GEF-7 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project two-steps
TYPE OF TRUST FUND: Capacity-Building Initiative for Transparency

PART I: PROJECT INFORMATION

Project Title:	Strengthening capacity in the energy, agriculture, forestry and other land-use sectors for enhanced transparency in the implementation and monitoring of Benin's Nationally Determined Contribution		
Country(ies):	Benin	GEF Project ID:	
GEF Agency(ies):	FAO	GEF Agency Project ID:	654980
Project Executing Entity(s):	Ministère du Cadre de Vie et du Développement Durable (MCVDD)	Submission Date:	
GEF Focal Area(s):	Climate Change	Project Duration (Months)	36 months

A. INDICATIVE FOCAL/NON-FOCAL AREA ELEMENTS[1]

Programming Directions	Trust Fund	(in $)	
		GEF Project Financing	Co-financing
CCM-3-8	GEFTF	1,319,863	260,000
Total Project Cost		1,319,863	260,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: By 2023 Benin is preparing reports to the UNFCCC under the Paris Agreement Enhanced Transparency Framework (ETF) with strengthened energy, agriculture, forestry and other land use (AFOLU) sector components including inventories of emission sources and sinks and information necessary to track progress against priority actions identified in Benin's NDC for these sectors.

Project Indicator: Number of reports prepared for the UNFCCC satisfying ETF requirements
Project Target: At least one report to the UNFCCC satisfying ETF requirements prepared

Project Components	Component Type	Project Outcomes	Project Outputs	Trust Fund	(in $)	
					GEF Project Financing	Co-financing
Component 1. Institutional arrangements enhanced to coordinate preparation of ETF reports for the energy and AFOLU sectors	TA	1.1 Institutional arrangements enhanced for coordinating information and data from the energy and AFOLU sectors into ETF processes and reports Indicator and target: plan to set up or upgrade legal instruments establishing roles and responsibilities of institutional stakeholders in the energy and AFOLU sectors embedding ETF requirements elaborated	1.1.1 Assessment prepared regarding institutional arrangements, data collection, analysis and reporting capacity gaps and needs for meeting ETF requirements with specific focus on the priority NDC actions for the energy and AFOLU sectors 1.1.2 Awareness raised amongst	GEFTF	544,875	117,000

[1] https://www.thegef.org/sites/default/files/documents/17GEF%207%20Focal%20Area_Non%20FA%20objectives_0_0_8.docx

			the energy and AFOLU sectors policy makers and practitioners on mainstreaming institutional arrangements in the ETF processes 1.1.3. A roadmap for achieving the ETF institutional arrangements for the energy and AFOLU sectors prepared and adopted 1.1.4 A sustainable multi-sectoral coordination mechanism strengthened integrating relevant institutions/ stakeholders into national UNFCCC reporting processes.			
		1.2 Data and information collection, QA/QC processes and system infrastructure enhanced Indicator and target: improved archiving and QA/QC procedures elaborated and IT infrastructure upgraded	1.2.1 Best practices on data and information acquisition and system infrastructure in the energy and AFOLU sectors collected and shared with other relevant priority sectors 1.2.2 Regular and systematic documentation and archiving procedures as well as quality assurance and quality control processes improved to ensure accuracy and sustainability of MRV and M&E systems in			

			the energy and AFOLU sectors 1.2.3 Information management system and infrastructure for the energy and AFOLU sectors upgraded			
Component 2. Capacity to assess and report emissions and removals from the energy and AFOLU sectors and to monitor related emission reduction activities strengthened with respect to the ETF	TA	2.1 Monitoring of NDC mitigation activities and reporting on inventories of greenhouse gases from the energy and AFOLU sectors strengthened Indicator and target: at least 1 national/ sectoral report prepared integrating tracking of progress in the implementation of NDC mitigation activities	2.1.1. Technical capacity enhanced for relevant institutions to adopt and mainstream *ETF-enhanced MRV Global Products* and other international tools for monitoring, reporting and verifying the implementation of priority NDC mitigation activities from the energy and AFOLU sectors 2.1.2. Knowledge of methodologies to collect activity data increased and country-specific emission factors developed in the energy and AFOLU sectors 2.1.3. National/ sectoral reports prepared and submitted on inventory of greenhouse gases from the energy and AFOLU sectors consistent with latest UNFCCC reporting guidelines.	GEFTF	330,000	65,000
Component 3. Capacity to monitor and evaluate adaptation activities in energy and AFOLU sectors strengthened with respect to the ETF	TA	3.1 Monitoring and evaluation of NDC priority adaptation actions in the energy and AFOLU sectors strengthened Indicator and target: 1 national/ sectoral	3.1.1. Technical capacity enhanced in relevant institutions to adopt and mainstream *ETF-enhanced M&E Global Products*	GEFTF	325,000	78,000

		report integrating the M&E framework prepared	and other international tools for monitoring and evaluating NDC priority adaptation actions in the energy and AFOLU sector s 3.1.2. National/ sectoral appropriate indicators and monitoring and evaluation framework developed for NDC priority adaptation actions in the energy and AFOLU sectors 3.1.3. National reports prepared on priority adaptation activities in the energy and AFOLU sectors consistent with the latest ETF available guidance.			
			Subtotal	(select)	1,199,875	260,000
			Project Management Cost (PMC)	GEFTF	119,988	
			Total Project Cost		1,319,863	260,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: (N/A)

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount ($)
Recipient Government	Ministère du Cadre de Vie et du Développement Durable (MCVDD)	In-kind	Y	10,000
GEF Agency	FAO	Other	Y	150,000
GEF Agency	FAO	Other	Y	100,000
Total Co-financing				260,000

Describe how any "Investment Mobilized" was identified. The investment mobilized is defined as the new and additional funding made available by the project partners in order to complement investments made by the GEF to achieve specific project results.

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

					(in $)

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	GEF Project Financing (a)	Agency Fee (b)	Total (c)=a+b
FAO	GEFTF	Benin	Climate Change	(select as applicable)	1,319,863	125,387	1,445,250
Total GEF Resources					**1,319,863**	**125,387**	**1,445,250**

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					PPG (a)	Agency Fee (b)	**Total** c = a + b
FAO	GEFTF	Benin	Climate Change	(select as applicable)	50,000	4,750	54,750
Total PPG Amount					**50,000**	**4,750**	**54,750**

F. PROJECT'S TARGET CONTRIBUTIONS TO GEF 7 CORE INDICATORS

Provide the relevant sub-indicator values for this project using the methodologies indicated in the Core Indicator Worksheet provided in Annex B and aggregating them in the table below. Progress in programming against these targets is updated at the time of CEO endorsement, at midterm evaluation, and at terminal evaluation. Achieved targets will be aggregated and reported at anytime during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Project Core Indicators		Expected at PIF
1	**Terrestrial protected areas** created or under improved management for conservation and sustainable use (Hectares)	
2	**Marine protected areas** created or under improved management for conservation and sustainable use (Hectares)	
3	Area of **land restored (**Hectares)	
4	Area of **landscapes under improved practices** (excluding protected areas)(Hectares)	
5	Area of **marine habitat under improved practices** (excluding protected areas) (Hectares)	
	Total area under improved management (Hectares)	
6	**Greenhouse Gas Emissions Mitigated** (metric tons of CO2e)	
7	**Number of shared water ecosystems** (fresh or marine) under new or improved cooperative management	
8	Globally over-exploited **marine fisheries** moved to more sustainable levels (metric tons)	
9	**Reduction**, disposal/destruction, phase out, **elimination** and avoidance of **chemicals of global concern** and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of **POPs to air** from point and non-point sources (grams of toxic equivalent gTEQ)	
11	Number of **direct beneficiaries** disaggregated by gender as co-benefit of GEF investment	100 (50/50)

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicators targets are not provided.

G. PROJECT TAXONOMY

Please refer to the Taxonomy Worksheet provided in Annex C.

PART II: PROJECT JUSTIFICATION

1a. *Project Description.* Briefly describe:
1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project; 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling-up.

- Global environmental and/or adaptation problem, root causes and barriers to be addressed.

