



Promoting Low Carbon Urban Development in Bangladesh

Part I: Project Information

GEF ID

9368

Project Type

FSP

Type of Trust Fund

GET

Project Title

Promoting Low Carbon Urban Development in Bangladesh

Countries

Bangladesh

Agency(ies)

UNDP

Other Executing Partner(s):

Sustainable and Renewable Energy Development Authority (SREDA) and Department of Environment, Ministry of Environment, Forests and Climate Change (MoEFCC)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Sustainable Urban Systems and Transport, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approach, Convene multi-stakeholder alliances, Stakeholders, Type of Engagement, Information Dissemination, Consultation, Partnership, Civil Society, Non-Governmental Organization, Community Based Organization, Academia, Communications, Strategic Communications, Awareness Raising, Public Campaigns, Education, Private Sector, Financial intermediaries and market facilitators, SMEs, Large corporations, Gender Equality, Gender results areas, Capacity Development, Gender Mainstreaming, Gender-sensitive indicators, Capacity, Knowledge and Research, Learning, Theory of change, Knowledge Exchange

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60In Months

Agency Fee(\$)

357,942

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-2_P3	Promote integrated low-emission urban systems	GET	3,767,810	65,800,000
			Total Project Cost(\$)	65,800,000

B. Project description summary

Project Objective

To reduce GHG emissions by enabling investments in renewable energy and energy-efficiency to support urban development in Bangladesh

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
I. City level integration of energy-relevant low carbon urban development plans and programmes	Technical Assistance	1. Coordinated and integrated low-carbon urban plans and effective implementation of regulations	1.1 LCUD concepts integrated in regulatory measures and policy instruments 1.2 Capacity strengthened in national and local government entities on LCUD 1.3 City corporations supported in the incorporation of LCUD elements in city planning and investment in cost-effective LCUD options	GET	769,820	119,000
II. Implementation of low carbon energy efficiency, renewable energy and waste to energy interventions in cities	Technical Assistance	2. Increased investments in EE (energy efficiency) and RE (renewable energy) in buildings and the built environment	2.1 Identified low-carbon investments in public and private buildings and built environment	GET	1,016,881	119,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
II. Implementation of low carbon energy efficiency, renewable energy and waste to energy interventions in cities	Investment	2. Increased investments in EE (energy efficiency) and RE (renewable energy) in buildings and the built environment	<p>2.2 Implemented low-carbon investments in public and private buildings and built environment</p> <p>Targeted project investments:</p> <ul style="list-style-type: none"> - Waste to energy (2 projects, 0.8 MW electrical and thermal - 1,118,370 GJ- Rooftop PV (3 public projects, each 500 kW; 10 private projects; each 1,000 kW - EE buildings (6 public buildings, each 393,945 kWh/yr/project savings; 24 private buildings, each 243,583 kWh/yr/project[1] <p>[1] More information on these targeted investments can be found in the UNDP project document, Box B (Section 4) and in Annex F.</p>	GET	1,024,263	65,000,000
III. Sensitizing city dwellers and capacity strengthening for low-carbon urban initiatives	Technical Assistance	3. Knowledge increased of practitioners and awareness raised of city dwellers on low-carbon, green, development	<p>3.1 Capacity strengthened of practitioners and institutionalised capacity building on LCUD</p> <p>3.2 Knowledge management, info dissemination and sensitisation on LCUD</p> <p>3.3 Monitoring and evaluation</p>	GET	777,426	119,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				Sub Total (\$)	3,588,390	65,357,000
Project Management Cost (PMC)						
				GET	179,420	443,000
				Sub Total(\$)	179,420	443,000
				Total Project Cost(\$)	3,767,810	65,800,000

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount(\$)
Others	IDCOL	Loans	65,000,000
Government	SREDA	In-kind	700,000
Government	DOE	In-kind	43,000
GEF Agency	UNDP	Grant	57,000
Total Co-Financing(\$)			65,800,000

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNDP	GET	Bangladesh	Climate Change		No	3,767,810	357,942
Total Grant Resources(\$)						3,767,810	357,942

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

PPG Amount (\$)

150,000

PPG Agency Fee (\$)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNDP	GET	Bangladesh	Climate Change		No	150,000	14,250
Total Project Costs(\$)						150,000	14,250

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	0	1572949	0	0
Expected metric tons of CO₂e (indirect)	0	4718848	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)		1572949		
Expected metric tons of CO₂e (indirect)		4718848		
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		5,000		
Male		5,000		
Total	0	10000	0	0

PART II: Project JUSTIFICATION

1. Project Description

The project concept (as formulated in the GEF-approved Project Implementation Form, PIF) focusses on two green investment categories, namely a) *solid waste management and waste-to-energy (WTE)* and b) *EE and RE in buildings and the built environment*. During the PPG (project preparation) phase a further refinement in consultation with the envisaged project partners and other stakeholders was made to include low carbon interventions related to energy efficiency, renewable energy and waste to energy within the three project components as shown in Section B.

Regarding ‘**solid waste management and energy**’, it has been noted during PPG that it consists of two main parts: 1) processing of waste for energy purposes (electricity or fuel), and 2) management of the waste system itself (collection, re-use, and recycling, proper disposal of waste). In assessing and supporting *waste-to-energy* projects, the sites being proposed would assume a certain level of waste management already taking place, i.e. land has been allocated and cleared for the landfill, waste is collected and disposed in the landfill, so that the proposed project activity can focus on the energy generation and composting aspects at the landfill. Hence, greenfield landfill projects may not be targeted given the project timeframe and few private investors forthcoming to venture into an already risky investment.

Since *waste management* is a huge issue in Bangladesh with currently, 45% of the urban solid waste remains uncollected and is dumped somewhere in roadside bins or anywhere in unsanitary ways; even the collected wastes are not managed at a satisfactory level; dumping areas are overburdened, as there is a severe lack of source-separation practices in Bangladesh, and land for waste disposal is very scarce, the PIF conceptualised waste management and waste-to-energy but lumped these together for project interventions. During PPG preparation, it was ascertained that waste management (including waste reduction and recycling) is such a big issue (and controversial in view of land scarcity) in urban Bangladesh that it would merit its own project. Other donors have been working on urban waste management. For example, JICA has been providing support for solid waste management in Dhaka City. The LCUD initiative will thus focus on organising waste management and sustainable practices linked, but only insofar as linked with prospective WTE facilities. This may include waste management at the prospective site, local-level organisation and stakeholder engagement, training and creating awareness amongst citizen.

In the investment area of ‘**EE and RE in buildings and the built environment**’, some re-focus has taken place during the PPG phase. The PIF mentions the “application energy efficient *public lighting* (with LED lamps replacing the conventional high-pressure sodium or other lamps). However, discussions with stakeholders found that using LED in new street lighting is now considered more as a baseline activity (as LED technology has advanced rapidly and the cost has come down since the conceptualisation of the PIF). In the discussion with SREDA and other stakeholders, it was noted further that the government is providing funds to municipalities to modernise their lighting systems based on LED. Hence, the present scope of the project limits to awareness campaigning and information dissemination with regard to LED issues, but excludes for now the larger technical assistance and capacity building as envisaged at the time of PIF preparation.

Finally, within the ‘EE and RE in buildings’ investment area, the option of *integration of renewable energy (RE) in buildings* (in particular rooftop photovoltaics, PV) is introduced in light of changes in legislation regarding net-metering. Regarding *energy efficiency (EE) in buildings*, although the PIF is not specific, LCUD project seeks to promote EE investments in new buildings (or as retrofit) by improving building design (passive solar innovations), improvements in lighting, cooling, ventilation) in larger buildings (e.g. schools, hospital, office buildings, hotels), and more efficient energy use by the building dwellers in a holistic way to achieve a better Energy Performance Index (EPI). This also includes the use of more eco-friendly building materials, such as energy-efficient bricks. The PIF mainly focuses on public buildings with city energy efficiency bylaws and procurement schemes. While public buildings remain an important element in the Project Document, equal importance is given to EE and RE investments in the private sector. *Financing* remain critical for

the achievement of LCUD goals and hence, envisages cooperation with the development banks, such as IDCOL and also technical support in identifying and financing investment opportunities in all the three areas of identified low carbon interventions – energy efficiency, renewable energy and waste to energy sectors.

Low-carbon urban (green) planning involves the integration of the various investment categories to achieve an integrated low-carbon (green) city development, by means of: a) policy and regulations, b) coordination and planning of development interventions and c) availability of financing and incentives for green investments. The LCUD Project will support the implementation of *regulations*, such as the newly-added EE elements in the Revised Bangladesh National Building Code (BNBC) and voluntary Green Building Guidelines (GBG). Regarding financing, the Project. A multitude of agencies and government entities are involved in urban planning. In the LCUD ProDoc, supporting *mainstreaming of low-carbon development in urban planning* and, especially, *coordination between entities*, remains as important as described in the PIF. However, rather than only focussing on the city-level coordination urban policy and planning, it is equally important to have coordination at the national level (horizontal) and between the various levels of government (vertical). The Project Document also adds activities on city-level greenhouse data collection, inventory, and reporting. Thus Outcome 1 is renamed to emphasize both national and city-level integration of low-carbon urban planning.

