

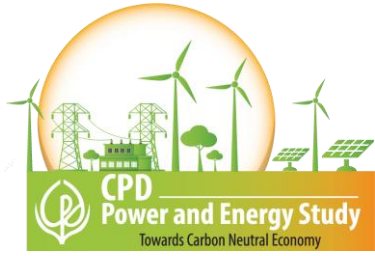
Rethinking Renewable Energy Policy (Draft)

A Comprehensive Assessments

Presentation by
Dr Khondaker Golam Moazzem
Research Director, CPD

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CPD Power and Energy Study Team

Dr Khondaker Golam Moazzem

Research Director

Mr Mashfiq Ahasan Hridoy

Research Associate

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1. Introduction

- The SREDA under the Power Division of MoPEMR has initiated **to revise the RE policy 2008**
 - As a result, a policy report has been developed called **Renewable Energy Policy (Draft) of Bangladesh 2022**
 - The vision of the draft policy is to **develop an efficient, sustainable, secure, affordable, competitive and environment friendly power system** while developing manufacturing capabilities and creating the country as a **preferred investment** destination of RE sector
- The **mandate is to** increase the share of Renewable energy share in the total energy demand of the nation.
- Revision of the original RE Policy 2008 was a **demand of time**. It should have been done and implemented way before
 - However, initiative taken now is **highly appreciated** and it is expected that it comes to formulation as soon as possible
- Though the revised draft is much more **detailed** than the original one, the policy has the **potential to be more accurate**
- The **presentation focuses** on the gaps, attributes and how the RE Policy of 2022 compliments other relevant policy concerning the RE development of the country

2. A review of Renewable Energy Policy (2008)

- CPD reviewed the Renewable Energy Policy (2008) back in 2022 in their working paper “Policy Instruments to Promote Renewable Energy in Bangladesh (Moazzem et.al)”
- 7 key indicators were chosen based on global literature review for the review

Table: Indicators for evaluating Renewable Energy Policy (2008)

Indicators	Level of reflection
Renewable Portfolio Standards	Medium
Strategic Planning	Absent
Tax Incentives	High
Feed-in-Tariffs	Medium
RE Financing	Absent
Grants and Subsidies	Low
Net-metering	Absent

Source: Policy Instruments to Promote Renewable Energy in Bangladesh (Moazzem et.al)

2. Key features of the New RE Policy

- **Vision**

- The vision in the RE Policy of 2008 had no clear vision mentioned.
- In the RE Policy (Draft), the vision has been outlined.

- **Policy Period**

- The Draft sets a policy period of 10 years from the date of issuance

- **A number of Renewable Energy resources have been proposed to be covered**

- **Solar:** Rooftop, Rooftop solar with Net Metering, Rooftop solar without Net Metering, Solar Mini/Nano Grid, Solar Irrigation, Charging Station, Street light, Drinking Water System, Floating Solar Projects, PV pumping, Base Transceiver Station Charging Station, and Concentrating Solar Power.

2. Key features of the New RE Policy

- **Renewable Energy Resources Covered**
 - **Wind Energy:** Onshore wind energy, Offshore wind energy, Solar Wind Hybrid
 - **Biomass Energy:** Biomass, Biogas, Biofuel
 - **Waste to Electrical Energy**
 - **Hydro Energy**
 - **Other Renewable Energy Resources:** Geothermal energy, Tidal energy, Wave energy, River current, Hydrogen energy
- **RE Master Plan**
 - After the adoption of the policy, a desire to develop an RE Master Plan has been mentioned.
 - It will include **resource analysis, potential project sites, grid integration scope**

2. Key features of the New RE Policy

- **RE target and roadmap**

Phase	Years Limit	% of total generation (cumulative)	Tentative MW (cumulative)
1 st Phase	Up to 2025	10%	2500
2 nd Phase	2026-2030	20%	6500
3 rd Phase	2031-2041	40%	20,000

- As per the RE Policy (Draft), it is estimated that up to 2025, to achieve 10% generation from the renewables, 2500 MW would have to be generated.
- To achieve the 40% renewable target by 2041, 20,000 MW would have to be generated from the renewables

2. Key features of the New RE Policy

- **Assumptions for achieving RE targets**
 1. A consistent GDP growth (6-7% average) and economic development
 2. Improvement of per capita income generation
 3. Foreign direct investment and rapid development
 4. Reduction of poverty and controlled population
 5. Infrastructure development in new economic zone
 6. Good governance
 7. More urbanization, and “My village, My town” concept implementation
 8. EV introduction
 9. Follow robust action plan with continuous surveillance
 10. Successful uplift to a middle-income country by 2041

2. Key features of the New RE Policy

- **Institutional Framework**
 - **Detailed Institutional Frameworks** concerning other organizations and authorities have been outlined.
 - The roles of various Power Generation Companies, BERC, PGCB, IDCOL has been mentioned.
 - **SREDA is responsible** for all the function within the provision of the SREDA Act.
- **Project Allotment**
 - The Power Division will facilitate the process of RE Project allotment
 - **SREDA shall be the nodal agency** for processing such applications
- **Land Allocation**
 - Governmental unused lands and the EPZs are the **prime focus for land allocation**

2. Key features of the New RE Policy

- **Roles of BERC**
 - The **guidelines for licensing and registration** of RE projects have been discussed.
 - The licenses would be issued by BERC, and the projects would be registered with SREDA
 - **Tariff determination** is in the jurisdiction of BERC

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> Vision Focused on fuel availability, emissions, and energy security 	<ul style="list-style-type: none"> Vision Focused on efficient, sustainable, secure, affordable, competitive and environmentally friendly power system 	<ul style="list-style-type: none"> The new draft has new, clearer vision since it promotes environmentally friendly initiatives. However, the emission issue has not been accommodated which should have been present in the draft
<ul style="list-style-type: none"> Objectives 1. Encourages both public and private sector investments 1. No indication of keeping international commitments 	<ul style="list-style-type: none"> Objectives 1. Encourages private sector investment while securing competitive rates of return 2. Focusing on Bangladesh's commitments under the International Climate Agreement 	<ul style="list-style-type: none"> The objectives of the revised draft covers more issues and the desire to maintain global standards and practices has been mentioned

