure efficient climate budget allocation in mitigation and adaptation priorities.

The ability to access and leverage international climate finance will need capacity building, supportive institutions, robust technical capability in proposal preparation, and project readiness. With a strong mechanism for monitoring and accountability, the resource allocation process will be transparent and make good use of the allocated resources.

8.3 Carbon trading and International Carbon Market

Bangladesh recognizes that aligning Article 6 and International Carbon Market with NDC 3.0 will leverage additional finance to support implementation of the NDC 3.0. **Article 6** carbon market readiness and operationalization will bring the following benefits:

- Additional financing for mitigation efforts to achieve NDC 3.0 commitments
- Local development benefits stemming from these mitigation activities
- Technology transfer and capacity building to support long-term climate strategies

Bangladesh is developing its core strategy for Article 6 readiness based on 5 main building blocks as described in the Article 6 Readiness Roadmap of Bangladesh designed based on NDC Partnership's guideline and 3 key building blocks for Article 6 Alignment with NDC 3.0 based on IETA Policy Paper: Scaling up NDC 3.0 ambition through Article 6, 2025. The methodology mix is provided below

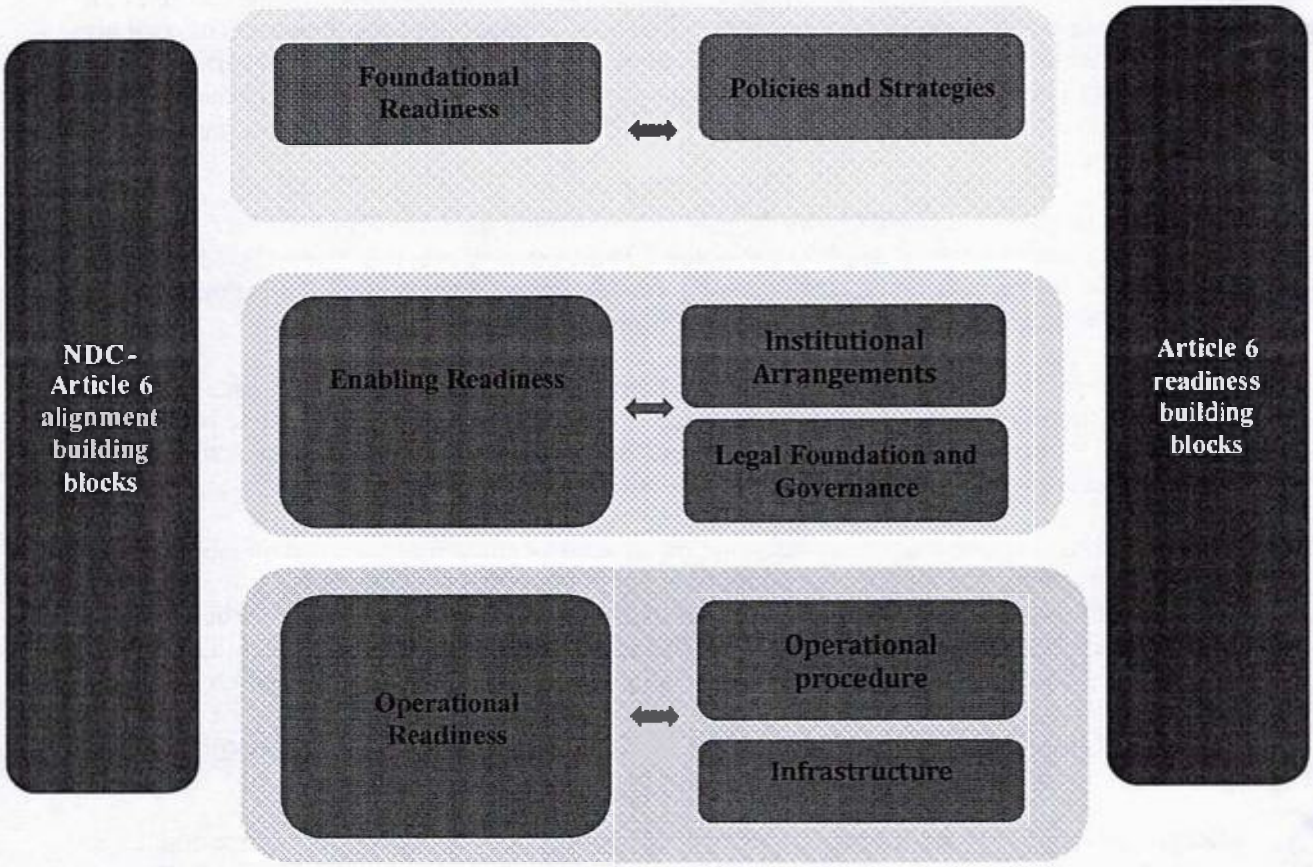

Figure 2 Article 6 readiness and NDC alignment building blocks

8.3.1 Policies and strategies for Carbon Market:

Bangladesh is developing its' Carbon Market policies and strategies to provide the required foundational readiness for aligning International Carbon market with NDC 3.0 achievement to unlock additional Carbon Finance. Key policies and strategies to be adopted are as follows:

- Bangladesh intends to position itself as seller of high integrity and premium quality carbon credit seller country.
- Mitigation activities developed within Bangladesh shall achieve additional, real, measurable and verifiable mitigation results that contribute to the achievement of Bangladesh's NDC 3.0
- Bangladesh mitigation targets under NDC 3.0 explicitly defines two levels of commitment: unconditional and conditional. Mitigation activities listed under the conditional commitment part of the NDC 3.0 will be considered for development of carbon credit projects through Article 6 of the Paris Agreement
- Mitigation Activity not listed in both conditional or unconditional commitment i.e. beyond NDC commitment (for example advanced technologies that requires technology transfers and capacity building and not listed in NDC 3.0) may be supported through Article 6.2, if any bilateral cooperative approach (e.g. JCM) includes it and the GHG emission is accounted in the national GHG Inventory of Bangladesh

- Bangladesh will ensure environmental integrity and linkage to sustainable development goals of Bangladesh to all mitigation activity supported through the Article 6 of the Paris agreement. Bangladesh will take adequate measure to avoid double counting of emission reductions through interlinkage of national registry with other international registry and robust governance and institutional arrangements for approval and authorization process, issuance of credit, corresponding adjustment and ITMO transfer, and periodic BTR reporting
- Bangladesh will consider Article 6.2 and Article 6.4 (PACM) and CORSIA approved Voluntary carbon Market standards as eligible Carbon Standards. Methodologies approved by the eligible Carbon Standards will be deemed eligible for carbon credit project development
- For screening of project for Authorization of ITMOs transfer Bangladesh will apply 3 criteria
    - Positive list: a "positive list" refers to a list of eligible mitigation activities that Article 6 DNA Bangladesh will identify as being available for international carbon market cooperation under Article 6.2 or 6.4
    - Negative List: Mitigation Activities in the negative list shall not be authorized and therefore will not be eligible for issuing ITMOs for international transfer. Therefore, corresponding adjustments shall not be applied.
    - Overarching Eligibility Criteria: Large scale mitigation activities with high risk of ITMO overselling, may be assessed on a case-to-case basis for Authorization based on broader criteria such as NDC achievement, SDG goals, environmental integrity and benefit sharing approach with host country

8.3.2 Governance and Institutional Arrangements and legal foundation:

This readiness building blocks will build confidence of carbon credit buying countries to engage in bilateral cooperative approach with Bangladesh and carbon finance from international buyers and investors.

On June 27th of 2024, the Article 6 Governance structure of Bangladesh was approved through a Gazette Notification. The Gazette Notification states that Ministry of Environment, Forest and Climate Change on behalf of the People's Republic of Bangladesh has formed the Article 6 DNA of Bangladesh. The Notification empowers the Article 6 Governing Board to approve Article 6 related policies, guidelines, rules, methodologies, protocols, templates, and tools.
Bangladesh's Article 6 DNA governance structure is comprised of 3 main body as follows:

- Article 6 DNA Governing Board (A6 DNA GB) for approval and authorization and rulemaking i.e. legislative functions
- Article 6 DNA Technical Committee (A6 DNA TC) for technical advisory i.e. technical function
- Article 6 DNA Secretariate for administrative function including projects screening, listing, issuance, ITMO transfer, tracking of ITMOs and maintaining the proposed national Registry

Within the provision of the roles specified in the Gazette notification, Article 6 DNA of Bangladesh is preparing a comprehensive Carbon Market Framework to provide vision, guidance and principles for implementation of mitigation activities in Bangladesh that are eligible for participation to carbon markets.

The Carbon Market Framework of Bangladesh shall be binding, and shall guide all the processes, procedures and requirements involved in participation on carbon credit trading in Bangladesh for all carbon market projects including Article 6.2, Article 6.4 carbon market, voluntary carbon market and CORSIA labeled carbon credits and other international carbon markets. All

institutions participating in carbon credit trading in Bangladesh are required to comply with the provisions of the Framework.

8.3.3 Operational procedure and Infrastructure:

The Carbon Market Framework of Bangladesh will encompass all policies, strategies, eligibility criteria, project cycle procedure, authorization, issuance, transfer, corresponding adjustments and reporting protocol, registry requirements, templates, tools, forms, applicable fees and benefit sharing mechanism, conditions for changes or revocations of letter of authorizations, and grievance mechanism. The Carbon Market Framework is expected to be approved by Article 6 DNA Governing Board by November 2025.