The capacity building capacity component 3 goes beyond awareness creation and lessons learnt workshop by adding professional training on low-carbon planning, and technical training on low-carbon investment areas (designing, techno-economic assessment, and implementing EE in buildings, rooftop PV and of waste-to-energy). A second new element in the ProDoc (in comparison with the PIF) is the institutionalisation of capacity building and training by means of a Centre of Expertise to be hosted by a Bangladeshi institute) and institutionalisation of awareness creation and info dissemination and by means of setting up a Bangladesh Low-Carbon City Network. This will ensure the continuation of capacity building and awareness creation and knowledge dissemination after the Project ends.

Below table shows the corresponding changes in Outputs (by Outcomes) at CEO ER stage with those at PIF stage. :

ProDoc / CEO ER	PIF	Rationale for Change in PIF Outputs/Activities in Prodoc
1. Coordinated and integrated low-carbon urban plans and effective implementation of regulations	1. City level integration of low carbon urban development plans and /or programs	No change; minor rewording to clarify Outcome statement
1.1 LCUD concepts integrated in regulatory measures and policy instruments	--	The PIF concentrates on city-level interventions which remain important and are addressed in output 1.3. However, one main barrier is

1.2 Capacity strengthened in national and local government entities on LCUD	--	that lack of cooperation at national between the various ministries and departments (horizontal) involved in urban planning and regulations and between national and subnational level (vertical). Hence, the Project addresses the barrier by promoting inter-institutional cooperation. This will be accompanied by training of both national and city officials on urban planning concept and mainstreaming therein of low-carbon development concepts. A third new element is formed by advisory services to the Department of Environment (DOE) on LCUD interventions and GHG MRV (reporting, monitoring, verification)
1.3 City corporations (partner cities) supported in the incorporation of LCUD elements in city planning and investment in cost-effective LCUD options	<p>1.1 Identified cost effective waste-to- energy, energy efficiency and renewable energy interventions in selected cities Dhaka, Chittagong, Gazipur and Khulna</p> <p>1.2 Established coordination committee in each city to ensure integration of low carbon principles in City Plans</p> <p>1.3 Low carbon strategies and technology applications incorporated in the City Corporation Plans</p> <p>2.2 Implemented city corporation building bylaws on energy efficiency in the selected cities</p>	<p>The outputs of the PIF have been merged into one output and are considered as ‘activities’:</p> <p>1.3.1 Establishment of a low-carbon coordination Working Group in the selected partner city corporations</p> <p>1.3.2 Tailor-made support on LCUD issues, key concepts and LCUD investment options provided to the partner city corporations:</p> <ul style="list-style-type: none"> · LCUD integration in city-level urban and structure planning · Identification of investment opportunities in EE and RE in public buildings and WTE · City-level reporting and data gathering on GHG emissions
2. Increased investments in EE (energy efficiency) and RE (renewable energy) and Waste to Energy (WTE) in buildings and the built environment	2. Implementation of selected low carbon EE, RE and WTE interventions in cities including piloting innovations	No change; minor rewording to clarify Outcome statement
--	2.1 Implemented energy efficient street lighting schemes in selected cities in collaboration with private sector	As LED lighting has become more of a baseline intervention, the activity has been dropped
2.1 Identified low-carbon investments in public and private buildings and built environment	1.1 Identified cost effective waste-to-energy, energy efficiency and renewable energy interventions in selected	No change; minor rewording to clarify Output statements. Outputs have been organized according to chronological order, starting with

2.2 Implemented low-carbon investments in public and private buildings and built environment	cities 2.3 Implemented solutions for solid waste management including IRRC, wherein some projects developed in Public- Private-Partnership (PPP) modality	identification, then feasibility and (as needed social-environmental screening) and formulation of draft proposals (output 2.1). Once approved, the investments can be realized (Output 2.2).
3. Knowledge increased of practitioners and awareness raised of city dwellers on low-carbon, green, development	3. Sensitizing City Dwellers on Greening Efforts	No change; minor rewording to clarify Outcome statement
3.1 Capacity strengthened of practitioners ...	3.2 Completed workshops on lessons learnt for government, city corporations, NGOs and CBOs on waste-to-energy, and energy efficiency solutions 3.3 Completed Urban Forum event every year involving multi-stakeholders	The Project does include activities that correspond to the PIF's output 3.2. These are "Training and skills development on selected low-carbon interventions for professionals" (activity 3.1.1), "Elaboration of knowledge products, case studies, best practices and lessons learnt
... and institutionalised capacity building on LCUD	--	It is not only that seminars, workshops, and training are organized during project implementation, It is important, after the project ends, such awareness and capacity building activities are continued and expanded to low-carbon investment areas not covered by the LCUD Project. Hence, support institutionalization of training at research institutes by adding the activity "Support the establishment of a multi-disciplinary LCUD centre of expertise and mainstreaming of LCUD in existing training curricula". A second addition is the institutionalization of awareness creation efforts, by means of setting up a of Bangladesh Low-Carbon Cities Network
3.2 Knowledge management, info dissemination and sensitisation on LCUD	3.1 Completed sensitizing events for city dwellers and follow-up actions 3.4 Codified information and knowledge to support informed decision-making process, provide public with information on green urban development projects, investments mobilized, GHG emissions reductions achieved	Corresponding activities under Output 3.2 are: "Elaboration of knowledge products, case studies, best practices and lessons learnt" (activity 3.2.2) and "Sensitisation of city dwellers, including youth". Two activities have been added (in comparison to PIF), namely "Promotion of South-South city-to-city exchange and facilitation of linkages with regional and global networks" (activity 3.2.5) and "annual award ceremonies on best LCUD practices and greenest building"
3.3 Monitoring and evaluation	(not listed separately)	M&E has been listed as a separate activity

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The Stakeholder Engagement Plan is given in Annex G of the UNDP Project Document. A summary is given in the table below.

Stakeholder group or organisation	Means of engagement
SREDA	SREDA, under MPEMR, will be the Implementing Agency (IA) and will take a leadership role in the PSC in providing direction to the Project. The project will work with MPEMR in issues like power tariffs and net metering. SREDA staff will work closely with full-time project staff and short-term experts. Being housed at SREDA, the LCUD Project will work side-by-side with SREDA staff on many aspects of implementation, particularly policy-related aspects, institutional aspects, capacity building and off-grid RE implementation and monitoring (SREDA's in-kind co-financing support)
Ministry of Local Government, Rural Development and Cooperatives (MLGRDC)	MLGRDC is the ministry responsible for the housing and building, regional and rural policy, municipal and cities administration and finances. Municipality and city corporations report to MLGRDC. Its LGED is entrusted for planning, development, and maintenance of local level rural and urban infrastructure. The LCUD Project will work with MLGRDC (the government entity under whose authority the partner City Corporations fall) and its Local Government Engineering Department (LGED) in Outputs 1.2, 1.3 and Outcome 2.
Ministry of Housing and Public Works (MHPW)	MHPW is responsible for the Bangladesh National Building Code (BNBC) and issuing the Green Building Guidelines (GBG). MHPW and its various Departments (Public Works Department, PWD); Urban Development Department (UDD) and the various Authorities under MHPW (Housing Authority; Urban Development Authorities of the partner cities) will work in Outputs 1.1, 1.2, 2.1, and training activities of component 3. Selected cities will partner with the project in Outputs 1.2, 1.3, and 2.1, as well as in training and info dissemination activities of Outcome 3.