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> • Objectives 3. No goals concerning attracting investments in the RE sector 4. No intention of creating any energy storage market 5. No indication of any “green energy” 	<ul style="list-style-type: none"> • Objectives 3. Wishes to attract investments in the RE sector 4. Desire to create an energy storage market 5. Introduces the concept of “green energy” and integrates it into the overall energy mix 	<ul style="list-style-type: none"> • The objectives of the revised draft covers more issues and the desire to maintain global standards and practices has been mentioned
Common Objectives		
<ul style="list-style-type: none"> • Harness the potential of renewable energy resources and dissemination of renewable energy technologies in rural, peri-urban and urban areas 		
<ul style="list-style-type: none"> • Scale up contributions of renewable energy to electricity production 		
<ul style="list-style-type: none"> • Promote appropriate, efficient and environment friendly use of renewable Energy 		

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none">Renewable Energy Resources <p>Solar: Only Solar photovoltaic and Concentrating Solar Power has been discussed.</p>	<ul style="list-style-type: none">Renewable Energy Resources <p>Solar: Technologies like Solar Parks, Solar Home Systems (Rooftop solar), Solar Mini/Nano grids, Solar Irrigation, and Solar Irrigation have been covered.</p>	<ul style="list-style-type: none">Integrating and mentioning more recent solar technologies in the revised draft is appreciated.However, mentioning only the potential options is not enough.How these potential resources can be tapped-in to utilize the maximum output should have been indicated.

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> Renewable Energy Resources <p>Wind Energy: Introduces the wind turbines at Feni and Kutubdia.</p>	<ul style="list-style-type: none"> Renewable Energy Resources <p>Wind Energy:</p> <ul style="list-style-type: none"> Informs about the other 9 projects. Informs about the wind mapping to be conducted by SREDA for identifying potential locations. It has been found that the wind velocity of the country is not strong enough to generate a significant amount of energy. 	<ul style="list-style-type: none"> Since 2008, new wind projects have been initiated and as per the SREDA website, the wind capacity of the locations can be understood. Low-lying country like the Netherlands is using wind energy as a source of electricity in their villages. Those new technologies could be explored for Bangladesh. Technical aspects, biodiversity aspects and geographical aspects should be studied by the experts if the wind energy projects are viable in the context of Bangladesh.

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none">Renewable Energy Resources <p>Biomass: Only indicates the potential of biomass gasification-based electricity.</p>	<ul style="list-style-type: none">Renewable Energy Resources <p>Biomass: Total calculation of the country's biomass (520.99 million ton) indicates it is not enough for the commercial production of electricity.</p> <p>Bio fuel: A 30% blend of bio-fuel can be used along with diesel or petrol</p>	

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> Renewable Energy Resources <p>Waste to Electrical Energy: No mention in the policy.</p> <p>Regional Trading of Clean/Renewable Energy: No indication/mention</p>	<ul style="list-style-type: none"> Renewable Energy Resources <p>Waste to Electrical Energy: Informs about the initiatives taken by the government.</p> <ul style="list-style-type: none"> Municipal solid waste, medical waste, and various industrial waste could be utilized to reduce the environmental pollutions as well. <p>Regional Trading of Clean/Renewable Energy: Emphasized</p> <ul style="list-style-type: none"> Nepal and Bhutan could be the primary sellers for Bangladesh 	<p>Initiatives like waste to electricity is highly appreciated. But the potential heat implications of such projects should also be looked after.</p> <p>It is appreciated that the policy is considering regional trading. But the GoB should take speedy approaches to finalize these initiatives especially before the summer season.</p>

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> Policy Period <p>Supposed to be effective from the date of publication in the official gazette. No fixed period.</p>	<ul style="list-style-type: none"> Policy Period <p>Valid for 10 years or till a new policy is announced.</p>	<ul style="list-style-type: none"> Determining a time frame is advisable as setting goals for achieving the targets become much more realistic. However, some short-medium term plans are also necessary to implement all the objectives of the draft.
<ul style="list-style-type: none"> Institutional Frameworks <p>The roles of the Sustainable Energy Development Agency (SEDA) have been outlined</p>	<ul style="list-style-type: none"> Institutional Frameworks The roles of other organizations like IDCOL, PGCB, BERC, Power and Energy Research Council have also been outlined SEDA came into reality in the name of SREDA in 2012. 	<ul style="list-style-type: none"> Though the role of BERC has been mentioned, recently all the price setting power apart for LPG have been stripped down from the organization.

A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<ul style="list-style-type: none"> • Program and Project Development <ol style="list-style-type: none"> 1. No indication of a Green Building Policy 2. No indication of Renewable Purchase Obligation (RPO) and Renewable Energy Certificate (REC) 3. No mention of any cross-border trading of Renewable and Clean Energy 4. No plans concerning the development of specific projects 	<ul style="list-style-type: none"> • Program and Project Development <ol style="list-style-type: none"> 1. Plans to introduce Green Building Policy 2. RPO and REC will be set as a regulatory obligation 3. The government will facilitate cross-border trading of Renewable and Clean Energy with the neighbouring countries 4. Promotes MW Scale Renewable Energy Park/Projects as well as projects of biomass, solar irrigation 	<ul style="list-style-type: none"> • The Green Building Policy, RPO and REC are already in practice in the country. • The potentiality of the cross-border trading and MW Scale RE parks are yet to be explored. • Since India has been successful in this regard, their initiatives could be mirrored in Bangladesh.

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<p>Allotment of Projects</p> <ul style="list-style-type: none">No guideline on how projects will be allotted to the developers	<p>Allotment of Projects</p> <ul style="list-style-type: none">The preconditional requirements to be fulfilled by the RE developers before any projects are allotted have been mentioned	<ul style="list-style-type: none">Fulfilling the preconditional requirements before the allotment of projects is something which is strictly practiced in the successful countries in RE sector. So, Bangladesh should also initiate these practices.