Bangladesh intends to set up a National Registry for Article 6 carbon market and issuance and tracking of MOs or ITMOs with a close alignment to the NDC 3.0 and national reporting requirements under the Enhanced Transparency Framework (ETF) of the Paris Agreement and with the planned national MRV systems for NDC achievement tracking. The National Registry is expected to be operational by 2026.

8.4 Private sector engagement Strategy

Mobilizing Private capital is one of the key elements to address Bangladesh's climate finance gap and to implement measures and activities to achieve NDC 3.0 commitments. Bangladesh needs to include private investment at the core of the NDC 3.0 Investment Plan and create enabling environment for the private sector to engage in financing and implementing mitigation activities outlined in the NDC 3.0. The private sector can bring its access capital in the form of equity, skill and experience in project management and play an important role in NDC implementation. The following measures need to be taken to ensure the private sector's enhanced engagement in NDC 3.0 implementation:

- Mainstreaming private finance in the Investment plan of national and sector policies that explicitly acknowledge the need for private sector investment as an important source of finance and identify areas of engagement with clear set of rules and regulations to deliver NDC achievements
- Simplifying legal and institutional processes of approval processes for green projects implementing mitigation activities under NDC 3.0 which will lead to faster approvals & lower compliance burdens as well as help garner greater investor confidence.
- Introduce specific fiscal incentives including tax breaks and import duties related to low-carbon technologies and concessional financing and performance-based subsidies in order to spur private sector investment in mitigation and adaptation measures.
- Pursue mandatory climate risk disclosures for ensuring transparency and attracting ESG-focused investors.
- Develop the green bond market by setting strong issuance criteria, aligning with international best practice requirements and providing technical assistance to prospective issuers.
- Reinforce existing facilities (such as the Bangladesh Climate Change Trust Fund, Sustainable Finance and credit guarantee schemes of Bangladesh Bank) and introduce blended finance solutions – including partial credit guarantees, first-loss reserves or risk sharing mechanisms – backed up by technical assistance to structure bankable projects in emerging sectors sensitive to climate. Provide tax benefits for new climate finance instruments issuers including bonds.
- Close collaboration with development partners to develop the capacity of financial institutions, project developers, and local government institutions in areas including project structuring, climate risk modeling and ESG informed appraisals.
- Formulate a national strategy for public–private cooperation in the use of insurance mechanisms, contingency funds, parametric insurance and catastrophe bonds to enhance

resilience of the vulnerable communities, as well as create options for innovative private sector solutions.

- Develop a private sector engagement strategy for encouraging the private sector in the development of carbon credit projects to sell carbon credits in the international carbon markets. Bangladesh is preparing a guideline for private sector engagement in Article 6 carbon market. Capacity building of private sector for Carbon Market engagement is very crucial for attracting carbon finance from international sources.

8.5 Capacity Building

Bangladesh's NDC 3.0 sets out a more ambitious and holistic climate agenda that requires significant capacity building at all levels of governance and in all sectors. Continued deficiencies in institutional readiness, technical knowledge and manpower represent a formidable challenge for both local and regional officials who are asked to consider climate change related externalities in the context of regional planning, budgeting and social impact studies. Priority capacity requirements are within the strengthening of GHG inventories, mitigation modelling, MRV systems and adaptation planning and implementation including gender-sensitive vulnerability assessments. Other specific spaces where targeted support is needed include project formulation, climate finance mobilization, mainstreaming gender equality and social inclusion (GESI), incorporation of digital tools (GIS etc) for data collection & reporting. In addition, targeted capacity building in Article 6 negotiations, development of national registry interlinked with international registries, MRV system from NDC target achievement tracking, carbon-market project development, financial structuring and legal contracting is imperative for Bangladesh to be able to access the emerging international carbon market. Capacity building in project preparation to access international climate finance particularly for GCF funding is paramount for sourcing international finance.

Concurrently, NDC 3.0 underlines the need to strengthen local governments, social organizations and vulnerable groups (e.g., women and girls, young people, indigenous peoples and people with disabilities). Consultations at Sub-national level demonstrated that there are continued challenges in co-ordination, resource and technical capacity between national and local institutions, with technical knowledge management on monitoring emission reductions and reporting. Ensuring broad and all-inclusive outreach and communication in mass media, digital platforms and local languages is thus key to ensure equity in information access and stakeholder involvement. These sustained, systemic and well targeted capacity building endeavors are going to be crucial for increasing the institutional effectiveness as well as mobilizing necessary investments and meeting both mitigation and adaptation goals envisioned in the Bangladesh NDC 3.0.