Ministry of Environment, Forests and Climate Change (MEFCC)	MEFCC's Department of Environment (DoE is the GEF Operational Focal Point and therefore is involved in general oversight in the PSC. In addition, the Project will work with DoE on the city-level greenhouse gas inventories and reporting and in the coordination of activities (Outputs 1.3, 1.2 and 1.1) as well as in the implementation of Component 3, in particular, info dissemination and environmental awareness creation.
Planning Commission	The Planning Commission (PC) a public policy institution of the Government of Bangladesh, in which a number of ministries related to 'economy' participate. The PC is responsible for policy development initiatives for the expansion of the public infrastructure of the country (Including low-carbon infrastructure). The Project will work in particular with its General Economic Division
Infrastructure Development Bank Ltd. (IDCOL) Financial service providers	IDCOL has made a credit line available for financing for the low-carbon investments the LUCD Project will focus (EE in buildings, RE in buildings and waste-to-energy), and will work the Project in particular in Component 2 in providing loans on request by project proponents that participate in the Call for Proposals (Output 2.2). The Project will provide capacity building support (Output 3.2) and advisory services to IDCOL regarding the techno-economic assessment of EE/RE/WTE project proposals. The Project will provide training and awareness creation support to other Bangladeshi financial service providers regarding the potential and feasibility assessment of low-carbon investments, in particular on EE and RE in the built environment and waste-to-energy
City Corporations Urban Development Authorities	The Project will partner with partner cities (under MLPGRG), e.g. Narayanganj CC and the associated Urban Development Authorities (that are under MHPW) in coordination of the various plans (Development Plan, Area Plan, Structure Plan) and the mainstreaming of LCUD issues and options in these plans and setting up urban-level Coordination mechanisms to achieve coordination and mainstreaming. At sub-urban level, the LCUD the project will work with local organizations (ward committees, IRRCs, other) in setting up sustainable waste management structures that will support the cities' waste and landfilling initiatives. The LCUD Project will support City and Authorities with identifying low-carbon investment opportunities.
Private sector and organisations	The private sector investors will provide a commitment for financing (if needed with IDCOL loan support) and detailed design and implementation of low-carbon investment project (Output 2.2) and are invited to participate in the Project's training activities (Component 3). The Project will work with private sector organisations, such as the FBCCI (Federation of Bangladesh Chambers of Commerce and Industry), REHAB (Real-estate and Housing Association) and the Bangladesh Green Building Council (BGBC)

Institutes and academia^[1];
NGOs

The Project will work with the Bangladesh Institute of Planners, on providing advice and general guidelines related to city planning and policy research, and with academia and research institutes policy research and studies to strengthen baseline data, impact analysis, etc. Cooperation will be sought with one such university/institute to host a Centre of Expertise and Training on low-carbon urban planning and interventions (EE in buildings, rooftop PV, waste and waste to energy). Cooperation will be sought with entities and NGOs that work on waste management (e.g. Waste Concern, Practical Action) and on citizen awareness creation on sustainable consumption and production.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means, and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

The Annex G in the UNDP Project Document gives a Communications Plan with resource estimate. The summary table is given below.

Key element	Relevant group	Means
1. Project governance meetings; PSC meetings; Advisory Committee and working group meetings	All stakeholders that are members of the Board or its Working Groups or are invited to attend	Meetings
2. Seminars/workshops and training events, including the Inception workshop, and End-of-project workshop	National and city-level government officials Financial and private sector NGOs and CSOs Building and landfill owners and managers; building constructors, designers, architects; building tenants	Workshop, meeting, seminar, training On-the-job training
3. Project documents, thematic reports and publications	Various government departments and decision-makers	Direct dissemination (e.g. email or hard copy) to persons. Access via the Project website
4. Technical reports and tools/software (GHG inventory, EE design, PVSys, etc.	City community groups that take initiatives to implement local waste management systems and awareness creation on sustainable consumption Engineers and persons working or interested in working in RE & EE in buildings and WTE Energy, waste and urban planners and city officials Development partners and NGOs	Direct dissemination (e.g. email or hard copy/ USB-drive) Access via the Project website to reports and documents and database and info systems

5. Project knowledge capturing and info dissemination	Government (national, city) officials Financial and private sector Development partners and NGOs Citizenry and community groups	Online access to all project materials and other relevant low-carbon and green development information
6. Reports (feasibility assessments; non-confidential parts of business plans; monitoring) of RE, EE and WTE investments	Various national and local and regional level officials; CSOs Financial and private sector Development partners Technical professionals; experts/ academics	Direct dissemination to person directly involved Summaries with non-confidential info access through the website

[1] Examples are BUET (Bangladesh University of Engineering and Technology), Institute of Energy (Dhaka University), Jahangir Nagar University, Rajshahi University of Engineering & Technology, Jessore Science & Technology University, Chittagong University, Pabna University of Science & Technology, Islamic University of Technology, American International University, BRAC University

Documents

Title

Submitted

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

CSOs and NGOs involved will be asked to take part in the Advisory and Implementation Committee (AIC); see Box on “project governance and management structure” (page 12)

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The LCUD Project considers ‘gender’ not as women only but as both women and men who can make the best out of the impacts of the project. Hence, the Project will mainstream gender in the following ways-

At the project activity level-

- Collection, inclusion, and use of gender-disaggregated data in the various activities, and gender-relevant information technical reports, documents and awareness-raising materials of the Project;
- Revision and/or development of (LCUD) policy/es in the lens of gender and social-environmental safeguarding concerns;
- Encourage more increased and active participation of women at the planning, designing, and decision-making levels;
- Develop training and awareness raising materials integrated with gender concerns in LCUD energy efficiency issues including gender sensitivity (i.e. avoiding gender stereotypes, using inclusive language and using appropriate illustrations.
- Encourage more increased and active participation of women at the citizen awareness and participation
- Exchange of gender best practices/knowledge in urban sub-sectors for potential integration with policy/planning and implementation

At the partner and stakeholder level, the LCUD will follow the following strategies for gender mainstreaming-

- Sensitization of project stakeholders with regards to gender equality. Efforts will be made to promote a balance between male and female participation;
- In all the working teams of the Project governance structure, e.g. PSC; Project Management Unit, Working Groups - gender balance will be ensured by balancing representation of both male and female participants

The UNDP Project Document has a section on ‘mainstreaming gender’ (see its Section 4.6) with further details provided in its Annex D.1

Documents

Title

Submitted

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

The Gender Action Plan is attached as Annex D.2 to the Project Document

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

Gender-related indicators are included in the Gender Action Plan (see Annex D.2)

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.

Description	Type	Mitigation Measures
1: The improper management of installation, operation and maintenance of the proposed low carbon technical interventions in the project such as waste processing and management practices, energy efficiency and renewable energy installations and use can potentially pose risks for the health and safety of the inhabitants in communities	Environ-mental	During the PPG stage, the key project interventions were assessed for potential impacts and these interventions would largely confine to demand-side measures in buildings/built environment and will promote best practices in waste management processes. the project will support: <ul style="list-style-type: none"> - Effective due diligence by the rooftop system installer that the roof is in good condition with no leak/cracks and satisfactory drainage. - Compliance to local laws ensured or permissions sought for any changes to the roof and carry out rectifications to ensure roof has proper and adequate drainage shall be obtained from the building owner/approval authority, if required.
2: The project can risk the livelihoods of informal sector engaged in waste collection and processing and small energy and construction sectors.	Social & environment	<ul style="list-style-type: none"> - Social and environmental screening will be part of the feasibility and impact assessments of investment proposals (Activity 2.1.1 and 2.1.2). If the screening results in 'high risk' categorization (and this may well apply to WTE), An Environment Social Impact assessment and Management Plan for Waste to Energy plant will be required before the proposal can be accepted for financial support by the LCUD Project - Buy Back arrangements with the solar panel manufacturers and guidelines for the recycling of all e-waste (electronic waste) used in investments supported by the Project
3: The project interventions will generate some waste during the operation	Environmental	A significant amount of wastewater is generated during composting and the cleaning of the facility. Instead of discharging the wastewater into drains, it can be collected in a small covered storage tank below ground level. This stored wastewater can then be reused for new compost piles to maintain the moisture balance and enhance the decomposition process by mixing this wastewater with fresh water from pipes or rainwater tanks
4: Energy efficiency, renewable energy and waste-to-energy interventions remain non-priority areas for City Corporations and at national-level ministry departments	Institutional	The Project will work only with those Cities that will work as 'partner city' and therefore explicitly have expressed their interest. Policies and regulations at the national level (e.g. BNBC-Revised and recent net-metering regulations) continue to pressurize City Corporations to take appropriate actions to implement low-carbon interventions. The Project will work within the existing structure and try to improve by facilitating coordination between various national and local government entities (Coordination Mechanisms) By the end of the project, if city corporations see good progress in these cost-effective interventions, they will replicate these with public funds. Since the technologies promoted under the project are proven, it is a matter of demonstrating their cost-effectiveness (in the activities of Outcome 2).
5: Weak coordination between ministries and with cities	Institutional	The project will engage stakeholders at the earliest stage and promote cooperation by means of Coordination Mechanisms at the national level and at the local level in the partner City Corps