1. Benin has a total land area of 114,763 km^2. Its topography is largely flat characterized by a continental tropical climate in the north and a subequatorial climate in the south [2] with an average rainfall between 700 mm and 1500 mm respectively, and temperatures ranging from 27 to 45 degrees Celsius[Error! Bookmark not defined.]. The population of Benin was 10.6 million in 2015[3] (doubled from 1990[4]) of which 56 percent lives in rural areas[5], and is growing at an average annual rate of 3.5 percent – higher than the average rate of other Western African countries[3,6]. More than half of the population, however, is concentrated in the south of the country on less than 11 percent of the national territory.[7]

2. "Benin's natural environment is deteriorating steadily. Rapid population growth coupled with a mismatch between natural resource use and the rate of resource renewal are at the root of the problems. Climate change, especially the rise in temperatures and rainfall, and recurrent floods, will compound the challenges faced in agriculture (water management), forestry (deforestation), and health (spread of infectious diseases), while the coastal fringe will likely experience a rise in sea level"[8].

3. *Economy Sector and Poverty Overview:* From 2006 to 2015 Benin's GDP grew at an average rate of 4,2 percent per year[2], below the 7 percent target necessary to eliminate poverty (PAG 2016-2021)[2]. National poverty rate is indeed on the rise: 37.5 percent in 2006, 59.9 percent in 2015 (43,6 percent in rural areas[9]). 28 percent of female-headed households experience poverty compared to 38 percent for male-headed households. Food and nutrition security remain weak, particularly in rural areas.

4. Although there has been progress in access to education in Benin at all levels, the literacy rate for women is 27% (77% in urban areas, 20% rural areas) while it is 50% for men. In rural areas, which occupy more than 80% of Benin's working population and whose living conditions remain difficult, significant inequalities remain for women, especially with regard to land ownership (19% for women, 37% for men; Women must rent the land and the one offered is often of low quality), access to credit (women have less access to "traditional" credit), division of labor (about 70% of women live in rural areas, where they perform 60 to 80% of agricultural work in addition to the household tasks, and provide up to 44% of the benefits needed to feed their families) [10].

5. Agriculture is the main sector of women's activity, of which only 26% are employed in a non-agricultural sector. In 2015, the labor force participation rate for women was 69% compared to 79% for men. Women working in the informal sector represent a significant proportion of the working population. As a consequence of lack of economic opportunities and reduced access to education, women are underrepresented in high-level decision-making

[2] Nationally Determined Contributions of Benin, 2017 (http://www4.unfccc.int/ndcregistry/PublishedDocuments/Benin%20First/CDN_BENIN_VERSION_ANGLAISE.pdf)
[3] UNDESA, World Population Prospects 2017 (https://esa.un.org/unpd/wpp/)
[4] FAOSTAT Country Indicators (http://www.fao.org/faostat/en/#country/53)
[5] IFAD, country overview (https://www.ifad.org/web/operations/country/id/benin)
[6] FAO, Cadre de programmation pays du Benin 2017-2021 (http://www.fao.org/fileadmin/user_upload/FAO-countries/Benin/docs/FAO-BENIN-CPP_2017-2021.pdf)
[7] FAO, AQUASTAT, Benin Country profile, 2018 (http://www.fao.org/nr/water/aquastat/countries_regions/BEN/index.stm)
[8] World Bank, FY13-17 Country partnership strategy for the Republic of Benin
[9] International Monetary Fund, Country Report No. 18/1 (http://www.imf.org/~/media/Files/Publications/CR/2018/cr1801.ashx)
[10] https://plateforme-elsa.org/wp-content/uploads/2016/10/Profil-Genre-Benin.pdf

positions and remain relatively absent in the political sphere: in 2015, women occupy 12% parliamentary seats and 11% of ministerial positions[11].

6. *Energy Sector Overview:* The country faces many energy-related challenges. Only one-third of the population has access to electricity, disruptions are frequent, over 80% of electricity is imported, wood remains the primary source of energy for households and cooking, and changing climate is driving up increased temperatures which puts further pressure on to the country's energy system. With forecasts of temperature increases of 1 ° C to 2.5 ° C and prolonged dry seasons which reduce hydropower production capacity, the forested areas of the country are under threat. National statistics indicate that about 160,000 hectares are cleared annually for fuel[12]. Despite recent policies implemented aimed at improving the national energy system, nearly 60% of Benin's energy mix still comes from biomass[12] with deep implications on the (CO_2) emissions from the AFOLU sector.

7. *Energy as a driver of climate change[13]:* Energy in Benin is the first source of GHG emissions (47.4%, excluding LULUCF[14]) or approximately 6,166 Gg CO_2eq in 2015. Within the sector, transportation is responsible for 75% of the GHG emissions, followed by households (9.5%), power plants (8.2%) and manufacturing industries/constructions (5.6%). Over the 1990 to 2015 period, total direct GHG emissions from the energy sector increased 7.1 times on average (transportation 23 times, energy industries 5 times; and manufacturing / construction industries 4.5 times; residential, institutional and commercial, 2). The contribution of fugitive emissions overall sector emissions is negligible and Benin has stopped producing oil since 1998.

8. The strong contribution of the transport sector to overall GHG emissions from the energy sector is due, among other things, to the sharp increase in consumption of petroleum products, in particular in the road transport sector, favored by the development of the illicit trade in cheap petroleum products imported from Nigeria, the development of the imported second-hand car industry and the development of two-wheeled commercial transport called "zemidjans". None of the current government policies and activities seem to target the GHG emissions in this sector. The low contribution of the residential category to total energy sector emissions is explained by the exclusion of CO_2 emissions resulting from the combustion of energy biomass from the energy sector, as they must be accounted for in the AFOLU sector.

9. *Agriculture Sectors Overview:* Agriculture—including forestry, crop and livestock production and fisheries—is a significant source of economic activity, accounting for 23 percent of GDP in 2017**Error! Bookmark not defined.**, and a significant source of greenhouse gas emissions[15]. The agriculture sectors employed 45 to 55 percent of the total labor force in 2015, and 70 percent of the population is directly and/or indirectly dependent on income generated by the sector[16,17].

10. Industrial scale agriculture is expanding in the cotton sector, but most farmers are still smallholder households who suffer from climatic volatility, lack of water management, weaknesses in input procurement and distribution, poor farming skills and under-developed rural roads and market infrastructure**Error! Bookmark not defined.**.

[11] https://plateforme-elsa.org/wp-content/uploads/2016/10/Profil-Genre-Benin.pdf

[12] https://www.thegef.org/sites/default/files/project_documents/ID5431%2520%2520RESUBMISSION_Benin_4979_LDCF%252028June2013_0.pdf

[13] Benin First BUR (draft, p. comm).

[14] Benin NDC (2012), https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Benin%20First/CDN_BENIN_VERSION_ANGLAISE.pdf

[15] CO_2eq emissions from agriculture accounted for 45.9% of total GHG emissions in Benin in 2017 (excluding LULUCF), whereas land use sources are a net sink, making the overall GHG balance negative. Source: Nationally Determined Contributions of Benin, 2017 (http://www4.unfccc.int/ndcregistry/PublishedDocuments/Benin%20First/CDN_BENIN_VERSION_ANGLAISE.pdf)

[16] World Bank, FY13-17 Country partnership strategy for the Republic of Benin (http://documents.worldbank.org/curated/en/525721468199479994/pdf/757740CASP0P120Official0use0only090.pdf)

[17] IFAD, Republic of Benin, Country strategic opportunities programme 2018-2022 (https://webapps.ifad.org/members/eb/123/docs/EB-2018-123-R-5.pdf?attach=1)

11. Production is still insufficient to cover the internal needs[18], yet it is growing mainly due to favorable weather conditions, better access to agricultural inputs, and surface expansion[19]. Growth of the agricultural sector is crucial for ensuring economic improvement, poverty reduction and development. However, greater attention and scrutiny should be devoted to the possible environmental consequences and climate-related risks that could jeopardize its sustainability, so the core and inherent vulnerabilities associated with agriculture livelihoods, including conservation of the remaining natural forests, need to be addressed.