A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<p>Investment Facilitations</p> <ol style="list-style-type: none"> 1. A network of micro-credit support systems in rural areas for purchasing RE equipment was promised. 2. SREDA would consider providing subsidies to utilities for installing RE projects. 3. No indication of any kind of incentive schemes. 	<p>Investment Facilitations</p> <ol style="list-style-type: none"> 1. The network of micro-credit support systems in rural areas for purchasing RE equipment has been established. 2. SREDA will develop the mechanism for providing subsidies. 3. A suitable incentive scheme to promote the co-utilization of land for solar energy projects, crop cultivation and water preservation would be designed. 	<ul style="list-style-type: none"> • Rather than subsidizing petroleum fuels and LNGs, GoB should invest that allocation in the RE sector development and promoting RE businesses through incentives and supports

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<p>Fiscal Incentives</p> <ol style="list-style-type: none"> 1. All RE equipment and related materials for production were to be exempted from charging 15% VAT 2. No instruction regarding payment of electric duty 3. No indication of any type of exemption concerning EV 	<p>Fiscal Incentives</p> <ol style="list-style-type: none"> 1. All RE equipment and related materials for production will be exempted from import duty as well as VAT 2. The electricity consumed by the power producer for captive use will be exempted from payment of electric duty 3. EV charging stations will be exempted from transmission and wheeling charges for 10 years from the date of establishing the station 	<p>All the exemptions of taxes and duties would be highly appreciated if it becomes reality. However, GoB provides a lot more fiscal incentives in the non-renewable fuels. Unless those supports are removed, it will not be possible to convince investors and consumers to shift to the renewables.</p>

3. A Comparison between the RE Policy of 2008 and the Revised Draft of 2022

Policy of 2008	Revised Draft of 2022	CPD's Comment
<p>Regulatory Policy</p> <ol style="list-style-type: none"> 1. No mention of RPO and REC 2. No regulation is mentioned for the project developers 3. No regulation concerning connecting the generation station with the sub-station for the project developers 	<p>Regulatory Policy</p> <ol style="list-style-type: none"> 1. RPO and REC will be introduced to the generation, distribution utility and consumer level 2. Project developers shall comply with the BERC Regulations on Forecasting, Scheduling, and Deviation Settlement 3. Project developers are responsible for connecting the generation station with the nearest grid sub-station and connecting radially with a dedicated transmission line 	<p>Though the practice of RPO and REC are appreciated, its authoritative powers was a move towards opposite direction.</p> <p>The practice of connecting the generation station with the nearest grid sub-station is also done by the other countries like India.</p>

4. Major Alignments and Deviations with other RE related Plans/Policies/Acts

4. Major Alignments and Deviations with other RE related Plans/Policies/Acts

This analysis of alignments/deviations has been carried out with the followings:

- SREDA Act, 2012
- Mujib Climate Prosperity Plan (MCP)
- Nationally Determined Contributions (NDCs)
- Integrated Energy and Power Master Plan (IEPMP)
- 8th Five Year Plan (FYP)
- Sustainable Development Goals (SDGs)

Why were these documents compared?

- These documents cover the Renewable Energy perspectives **in their mandate.**
- Their alignment and deviations would indicate how much the RE Policy (Draft) are considering these documents' targets, goals and objectives.
- Thus, the cohesion of these documents with the draft would indicate **how much integrated the draft is for fulfilling its objectives** through the other acts and plans.

4.1 Alignments and Deviations between RE Policy (Draft) and SREDA Act, 2012

4.1.1 Alignments with SREDA Act, 2012

- Both the SREDA Act, 2012 and RE Policy (Draft) 2022 focused on **reducing the use of fossil fuels** to mitigate the risk of natural calamity.
 - This is usually the **first step** for shifting to carbon neutrality.
- Both are willing to provide necessary technical assistance in preparing **Clean Development Mechanism (CDM)**
 - CDM usually requires a big funding and technical supports. Rather than relying on foreign aids, it is appreciated that **technical assistance** can be available within the country
- Both are willing to formulate and implement **energy-efficient building code**.
 - Energy efficiency is one of the key factors for shifting to the renewables so for starters, implementing them on the building-codes is appreciated
- Both will verify **land suitability** for RE resources and associated technologies.
 - **Land**, being one of the scarcity of the country, should be verified for its suitability and longevity. Besides, the **quality assurance of the imported technologies** need to be assessed before being implemented.

4.1.1 Alignments with SREDA Act, 2012

- Both the act and policy indicates **technical and financial assistance** in research, development, demonstration and training on RE.
 - Since RE is not widely practiced across the country, we will need skilled labour and experts concerning the technologies. So, the technical and financial assistance will be highly appreciated.
- Will take steps to create **public awareness and motivation** to encourage the use of RE.
 - Implementation of new technological practices like RE requires the willingness of the people to shift from carbon-based fuels. Creating public awareness had been slow but steady so far in the country.
- Willing to provide incentives to attract and encourage **private investment** in the RE sector.
 - All the successful countries like the **Netherlands, Germany** had been successful in shifting to RE because they had both **public and private investments**. The investment pathway for the local investors should be made **lucrative and easier through incentives**.

4.1.2 Deviations with SREDA Act, 2012

- The RE policy is formulated on complying with the **International Climate Agreement** goals whereas the SREDA Act is not focused on this particular factor.
 - SREDA Act, which came into formulation after the original RE Policy was formulated in 2008 fails to address Bangladesh's commitment to UNFCCC.
- **“Energy Audit”** i.e. determination of energy efficiency through verification, monitoring and analysis of machinery and appliances has been ordered in the **SREDA Act** but the RE policy lacks any audit
 - Auditing is regularly done in the successful countries and **penalties are sanctioned** to those who fails the audits. The **lack of audits create lack of accountabilities** for both the consumers and the generators of RE.