6: Lack of access to quality data hinder planning and investment decision making	Technical & economic	It is difficult to find consistent data on energy performance in a very wide range of buildings that are often not measured and if so, are not shared. Data and info gathering activities have explicitly been included in the Project (e.g., activities 1.1.3, 2.1.3, 2.2.2 and 3.1.3)
7: Lack of interest or commitment from private sector on low carbon investments in cities	Economic	The LCUD Project supports a model in which the Government provides an enabling environment to spur private investment (see e.g. the recent regulations on net-metering and EE in BNBC with incentive measures) and IDCOL is willing to provide the needed finance (various companies have already approached IDCOL on financing options for rooftop PV). The Project will add to this by preparing high-quality feasibility studies, investment appraisals, and business plans to facilitate investment decision making.
8: Non- implementation of new technologies due to high cost and, in WTE, lack of proven business models	Technical & economic	The EE and RE in building interventions promoted in the LCUD Project are cost-effective, even at current power tariffs and should have reasonable payback times. Assessment to employ the most appropriate and cost-effective technologies will facilitate bankable investments in waste-to-energy. In WTE, the Project will promote suitable PPP initiatives with clear and mutually beneficial agreements between the city/town governments and private sector entities.
9: Major adverse economic conditions force up interest rates and/or curtail bank lending for a significant period during the project's implementation.	Economic	In such a situation, other economic priorities of city/town governments and that of the private sector may take precedence over low carbon urban development actions. However, in recent years, Bangladesh has seen impressive economic growth at about 6% annually and in 2016 even at 7.1%, one of the fastest in the world. This situation is not likely to change in the coming years and does not risk interest rates greatly rising or significant bank lending restrictions.
10. Lack of participation of women in LCUD project planning and implementation process	Social	Gender analysis has been carried out during the project development stage. The PMU and the PSC will ensure that the Gender Action Plan recommended by the project is pursued and implemented. Women will be engaged during the consultation meetings, prioritized to avail the program and be included in the different capacity building programs.

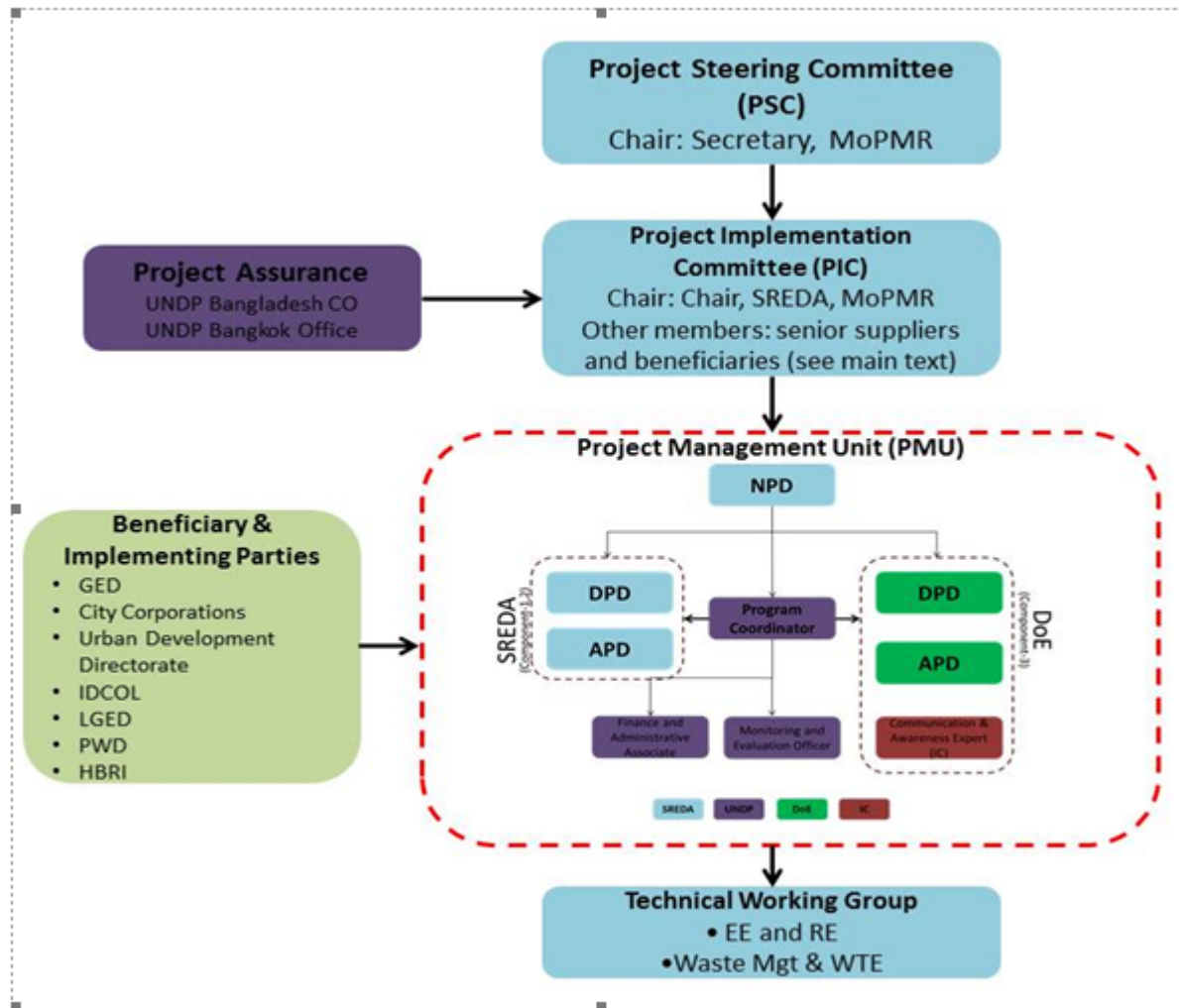
A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The project will be executed according to UNDP's National Implementation Modality (NIM), as per the NIM project management implementation guidelines agreed by UNDP and the Government of Bangladesh. The **Implementing Partner** (GEF local executing agency) for this project is Ministry of Power, Energy and Mineral Resources (MPEMR) with *SREDA (Sustainable and Renewable Energy Development Authority)* and the *Department of Environment (DOE)* as **Implementing Entities**. The overall governing body will be Project Steering Committee and Project Implementation Committee which will be multi-stakeholder bodies, in which MoPEMR, MoEFCC, SREDA, DoE, UNDP and a number of government entities will participate. A Project Management Unit will be established at SREDA and DoE in Dhaka. A Programme Coordinator will be appointed to manage the project and report to the Project Steering Committee (PSC) and NPD.

Below Figure outlines Project's governance and management structures, including the different roles and responsibilities of the parties involved in governing and managing the project. The project governance structure will ensure UNDP's accountability for programming activities, results, monitoring and management of risks, and the use of resources, while at the same time fostering national ownership and alignment with national processes. The different roles and responsibilities within the Project's governance structure and project

staffing are summarised in the Box are described in detail in the UNDP Project Document (Section 8). Its Annex C presents the Terms of Reference of the Project Board and of key Project staff positions.



The Project will work closely with the relevant Departments of other ministries, MLGRDC (Ministry of Local Government, Rural Development and Cooperatives), MHPW (Ministry of Housing and Public Works), and MEFCC (Ministry of Environment, Forests and Climate Change). To assist with successfully delivering project outcomes and components, the following Responsible Parties will enter into agreements with SREDA. Responsible Parties will be the key partners of the govt who will support the delivery of project components. Five key responsible parties will be (i) City Corporation, (ii) Urban Development Authorities, (iii) DoE, (iv) LGED, (v) PWD, and (vi) HBRI. They will ensure the realisation of project benefits and sustainability from the perspective of project beneficiaries.

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

A summary of the socio economic benefits is described below:

- *Reduced dependence on fossil fuels.* Bangladesh's economy is sensitive to global energy prices. Whilst these financial risks are largely borne by the broader economy a significant portion is passed through to end-users.
- *Improved air quality and waste management.* By improving the effectiveness of urban systems, especially fuel substitution (renewable energy, waste-to-energy), avoidance (energy efficiency) and moving to other low-carbon options will have a climate change mitigation impact, by reducing CO₂ emissions (energy, waste) and methane CH₄ emissions (landfill gas capture and utilisation).
- *Green jobs and market diversification.* All the cities involved in the project have prioritised tourism as a key motivating factor leading them to a low carbon approach. Attaining low-carbon or green status means that cities and local enterprise can differentiate themselves in the market place. It is therefore expected that the project will lead to more jobs in terms of producing and supplying (new) low-carbon technologies and services.
- *Gender benefits* are expected primarily through increased awareness of the benefits of participation of community and marginal groups in local level planning and development processes and the availability of gender disaggregated data relating to low emission development. Further deliberation on a monitoring mechanism and identification of gender issues will be explored during the project implementation.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user- friendly form

(e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

The project will rely on relevant international experience and best practices in low-carbon urban development and energy efficiency in buildings, with a particular focus on countries with similar geographic and socio-economic context. Given its proximity and economic ties with Bangladesh, India stands out in this respect as a source of experience and expertise for rooftop solar PV and energy efficiency in buildings. Throughout the project implementation, the efforts to learn and engage relevant experts and companies from South Asia and South-East Asia and countries with similar context will continue and will be facilitated through UNDP Regional Hub for Asia and Pacific (Bangkok-based).