12. Beninese agriculture is particularly susceptible to flood and drought. The intensity and frequency of floods have increased considerably since 1971 with major floods occurring in 1988, 1997, 1998 and 2010. Drought is also a key concern with major events in 1977 and 1984 causing significant economic losses in numerous provinces.[20]. Irrigation remains embryonic and involves a very small number of producers. The collection of water resources by the different users is anarchical and uncontrolled. There is currently no water management organization in agriculture.**Error! Bookmark not defined.**

Crops: Crops are the major agriculture sub-sector in Benin and the key source of agricultural growth. Cropland now accounts for around 25 percent of the total Benin's total land area or 37,500 square kilometers and maize alone accounts for about 30 percent of the cropped area (2015 data). The latter has expanded by 50% between 2005 and 2015 (3,5 mln ha), mainly at the expense of forests[21]. Production data for the major crops are reported in Table 1.

TABLE 1 PRODUCTION, AREA, AND YIELDS OF MAJOR CROPS, BENIN, 2005-2015[21]

	2005			2015		
Crop	**Production (ton)**	**Cultivated Area (ha)**	**Yield (ton/ha)**	**Production (ton)**	**Cultivated Area (ha)**	**Yield (ton/ha)**
Cassava	1,833,596	286,678	6.4	3,420,665	284,033	12.0
Yams	2,128,721	188,800	11.3	2,650,498	202,605	13.1
Maize	829,380	752,218	1.1	1,286,060	1,003,715	1.3
Oil palm fruit	290,000	22,000	13.2	294,500	34,937	17.4
Tomatoes	140,573	34,035	4.1	303,893	39,030	7.8
Seed cotton	163,468	156,350	1.0	269,212	313,535	0.9
Pineapples	121,182	2,064	58.7	244,207	5,146	47.5
Cashew	52,500	190,000	0.3	225,230	693,016	0.3
Rice	83,454	39,412	2.1	204,310	65,305	3.1

13. *Farm chemicals:* Use of chemical fertilizers is growing in parallel with crop production. FAOSTAT data show that the use of fertilizers increased on average by 2500 percent over the 2005-2015 period[22] while the value of pesticides imports increased by 500 percent[23] (Table 2). This leap has been linked to the expansion of cultivated areas for cotton, lowering soil fertility and increasing soil degradation. Recent government estimates indicate that around a third of the land is in a state of medium to high degradation, especially in the North[24]. Current farmers' capacity to make efficient use of farming chemicals to compensate for low yields and degrading soils appears however limited[25].

TABLE 2 ILLUSTRATIVE USE OF CHEMICALS IN AGRICULTURE, BENIN, 2005 AND 2015[22]

		2005	2015
Chemical	**Units**		

[18] FAO, Cadre de programmation pays du Benin 2017-2021 (http://www.fao.org/fileadmin/user_upload/FAO-countries/Benin/docs/FAO-BENIN-CPP_2017-2021.pdf)
[19] International Monetary Fund, Country Report No. 18/1 (http://www.imf.org/~/media/Files/Publications/CR/2018/cr1801.ashx)
[20] Second National Communication of Benin, 2011 (https://unfccc.int/documents/67670)
[21] FAOSTAT, Production data, 2018
[22] FAOSTAT, Fertilizers by nutrient, Agricultural use, 2018
[23] FAOSTAT, Pesticides trade, 2018
[24] https://lanouvelletribune.info/2017/06/benin-29-a-33-terres-se-trouvent-etat-de-degradation/
[25] Honfoga, B. G. (2018). Diagnosing soil degradation and fertilizer use relationship for sustainable cotton production in Benin. Cogent Environmental Science, 4(1), 1422366 (https://www.cogentoa.com/article/10.1080/23311843.2017.1422366)

N fertilizers	Tonne	413	10,226
Phosphates (P2O5)	Tonne	404	10,047
Potash (K2O)	Tonne	409	10,209
Pesticides (total net imports)	Thousands US$	1,331	6,609

14. *Livestock and fisheries:* Livestock is the second largest agriculture sector activity in Benin, contributing to nearly 10% of the overall agriculture production value[26] and an important source of food, income and labor for rural Beninese households, especially in the North. Some 36 per cent of Beninese households engage in some form of raising livestock[27]. Cattle, small ruminants, pigs and poultry are the main species raised with traditional methods[28] for beef, milk and eggs[29]. Fishing, both in freshwater bodies such as lagoons and rivers and at sea, is also a significant agriculture sector activity and an important source of food security, nutrition and labor. Production level however is insufficient to meet the internal demand and is also decreasing due to uncontrolled misuse of fishing gear, non-selective fishing methods and the degradation of the aquatic environment[29].

15. *Forestry:* About 37 percent of Benin's land area is classified as forest[30]. A mixture of wooded and shrubby savannahs as well as open forests are located in the Centre and North, and residual semi-deciduous and deciduous rain forests in the South but virtually no primary forest is to be found anymore. The protected forests account for nearly a fourth of the total surface[31]. These resources are under growing pressure from agricultural (crops and pasture) expansion, vegetation and soil degradation consequent to wood removal, demographic pressure, fires, climate change[32]. National level deforestation (at 1.2 percent per annum over the period 1990 to 2015[30]) has reduced the productive capacity of Benin forest ecosystem services and agro-ecological flows. Forest resources are still an essential source of energy for Benin with 80 percent households relying on fuel wood for cooking and an additional 13 percent on wood charcoal[27].

16. *AFOLU as a driver of climate change:* The agriculture sector is the second source of GHG emissions in Benin after energy, excluding LULUCF. Despite the LULUCF sector is still a sink, however it no longer compensates such emissions. According to *Benin's (draft) First BUR* , in 2015 the agriculture sector was responsible for just above 41 percent of total emissions at the national level or 4,863 Gg CO_2eq , mostly due to enteric fermentation and managed soils (inputs).

17. Deforestation and forest degradation were the largest source of GHG emissions in 2000, responsible for 26,000 Gg CO2eq of emissions. However, land remaining in the forest, cropland and grassland categories as well as those converted to grassland were reported as significant carbon sinks, totaling 42,000 Gg CO_2eq. As a result, on aggregate the land use change and forestry sectors were reported as a sink of just above 11,000 Gg CO_2eq in 2000.[33] Preliminary results from the first BUR for 2015[34] indicate similar estimates, with approximately 7,800Gg Gg CO_2eq due to forest degradation plus 18,600 Gg CO_2eq due to land conversion (total FOLU emissions = 26,800 Gg CO2eq), fully compensated by absorptions in the forests remaining forests and other remaining categories (-36,000 Gg CO_2eq). The same estimates indicate that, in keeping with the pace of expansion of Beninese agriculture over the past fifteen years, total emissions from the agriculture sectors have grown by as much as 18 percent between 2000 and 2015**Error! Bookmark not defined.**

18. *Climate trends and projections:* Benin's SNC analysis of observed trends reveals that the inter-annual variability of rainfall during the period 1951-2010 was characterized by short periods of deficit alternated to short periods of

[26] FAOSTAT, Value of agricultural production, 2018
[27] IFAD, Republic of Benin, Country strategic opportunities programme 2018-2022 (https://webapps.ifad.org/members/eb/123/docs/EB-2018-123-R-5.pdf?attach=1)
[28] Second National Communication of Benin, 2011 (https://unfccc.int/documents/67670)
[29] Ministère de la prospective, Evaluation de la politique de développement du secteur agricole au Benin, 2009 (http://www.mepppd.bj/wp-content/uploads/2015/06/Rapport-%C3%A9valuation-Politique-d%C3%A9veloppement-secteur-agricole.pdf)
[30] FAO, Global Forest Resources Assessments 2015
[31] Benin Second National Communication, 2011 (https://unfccc.int/documents/67670)
[32] African Development Bank, Perspectives Économiques en Afrique 2018, Bénin (https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/country_notes/Benin_note_pays.pdf)
[33] Second National Communication of Benin, 2011 (https://unfccc.int/documents/67670)
[34] Verbal communication.

excess, with great regional variations. In the southern region, droughts were recorded in 1977 and 1983 while floods occurred in 1988, 1997 and 2010. In the northern region, the years 1958, 1977 and 1983 appeared dry while the years 1988 and 1998 recorded widespread floods. While on an annual scale climate analysis does not reveal any significant trends in rainfall variations, seasonal scale shows large differences in the post-1971 period. Similarly, the overall pattern of average annual temperatures observed during the period 1961-2010 does not show a clear upward or downward trend, despite seasonal temperatures were found to deviate from -0.6 ° C to + 0.8 ° C from the monthly averages depending on the calendar month and the area[35].