4.1.2 Deviations with SREDA Act, 2012

- **No tax exemption** concerning RE technologies and practices has been mentioned in the SREDA Act unlike the RE Policy
 - It does not make any sense why an act, which came into formulation after the original policy (RE Policy 2008) was formulated would **disregard a fiscal incentive like tax exemptions**
 - The lack of this mention only **weakens the policy** and makes the formulation of the revised draft only harder.

4.2 Alignments and Deviations between RE Policy (Draft) and Mujib Climate Prosperity Plan (MCPP)

4.2.1 Alignments with MCPP

- Both the RE Policy (Draft) and MCPP **wants to reduce, displace and eventually replace** outdated expensive technologies
 - Replacement of **outdated technologies** with new renewable ones is the first technical step for shifting towards renewables
- Willing to design the system **to encourage modernized technologies**
 - Rather than solely depending on foreign systems, it is better to fabricate our own system according to our available resources
- Indicates the **potential of regional cooperation** in terms of RE transactions among the neighboring countries
 - Nepal and Bhutan had been successful in utilizing wind and hydro energy
 - Since GoB has good relationship with both countries, RE transaction is a viable option for us

4.2.1 Alignments with MCP

- Focused on the **modernization and upgrade of the grid**
 - If GoB wants to implement mini/nano grid, the surplus electricity needs to be transferred into the main grid. For these cross-connections, it is necessary **to improve the current grid.**
 - Besides, some recent grid failures of the country also indicates the **necessity of modernization.**
- Both will be providing **tax breaks for Electronic Vehicles (EVs)**
 - **EVs are the future of transportation**, and these should be integrated within the consumers before the fossil-fuel based vehicles become obsolete.
 - So, tax break will make the transition smoother.
- Both the documents have set **a target of 40% renewables by 2041.**

4.2.2 Deviations with MCPP

- RE Policy prioritizes **regular hydrogen energy** but MCPP prioritize the production of **Green hydrogen** through electrolysis powered by wind energy.
 - Hydrogen fuel is yet to be tested on a large scale. Besides, production of regular hydrogen requires the use of fossil fuels.
 - CPD recommends to **not consider hydrogen** as an alternative fuel for these two factors.

4.3 Alignments and Deviations between RE Policy (Draft) 2022 and Nationally Determined Contributions (NDCs)

4.3.1 Alignments with NDCs

- **GHG emission reduction**, one of the core philosophies of the background of RE Policy of 2008, has been **reflected in NDCs 2021**.
 - It is estimated that GHG emissions would be reduced by 27.56 Mt CO₂e (6.73%) below BAU in 2030 with **26.3 Mt CO₂e (95.4%)** of this emission reduction will be from the Energy sector in the **unconditional scenario**.
 - In the **conditional scenario**, GHG emissions would be reduced by 61.9 Mt CO₂e (15.12%) below BAU in 2030 with **59.7 Mt CO₂e (96.46%)** emission reduction from the Energy sector.
 - RE Policy of 2008 was formulated **targeting GHG emission reduction**. The reflection of that goal in the NDCs are appreciated and achieving these goals would be a huge step for the country's way towards renewables.

4.3.1 Alignments with NDCs

- **10% Energy efficiency** in the Industry sub-sector through measures according to the Energy Efficiency and Conservation Master Plan (EECMP) needs to be achieved by **2030** which is aligned with the vision of RE Policy.
 - Since a huge chunk of **power is wasted in industries**, obtaining the energy efficiency would provide a huge backup in the national grid especially for the people of rural areas.
- Implementation of **5925 solar irrigation pumps** (generating **176.38MW**) for agriculture needs to be achieved by 2030 according to NDCs. This **target aligns** with the policy's goal of implementing solar irrigation.
 - A significant amount of electricity is consumed during the irrigation season. It is estimated that this year it might reach up to 15,500 MW compared to last year's 14,097 MW.
 - Besides, **solar-based irrigation** will substantially reduce the demand for diesel in irrigation season.
 - Introducing solar irrigation pumps will reduce these demand burden to a large extent though they *might not* be significant enough.

4.3.1 Alignments with NDCs

- As per NDCs, the use of energy-efficient appliances in household and commercial buildings to achieve a **5% and 12% reduction in emissions** respectively should be initiated by 2030. This is has also been reflected on the **background of RE Policy**
 - **Energy efficient appliances** are available in most of the countries and they are usually used in the RE concerned countries like in UK and Germany. In Bangladesh, they are yet to be practiced on **full scale** since they are a bit costlier than the regular appliances. GoB should focus on **exempting taxes** for these products
- It has been mentioned in the NDCs that a 14% emission reduction through **Banning Fixed Chimney kilns (FCK)** and encouraging advanced technology and non-fired brick use should be initiated by 2030.
- Promoting emerging energy technologies in the country is one of the objectives of the RE Policy.
 - FCK are already being abandoned in the developed countries. These advanced technologies should be tested in Bangladesh's aspect and if the test result is satisfactory, they should be implemented.

4.3.1 Alignments with NDCs

- **107,000 mini biogas plants** should be established by 2030 for improved manure management as per NDCs. **Introduction of biogas plants** has also been mentioned in the RE Policy (Draft) 2022
 - Since manures are not only a waste problem but can also be converted into fuels with a high calorific value, establishing biogas plants aligns with the policy's objectives of increasing "green" energy in the overall energy mix.
 - Waste management is a concerning issue of the country not only in the urban regions but in the rural areas as well. But introducing biogas plants is not a sustainable solution since they will emit a lot of Carbon-di-Oxide in abundance.
 - The amount of heat released will deteriorate the heat condition of Bangladesh.