The Project will effectively engage the stakeholders involved in the project to get their support and guide the project implementation to achieve higher results.

- Project outreach proposed includes project website, media (print/audiovisual), workshops, training, and awareness campaigns
- The PMU and the Project Board will ensure that the Gender Action Plan recommended by the project is pursued and implemented. The various groups especially women will be engaged during the consultation meetings, prioritized to avail the program and be included in the different capacity building programs. The project will also ensure that it is in line with national energy, climate change, and waste management policies and plans (described in Annex E);
- Meetings, monitoring visits, surveys, and written communications will be used to receive feedback to continue the ongoing dialogue as well as during the course of implementation.
- The project will follow a participatory approach in decision making by engaging all the relevant stakeholders. The Government agencies, NGOs, CSOs, and the private sector actors will be actively involved during the project implementation.

Knowledge management and communication activities are summarized below (taken from Annex G in then UNDP Project Document):

Key element	Relevant group	Means
1. Seminars/workshops and training events, including the Inception workshop, and End-of-project workshop	National and city-level government officials Financial and private sector NGOs and CSOs Building and landfill owners and managers; building constructors, designers, architects; building tenants	Workshop, meeting, seminar, training On-the-job training

2. Project documents, thematic reports and publications	Various government departments and decision-makers	Direct dissemination (e.g. email or hard copy) to persons. Access via the Project website
3. Technical reports and tools/software (GHG inventory, EE design, PVSys, etc.	City community groups that take initiatives to implement local waste management systems and awareness creation on sustainable consumption Engineers and persons working or interested in working in RE & EE in buildings and WTE Energy, waste and urban planners and city officials Development partners and NGOs	Direct dissemination (e.g. email or hard copy/ USB-drive) Access via the Project website to reports and documents and database and info systems
4. Project knowledge capturing and info dissemination	Government (national, city) officials Financial and private sector Development partners and NGOs Citizenry and community groups	Online access to all project materials and other relevant low-carbon and green development information
5. Reports (feasibility assessments; non-confidential parts of business plans; monitoring) of RE, EE and WTE investments	Various national and local and regional level officials; CSOs Financial and private sector Development partners Technical professionals; experts/ academics	Direct dissemination to person directly involved Summaries with non-confidential info access through the website

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project falls within the *GEF-6 programme area* “Promote integrated low-emission urban systems” of the Climate Change focal area’s Objective #2, “Demonstrate systemic impacts of mitigation options”.

The proposed project is consistent with national priorities and plans), *Seventh Five Year Plan (2015-2019)*, and the *National Perspective Plan*, and with plans and strategies that help Bangladesh to address GHG emissions by investing in low carbon development.

The climate-resilient development trajectory in the *Bangladesh Climate Change Strategy and Action Plan (BCCSAP)* is built on six pillars where mitigation/low-carbon development is one of the pillars. This seeks to link policy, plan, programme, and capacity development objectives in the context of national development. The proposed project is consistent with Bangladesh *2nd National Communications* to the UNFCCC that identified cities need to play a key role while addressing the issue of climate change as they are most vulnerable.

The proposed project aligns to three of the mitigation programs on interventions included in Bangladesh's *Intended Nationally Determined Contributions (INDC)* report (that was submitted to the UNFCCC in September 2015), applicable to cities, i.e., "Improved energy efficiency in production and consumption of energy", "Renewable energy development", and "Management of urban waste". The proposed project will take accelerate their implementation through its scale-up activities at the city level.

The *Environment Policy* (1992) intends to restrict disposal of municipal, industrial or agricultural wastes in any water bodies like rivers, ponds and drains. It also discourages open truck transportation during daytime collection of waste.

To set out the overall framework for the improved performance of this sector, the *National Energy Policy (NEP)* was prepared and adopted by the government in 1996. The *Renewable Energy Policy* was published in 2002 and revised in 2008. The government plans to increase the share of renewables in power generation from about 1% in 2000 to 10% in 2020. The *Energy Efficiency and Conservation Master Plan up to 2030* sets the target of reducing energy intensity (per GDP) by 20% by 2030 (compared to 2013 levels). It contains a description of five Programmes, Energy Audit, Energy Efficiency Labelling, Building Energy Efficiency Rating, Energy Efficiency Financing, and Energy Efficiency Awareness.

The *Bangladesh National Building Code (BNBC)* is the mandatory program which provides regulation and/or minimum requirements of building type (office, residence, commercial building, etc.), size (height, floor area), structure strength, indoor condition, construction material, etc. The Ministry of Housing and Public Works (MHPW) has updated the BNBC to include energy efficiency and green elements (e.g. regarding building envelope, ventilation and air-conditioning, lighting, hot water supply, integration of renewable energy, water management, other). The Revised BNBC has been developed for some time but is still waiting for Gazette notification.

The *Green Building Guideline (GBG)* is a voluntary program and is developing as a guideline for the design and construction of upper-grade EE&C and low environmental impact buildings rather than the buildings under the Revised BNBC. Type of buildings the GBG targets are offices, rental & mercantile (shopping malls), residential, hospitals, airport buildings, schools and hotels in new large-scale projects by both the public and private sectors.

SREDA plans to introduce a *building energy and environment rating system* (that builds on existing international rating systems used globally but incorporate local climate conditions and other country characteristics).

C. Describe The Budgeted M & E Plan:

Details are given in Section 7 (M & E Plan) of the UNDP Project Document.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget (US\$)		Time frame
		GEF grant	Co-financing	
Inception Workshop (IW)	UNDP Country Office (CO)	7,500	7,500	Within two months of project document signature
Inception Report	Programme Coordinator (PM)	None	None	Within two weeks of Inception Workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP CO	None	None	Quarterly, annually
Risk management	PM; UNDP CO	None	None	Quarterly, annually
GEF Project Implementation Report (PIR)	Programme Coordinator, UNDP CO, UNDP Hqs and UNDP RTA	None	None	Annually
NIM Audit as per UNDP audit policies	UNDP CO	15,000	15,000	Annually
Monitoring of environmental and social risks; Corresponding management, stakeholder engagement and gender plans and addressing grievances as relevant (ESMP M&E)	PM; UNDP CO	10,000	20,000	Continuous
Stakeholder Engagement Plan Gender Action Plan	PM; UNDP CO, UNDP-GEF team	None	None	On-going
PSC meetings	PSC, UNDP CO; PM	None	None	Twice a year
Supervision and Oversight missions UNDP-GEF; GEF Secretariat learning missions/site visits	UNDP CO UNDP GEF team	None, (covered by Agency Fee)	None	Troubleshooting as needed
Monitoring of indicators in project results framework, including updating GEF Core Indicators (at MTR and TE)	Project Manage	None	10,000	Before MTR and TE take place
Independent Mid-term Review (MTR) and management response	UNDP CO, PC and UNDP-GEF team	30,000	7,500	Between 2 nd and 3 rd PIR
Independent Terminal Evaluation (TE) including management response	UNDP CO, PC and UNDP-GEF team	30,000	7,500	At least 3 months before operational closure

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Pradeep Kurukulasuriya	5/29/2019	Usha Rao	6623049100	usha.rao@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

This project will contribute to the following Sustainable Development Goal (s): Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all (*Target 7.3*: By 2030, double the global rate of improvement in energy efficiency). Goal 13: Take urgent action to combat climate change and its impacts (*Target 13.2*: Integrate climate change measures into national policies, strategies and planning; and *Target 13.3*: Improve education, awareness-raising and human and institutional capacity on climate change mitigation)

UNDAF/Country Programme Outcome *Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups (No.3)*

UNDP Strategic Plan 2018-2021 Outcome 2 (*Accelerate structural transformations for sustainable development*) **Output 2.1.1** (*Low-emission and climate-resilient objectives addressed in national, subnational and sectoral development plans and policies to promote economic diversification and green growth*) and **Output 2.5.1** (*Solutions developed, financed and applied at scale for energy efficiency and transformation to clean energy and zero-carbon development, for poverty eradication and structural transformation*)

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
Project Objective: Reduce greenhouse gas (GHG) emissions by enabling investments in renewable energy, energy-efficiency, to support urban development in Bangladesh	1) Lifetime direct GHG emissions avoided [GEF Core Indicator 6]	N/A	Mid-term targets are one-third of the end-of-project targets,	1.572 million tons ofCO ₂ (lifetime) resulting from energy efficiency (EE), renewable energy (RE) and waste-to-energy interventions[1]	<ul style="list-style-type: none"> · Market surveys and/or project data (see Indicator 11 on investments in RE, EE and WTE) · Numbers of EE and RE investments (see Indicator 11) as given in project reports · See Annex F (methodology and
	2) Lifetime indirect GHG emissions avoided [GEF Core Indicator 6]	N/A	Indirect emissions are three times the direct emissions (replication factor = 3)	4.718 million tons of CO ₂ as consequential (indirect) emission reduction after the project's end[2] ²	