8.6 Technology Transfer

To effectively achieve the mitigation targets set forth in the NDC 3.0, international cooperation in climate finance and technology is important. The country needs access to both the available and the new environmentally sound and cost-effective technologies suited to local conditions. Effective implementation of clean technology requires establishing local manufacturing, providing technical training, and developing long-term maintenance capacity. Bangladesh needs to strengthen its efforts with digital tools, guidelines, and regional expertise in energy, transport, smart agriculture and advance MRV system in forestry and soil carbon sector. While many mature technologies exist, the emphasis is still on their cost reduction, alignment with national development objectives and catering to local needs through innovation and demonstration projects. Capacity building, research and digital solutions are expected to play a vital role in enhancing climate adaptation and mitigation initiatives. Transfer and capacity development in Advance technology are key to Bangladesh's ambition raising in subsequent NDCs and follow the

Net Zero path around 2050. Bangladesh expects Technology development and Technology Transfer in the following mitigation activity areas:

- Energy storage (for REs)
- Green Hydrogen
- Emerging mobility solutions like fuel cells
- High end technology for energy efficiency
- Sustainable Aviation Fuel
- Best available technologies for process improvement in hard-to-abate sectors
- Tidal Energy, Ocean Thermal Energy, Ocean Salt Gradient Energy, Ocean Wave Energy and Ocean Current Energy
- Green Ammonia

8.7 Governance and Institutional Arrangements

8.7.1 NDC Implementation governance

The Government of Bangladesh constituted an Advisory Committee in 2021 to examine and revise its NDCs as part of the Paris Agreement.

The committee is headed by the Secretary, Ministry of Environment, Forest and Climate Change (MoEFCC) and has members from various ministries/ministerial departments/agencies including:

- Department of Environment, Bangladesh Climate Change Trust, SREDA, BRTA and Forest Department.
- Power Division, Energy and Mineral Resources Division, Agriculture, Industry, Fisheries & Livestock, Housing & Public Works, Shipping Local Government and Road Transport divisions.
- Economic Relations Division and General Economics Division (for economic integration policy).
- The private sector (FBCCI), international organizations (IUCN Bangladesh) and tertiary education & research institutions such as BUET, Independent University Bangladesh (IUB), BIDS and BCAS are also represented in the committee.
- The Member-Secretary is Deputy Secretary (Climate Change & Sustainable Development Wing, MoEFCC).
-

Responsibilities of the Advisory Committee:

- Collaborate with other ministries, divisions agencies and development partners for assessing review and updating the NDCs.
- Guidance on NOC review and update process.
- Synchronize and coordinate the different data sources (sources of information) with projects or programs for climate change adaptation and mitigation that are financed by the government.
- Monitoring, observation, evaluation, and report preparation as per the need for the review and update of the NDC.
- Assistance in disseminating information related to the goals, activities, outcomes, and lessons learned of the NOC.
- Providing advice on the outreach of stakeholders regarding the need for capacity building and training.

The NDC Advisory committee will extend its role to provide guidance, creating enabling environment and carry out institutional coordination with relevant line ministries to ensure achievement of mitigation targets through implantation of respective mitigation activities by the line ministries.

8.7.2 Institutional arrangement for National MRV system

The Ministry of Environment, Forest and Climate Change (MoEFCC) is the National focal Ministry in the country for taking the initiatives and coordinating all the activities addressing climate change issues on behalf of the Government of Bangladesh. As the technical arm of the MoEFCC, the Department of Environment (DoE) is conducting the National GHG Inventory of the country, collecting information on mitigation actions and preparing National Communication reports for submitting to the UNFCCC secretariat.

DoE has established a national Measurement, Reporting, and Verification (MRV) system to track greenhouse gas (GHG) emissions, mitigation, adaptation, and climate finance in line with the Paris Agreement's Enhanced Transparency Framework (ETF). The system aims to ensure transparency, accuracy, and credibility of climate action while enabling the country to meet its UNFCCC reporting obligations, including National Communications (every four years) and Biennial Transparency Reports (every two years).

The Department of Environment (DoE), under the Ministry of Environment, Forest and Climate Change, hosts the MRV platform. Developed with support from the Global Environment Facility (GEF) and technical assistance from the Food and Agriculture Organization (FAO), the system centralizes GHG inventory, NDC progress, adaptation actions, and climate finance tracking, including inputs from the private sector and NGOs.
Key features of the MRV system include:

- Centralized database and project registry for GHG activity data, mitigation/adaptation tracking, and climate finance flows.
- Stakeholder engagement mechanisms, enabling collaboration across ministries, agencies, private sector, academia, and NGOs.
- Institutional arrangements with data providers (e.g., Bangladesh Bureau of Statistics, Department of Agricultural Extension, BPDB, SREDA, FBCCI, BGMEA).
- Defined roles for MRV coordinators, administrators, and data providers, ensuring data validation, QA/QC, and public accessibility.

The MRV system is designed not only for compliance but also to support national climate planning, decision-making, and monitoring of SDGs. It strengthens capacity, promotes data transparency, and helps Bangladesh mobilize and account for climate finance effectively.