4.4 Alignments and Deviations between RE Policy (Draft) and Integrated Energy and Power Master Plan (IEPMP)

4.4.1 Alignments with IEPMP

- The **renewable targets** (solar park, solar irrigation, solar rooftop) of the Revised RE Policy have been reflected in IEPMP
 - For Solar PV (Solar Park, Irrigation), 6 GW in 2050 without land use restrictions is expected. For Solar PV (Rooftop), 12 GW is expected in 2050 on the rooftops of the buildings. For onshore winds 5 GW and for offshore winds, 15 GW is expected by 2050
 - Rather than trying to focus all kind of renewable energies, GoB should focus on the Solar options and properly implement the solar plans (e.g., rooftop solar) and projects
- Promoting the introduction of **low-carbon technologies** is advised in both documents
 - The most cost-efficient low-carbon technology in any given sector should be prioritized first rather than shifting to low-carbon technologies abruptly
 - Besides, low-carbon technologies in case of **coal-based power generation** promotes fossil fuels either way. **CPD recommends to discard** this promotion

4.4.2 Deviations with IEPMP

- IEPMP set the target of **upto 40% of clean energy** while RE draft 2022 set the **target of 40% renewables** by 2041.
 - The IEPMP draft final report ver. 4 states **clean energy as a source of power** that does not emit CO2 including renewable energy, nuclear power, ammonia-fired and hydrogen-fired thermal power
- The RE Policy was designed for creating **generation** capacity for the **private sector**. However, it is in IEPMP where the ratio of the **public and private sector** at power generation capacity is set by regulators and/or governments from the following three perspectives; ensuring healthy competition in terms of price and efficiency, maintaining supply-demand balance and stable supply, and ensuring national energy security.
 - Mentioning the ratio of the public and private sector at power generation capacity is a good step since it will remove any concerning/conflicting issues.
- The policy draft has relatively **detailed fiscal incentives** for different energy mixes, but no accurate policy framework for **RE subsidies** has been reflected in the IEPMP.
- IEPMP intends to include **CCR for coal-fired power** generation and **hydrogen-based** generation.
 - This is **not acceptable** since it promotes carbon-based fuels and its practices

4.5 Alignments with 8th FYP

- Both the 8th FYP and RE policy (draft) are focused on **moving to a competitive and environmentally sustainable** least-cost power generation, transmission, and distribution.
 - As a developing country, GoB should prioritize the renewable energy mix in the least-cost way available.
- Both are determined to mobilize **private and joint-venture investment** in power sector.
 - Joint-venture investments are often found in the RE projects of the Western European countries. Thus, GoB should particularly focus in here.

4.5 Alignments with 8th FYP

- Exploration of **electricity trading** options with neighbouring countries (esp. Bhutan and Nepal) are mentioned in both the documents.
 - Even India has mentioned the success of Nepal in their Draft National Energy Policy. Considering the friendship with these nations, GoB can approach them for electricity trading generated from wind and hydro.
- Reduction of the dependence on imported fossil fuel has been implied and mentioned in RE Policy and 8th FYP respectively.
 - CPD has always been vocal on reducing the dependence on the imported fuels esp. the fossil fuels. Abandoning this importing practice will not only be economically-friendly but eco-friendly as well.

4.6 Sustainable Development Goals and RE Policy (Draft)

Goal covered: **Ensure access to affordable, reliable, sustainable and modern energy for all.**

- This goal prioritizes clean and sustainable energy.
- This goal wants to to facilitate access to clean energy research and technology, including renewable energy, energy efficiency.
- This goal wants to increase the share of renewable energy in the energy mix.

4.6 Comparison of RE Policy with SDG7

Indicators	Revised RE Policy (Draft)
7.1.1; Proportion of population with access to electricity	The policy is aligned with distributing electricity to all the people of the country
7.1.2; Proportion of population with primary reliance on clean fuels and technology	No indication or desire to make the clean fuels and technology as the primary source
7.2.1; Renewable energy share in the total final energy consumption	The policy was adopted with the mandate to increase RE share in the total energy demand
7.3.1; Energy intensity measured in terms of primary energy and GDP	Though not mentioned in the RE Policy, as of 2019, energy intensity for Bangladesh was 2 MJ per dollar of GDP

4.6 Comparison of RE Policy with SDG 7

Indicators	Revised RE Policy (Draft)
7.A; By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	The RE Policy will be providing fiscal incentives for investments in the RE sector
7.B; By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	To fulfill the 7.B indicator of SDG, RE Policy emphasized on the implementation of government's promise of regional and international collaboration so that the RE infrastructure could be expanded and upgraded

4.7 Comparison of RE Policy with SDG 39+1

Indicators	Revised RE Policy (Draft)
NPT 19; Ensure access to electricity for 100% population	The policy aims to ensure electricity for all and currently it is 100% electrified
NPT 20; Increase renewable energy share in total final energy consumption to 10% by 2030	The draft policy set target of 40% of RE by 2040 Currently, only 3.75% of the electricity generation mix is renewable

4.8 Matrix of the Summary of all the discussed Acts and Plans

Indicators	RE Policy (Draft)	SREDA Act, 2012	MCPPI	NDCs	IEPMP	8 th FYP	SDGs
Reduction of fossil fuels	✓	✓	✗	✗	✗	✓	✗
Assisting CDM	✓	✓	✗	✗	✗	✗	✗
Efficient Building Codes	✓	✓	✗	✗	✗	✗	✗
Providing Technical and Financial Assistance	✓	✓	✓	✗	✗	✗	✓

4.8 Matrix of the Summary of all the discussed Acts and

Indicators	RE Policy (Draft)	SREDA Act, 2012	MCPPI	NDCs	IEPMP	8 th FYP	SDGs
Creating Public Awareness and Motivation	✓	✓	✗	✗	✗	✗	✗
Encourage Private Investments	✓	✓				✓	
Complying International Climate Goals	✗	✓	✓	✗	✗	✗	✗

4.8 Matrix of the Summary of all the discussed Acts and

Indicators	RE Policy (Draft)	SREDA Act, 2012	MCPPI	NDCs	IEPMP	8 th FYP	SDGs
Energy Audit	✘	✓	✘	✘	✘	✘	✘
Tax Exemption	✓	✘	✘	✘	✘	✘	✘
Modernization of Technologies	✓	✘	✓	✘	✓	✘	✘
Regional Cooperations	✓	✘	✓	✘	✘	✓	✘