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	3) Number of beneficiaries, disaggregated by gender [GEF Core Indicator 11]	N/A	3,000 beneficiaries (half male, half female)	10,000 direct beneficiaries (half men, half women)	assumptions) <i>Assumptions:</i> <ul style="list-style-type: none"> · Support from companies and city entities · Energy performance data will be made available by (private) companies (confidentiality) · Feasibility of the proposed investments
Outcome 1 Coordinated and integrated low-carbon urban plans and effective implementation of regulations	4) Status of EE BNBC [Revised] and other low-carbon policy instruments	BNBC [Revised, with EE] formulated; National 3R (Reduce, Re-use and Recycle) policy	BNBC [Revised, with EE] and adopted (Gazetted) an	BNBC [Revised, with EE] adopted; Proposal formulated and presented to the government for integrated fiscal-regulatory incentives, net metering and other instruments on EE and RE in buildings Proposal formulated on national waste management and waste resources (WTE, composting)	<ul style="list-style-type: none"> · Official documents · Project report on policy instruments · Manual on BNBC and GBG <i>Assumptions:</i> <ul style="list-style-type: none"> · Commitment by the government and political support

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	5) Number of staff national and local government staff trained (incl female) and % that use LCUD planning in their work at project's end	N/A	Four events on LCUD-relevant themes in which 200 staff from national and local government entities participate (at least 30% female) Two multi-day detailed LCUD training events in which 40 staff participate (at least 30% female)	Seven events on LCUD-relevant themes in which 350 staff from national and local government entities participate (at least 30% female) Three multi-day detailed LCUD training events in which 60 staff participate (at least 30% female) Percentage of trainees that in Yr 4 use LCUD elements in planning and design	<ul style="list-style-type: none"> · Workshop and seminar reports · Project progress reports · Training materials · After-training evaluations, incl. a post-training survey in yr 4 <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Commitment by national and city government · Willingness of staff to be trained
	6) Status of LCUD coordination at national level	N/A	An interinstitutional Coordination Mechanism established	Interinstitutional Coordination Mechanism established and holding at least 3 meetings a year	<ul style="list-style-type: none"> · Official documents; Minutes of meetings; Project reports <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Commitment by national and city government; willingness to be coordinated

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	7) Number of city corporations supported and status of support: a) number of LCUD-relevant plans or strategies b) Number of LCUD-relevant investment opportunities	N/A	At least one City Corporation supported with a) local coordination mechanism (corporation, development authority, PPPs) b) Integration of LCUD (with gender and social elements) in city development strategy and/or /Structure plans, and setting up GHG inventory system	At least two City Corp. have a) Functioning local coordination mechanism b) LCUD (with gender and social elements) integrated in approved in city development strategy, Area, and/or /Structure plans, c) City-level GHG inventory system c) City Corps have formulated investment plans for LCUD investments and measures (EE and RE in public buildings; waste management and WTE; other)	<ul style="list-style-type: none"> · Official documents; Project reports; Investment prospectus · City websites and registers <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · <i>Commitment by city corporations</i> · <i>Willingness of city planners to undergo training and implement LCUD in their planning work</i> · <i>National-level support for city corporation on LCUD</i>
	8) Status of SREDA building rating system	SREDA building rating system under development	SREDA building rating system extended with RE elements in place	SREDA building rating system officially endorsed by the government and implemented on a voluntary basis	<ul style="list-style-type: none"> · SREDA reports and documents · Project progress reports <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · <i>Official support for SREDA rating for voluntary application</i>

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	9) Extended baseline and impact assessment (including impact on gender and selected SDGs)	Individual studies, articles and report, but no integrated study on potential EE in buildings, RE integration and WTE potential. Gender aspects usually not included	Study on national energy savings potential, socio-economic costs and benefits of selected low-carbon interventions with benchmarking (incl. gender-disaggregated info where possible)	Impact study at the end of the project with lessons learned and post-project LCUD action plan (proposed to the interinstitutional Coordination Mechanism, see Indicator 6)	<ul style="list-style-type: none"> · Project technical report (baseline; impact study) · Reports, documents from Bangladeshi institutions ; Articles; Internet <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Access and reliability of information and data made available by companies
Outcome 2 Increased investments in EE (energy efficiency) and RE (renewable energy) in buildings and the built environment	10) Number of investments proposals in EE in public buildings and other low-carbon interventions	N/A	At least 25 investment opportunities identified by partner City Corp (see Indicator 7) and by Project Team in other cities	At least 10 investment projects implemented and supported by the project (one WTE, three rooftop PV, and six EE in buildings). Investment value and project numbers correspond with Indicator 1)[3] ³ :	<ul style="list-style-type: none"> · Numbers of EE and RE investments as given in project reports (see also Indicators 11 and 12) · Project progress reports <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · See Indicators 1) and 2) · Willingness of private and public sector managers/owners to invest and to participate in the Project
	11) Number and size of investments in private buildings and other low-carbon interventions	N/A	At least 75 investment opportunities identified through Call for Proposals and by Project Team	At least 35 investment projects implemented and supported by the project (10 rooftop PV, 20 EE in buildings and one WTE). Investment value and project numbers correspond with Indicator 1)[4] ⁴ :	

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
Outcome 3 Knowledge increased of practitioners and awareness raised of city dwellers on low-carbon, green, development	12) Number of LCUD-relevant awareness campaigns (through mass media)	Green Building Newsletter (Switch Asia project)	Achieve 50% of the end-of-project target Project newsletter	10 public and media events, Leaflets; Project newsletter converted in LCUD newsletter (by BLCCN)	<ul style="list-style-type: none"> · Mass media materials · Project progress reports · Surveys on target groups' responses <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Reasonable cost of mass media ads and air time · Interest shown by the public at large and target groups in particular
	13) Number of stakeholders trained and/or awareness raised on LCUD concepts EE in buildings, building materials and integration of PV (with gender targets) and % of trainees that skills obtained	Limited training on green buildings, WTE	Fifteen 'trainers' trained to led workshop, seminar and technical training Three events on LCUD-relevant themes in which 150 staff from public, NGO and private stakeholders participate (at least 30% female) Project inception workshop Three multi-day targeted training events (30% female)	Fifteen 'trainers' trained; Five events on LCUD-relevant themes in which 350 staff from public, NGO and private stakeholders participate (at least 30% female) End-of-project workshop Five multi-day targeted training events (three on EE in buildings, PV in buildings, WTE, in which 60 staff participate (30% female) Percentage of trainees that use skills obtained in their work at yr 4	<ul style="list-style-type: none"> · Workshop and training reports; Minutes of meeting · Project reports · Training materials · After-training evaluations, incl. post-training survey at yr 4 <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Willingness of stakeholders to participate in training and of females to participate (see also Gender assessment) · Availability of good experts to deliver training and workshops

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	14) Status of institutionalisation in awareness and capacity building	Individual government institutions and universities deal with LCUD on a theme-by-theme basis	a) Low-Carbon Cities Network (BLCCN) established with small secretariat with two-year work plan with gender-sensitive targets b) Centre of Expertise and Training inaugurated with approved two-year work plan with gender-sensitive targets (supported financially by LCUD project)	Functioning and fully operational and financially sustainable: a) Low-Carbon Cities Network (BLCCN) b) Centre of Expertise and training (with approved post-project work plans with gender-sensitive targets)	<ul style="list-style-type: none"> · Web portal, annual reports, annual work plans of Centre and of BLCCN · Project progress report · Publications, info materials, reports (see also Indicators 15) and 12) <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · Willingness of agency/ministry/ or institution to host BLCCN and to host the Centre
	15) Availability of updated information, via register and web portal (incl. gender-specific info)	N/A	Website established at selected Centre of Expertise and for BLCCN	Functioning LCUD and green buildings website, updated on weekly basis, also promoted on Facebook, YouTube, etc., and linked with UNDP website Availability of gender-specific info	<ul style="list-style-type: none"> · Web portal and statistics on visitors; Survey of web visitors' opinion · Database outputs · Reports with benchmarking data · Project reports
	16) Database with sufficient, detailed and reliable energy performance data on (new) commercial buildings	No such database	Database established at SREDA and Centre of Expertise	Functioning database with sufficient data to establish benchmarks per type and size of (large) building (accessible through the websites of Indicator 15) Number of site visits and comments by visitors	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · Centre will host the webpage and database and will regularly maintain and update with new information · Willingness of entities to make energy performance and other data available

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target	Data collection methods and Assumptions
	17) Annual award ceremonies on best LCUD practices and greenest building	N/A	Two award ceremonies held	Four award ceremonies held	<ul style="list-style-type: none"> · SREDA · Media reports on ceremonies <p><i>Assumptions:</i></p> <ul style="list-style-type: none"> · Interest of building and project developers and owners to participate

[1] EE in public buildings (0.019 million ton of CO₂ from avoided 2,363 MWh/yr), EE in private buildings (0.047 million ton CO₂ from avoided 5,845 MWh/yr), PV in public buildings (0.022 million tons CO₂ from substituted 2,778 MWh/yr), PV in private buildings (0.128 million tons of CO₂ from substituted 15,919 MWh/yr), waste-to-energy (1.356 million ton of CO₂ from substituted 36,868 MWh/yr)

[2] Indirect emissions are three times the direct emissions (replication factor = 3),

[3] EE in public buildings (USD 0.93 million), PV in buildings (USD 1.90 million), WTE (USD 3.04 million)

[4] EE in private buildings (USD 2.75 million), PV in private buildings (USD 10.81 million), WTE (USD 3.99 million)

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

1) GEF Council Comments

2) Comments from GEFSEC

PIF was approved in November 2017 Council Work Programme after three sets of comments (Jan 21, 2016, Mar 24, 2016 and Apr 16, 2016) were addressed fully and includes the following as per agreed response.