19. The same analysis for the 1981-2010 period indicates that flooding, stormy rains, drought and extreme heat waves were experienced in the country as possible impacts of climate change, with a fall in agricultural yields, disruption of agricultural calendars and drop in water levels in dams for the supply of drinking water, along with significant human losses. Projected consequences include loss of biodiversity (both in terms of plants and animals) and socio-economic disruptions. [35]

20. While no significant change in annual precipitation and temperature patterns has been observed so far, projections to the end of the century indicate risks of greater variability. In general, annual rainfall is expected to grow by 15 percent in central and northern regions, to decline by 21 percent in the South in April and to grow from 35 to 45 percent in the North in March. March, April and May are the critical months for sowing. At the same time, temperature is projected to increase by 3.27 degrees C on average across the country and sea level to rise steadily to over 0,81 cm by 2100. [35]

21. *Climate risk for agriculture:* The trends in agricultural output and management of natural resources combined with anticipated climate change and persistent capacity constraints mean that Benin's agriculture sectors are highly at risk from adverse climate variability and climate change. Projected increases in the seasonal variability of precipitation will combine with increased temperature and evapotranspiration to further add pressure on available natural resources. The incidence of heavy rainfall events, flood and drought are also projected to increase. The findings of a climate change vulnerability assessment prepared for the SNC indicates that most of Benin's agriculture areas will be exposed to higher risks. However, the effect of such changes on the production of some major crops may be of a possible increase for cotton in all agro-ecological zones and increase in half of them for maize and cowpea, implying a decrease of production in the remaining zones. [35]

22. Rising temperatures will also likely affect the livestock sector leading to possible reductions in dairy and meat productions due to the worsening of pasture conditions, with the possible surge of pathologies linked to higher humidity. The potential impacts of climate change on marine and inland fisheries could affect the distribution areas and productivity with consequent shortage of fish at the national level, reduced quality of waters and fall of incomes among fishing communities. [35]

23. *Benin's Nationally Determined Contribution* - Benin's strategies, policies and investments as set out in Benin's first NDC, submitted on 11 October 2017[36], are crucial for addressing the nation's poverty, food security and the country's ability to respond and adapt to climate change. Enhancing monitoring and planning systems for the energy and agriculture sectors to adapt to climate change impacts and drivers of anthropogenic GHG emissions is crucial for fostering more sustainable development in Benin.

24. To address the drivers and impacts of climate change in the energy and AFOLU sectors, the Government of Benin has highlighted a number of specific actions (covering both adaptation and mitigation) based upon an assessment of key climate vulnerabilities and opportunities for emissions reduction. Such NDC actions are summarized in the table below along with an assessment of how improved capacity for monitoring and reporting could inform and enhance achievement of these actions:

TABLE 3 ENERGY AND AFOLU CCM/CCA PRIORITIES IN BENIN'S NDC

[35] Benin Second National Communication, 2011
[36] Benin's Nationally Determined Contributions, 2017

Category	Short description of priority (adapted from Benin's NDC)	How improved capacity for monitoring and reporting systems can support NDC implementation
Mitigation	*Energy* • Development of electric power generation using natural gas and renewable sources (hydropower) • Increasing households' access to electric lighting in place of kerosene lighting • Promoting efficient use of electric power in all sectors • Promoting low wood-energy consuming technologies (improved cookstoves) • Promoting partial substitution of firewood-energy consumption with butane gas *Agriculture* • Promotion of improved cultural techniques • Promotion of natural fertilizers *Rural energy:* • Promotion of renewable energy • Promotion of more efficient cook stoves • Promotion of transport systems along rivers *Forestry:* • Protection and conservation of natural forests • Implementation of a reforestation plan • Rationalization of use of forest resources	• Actual and forecast emission reductions that can be recalculated on a regular basis to better assess progress • Improved accuracy of national GHG inventories and monitoring and reporting of energy and AFOLU mitigation actions • Capacity to better identify potential mitigation actions in the energy and AFOLU sectors • Enhanced basis for objective assessment of ambition levels with respect to the energy and AFOLU emissions reduction activities • Strengthened evidence base to appeal for finance, technology transfer, and capacity building will reduce emissions by 5,8% (conditional and unconditional mitigation)**Error! Bookmark not defined.**
Adaptation	Strengthening the climate risk prediction and early warning system for food security in vulnerable agro-ecological zones Promotion of climate resilient agriculture for food security and nutrition Promotion of the integrated management of water resources Establishment of micro-dams to improve water availability during droughts Protection of the coastal zone from sea level rise / coastal erosion Strengthening local governance in financing adaptation to climate change Strengthening of capacity in observing the climate and in addressing climate shocks	• Agreed indicators to prepare national baseline scenarios for adaptation which can better inform progress • Improved reporting of adaptation actions • Strengthened evidence base to better design and implement adaptation actions and appeal for finance and technical support • Improved capacity to identify, implement and monitor adaptation co-benefits • Capacity to better identify best practices to scale-up adaptation in a way that facilitates systematic improvements in resilience • Overall improvement in resilience to climate change impacts in rural communities and rural livelihoods

25. The implementation of the above actions requires improved institutional coordination and a robust system for capturing precise data and information that is accurate and credible in reporting on GHG inventories (e.g. by sources and sinks). This requires that Benin has systems in place to track progress in achieving NDCs across priorities covering both mitigation and adaptation, as well as a wide range of sectors (e.g. agriculture and land use, energy, transport) and related sub-sectors (e.g. livestock, field crops, water and forestry, transports).

26. Despite some progress appears to have been made with the **Third National Communication** (under development) by setting up guidelines for a sustainable national GHG inventory management system[37] and with the first BUR[38]

[37] http://permisdeconstruire.bj/informations/textes-officiels-conventions-internationales/tcn-benin-mise-en-place-d-un-systeme-national-d-inventaire-des-gaz-a-effet-de-serre-au-benin/download

[38] http://permisdeconstruire.bj/informations/textes-officiels-conventions-internationales/prba-benin-elaboration-du-premier-rapport-bienal-actualise-du-benin-sur-les-changements-climatiques/download

by establishing a national MRV system for GHG inventory, other ongoing and past projects on building monitoring and reporting capacity for GHG inventories, mitigation and adaptation actions, as well as Benin's NDC (2015) and the SNC (2011) all indicate that insufficient technical and financial capacities and resources are still major constraints to the implementation of national determined contributions and the preparation of national communications on a continuous basis. Based on a synthesis of the NDC findings regarding capacity and on the information contained in the improvement plan of the draft Third National Communication, a number of specific constraints for effective preparation of GHG inventories and monitoring and reporting mitigation and adaptation activities were identified (see **Error! Reference source not found.**).