4.8 Matrix of the Summary of all the discussed Acts and

Indicators	RE Policy (Draft)	SREDA Act, 2012	MCPP	NDCs	IEPMP	8 th FYP	SDGs
Upgradation of the Grid	✓	✗	✓	✓	✓	✗	✗
Supporting EVs	✓	✗	✓	✗	✗	✗	✗
Prioritizing Alternative Fuels	✓	✗	✓	✓	✗	✗	✗
Reduction of GHG Emissions	✓	✗	✗	✓	✗	✗	✗

4.8 Matrix of the Summary of all the discussed Acts and

Indicators	RE Policy (Draft)	SREDA Act, 2012	MCPPP	NDCs	IEPMP	8 th FYP	SDGs
Prioritizing Energy efficiency	✓	✗	✓	✓	✗	✗	✗
Focusing Low-Carbon Technologies	✓	✗	✗	✗	✓	✗	✗

- It is clear that the policies are not aligned with RE related targets
 - Major alignments that are missing:
 - Compliance with the international climate goals
 - Institutional reforms
 - Fiscal and financial incentives
- The benchmark for alignment will be – clean energy targets by 2050 and renewable energy by 2041.

5.8 Matrix of the Summary of all the discussed Acts and Plans

No.	Indicators	SREDA Act, 2012	SDGs	8th FYP	NDCs	MCPPI	IEPMP	RE Policy (Draft) 2022
1	Reduction of fossil fuels							
2	Assisting CDM							
3	Efficient building codes							
4	Providing technical and financial assistance							
5	Creating public awareness and motivation							
6	Encourage private investments							
7	Complying international climate goals							
8	Energy audit							
9	Tax exemption							
10	Modernization of technologies							
11	Regional cooperations							
12	Upgradation of the grid							
13	Supporting Evs							
14	Prioritizing alternative fuels							
15	Reduction of GHG emissions							
16	Prioritizing energy efficiency							
17	Focusing low-carbon technologies							

5. A cross-country analysis of Renewable Energy Policies

Countries covered

- India
- Vietnam

Why were these two countries covered?

- India, as the neighbor of Bangladesh has improved quite a lot in their RE sector.
- Their RE goal was 175 GW generation by the end of 2022. They managed to generate 119 GW.
- Vietnam is often considered as the rival of Bangladesh in terms of businesses and national developments.
- Their RE sector is booming quite a lot which attracted a lot of foreign investments.

5.1 RE Policy, guidelines and initiatives of India

5.1.1 Distinctive Features of the RE Policy of India

- Focusing on **large hydro-power**, which had been one of their significant provider of energy. As of September 2022, **11.5% of the power** generation of the country is done through this source.
 - It also helps them to control **floods and provide irrigation**
- Promotion of **performance linked incentives** that do not involve upfront payment but encourage generation
 - Allows RE developers to claim a **higher depreciation rates** for the projects
- **Inclusion of feed-in-tariffs** for the growth of RE Sector.
 - This inclusion has been successful in India
- Determining the level of tariff supports based on marginal cost of power.
 - Factors like **cost of equipment, and cost of financing** is set by a regulatory body.

5.1.1 Distinctive Features of the RE Policy of India

- Introducing **mini-grids and micro-grids** for the rural areas.
 - The off-grid areas of rural India has been benefitted from these projects.
- Setting up **renewable energy management centers** in all states to handle issues arising out of variable renewable electricity.
 - Every state has these centers so all intra-state conflicts concerning renewable electricity are dissolved here .
- Promotion of **mega solar power plants only on wastelands** and non-agricultural tracts.
 - 9.14% of the total land of the country are wastelands and they are on the verge of utilizing these at a high efficiency.
- Determined to solve the inter-agency issues related to the integration and growth of RE through *NITI Aayog*.
 - All the issues are dealt under the supervision of Prime Minister.

5.1.2 Case 1: Guidelines for Tariff-Based Competitive Bidding Process for Procurement of Power from Grid-Connected Solar PV Power Projects

- Aim to encourage the development of grid-connected solar PV power projects in India and provide a framework for the procurement of solar power at competitive tariffs.
- The bidding process will be conducted in two stages - **Request for Qualification (RFQ)** and **Request for Proposal (RFP)**. The RFQ stage will evaluate the eligibility of the bidders, and the shortlisted bidders will move to the RFP stage.
- The successful bidder will sign a **Power Purchase Agreement (PPA)** with the off-taker, which could be a distribution company, a state-owned power company, or any other entity authorized by the government.

5.1.3 Case 2: Guidelines for Tariff based competitive Bidding Process for Procurement of Power from Grid connected Wind Power Projects

- Under this process, wind power developers are selected through a competitive bidding process, where the developers bid for the tariff at which they will sell the power to the distribution company.
- The government will set a **tariff ceiling** for the competitive bidding process. The developers can bid below the tariff ceiling, but not above it.
- The developers should submit a bid security of **INR 5 lakh per MW** of the project capacity.
- The developer should commission the project within **18 months** from the date of signing the **PPA**.
 - The developer should also ensure that the project operates at a minimum plant load factor of **22%** during the life of the project.

5.1.4 Case 3: Waiver of Inter-state Transmission Charges and Losses for Solar and Wind Power Projects

- Aims to promote the development of solar and wind power projects in the country by reducing the cost of transmitting power across different states.
- Inter-state transmission charges and losses **are waived** for solar and wind power projects for **25 years** from the date of commissioning.
- Expected to make renewable energy more affordable and competitive with conventional sources of energy.
- Expected to encourage the development of large-scale solar and wind power projects across India.
- Expected to create new **employment opportunities** and boost **economic growth**, particularly in **rural** areas.