8.7.3 MRV System for the National GHG Inventory

As the technical arm of the MoEFCC, the DoE conducted the national GHG inventory of Bangladesh while preparing the NCs and BURs on a project basis.
There is no centralized regular data collection system for preparing GHG inventory in the country. The sectoral line agencies and departments usually maintain the sectoral data for their own purposes. The DoE sends a request letter to the respective line agencies for providing the required activity data, and the project proponents/consultants collect data. The project proponents/consultants also estimate the GHG emissions and prepare a draft report on behalf of the DoE. For the first time in 2014, the DoE officially formed a National GHG Inventory Management Team through an internal office order consisting of a GHG Inventory Coordinator, five sectoral leads, and one archive coordinator in supporting the Third National Communication report preparation.

While preparing the National GHG Inventory as part of the NCs and BURs reporting, the DoE, with the approval of the MoEFCC, also forms a core sectoral working group comprising members from relevant line agencies, departments and academia. Apart from the National GHG Inventory Management Team, PIC and PSC (as described above), the core sectoral working group on GHG estimation is also responsible for the QA/QC process for the National GHG Inventory.

8.7.4 MRV System for Mitigation Actions

The Department of Environment (DoE) collects information on mitigation actions for national communications (NCs) reports and biennial update report (BUR) preparations with a view of submitting to the UNFCCC. The Sustainable and Renewable Energy Development Authority (SREDA) has established a national web platform (available at https://ndre.sreda.gov.bd/index.php) for tracking the renewable energy projects in the country. It tracks the renewable energy projects - completed & running, implementation ongoing and under planning stages - in the country and updates regularly.

There are some other platforms which also track mitigation projects implemented in Bangladesh. For example, the CDM registry of the UNFCCC Secretariat tracks the information of the CDM projects implemented in the country. On the other hand, the JCM web-portal (available at https://www.jcm.go.jp/bd-jp/projects/) maintains the registry of the JCM projects between Japan and Bangladesh.

8.7.5 Institutional Arrangement of National MRV System

In order to compile and report the information on a biennial basis or more frequently for MRV systems, Bangladesh needs appropriate institutional arrangements with defined coherent roles and responsibilities among the involved organizations. The following figure presents a generic framework for the National MRV System arrangement. The structure reflects the cross-cutting nature of managing the gathering, analysis, compilation, reporting, and use of data across the different transparency themes.