Comments	Responses
<p>Germany's Comments Germany approves this project in the work program but asks that the following comments are taken into account:</p> <p>Germany welcomes the project proposal to assist Bangladesh's burgeoning cities in their pursuit of low-carbon solutions in the face of extremely rapid urbanization. The proposal is thorough in describing the country context and problem of unsustainable resource usage in an urban context. A wide range of stakeholders and significant co-financing have been identified. The potential for up-scaling project activities is also great.</p> <p>Suggestions for improvements to be made during the drafting of the final project proposal:</p> <ul style="list-style-type: none"> • Notably absent from the project description is any mention of how progress will be monitored. On the one hand, the project will need systems for keeping track of the global environmental benefits. On the other hand, systems will need to be established for monitoring progress, including co-benefits related to human development, on each of the components described in the PIF. Germany encourages careful consideration of how the project will measure its success as it moves into the Project Preparation Grant (PPG) stage. 	<p>Suggestions incorporated:</p> <p>Monitoring as per Results Framework – Section 6 and Output 3.3 in the Prodoc.</p> <p>GEB tracked through Activity 1.1.5 (Institutionalization of LCUD intervention and related GHG MRV at the Department of Environment (of MoEFCC) and 3.1.4 (Energy and low-carbon data gathering and database) in Prodoc.</p>

3) Responses to STAP Comments of November 6, 2017

Comments	Responses
<p>Question 4. Is the project designed with sound incremental reasoning?</p> <p>XT, March 24, 2016: At the CEO Endorsement stage, please provide CO2 reduction benefits that result from GEF investment exclusively. Comment cleared.</p>	<p>In the ProDoc, see Annex F that provides estimation details of Greenhouse Gas emission reductions.</p>

Comments	Responses
<p>1. This project aims to reduce greenhouse gas (GHG) emissions by enabling investments in renewable energy, energy efficiency, and waste to energy applications, to support urban development in Bangladesh.</p>	<p>OK</p>

Comments	Responses
2. Rapid growth in population and urban drift have inhibited plans to reduce national GHG emissions. Barriers include lack of policies, poor urban planning, lack of finance, inadequate solid waste management, and poor coordination between agencies on the national building code and city by-laws to promote energy efficiency.	OK
3. The project will seek to overcome these barriers by including renewable energy (RE), energy efficiency (EE) and treatment of solid wastes in the development plans of four selected cities. A co-ordination committee will be established for each city to ensure proper stakeholder involvement. It will include ministerial departments, as well as the public and private sector institutions.	OK. In the ProDoc, see Section 4, description of Activity 1.2.2 "Establishment of a low-carbon coordination Working Group in the selected partner city corporations"
4. Pilot schemes such as electricity generation from solar PV systems for street lighting, solar lanterns, bioenergy (using rice husks) and biogas from organic waste plants are planned, as well as the education of citizens to improve the local environment and enhance their city lifestyle. Private sector input is being sought to implement demonstration projects that can then be disseminated to other cities.	OK
5. Investments in RE and EE are to be incentivized and supported by USD 9.6 M co-financing from Government grants through the Ministry of Power, Energy and Mineral Resource with private sector investment leveraged.	The development bank IDCOL can make available loans from its EE and RE programme (up to USD 65 million)
6. This project require substantial regulatory and policy changes at the city and national levels for success. It will be useful to study examples of successful policies elsewhere and adapt them where appropriate. Examples of policies to encourage renewable energy initiatives by cities are described in an IEA publication (https://www.iea.org/publications/freepublications/publication/Cities2009.pdf) and should be reviewed when further developing the project.	From analysis and discussion with stakeholders during PPG phase, it is found that rooftop PV form the most promising technology, also in view of recent changes in regulations on net metering
7. The project intends to introduce EE labeling and standard as a means of promoting energy efficiency and conservation (EE&C) in the residential sector. It aims to integrate an energy performance index (EPI) in city corporation by-laws for buildings and energy efficiency in public lighting. This would be a worthwhile achievement, but the implementation of standards and regulations will depend on effective enforcement. No activity has been planned specifically to build the capacity to enforce regulations and standards.	The projects intends not to introduce appliance standards and labelling. Energy-environment labelling for buildings of certain type and size will be supported (incl. SREDA's proposed building rating scheme). Second, implementation of EE in BNBC-Revised regulation (formulated, but pending official publication in Gazette) will be important, Here, coordination is important to have effective enforcement (Activities 1.1.2 and 2.1.1) as well as capacity building of national and city urban planning and building officials (Activity 1.2.2)
8. Furthermore, integrated resource recovery centers (IRRCs) for waste treatment, which are planned in this project, have proven to be successful elsewhere and could be replicated in other cities, but have been constrained partly due to a lack of technical expertise - so capacity building is a key activity to be implemented.	Technical training will address WTE but will also touch on broader waste management issues and options (building on Waste concern's IRRC model, or ward-level organization). This is part of Activity 3.1.2)
9. Around 860 kt CO ₂ -eq of emission reductions are projected over the lifetime of the interventions, but the calculation is provisional until details of the proposed interventions can be confirmed at a later stage.	Details calculations have been carried out and are presented in Annex F of the Project Document
10. Given that the project aims to reduce GHG emissions at the city level, it has similar objectives to the World Bank-led GEF Integrated Approach Programme on "Sustainable Cities." Links should therefore be made with the World Bank programme, especially on methodologies, tools, and indicators, to provide shared learning experiences.	Links will indeed be made with WB-GEF Integrated Approach, as well as other initiatives, such as ICLEI and IFC's EDGE.

Comments	Responses
<p>11. Missing from the proposal is how the project will be monitored and evaluated. Annex A shows some plans for evaluating aspects of Component 3, the education of city dwellers. However, overall it is not clear what indicators will be used to measure the success of this USD 28 M investment across all three components. This should be given further attention.</p>	<p>As part of the Project's M&E, there will be continued tracking of the results framework and its progress against the indicators and conducting annual reviews and organizing the mandatory midterm review and terminal evaluation. UNDP and the project will also compile lessons learned and share these at seminars, including the end-of-project workshop/seminar. The following activities of the project will provide useful quantitative and qualitative information and info for measurement (see Indicators in the Project's logframe):</p> <ul style="list-style-type: none"> 1.1.1 Review and study of status, issues, and options of low-carbon policy instruments and incentives 1.1.3 Studies on energy savings potential, costs, and benefits of selected low-carbon interventions and available policy instruments 2.1.3 Energy audits, feasibility analysis, and business/finance plan for selected low-carbon investments in buildings and built environment (EE, RE, WTE) 2.2.2 Monitoring and evaluation of the Project-supported investments, compliance with regulations, voluntary guidelines, and green building rating systems 3.1.3 Energy and low-carbon data gathering and database 3.2.2 Elaboration of knowledge products, low-carbon database, case studies, best practices and lessons learnt

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF:			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Conduct of Studies and Surveys	30,000	6,698	23,302
Conduct of Logical Framework Analysis (LFA) workshop	15,000	3,284	11,716
Identification and assessment of demonstrations that will be implemented in the project	15,000	12,980.	2,020
Detailed design of the project components and activities	30,000	20,000	10,000
Conduct of stakeholder and project partner coordination meetings	25,000	15,823	9,177
Preparation of the UNDP-GEF Project Document (ProDoc) and GEF CEO Endorsement Request (CER) Document	35,000	28,000	7,000
Finalization of the ProDoc and CER Document	-	-	-
Total	150,000	86,785	63215

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core indicator 6: Greenhouse gas emissions mitigated