TABLE 4 BARRIERS AND CONSTRAINTS FOR MEETING ETF REQUIREMENTS IN BENIN WITH A FOCUS ON THE ENERGY AND AFOLU SECTORS [39]

Requirements for national implementation of the ETF	Current Barriers and Constraints - Benin
• ***Awareness*** and understanding of ETF reporting requirements.	• Insufficient awareness regarding the Paris Agreement, the ETF and the need for enhanced transparency in monitoring and reporting of mitigation and adaptation activities at institutional level
• Clear and robust ***institutional arrangements*** for coordinating sector specific information for ETF monitoring and reporting exercises	• Limited coordination amongst relevant institutions/Ministries, insufficient definition of roles and responsibilities of institutions in the gathering of data and information needed to report progress against NDC actions in the energy and AFOLU sectors
• Regular and comprehensive reporting of anthropogenic emissions ***inventories*** by sources and removals prepared using IPCC Guidelines	• Lack of certain activity data (e.g. in the transport sector) and country-specific emission factors; • Insufficient funds for collecting data (for e.g. national forest inventories, agricultural censuses) and for regular GHG inventory preparation; • Quick turnaround of national experts for GHG inventory preparation; • Lack of harmonized, national verification processes
• Information necessary to track progress made in implementing and achieving ***mitigation*** contributions in the energy and AFOLU sectors	• Limited experience with measuring, reporting and verification (MRV) systems for GHG emissions and mitigation actions; • Insufficient short-term and long-term planning information and data for all sectors to conduct mitigation analysis and projections of national emissions; • Financial constraints for mitigation analysis and the implementation of identified options; • Shortage of technical experts capable of conducting MRV procedures; • Insufficient quality assurance and quality control mechanisms in the preparation and reporting of emissions inventories and emissions reduction activities.
• Information necessary to track progress made in implementing and achieving ***adaptation*** contributions in the energy and AFOLU sectors	• Lack of harmonized indicator and monitoring systems for adaptation based on national priorities; • Weak capacity to implement, monitor and evaluate field-level projects and activities in the energy and AFOLU sectors ; • Insufficient relevant data and information to conduct an assessment for immediate climate change adaptation action in Benin under the conditions of increased likelihood of floods and droughts; • Limited research conducted for related sectoral impact to climate change; • Shortage of capable technical experts and financial resources for adaptation activities and accompanying monitoring exercises.
• Clarity on ***support received*** including information on government and donor contributions	• Lack of robust system to identify needs and report on support received;

[39] http://www4.unfccc.int/ndcregistry/PublishedDocuments/Benin%20First/CDN_BENIN_VERSION%20FINALE.pdf

Requirements for national implementation of the ETF	Current Barriers and Constraints - Benin
to strengthen UNFCCC monitoring and reporting activities	• Lack of financial management mechanisms to effectively implement the adaptation and mitigation options; • Lack of information on activities, projects and other information related to climate-friendly technology development and transfer.

27. Using the GEF-6 CBIT rating system outlined in the Programming Directions for CBIT, the assessment of Benin's current performance against each indicator is presented in **Error! Reference source not found.**. This assessment indicates that the baseline capacity of the Beninese Government agencies to meet ETF requirements using current systems and processes is weak.

TABLE 5 ASSESSMENT OF BENIN'S BASELINE CAPACITY FOR MRV AND TRANSPARENCY BASED ON THE GEF-6 CBIT INDICATOR AND RATING SYSTEM[40]

Indicators	Scale	Rating	Comment
Quality of MRV systems tracking results related to low-GHG development and GHG emissions mitigation.	1-10	**2**	Refer to assessment in **Error! Reference source not found.**. Measurement systems are in place but data is of poor quality and/or unavailable. Reporting is done only upon request (project-based activity) or only partially. Verification is not practiced.
Institutional capacity for transparency related activities	1-4	**2-3**	CNCC[41] is the designated institution for implementation of the National climate change strategy and of all other commitments linked to the UNFCCC conventions, including the Paris agreement and transparency. However, so far it has shown limited capacity to operate, coordinate and implement activities, including those under Article 13 of the Paris Agreement[42]. Lack of awareness and coordination on transparency among relevant authorities such as Ministry of the Environment and Sustainable Development (MCVDD), Ministries of Transport (MIT), Energy (ME), Industry (MIC) and Ministry of Agriculture (Ministère de l'Agriculture, de l'Elevage et de la Pêche, MAEP) and with provincial lower-level authorities responsible for monitoring mitigation activities. Limited financial resources to carry out transparency-related activities. However, as part of the third national communication and the first biennial update report, Benin has established a national inventory system and designed a national MRV system that need to be strengthened.

[40] https://www.thegef.org/documents/gef-cbit-tracking-tool
[41] https://www.changementsclimatiques.bj/cadre-institutionnel-des-changements-climatiques-au-benin/
[42] https://www.changementsclimatiques.bj/wp-content/uploads/2017/06/Evaluation-CNCC-V1-Diagnostic-et-PR-1.doc

TABLE 6 ASSESSMENT OF THE QUALITY OF MRV SYSTEMS IN BENIN (ACCORDING TO THE SECOND NATIONAL COMMUNICATION) WITH PARTICULAR FOCUS ON ENERGY AND AFOLU ACTIVITIES

	Measurement	Reporting	Verification
What	**Is what is being measured clearly defined? Are indicators associated with actions appropriate?**	**What is being reported? In what form? Is it complete information?**	**What is the process for verification?**
Benin Assessment	*GHG emissions for "Solvents" were not reported due to lack of data.*	*Mitigation activities are either not being reported or not in a systematic way. National REDD+ strategy is not in place yet.*[43]	*There is currently no verification process for mitigation activities.*
How	**Are methodologies for measurement robust? How cost effective/ efficient is it?**	**What are the reporting pathways/formats? Accessible to how many? How cost effective is it?**	**Are methodologies for verification standard accepted? How cost effective is it?**
Benin Assessment	*Lack of reliable activity data and nationally specific emissions factors; particularly for certain key categories of the energy, agriculture and LULUCF sectors. Improving activity data and developing nationally appropriate emissions factors requires investment in capacity building, hardware and systems.*	*MCVDD is responsible for coordinating inventory and mitigation reporting at the national level. No BUR has been submitted although the first is in preparation. Mitigation is reported on a project/activity basis and is not reported in a coordinated manner.*	*There is currently no verification process for mitigation activities.*
Who	**Who is doing the measurement? Collating the information? Analyzing it?**	**Who is responsible for reporting the information? To whom?**	**Who is doing the verification?**
Benin Assessment	*Analysis of GHG inventories and mitigation is coordinated and prepared by MCVDD mostly using default IPCC emission factors.*	*There is currently no systematic process for actors involved in mitigation activities to register or report their activities to MCVDD.*	*There is currently no verification process for mitigation activities.*
When	**Is there a standard measurement cycle? Is it periodic or one-time only (e.g. project based)?**	**When is the reporting done? Does reporting match key milestones / monitoring periods (CIF reporting, Convention Reporting, etc.)?**	**When is verification done? As a standard or only on demand for specific indicators?**
Benin Assessment	*There is no standard measurement cycle nor archiving system of inventory data. There is no systematic monitoring of mitigation projects or activities in Benin.*	*There is no standard measurement cycle for mitigation reporting. First BUR is to be submitted yet.*	*There is currently no verification process for mitigation activities.*

28. The assessment presented above, supported by further information contained in the NDC and the upcoming Third National Communication (TNC), suggests that Benin is yet to fully achieve tangible progress against many of the priorities presented in the **National Priorities and Objectives in Climate Change and relevant Capacity Development Initiatives Report (PONCC)**[44] prepared in 2011 by the UN CC: LEARN project "Projet pilote de

[43] http://www.ecreee.org/sites/default/files/documents/basic_page/strategie_redd_cedeao-vp_21-09-2015_23h43.pdf
[44] https://www.uncclearn.org/sites/default/files/benin_background_report_final.pdf

renforcement des ressoucres humaines, de l'apprentissage et du développement des compétences pour faire face aux changements climatiques", particularly regarding capacity of the institutions to set up and maintain operational mitigation and adaptation monitoring, evaluation and/or reporting systems within the current work cycle and with sufficient budgets.

29. Addressing the needs and gaps outlined in the PONCC, TNC and other official reports elaborated in recent years will enable Benin to produce more timely and accurate reports for UNFCCC processes including those of the ETF. Priority actions identified under these documents for reporting to the UNFCCC that would benefit from additional support to the energy (transport) and AFOLU sectors under CBIT are detailed in **Error! Reference source not found.**. The proposed CBIT project will work to address the priorities identified as part of the PONCC assessment to strengthen institutions and capacity required for enhanced monitoring and reporting under UNFCCC processes over the long-term with a technical focus on the unique needs of the energy and AFOLU sectors.