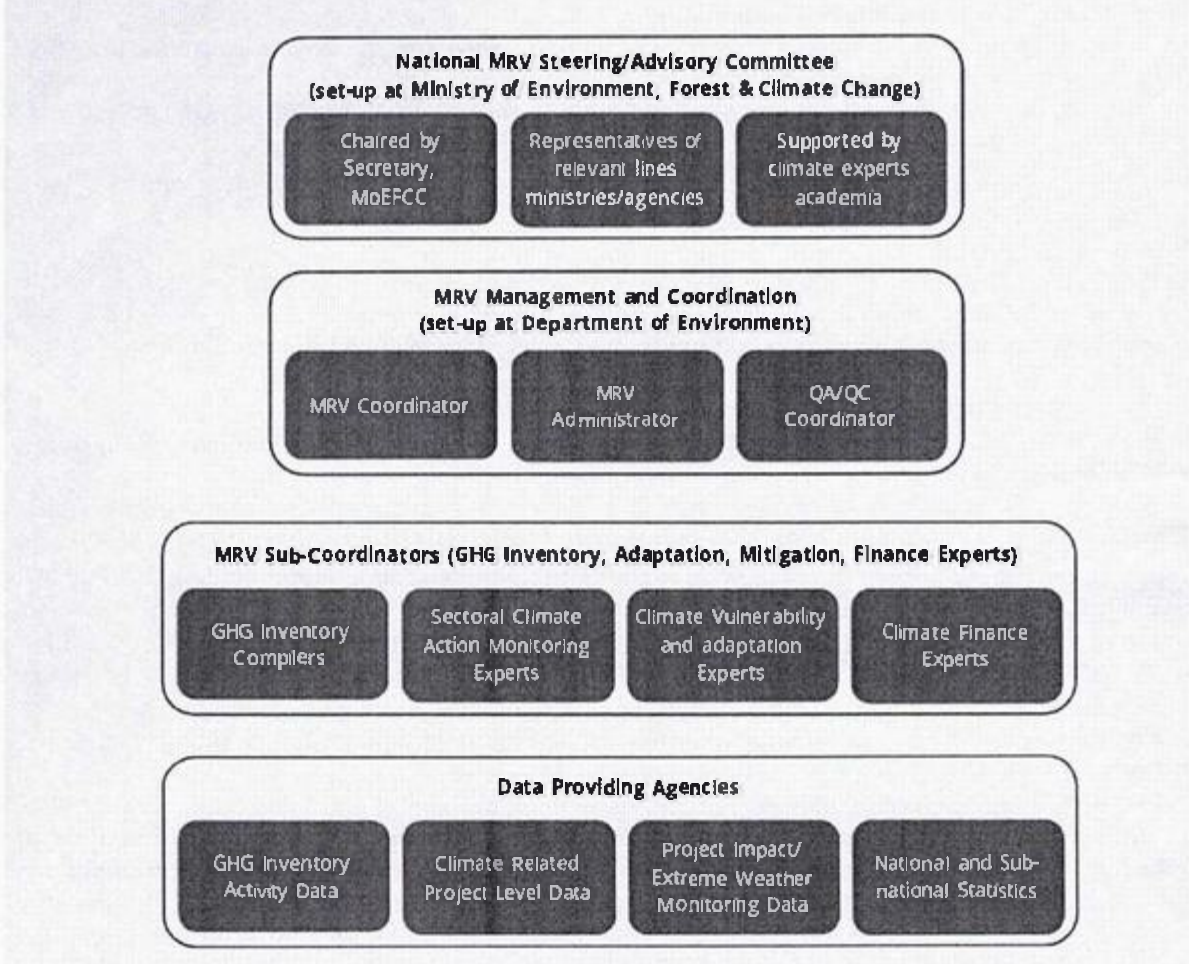

Figure 3: Operational Framework and Institutional Arrangement of National MRV System

As the National Focal Point, the Ministry of Environment Forest and Climate Change (MoEFCC) has overall responsibility for the National MRV system in the country. The Department of Environment (DoE), as the technical agency of the MoEFCC, will host the National MRV System, perform the day-to-day activities and provide necessary technical support to the National MRV Steering/Advisory Committee.

For ensuring sustainable data flow system, a Memorandum of Understanding (MoU) between the Department of Environment (DoE) and Bangladesh Bureau of Statistics (BBS), the National Data Depository of the country,, is underway to keep and share the GHG and other related data. More consultation and cooperation have been in progress with other key data provider agencies e.g., Department of Agricultural Extension (DAE), Bangladesh Power Development Board (BPDB), Bangladesh Climate Change Trust (BCCT), Sustainable and Renewable Energy Development Authority (SREDA), Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), Bangladesh Garment Manufacturers and Exporters Association (BGMEA), Dhaka WASA, Dhaka North City Corporation (DNCC), Dhaka South City Corporation (DSCC), Bangladesh Water Transport Corporation (BIWTC), Bangladesh Chemical Industries Corporation, Bangladesh Petroleum Corporation, Bangladesh Water Transport Corporation (BIWTC), Bangladesh Agricultural Research Council (BARC), Bangladesh Department of Livestock Services (DLS), Forest Department and many other related organizations of the country.

9 Information to Facilitate Clarity, Transparency and Understanding (ICTU)

<table>
<tr><th colspan="2">1. Quantifiable information on the reference point (including, as appropriate, a base year)</th></tr>
<tr><td>(a) Reference year(s), base year(s), reference period(s) or other starting point(s):</td><td>Base Year: 2022
Target Year: 2035</td></tr>
<tr><td>(b) Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year:</td><td>The reference indicators are the estimated GHG emissions and removals shown below. GHG emissions and removals for 2035 was estimated for the Business-As-Usual (BAU) Scenario. For the base year of 2022 values were taken from the BTR1/NC4 (2025),
GHG emissions and removals in Million Tonnes CO_2eq

Base Year — 2022 (BTR 1)
Energy — 123.01
IPPU — 6.73
AFOLU — 95.35
Waste — 26.95
Total — 252.04

Business-As- Usual Scenario
Target Year — 2035
Energy — 264.00
IPPU — 8.30
AFOLU — 110.89
Waste — 35.21
Total — 418.40</td></tr>
<tr><td>(c) For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information:</td><td>The policies and measures are presented in Chapter 4: Policy measures for NDC Implementation above.</td></tr>
<tr><td>(d) Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction:</td><td>Total cumulative reduction from 2026 to 2035 is estimated at 84.97 $MtCO_2e$ (20.31%)
In unconditional scenario, GHG emissions would be reduced by 26.74 Million Tonnes CO_2eq (6.39%) below BAU in 2035 and in conditional scenario, GHG emissions would be reduced by 58.23 Million Tonnes CO_2eq (13.92%) below BAU in 2035 in the respective sectors.</td></tr>
<tr><td>(e) Information on sources of data used in quantifying the reference point(s):</td><td>The Base Year information is mainly from the GHG inventory prepared in BTR1/NC4 Report of Bangladesh.</td></tr>
</table>