GHG emission type	Metric tons CO₂-eq (expected at PIF)	Metric tons CO₂-eq (expected at CEO ER)	Metric tons CO₂-eq (expected at MTR)	Metric tons CO₂-eq (expected at TE)
Lifetime direct project GHG emissions mitigated	857,500	1.573 million		
Lifetime indirect GHG emissions mitigated	--	4.719 million		

Note:

Core indicator 11: Number of direct beneficiaries disaggregated by gender (GEF and co-financing)

	Total number (expected at PIF)	Total number (expected at CEO ER)	Total number (achieved at MTR)	Total number (achieved at TE)
Women	--	5,000		
Men	--	5,000		
Total	--	10,000		

Note:

Calculation of Indicators and calculation methodology are discussed in Annex F of the UNDP Project Document

ANNEX: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics/themes that best describes the project

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input checked="" type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input checked="" type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input checked="" type="checkbox"/> Financial intermediaries and market facilitators	
		<input checked="" type="checkbox"/> Large corporations	
		<input checked="" type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input type="checkbox"/> Beneficiaries		
	<input type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input checked="" type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input checked="" type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input checked="" type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input checked="" type="checkbox"/> Education	
		<input checked="" type="checkbox"/> Public Campaigns	
		<input type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input checked="" type="checkbox"/> Learning		
		<input checked="" type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	
		<input type="checkbox"/> Indicators to Measure Change	

	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input type="checkbox"/> Sex-disaggregated indicators	
		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input type="checkbox"/> Access and control over natural resources	
		<input type="checkbox"/> Participation and leadership	
		<input type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (14 Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Saharan Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework

		<input type="checkbox"/> Energy efficiency
		<input type="checkbox"/> Municipal Financing
		<input type="checkbox"/> Global Platform for Sustainable Cities
		<input type="checkbox"/> Urban Resilience
	<input type="checkbox"/> Biodiversity	
	<input type="checkbox"/> Protected Areas and Landscapes	
		<input type="checkbox"/> Terrestrial Protected Areas
		<input type="checkbox"/> Coastal and Marine Protected Areas
		<input type="checkbox"/> Productive Landscapes
		<input type="checkbox"/> Productive Seascapes
		<input type="checkbox"/> Community Based Natural Resource Management
	<input type="checkbox"/> Mainstreaming	
		<input type="checkbox"/> Extractive Industries (oil, gas, mining)
		<input type="checkbox"/> Forestry (including HCVF and REDD+)
		<input type="checkbox"/> Tourism
		<input type="checkbox"/> Agriculture & agrobiodiversity
		<input type="checkbox"/> Fisheries
		<input type="checkbox"/> Infrastructure
		<input type="checkbox"/> Certification (National Standards)
		<input type="checkbox"/> Certification (International Standards)
	<input type="checkbox"/> Species	
		<input type="checkbox"/> Illegal Wildlife Trade
		<input type="checkbox"/> Threatened Species
		<input type="checkbox"/> Wildlife for Sustainable Development
		<input type="checkbox"/> Crop Wild Relatives
		<input type="checkbox"/> Plant Genetic Resources
		<input type="checkbox"/> Animal Genetic Resources
		<input type="checkbox"/> Livestock Wild Relatives
		<input type="checkbox"/> Invasive Alien Species (IAS)
	<input type="checkbox"/> Biomes	
		<input type="checkbox"/> Mangroves
		<input type="checkbox"/> Coral Reefs
		<input type="checkbox"/> Sea Grasses
		<input type="checkbox"/> Wetlands
		<input type="checkbox"/> Rivers
		<input type="checkbox"/> Lakes
		<input type="checkbox"/> Tropical Rain Forests
		<input type="checkbox"/> Tropical Dry Forests
		<input type="checkbox"/> Temperate Forests
		<input type="checkbox"/> Grasslands
		<input type="checkbox"/> Paramo
		<input type="checkbox"/> Desert
	<input type="checkbox"/> Financial and Accounting	
		<input type="checkbox"/> Payment for Ecosystem Services
		<input type="checkbox"/> Natural Capital Assessment and Accounting
		<input type="checkbox"/> Conservation Trust Funds
		<input type="checkbox"/> Conservation Finance
	<input type="checkbox"/> Supplementary Protocol to the CBD	
		<input type="checkbox"/> Biosafety
		<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests	
	<input type="checkbox"/> Forest and Landscape Restoration	
		<input type="checkbox"/> REDD/REDD+
	<input type="checkbox"/> Forest	
		<input type="checkbox"/> Access

		<input type="checkbox"/> Integrated and Cross-sectoral approach
		<input type="checkbox"/> Community-Based NRM
		<input type="checkbox"/> Sustainable Livelihoods
		<input type="checkbox"/> Income Generating Activities
		<input type="checkbox"/> Sustainable Agriculture
		<input type="checkbox"/> Sustainable Pasture Management
		<input type="checkbox"/> Sustainable Forest/Woodland Management
		<input type="checkbox"/> Improved Soil and Water Management Techniques
		<input type="checkbox"/> Sustainable Fire Management
		<input type="checkbox"/> Drought Mitigation/Early Warning
	<input type="checkbox"/> Land Degradation Neutrality	
		<input type="checkbox"/> Land Productivity
		<input type="checkbox"/> Land Cover and Land cover change
		<input type="checkbox"/> Carbon stocks above or below ground
	<input type="checkbox"/> Food Security	
<input type="checkbox"/> International Waters		
	<input type="checkbox"/> Ship	
	<input type="checkbox"/> Coastal	
	<input type="checkbox"/> Freshwater	
		<input type="checkbox"/> Aquifer
		<input type="checkbox"/> River Basin
		<input type="checkbox"/> Lake Basin
	<input type="checkbox"/> Learning	
	<input type="checkbox"/> Fisheries	
	<input type="checkbox"/> Persistent toxic substances	
	<input type="checkbox"/> SIDS : Small Island Dev States	
	<input type="checkbox"/> Targeted Research	
	<input type="checkbox"/> Pollution	
		<input type="checkbox"/> Persistent toxic substances
		<input type="checkbox"/> Plastics
		<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
		<input type="checkbox"/> Nutrient pollution from Wastewater
	<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
	<input type="checkbox"/> Strategic Action Plan Implementation	
	<input type="checkbox"/> Areas Beyond National Jurisdiction	
	<input type="checkbox"/> Large Marine Ecosystems	
	<input type="checkbox"/> Private Sector	
	<input type="checkbox"/> Aquaculture	
	<input type="checkbox"/> Marine Protected Area	
	<input type="checkbox"/> Biomes	
		<input type="checkbox"/> Mangrove
		<input type="checkbox"/> Coral Reefs
		<input type="checkbox"/> Seagrasses
		<input type="checkbox"/> Polar Ecosystems
		<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Chemicals and Waste		
	<input type="checkbox"/> Mercury	
	<input type="checkbox"/> Artisanal and Scale Gold Mining	
	<input type="checkbox"/> Coal Fired Power Plants	
	<input type="checkbox"/> Coal Fired Industrial Boilers	
	<input type="checkbox"/> Cement	
	<input type="checkbox"/> Non-Ferrous Metals Production	
	<input type="checkbox"/> Ozone	

		<input type="checkbox"/> Emissions	<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input checked="" type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries
			<input type="checkbox"/> Small Island Developing States
			<input type="checkbox"/> Disaster Risk Management
			<input type="checkbox"/> Sea-level rise
			<input type="checkbox"/> Climate Resilience
			<input type="checkbox"/> Climate information
			<input type="checkbox"/> Ecosystem-based Adaptation
			<input type="checkbox"/> Adaptation Tech Transfer
			<input type="checkbox"/> National Adaptation Programme of Action
			<input type="checkbox"/> National Adaptation Plan
			<input type="checkbox"/> Mainstreaming Adaptation
			<input type="checkbox"/> Private Sector
			<input type="checkbox"/> Innovation
			<input type="checkbox"/> Complementarity
			<input type="checkbox"/> Community-based Adaptation
			<input type="checkbox"/> Livelihoods
		<input checked="" type="checkbox"/> Climate Change Mitigation	
			<input type="checkbox"/> Agriculture, Forestry, and other Land Use
			<input type="checkbox"/> Energy Efficiency
			<input checked="" type="checkbox"/> Sustainable Urban Systems and Transport
			<input type="checkbox"/> Technology Transfer
			<input type="checkbox"/> Renewable Energy
			<input type="checkbox"/> Financing
			<input type="checkbox"/> Enabling Activities
		<input type="checkbox"/> Technology Transfer	
			<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
			<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
			<input type="checkbox"/> Endogenous technology
			<input type="checkbox"/> Technology Needs Assessment
			<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> United Nations Framework on Climate Change	
			<input type="checkbox"/> Nationally Determined Contribution
			<input type="checkbox"/> Paris Agreement



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