TABLE 7 TRANSPARENCY-RELATED BENIN'S CAPACITY BUILDING PRIORITY ACTIONS AND RELATED SECTOR-SPECIFIC GAPS/NEEDS ADDRESSED BY CBIT

No.	Priority Actions' Description	Related sector-specific gaps/needs addressed by CBIT	Relevant Project Outputs in alternative CBIT scenario
1[45, 46]	• Lack of sector-specific national emission factors (e.g. transports) • Lack of verification process • Lack of adequate archiving of data	• Capacity on GHG inventory development for the energy and AFOLU sectors ; • Preparation of country specific emission factors for key energy and AFOLU sector activities; • IT Infrastructure as well as capacity to document and archive data.	Output 1.2.1; Output 1.2.2; Output 2.1.2; Output 2.2.1;
2[47, 46]	• Lack or spatio-temporal gap in available activity data, linked to insufficient institutional arrangements; • Unavailability of appropriate tools to perform impact, vulnerability and/or mitigation assessments; • Very limited technical expertise in all key topics related to national communications; • Difficulty to assess costs of impact of climate change by the national experts.	• Coordination mechanism integrating relevant data providers and authorities from the energy and AFOLU sectors into national UNFCCC reporting processes; • Capacity on GHG measurement, GHG inventory and emission factor development for the energy and the AFOLU sectors ; • Capacity to understand national emission scenarios and adjust national sector-specific mitigation planning processes accordingly; • Capacity to clarify reporting against mitigation and adaptation targets through improved baselines and BAU projections; • Capacity to monitor and report donor contributions to actions to tackle climate change drivers and impacts of adaptation priorities • Capacity to assess and adjust NDC ambition levels to attract international support;	Output 1.1.1; Output 1.1.2; Output 1.1.4; Output 1.2.1; Output 2.1.2; Output 2.1.3;
3[48]	• Promotion and improvement of access to renewable energy sources to safeguard forest resources and	• Multi-sectoral coordination mechanism integrating relevant authorities, data and information	Output 1.1.1; Output 1.1.4; Output 1.2.1;

[45] PONCC, Table 4
[46] Third National Communication, Improvement Plan (Table 12)
[47] PONCC, page 18
[48] PONCC, Table 1

No.	Priority Actions' Description	Related sector-specific gaps/needs addressed by CBIT	Relevant Project Outputs in alternative CBIT scenario
	reduce the vulnerability of populations to the effects of climate change. • Capacity building on energy saving initiatives and measures in the domestic sector. • Establishment or strengthening of structures dealing with adaptation issues. • Establishment or strengthening of structures dealing with mitigation issues. • Definition of national climate plans and strengthening of the consideration of climate change in development programs / strategy • Integration of Climate Change issues into agricultural development policies, plans and programs. • Training of rural development actors (managers, technicians, producers, local authorities) on the issue of climate – agriculture relations. • Support for adoption of improved technologies for sustainable land management • Use of agro-climatology models (capacity building in agro-climatic risk modelling, familiarization with DSSAT software, SARRAH, etc.). • Dissemination of local knowledge in risk management or agro-climatic crises. • Monitoring and evaluation of agricultural and hydro-agricultural development projects.	systems into national UNFCCC reporting processes; • Development of sector specific GHG inventory and mitigation knowledge management systems for the energy and AFOLU sectors; • Capacity to enhance mitigation and adaptation outcomes of target NDC interventions; • Preparation of national sector specific adaptation indicators and systems capable of measuring progress against NDC adaptation priorities ; • Preparation of systems to aggregate adaptation monitoring and reporting to capture progress toward NDC; • Knowledge and resources to better inform Beninese Government involvement in UNFCCC processes regarding transparency and sector-based target setting exercises; • Support to engage in sub-national, national, regional and global peer-to-peer exchange on ETF reporting requirements; • Development of sector specific adaptation data management systems • Capacity to understand national climate-risk scenarios and adjust national sector-specific adaptation planning processes accordingly	Output 1.2.3; Output 2.1.1; Output 3.1.1; Output 3.1.2; Output 3.1.3;

- **Baseline scenario and associated baseline projects**

30. At a global scale, a fundamental challenge for the successful implementation of the Paris Agreement is ensuring that the Parties can meet the reporting requirements of the Enhanced Transparency Framework (ETF) outlined in Article 13 of the Agreement. Specifically, countries are required to provide a national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases using good practice methodologies; and information necessary to track progress made in implementing and achieving NDC contributions for both mitigation and adaptation. While, as a Least Developed Country, Benin is not required to submit biannual ETF reports as will be required by other Parties to the Paris Agreement, there may be benefits to tackling pre-emptive action to strengthen national monitoring and reporting systems and processes in advance of eventual graduation from LDC status, particularly in key economic sectors such as energy, agriculture and land use.

31. In Benin, the first country NDC sets forth a clear framework for action to address both the impacts and drivers of climate change in the energy and AFOLU sectors and the basis for the development and strengthening of monitoring and reporting systems and processes pursuant to the requirements of the ETF. The first NDC also recognizes that implementation of NDC needs to take gender and social inclusion into consideration. However, despite a National Policy of Promotion of the Women was established in 2002 along with a Multisectoral Action Plan up to 2006, inequalities between men and women still persist in many sectors in Benin. For this reason, the

Government later adopted a National Policy for the Promotion of Gender (PNPG)[49] aimed at reducing and hopefully eliminating disparities between men and women by 2025 and improve women participation in all economic and technical sectors, including climate change. The present CBIT proposal will contribute to facilitate this goal.

32. Benin's first NDC was prepared by the Ministry of sustainable development (MCVDD), Directorate General of Environment and Climate (DGEC), with support from UNEP. MCVDD has responsibility for the implementation of the NDC and acts as the UNFCCC National Focal Point [50]. It hosts the National Committee on Climate Change (CNCC), monitors and supports the implementation of the United Nations Framework Convention on Climate Change and all related legal instruments, including the Kyoto Protocol, as well as all scientific and technological matters related to climate change. MCVDD is charged also with the development and implementation of national environmental policies and ensures that programs and projects are implemented according to legal requirements[51].

33. Furthermore, MCVDD is the designated national entity for the planning, preparation and management of GHG inventories and ensures the integration of climate change into national, sectoral and local development policies, programs and projects and creates nationally a reliable network for collecting and transmitting data. [52] For all these reasons, the proposed project's key executing partner is MCVDD.

34. The objectives of the first NDC draw heavily on existing policies, strategies and programmes set up by the Government in recent years[53], some of which (cross-sectoral) tackle both mitigation and adaptation, while others are more specific. However, only some of these are of relevance to transparency and the proposed CBIT, as illustrated below.

35. The **Government Action Programme (PAG) 2016-2021**[54], based on the 2030 Agenda on Sustainable Development and on the decisions of the Paris agreement, provides for actions and reforms to relaunch the economic and social development of Benin in a sustainable manner. This includes the development and implementation of adaptation, mitigation and disaster management measures, the implementation of the **National Adaptation Programme of Action** (**NAPA** or PANA in French)[55], the support for the development of renewable energies, forest protection, reforestation and greening initiatives at the municipal level, the fight against coastal erosion, a strategy for climate-smart agriculture and the promotion of rational and sustainable management of natural and forest resources[53].

36. The proposed CBIT project, particularly through component 1, will facilitate the implementation of reforms and new sectoral projects envisaged PAG's axis 2, action 1 for "improving governance" and axis 7 for "improving the management of international conventions". Additionally, it could facilitate the rolling out of the project "Strengthening the policy of intensive reforestation through incentives" (Axis 7) through component 2. Furthermore, the proposed CBIT project will also: contribute to the achievement of the Strategy's Axis 4's objectives such as the introduction of a "Climate smart agriculture strategy and social safety nets"; build upon the "Realization of the National Census of Agriculture (RNA) and Agricultural Statistics Surveys (ESA) to provide the agriculture sectors with reliable statistics". This, in turn, will provide important bases for much of the necessary activity data for progressively enhancing the monitoring and reporting of mitigation and adaptation activities in the AFOLU sector. Agricultural censuses provide time series statistical data of a wide range of agricultural activities and resources, such as livestock, land area (e.g. cropland), fertilizers, crop productions, soil quality. The information collected through the census and the network developed to implement the census will be utilized to better target and implement CBIT activities under the proposed project.