5.1.5 Case 4: The National Wind Resource Assessment Programme (NWARP)

- To assess the country's wind energy potential.
- Ministry of New and Renewable Energy (MNRE) installed a network of **wind monitoring stations** across various states in India to measure wind speeds and direction at different heights.
- One of the main objectives of the NWRAP is to promote the development of wind power in India by providing reliable and accurate information on wind resources. To achieve this objective, the MNRE has set up a network of over **800 wind monitoring stations** across various states in India.
- Provides **financial incentives** and support to developers.
- The program has helped to create a comprehensive wind resource **database** for India and has provided developers and investors with reliable and accurate information on wind resources.

5.1.6 Case 5: The National Wind-Solar Hybrid Policy

- To promote large-scale **grid-connected wind-solar photovoltaic hybrid** systems in the country.
- The policy allows for the installation of **wind-solar hybrid projects** in the range of **1 MW to 10 MW** on barren, uncultivable, or wastelands.
- The policy mandates that wind-solar hybrid projects be connected to the **grid** at the **nearest substation** through a dedicated **transmission line**.
- The policy provides financial incentives such as **capital subsidy** and **accelerated depreciation** for the development of wind-solar hybrid projects.

5.1.7 Case 6: Grid Connected Solar Rooftop Program

- Aimed at promoting the **installation** of solar panels on rooftops of residential, commercial, and industrial buildings and **feed** excess electricity generated back into the **grid**.
- The program has been successful in promoting the use of solar energy in the country, with a cumulative installed capacity of **61.97 GW** as of November 2022.
- India stands **4th in solar PV deployment** across the globe as on end of 2021.
- Has the potential to create more than **1.2 million** jobs in India by 2025.

5.1.8 Case 7: Development of Solar Parks and Ultra Mega Solar Power Projects

- To attract **private investment** in the sector.
- These parks are typically located in areas that receive high levels of solar irradiance and have a capacity of more than **500 MW**.
- Ultra Mega Solar Power Projects are developed by the government a capacity of **500 MW or more**.
- The government has provided various incentives and subsidies to attract private investment in the sector, such as **tax holidays**, **accelerated depreciation**, and **viability gap funding**.
- It is estimated that the development of **100 GW** of solar power capacity in India could create over **1 million jobs** in the country.

5.2 RE Policy, guidelines and initiatives of Vietnam

5.2.1 Distinctive Features of the RE Policy of Vietnam

- Vietnam's renewable energy policy includes a **Feed-in Tariff scheme**, which guarantees a fixed price for renewable energy generation.
 - This scheme provides a stable and predictable revenue stream for renewable energy investors and helps to attract investment in the sector.
- Vietnam has recognized the importance of **energy storage** to support the integration of renewable energy into the grid.
 - The government has implemented policies to promote the development of energy storage systems, including **tax incentives**, **investment subsidies**, and **preferential loans**.
- The Vietnamese government has implemented policies to **support the development of domestic renewable energy manufacturing industries**.
 - These policies include tax incentives, investment subsidies, and preferential loans for domestic manufacturers of renewable energy equipment.
- Vietnam has set ambitious targets for renewable energy development, aiming to increase the share of renewable energy in its total electricity generation to **15-20% by 2030**, and **25-30% by 2045**.

5.2.1 Distinctive Features of the RE Policy of Vietnam

- Vietnam has implemented a **net metering policy**, which allows households and businesses with rooftop solar panels to sell excess electricity back to the grid at the same price they pay for electricity.
 - This policy incentivizes the installation of rooftop solar panels and promotes distributed generation.
- Introduced **Green Energy Certificates (GECs)** as a mechanism to promote renewable energy development.
 - GECs are tradable certificates that represent the environmental attributes of renewable energy generation, such as **carbon emissions reductions**.
 - The government has mandated that electricity retailers must purchase a certain number of GECs each year to support the development of renewable energy.
- Vietnam has actively sought **international cooperation and partnerships** to support its renewable energy development.
 - The government has signed bilateral and multilateral agreements with other countries and organizations to share expertise, technology, and financing for renewable energy projects.

5.2.2 Feed-in Tariff (FiT) Scheme in Vietnam

- Renewable energy producers are **guaranteed a fixed price for the electricity** they generate over a set period.
 - The pricing is higher than the standard electricity rates and is meant to provide a stable and predictable revenue stream to incentivize the development of renewable energy projects.
- The FiT rates for solar and wind power have been gradually reduced over the years to reflect the **declining costs** of renewable energy technologies.
- For Solar Power, the current rate of FiT is **7.69 US cents/kWh** for projects that began commercial operation before June 30, 2019, and **7.09 US cents/kWh** for projects that began commercial operation after that date.
- For Wind Power, the current rate of FiT is **8.44 US cents/kWh** for projects that began commercial operation before November 1, 2021, and **7.09 US cents/kWh** for projects that begin commercial operation after that date.

5.2.3 Renewable Energy Development Strategy

- Encouraging the development of renewable energy projects, particularly in **areas with high renewable energy potential** such as the Central Highlands and the Mekong Delta.
- The strategy also **aims to reduce greenhouse gas emissions by 9%** compared to the business-as-usual scenario by **2030** and by **27%** by **2045**.
- Calls for enhanced **collaboration with international partners** to share best practices, technologies, and funding.

5.2.4 Green Energy Fund

- Established by the government with the assistance of the **Global Environment Facility (GEF)**, a partnership of **183 countries** that aims to help address global environmental issues.
- Provides **technical assistance** and **capacity building** to project developers, investors, and other stakeholders in the renewable energy sector.
- Is intended to support the development of renewable energy projects across Vietnam, including in **remote and rural areas** where grid access is limited.
- Also supports the development of **energy efficiency projects**, including building retrofits, industrial energy efficiency, and clean transportation.

5.2.5 Net Metering Policy

- Under the net metering policy, households and businesses that install rooftop solar systems can **sell excess electricity** generated by the system back to the grid.
- The excess electricity is credited to the customer's electricity bill at the **retail rate**, which is the same rate that the customer pays for electricity from the grid. It was **abandoned** in 2019.
- The main reason for this decision was that the government wanted to encourage more investment in **utility-scale solar projects**, which are larger solar farms that are connected directly to the grid, rather than small-scale rooftop solar installations.