(f) Information on the circumstances under which the Party may update the values of the reference indicators:	Information on emissions and reference indicators may be updated and recalculated due to methodological improvements applicable to the inventories in the next iteration for Biennial Transparency Report or National Communication of Bangladesh.
2. Time frames and/or periods for implementation	
(a) Time frame and/or period for implementation, including start and end date, consistent with any further relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA):	From 1 January 2026 to 31 December 2035
(b) Whether it is a single-year or multiyear target, as applicable:	Single-year targets for 2035
3. Scope and coverage	
(a) General description of the target:	Economy-wide targets for 2035 in the respective sectors mentioned in 1(b)
(b) Sectors, gases, categories and pools covered by the nationally determined contribution, including, as applicable, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines:	The sectors are covered economy wide. The gases included are CO_2, CH_4, N_2O and hydrofluorocarbons (HFCs). IPCC 2006 guidelines were followed for the GHG inventory.
(c) How the Party has taken into consideration paragraph 31(c) and (d) of decision 1/CP.21:	All categories of anthropogenic emissions or removals, including fluorinated gases (HFCs) are within the inventory's scope. While emissions from domestic aviation and shipping are covered as memo items, emission and reductions from international aviation and shipping are not in the scope of this NDC.
(d) Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans:	Not applicable. Adaptation priorities are included in Chapter 5
4. Planning processes	
(a) Information on the planning processes that the Party undertook to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:	
(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner:	The preparation of Bangladesh's Third Nationally Determined Contribution (NDC 3.0) has followed a structured and participatory process engaging all relevant stakeholders. Data was collected from concerned ministries and agencies using the IPCC-recommended templates on current conditions and future plans related to greenhouse gas (GHG) emission reduction. Based on this information, initial scenario analyses were carried out using the LEAP modeling framework, and the outcomes were subsequently validated through consultations with relevant ministries and agencies in a dedicated validation workshop. The potential mitigation measures were finalized through this process, ensuring alignment with national priorities and sectoral strategies. In addition,

	broad-based stakeholder consultations were organized, engaging representatives from academia, the private sector, civil society, and development partners.
(ii) Contextual matters, including, inter alia, as appropriate:	
a. National circumstances, such as geography, climate, economy, sustainable development and poverty eradication:	Bangladesh, situated in South Asia, is a low-lying deltaic nation with predominantly flat topography, a geographic characteristic that renders it exceptionally exposed to extreme climatic events. Covering a modest land area of 147,570 square kilometres and accommodating a population of 165.16 million in 2022, the country faces disproportionate vulnerabilities relative to its size. Notably, climate change hotspots are concentrated in the central and western coastal belts, the north-western uplands, and along the major river systems, where high levels of biophysical exposure intersect with socio-economic fragility. Consequently, Bangladesh ranks among the most climate-vulnerable countries globally, contending with an array of hazards such as recurrent flooding, prolonged droughts, extreme temperature, erratic rainfall patterns, salinity intrusion, and sea-level rise. Nevertheless, despite these formidable challenges, Bangladesh has demonstrated remarkable resilience and adaptability. Through sustained economic growth and targeted poverty alleviation initiatives, the nation has achieved significant socio-economic progress in recent decades. At the same time, it has advanced its agenda for sustainable development and poverty eradication, laying a foundation for more climate-resilient and inclusive growth in the years ahead.
b. Best practices and experience related to the preparation of the nationally determined contribution:	Bangladesh's NDC 3.0 follows rules of transparency and understanding described in Decision 4/CMA.1. The current NDC update is the result of experience gained, and lessons learned from the Updated Nationally Determined Contribution (NDC 2.0) submitted to the UNFCCC in 2021, preparation of National Communications to UNFCCC.
c. Other contextual aspirations and priorities acknowledged when joining the Paris Agreement:	Bangladesh has remained an active and engaged participant in international climate change negotiations, as evidenced by its signing and ratification of the Paris Agreement. To achieve its conditional contributions, the country will require financial assistance, technology transfer, and capacity-building support from the international community.

(b) Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16– 18, of the Paris Agreement:	Not applicable
(c) How the Party's preparation of its nationally determined contribution has been informed by the outcomes of the global stock take, in accordance with Article 4, paragraph 9, of the Paris Agreement:	Bangladesh has updated its NDC to include additional sub-sectors and enhanced its mitigation ambition from the first iteration. This will positively contribute to the global stock take in 2023.
(d) Each Party with a nationally determined contribution under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:	
(i) How the economic and social consequences of response measures have been considered in developing the nationally determined contribution:	In developing NDC 3.0, Bangladesh carefully considered the economic and social consequences of response measures to ensure climate action is inclusive and just. Gender equality, disability inclusion, and youth engagement were considered to avoid disproportionate impacts on vulnerable groups while fostering co-benefits such as green jobs, skills development, social protection, and diversified livelihoods. Participatory processes, gender-responsive budgeting, and MRV frameworks ensure equitable resource allocation and continuous monitoring to maximize social and economic benefits.
(ii) Specific projects, measures and activities to be implemented to contribute to mitigation co benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries:	Bangladesh's NDC 3.0 identifies projects and measures with strong mitigation co-benefits across sectors, including renewable energy, energy efficiency, sustainable transport, climate-smart agriculture, forestry and mangrove restoration, green buildings, and improved WASH systems. Adaptation actions such as water-efficient irrigation, coastal afforestation, and resilient infrastructure also contribute to emission reductions while safeguarding livelihoods. Economic diversification through MSMEs, circular economy initiatives, and green skills development creates inclusive opportunities for women, youth, persons with disabilities, and marginalized communities, reinforcing resilience and low-carbon growth.
5. Assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals	
(a) Assumptions and methodological approaches used for accounting for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, consistent with decision I/CP.21, paragraph 31, and accounting guidance adopted by the CMA:	Bangladesh had prepared its national inventories based on the 2006 IPCC Guidelines and other IPCC guidelines. Most of the analysis followed Tier 1 methodology, while in the Agriculture sector, Enteric Fermentation analysis followed Tier-2 methodology.