[49] http://www.inpf.bj/IMG/pdf/politique_nationale_promo_genrebenin.pdf
[50] Benin's Nationally Determined Contributions, 2017
[51] Cadre institutionnel des changements climatiques au Benin, www.changementsclimatiques.bj
[52] Manuel de procédures pour la préparation et la gestion des inventaires nationaux des gaz à effet de serre du Benin, troisième communication nationale, Ministère du cadre de vie et du développement durable.
[53] Benin's Nationally Determined Contributions, 2017
http://www4.unfccc.int/ndcregistry/PublishedDocuments/Benin%20First/CDN_BENIN_VERSION%20FINALE.pdf
[54] http://revealingbenin.com/wp-content/uploads/2017/03/Le-Programme-dActions.pdf
[55] https://unfccc.int/resource/docs/napa/ben01f.pdf

37. The "**Low-Carbon and Climate-Resilient Development Strategy**" [56] is a medium to short-term thematic intersectoral strategy covering 2016-2025 developed with financial support from the UNDP and the French Development Agency (AFD) aimed at contributing to Benin's sustainable development by integrating climate considerations into the country's strategic sectoral operational plans, making them less carbon-intensive and more resilient to climate change. The strategy is implemented though twelve sub-programmes structured around three main themes: adaptation, reduction of climate risks and mitigation of GHG emissions. Component 1 of the proposed CBIT project, enhancing Institutional Arrangements to coordinate preparation of ETF reports for the energy and AFOLU sectors, will contribute also to the achievement of the Strategy's transversal axis' objectives on the coordination, capacity building and management of knowledge.

38. The "**National strategy for the implementation of the United Nations Framework Convention on Climate Change (SNMO)** [57]", launched in 2003 following a series of participative consultations, gives a general picture of the technical, legislative, political and institutional situation of the country against the convention's requirement and analyses priorities for action as well as possible initiatives for mitigation and adaptation along with the related constraints. The Strategy is implemented by the National Committee on Climate Changes (Comité National sur les Changements Climatiques - CNCC), placed under the authority of the MCVDD and composed of representatives from various Ministries as well as non-governmental bodies. The proposed CBIT will acquire the institutional settings and capacity assessments indicated in the SNMO for rolling out of Component 1.

39. The "**National Adaptation Programme of Action (PANA)**"**Error! Bookmark not defined.** adopted in 2008 builds on the above SNMO specifying the vulnerability levels of livelihoods and socio-economic development actors and indicating the priority adaptation needs with regard to the resources and capacities of the population concerned. Five priorities are listed in the PANA: establishment of a climate risk prediction and early warning system for food security in four vulnerable agro-ecological zones; adaptation of households to climate change by promoting renewable energies, affordable and efficient cook stoves in highly degraded areas vulnerable to climate change; mobilization of surface water for adaptation to climate change in the most vulnerable communities of Central and North departments; protection of children under five and pregnant women against malaria in areas most vulnerable to climate change; protection of the coastal zone from rising sea levels. The proposed CBIT will effectively contribute to the elaboration/improvement/implementation of an ETF-ready M&E mechanisms for adaptation envisaged in the PANA, particularly for the energy and AFOLU sectors. Sector specific projects and objectives of the PANA will provide a basis for capacity building, peer exchange and reporting to the proposed CBIT project, particularly with regard to component 3.

40. The "**National strategy for strengthening human resources and capacity development for green, low emissions and climate resilient development**"[58] was elaborated as part of the UN "CC: Learn" pilot project (in collaboration with UNDP and the Swiss cooperation) and aims at mainstreaming climate change in formal and informal education and in key development sectors such as the agriculture, energy, waste, transport, industrial transformation domains and in adaptation strategies of vulnerable sectors such as food and agriculture, water resources, human health, coastal areas, energy and forestry. Results from the implementation of the National Strategy at the institutional level will be integrated into the implementation of component 1 and output 1.1.2 of the proposed CBIT.

41. For the **energy sector**, the PAG's project on "**Strengthening resilience of the energy sector to the impacts of climate change (PANA Energie)**"[59] aims to support the Government of Benin's climate change adaptation strategy and to reduce the vulnerability of rural communities and urban climate variability through resilient energy production, transport and distribution, including by enabling better access of population to renewable energy sources and by protecting forest resources. The PANA energie project does not target transparency in the transport sector. The proposed CBIT project, therefore, by improving country capacity to quantify mitigation and evaluate adaptation policy measures could support and complement the PANA energie project through the improvement of the data collection component (outcomes 1 and 2) that will allow for better tracking of results.

[56] https://unfccc.int/files/focus/long-term_strategies/application/pdf/benin_long-term_strategy.pdf
[57] https://unfccc.int/sites/default/files/resource/Benin%20INC_French_Addendum.pdf
[58] https://www.uncclearn.org/sites/default/files/benin_national_strategy_final.pdf
[59] http://www.bj.undp.org/content/benin/fr/home/operations/projects/environment_and_energy/projet-de-renforcement-de-la-resilience-du-secteur-de-lenergie-a.html

42. The "**Promotion of sustainable biomass-based electricity generation in Benin**"[60] project focuses on introducing the gasification process of agricultural residues and wastes (biomass) as alternative energy production system. The project is expected to showcase a reduction in emission of GHGs compared to other systems coupled with sound land and forest management, entailing a reduction of pressure on natural forests. The proposed CBIT will build upon the information and results of this project and feed them in the component 2 on "strengthening capacity to assess and report emissions and removals from the energy and AFOLU sectors and to monitor related emission reduction activities" as possible inputs.

43. With a view to improving the energy infrastructure, the quantity and the quality of energy sources and enhance the efficiency of energy supply and demand, the Government of Benin developed in 2009 a National Development Strategy for the Energy sector[61] and implemented several connected programs and projects aimed at: i) enhancing the human, institutional and regulatory capacity for a better planning and management of the energy resources; ii) increasing the production, transport and distribution of the different forms of energy; iii) improving rural access to energy. The CBIT project will build upon the information gathered since the introduction of this policy for the delivery of outputs under Component 1.

44. For **the agriculture and forestry sectors**, PAG and other pieces of legislation include a number of initiatives. The following are of relevance to transparency: "Strategic plan for the development of the agricultural sector", "Climate-Smart Agriculture National Development Strategy", "Integrated Adaptation Program to Combat the Negative Effects of Climate Change on Agricultural Production and Food Security in Benin (PANA1)", "Capacity building strategy on wildland fire management for better adaptation to climate change"[62], "National program to incentivise reforestation", "Support for the Management of Communal Forests Project (PAGEFCOM2)[63]"and "Forests and land management program".

45. The "**Strategic plan for the development of the agricultural sector (PSDSA, 2017-2025)**"[64], inspired by the ECOWAS' strategic policy for agriculture, aims to improve the performance of Beninese agriculture while ensuring sustainable food and nutritional security, economic and social development and climate resilience to achieve the Sustainable Development Goals. Specific objectives of interest to transparency include strengthening the resilience of farms to climate changes (axis 3) and strengthening institutional and intersectoral coordination at different scales in the agricultural sector (axis 4) . The proposed CBIT, particularly component 3, will capitalize on the actions and results of the PSDSA axis 3 as a basis for the preparation of the assessment of good practice methodologies, while CBIT component 1 will contribute to the achievement of the objectives of the PSDSA axis 4.

46. The "**Climate-Smart Agriculture National Development Strategy" (AIC)**, recently adopted as a result of a specific project implemented by FAO (GCP/RAF/496/NOR) and the Ministry of Agriculture, Livestock and Fisheries (MAEP), along with its **Action Plan (2018-2022)**, integrates AIC in the country's PSDSA and in the "**National Agricultural Investment, Food and Nutrition Security Plan (PNIASAN, 2017-2021)**"**Error! Bookmark not defined.** with a strategic focus on climate change and resilience. The AIC strategy enables the implementation of concrete and sustainable actions to reverse the trend of declining productivity in the agricultural sector due to climate change by strengthening the coordination between the relevant institutions, stimulating the research on AIC and climate change, and mobilizing funding for the implementation of AIC practices.