5.2.6 Auctions for Solar Projects

- Solar project developers submit **bids** for the price at which they are willing to sell electricity from their projects.
 - The lowest bidders are awarded contracts to sell electricity to the grid at the **agreed-upon price**.
- The contracts typically have a duration of **20** years.
- The most recent auction was held in **November 2021** and offered **1,500 MW** of solar capacity.
- The winning bids in the 2021 auction were as low as **3.95 US cents per kilowatt hour**, which is significantly lower than the average retail electricity price in Vietnam.

5.2.7 Guidelines for the implementation of regulations on the competitive electricity generation market

- The circular provides guidelines for the operation of the **ancillary services** market
 - Including the types of ancillary services, the criteria for participation, and the procedures for providing and purchasing ancillary services.
- The guideline sets out the regulations for market monitoring and supervision.
- Some of the key provisions of the guideline include **Energy Labelling, Energy Audits, and Energy Consumption Standards.**

5.2.8 Development of biomass power projects

- It sets a target for the country to generate **2.1%** of its electricity from biomass sources by **2030**.
- Emphasizes the importance of ensuring the sustainability of biomass resources, including the **protection of forests** and agricultural land.
- Private sector participation is encouraged, and the decision provides incentives such as **tax breaks** and favorable land-use policies to attract investors.

5.3 A comparison of various initiatives of India and Vietnam with Bangladesh

Attributes	RE Policy (Draft) of Bangladesh	National Energy Policy of India	Renewable Energy Policy of Vietnam
Reduction of GHG emissions	Set a target	45% below 2005 levels by 2030	45% below 2010 levels by 2030
Target % of renewables	40% by 2041	40% by 2023	15-20% by 2030
Employment	Not focused	Focused	Not focused
Protection of other natural resources	Slightly focused	Slightly focused	Focused
Tax incentives	Focused	Focused	Focused

5.3 A comparison of various initiatives of India and Vietnam with Bangladesh

Attributes	RE Policy (Draft) of Bangladesh	National Energy Policy of India	Renewable Energy Policy of Vietnam
Net Metering	Focused	Focused	Focused
Auction Guidelines	Mentioned	In practice	In practice
Electrification of Rural Areas	Only mentioned in the objectives	Prioritized	Prioritized
FiT Scheme	Not mentioned and practiced	In practice	In practice
RFQ and RFP	Only exist theoretically	In full practice	In full practice
PPA	In practice	In practice	In practice

5.3 A comparison of various initiatives of India and Vietnam with Bangladesh

Attributes	RE Policy (Draft) of Bangladesh	National Energy Policy of India	Renewable Energy Policy of Vietnam
RE Targets	Assumed	Set target	Set target
Sector wise RE diversification	Mentioned to some extent	The responsibility of diversification has been given to the state governments	Mentioned to some extent
Investment sources	Not mentioned	Mentioned	Mentioned to some extent
Tariff structure	Discussed	Discussed	Mentioned to some extent

5.3 A comparison of various initiatives of India and Vietnam with Bangladesh

Attributes	RE Policy (Draft) of Bangladesh	National Energy Policy of India	Renewable Energy Policy of Vietnam
RE Targets	Assumed	Set target	Set target
Sector wise RE diversification	Mentioned to some extent	The responsibility of diversification has been given to the state governments	Mentioned to some extent
Investment sources	Not mentioned	Mentioned	Mentioned to some extent
Tariff structure	Discussed	Discussed	Mentioned to some extent

6. Features of Discouraging Fossil Fuel in the RE Policy of Other Countries

Germany	Denmark	Sweden	France	China	South Korea
<ul style="list-style-type: none"> • Phasing out coal by 2030 • Introducing Carbon Tax • Cap on carbon Emission 	<ul style="list-style-type: none"> • Implementing Carbon Tax since 1992 	<ul style="list-style-type: none"> • Implementing Carbon Tax since 1991 	<ul style="list-style-type: none"> • Implementing carbon Tax since 2015 	<ul style="list-style-type: none"> • Putting price on carbon emission • Restricting constructions of fossil fuel-based plant 	<ul style="list-style-type: none"> • Putting price on carbon emission • Restricting constructions of fossil fuel-based plant

- Different countries with their policy instruments in energy/power policies have discouraged fossil fuel as a part of encouraging renewable energy.

7. Conclusion

7.1 CPD's findings from the analysis

- The new draft policy is much detailed and covers more aspects than the RE policy 2008.
 - However, it still has a lot more room to improve (e.g., detailed guideline on how the rural area can be electrified).
- The revised draft could be a tool for approaching forward to the renewables
 - However, some practices like net metering, RFQ, and RFP should be implemented properly rather than only existing in theory.
- Though for some resources (solar pv, biomass), a fixed expected output has been estimated, for most of the other resources (tidal wave, geothermal), it has not been mentioned.
- According to the calculation of RE policy (draft), the tentative MW to reach 40% renewables will be 20,000 whereas as per the calculation from IEPMP, it is 25,662.8 MW.
- Other policies are deviated from each other whereas the revised draft tried to cover many important aspects from the other documents.
 - However, there are still a lot of deviations with the RE policy (draft) 2022 and the other documents.

7.2 CPD's recommendations from the analysis

- A new renewable energy policy is needed instead of revision of the RE2008
 - This policy could use the draft prepared so far
 - It needs to be forward looking targeting clean energy issues, reduction of carbon emission issues, discouraging fossil fuels
 - It should clearly delineate institutional reforms that are needed for promoting clean energy
- Proper implementation of RE led power purchase agreement which exist in Bangladesh only in theory.
 - Introduce a carbon cap for all the industries and eventually shift to carbon tax.
 - Introduce competitive bidding and auctions for RE projects and procurement of power.
 - Introduce feed-in-tariff scheme.
 - Prioritize solar PV projects, especially in the governmental institutions.
 - Properly implement the net metering policy.

Thank you.