(b) Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution:	In addition to 5(a) above, Bangladesh will also apply specific assumptions and methodologies, when appropriate, when assessing progress made under the policies and measures related to the implementation of its NDC in its National Communications and Biennial Transparency Reports.
(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14, of the Paris Agreement, as appropriate:	See 5(a) above.
(d) IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals:	See 5(a) above.
(e) Sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including, as applicable:	
(i) Approach to addressing emissions and subsequent removals from natural disturbances on managed lands:	Not Applicable
(ii) Approach used to account for emissions and removals from harvested wood products:	Not Applicable
(iii) Approach used to address the effects of age-class structure in forests:	Not Applicable
(f) Other assumptions and methodological approaches used for understanding the nationally determined contribution and, if applicable, estimating corresponding emissions and removals, including:	
(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector-, category- or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used:	Bangladesh hasn't used any other assumptions or methodological approaches. Details of the assumption and data sources are described in the Base Year and Future Emission Scenario section.
(ii) For Parties with nationally determined contributions that contain non greenhouse gas components, information on assumptions and methodological approaches used in relation to those components, as applicable:	Not Applicable.
(iii) For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how the climate forcers are estimated:	Not Applicable.
(iv) Further technical information, as necessary:	Not Applicable.
(g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable:	Bangladesh recognizes that aligning Article 6 and International Carbon Market with NDC 3.0 will leverage additional finance to support implementation of the NDC 3.0. Bangladesh intends to position itself as seller of high integrity and premium quality carbon credit seller country. Bangladesh mitigation targets under NDC 3.0 explicitly defines two levels of commitment: unconditional and conditional. Mitigation activities listed under the conditional

	commitment part of the NDC 3.0 will be considered for development of carbon credit projects through Article 6 of the Paris Agreement. Bangladesh has set up the Article 6 DNA governance structure and approved an Article 6 readiness roadmap. Following the Roadmap, Bangladesh is currently developing a comprehensive Carbon Market Framework, National Carbon Market Registry and MRV system. Bangladesh will ensure environmental integrity and will take adequate measure to avoid double counting of emission reductions through interlinkage of national registry with other international registry and robust governance and institutional arrangements for approval and authorization process, issuance of credit, corresponding adjustment and ITMO transfer, and periodic BTR reporting.
6. How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances	
(a) How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances:	Bangladesh contributes less than 0.5% of global greenhouse gas emissions yet is among the most climate-vulnerable countries, making fairness and ambition central to its NDC 3.0. Despite its negligible responsibility, Bangladesh has enhanced ambition beyond its previous NDC by adopting an economy-wide approach that covers energy, IPPU, AFOLU, and waste sectors, aiming to reduce emissions by 20.31% below BAU by 2035 under conditional measures. Fairness is demonstrated by aligning mitigation and adaptation actions with national development priorities and the SDGs, ensuring co-benefits in poverty eradication, food and energy security, job creation, and inclusive growth. Ambition is reflected in targets such as achieving 25% of electricity from renewable sources, improving industrial energy efficiency by 19.2%, advancing sustainable transport, and embedding just transition, gender equality, and youth participation. While Bangladesh commits unconditional domestic actions within its capacity, achieving the full potential of NDC 3.0 will require substantial international support in finance, technology transfer, and capacity building. This balance ensures that NDC 3.0 is both fair to Bangladesh's national circumstances and ambitious in contributing to the global 1.5°C pathway.
(b) Fairness considerations, including reflecting on equity:	See 6 (a) above

(c) How the Party has addressed Article 4, paragraph 3, of the Paris Agreement:	
(d) How the Party has addressed Article 4, paragraph 4, of the Paris Agreement:	
(e) How the Party has addressed Article 4, paragraph 6, of the Paris Agreement:	
7. How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2	
(a) How the nationally determined contribution contributes towards achieving the objective of the Convention as set out in its Article 2:	
(b) How the nationally determined contribution contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement:	