[60] http://www.bj.undp.org/content/dam/benin/docs/pta/GEF%20ID%205752%20-%20ProDoc%20-%20BIOMASSE%20ENERGIE.pdf
[61] http://www.ecowrex.org/system/files/repository/2009_plan_estrategique_secteur_energie_rapport_-_min_ener.pdf
[62] http://www.adaptation-undp.org/sites/default/files/downloads/elaboration_et_mise_en_oeuvre_dune_strategie_de_renforcement_des_capacites_sur_la_gestion_des_feux_._changements_climatiques_0.pdf
[63] https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Benin_-_Approuv%C3%A9_Projet_d_appui_%C3%A0_la_gestion_des_for%C3%AAts_PAGEFCOM.pdf
[64] http://www.agriculture.gouv.bj/IMG/pdf/psdsa_2025_et_pniasan_2017_-_2021_version_finale_adoptee.pdf

The proposed CBIT will capitalize on the capacity building and coordination experience acquired by the AIC strategy and extend it to the other ministries involved in the climate change process to ensure the objectives of component 1 are met. Furthermore, it will benefit (in component 2) from the actions and result of PSDA/PNIASAN axis 3 in general and component 3.1 in particular on "Agricultural Innovations for Men and Women for Climate Change Resilience and Mitigation" and component 3.2 on "Sustainable management of land and water ecosystems". PSDA/PNIASAN axis 1 ("Improved productivity and production of plant, animal and fish products in priority agricultural sectors"), also included in the NDC, will additionally contribute to inform the proposed CBIT project component 3 on the assessment of good practice methodologies in the adaptation domain.

47. The "**Integrated Adaptation Program to Combat the Negative Effects of Climate Change on Agricultural Production and Food Security in Benin (PANA1)**" is a project elaborated to address the first of the five priority areas identified in the PANA. The proposed CBIT will benefit from the results and lessons learned gathered through the implementation of this Training strategy for the objectives of component 3.

48. The "**Capacity building strategy on wildland fire management for better adaptation to climate change**" [65] is another policy developed in support of the PANA1 in nine pilot communes across the four most vulnerable agro-ecological zones of Benin. The strategy is built around three axes aimed at "improving the institutional organization of wildland fire management at municipal and village level"; "adopting good fire management practices; "strengthening the technical capacities of decentralized services, NGOs and local fire management committees". The improved institutional capacity to tackle wildfires, an important source of GHG emissions in Benin, will contribute to the achievement of some specific NDC's mitigation and adaptation objectives as well as inform component 2 and 3 of the proposed CBIT project in terms of outputs 2.1.3. and 3.1.3. Furthermore, the reinforced local institutions will represent a key entry point for field monitoring and data collection activities envisioned under the proposed CBIT project.

49. Benin joined the REDD+ programme in 2011 and initiated the integration of REDD + into national policies, strategies and action plans. The following steps were achieved so far: 1. Analysis of land tenure and forest from a legal and regulatory point of view; 2. Update of the forest code integrating the UNFCCC and REDD + aspects; 3. Strengthening the institutional framework for the implementation of the REDD + mechanism; 4. Establishment of the National Unit for Monitoring and Land Monitoring; 5. Development of a Draft Preparation Proposal (R-PP).

50. Despite the progress above, full preparation of Benin to the REDD + mechanism is yet to be achieved. A formal definition of the institutional REDD + process and of the legal arrangements, including a clear definition of the roles and responsibilities of the different actors, the definition of lines of communication between institutions and the clarification of financial arrangements, are still lacking. The proposed CBIT project will facilitate this process (through component 1) by promoting consultation and coordination among all institutions and other stakeholders, including civil society and the private sector, to finalize the R-PP. In turn, this will stimulate the necessary institutional legal reforms and the national participatory process for the development and validation of the REDD +. Activities under component 2 of the CBIT project and the collaboration with the FAO global CBIT-FOREST project (if approved) will also ease the Forest Monitoring technical team and the National Unit for Land Monitoring task to establish a transparent national MRV system.

51. Under GEF CBIT funding, two other relevant global projects, the FAO CBIT-AFOLU and the global CBIT Coordination Platform[66], currently under implementation, have an important role for improving transparency in Benin. The CBIT-AFOLU project aims to enhance developing countries technical and institutional capacity to meet the requirements under the ETF with strengthened AFOLU components and information necessary to track progress of NDC priority actions for these sectors. As specified below, the Benin CBIT proposal will acquire the MRV and M&E tools developed by the CBIT-AFOLU project for the AFOLU sector for validation and refinement as appropriate to Benin's circumstances. This CBIT project will also engage with the CBIT Coordination Platform

[65] http://www.adaptation-undp.org/sites/default/files/downloads/elaboration_et_mise_en_oeuvre_dune_strategie_de_renforcement_des_capacites_sur_la_gestion_des_feux_._changements_climatiques_0.pdf

[66] https://www.cbitplatform.org/

for dissemination and exchange of knowledge and results with the global community to ensure a broad outreach and contribute to enhance Benin international profile.

52. Despite the above, without intervention by the GEF through CBIT, the Government will continue to have underdeveloped capacity to meet the enhanced transparency requirements for reporting against NDC actions and related national plans --most notably in the energy and AFOLU sectors. As these sectors are particularly important to the development trajectory and emissions profile of Benin, focused attention on improving transparency systems and processes in these sectors need to be prioritized. However, lessons learned from action in these sectors will also be relevant to other relevant Beninese sectors , which will be engaged with and informed by the activities of this project. It is likely that without intervention, emissions from the energy and AFOLU sectors will be measured using unreliable or incomplete data, and that mitigation and adaptation actions will be poorly monitored and reported. The continuation of this baseline scenario would be inconsistent with the spirit of the Paris Agreement, the ETF and the establishment of the CBIT.

- **The proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project**

53. The GEF alternative scenario is to develop and implement a capacity building program that will draw upon the CBIT fund to ensure that by 2023 Benin is preparing reports from the energy, agriculture and land use sectors consistent with the requirements of the ETF, including more up-to-date inventories of emissions sources and sinks using advanced IPCC guidance and information necessary to track progress against priority actions identified in Benin's NDC. This program will target capacity building activities under three components, and in three key areas:

54. ***Component 1. Institutional arrangements for transparency***: Activities under this component will address current barriers associated with institutional coordination and awareness to ensure that information and data from the energy and AFOLU sectors are coordinated and integrated into national ETF processes and reports. Activities implemented under this component will be closely coordinated with other relevant activities being implemented under the PAG, the PSDSA, the Climate-Smart Agriculture National Development Strategy (AIC) and the Low Carbon and Climate Resilient Development Strategy for improved and sustainable duration of results.

55. Outcome 1.1. will support coordination, education and capacity building activities that include: preparation (during the PPG phase) of a detailed gender-sensitive capacity gaps and needs assessment for transparency based upon Benin's NDC priority actions and on the results of the QA process (delivered in October 2018 and supported by the UNFCCC Secretariat and UNDP-GSP) on the BUR's GHG Inventory (O*utput 1.1.1*); implementation of gender-inclusive awareness raising activities amongst the energy and AFOLU sector policy makers and practitioners on mainstreaming institutional arrangements in the ETF processes (O*utput 1.1.2*); formulation of a national roadmap for enhanced transparency that will include mechanisms and provisions for improved transparency over time (O*utput 1.1.3*); and the establishment of institutional coordination mechanisms for ETF reporting integrating relevant institutions/ stakeholders into national UNFCCC reporting processes (*Output 1.1.4*). Under this Outcome support will be provided to relevant staff from DGRE (Direction Générale des Ressources Energétiques, Ministère de l'Energie et de l'Eau), MIT (Direction Générale des Transports Terrestres, Ministère des Infrastructures et des Transports), MAEP (Ministère de l'Agriculture, de l'Elevage et de la Pêche), MCVDD (Ministère du Cadre de Vie et du Développement Durable) and CNCC (Comité National sur les Changements Climatiques) to engage in global capacity building efforts in the lead up to the Paris Agreement commitment period.

56. As noted above, some lessons learned have already been developed in terms of institutional coordination and technical capacity building. The proposed CBIT project activities will leverage these experiences to incrementally build capacity amongst energy and AFOLU sector stakeholders and then expand out by targeting, informing and engaging with other sectors through a multi-sectoral, national level coordination mechanism to integrate relevant authorities into UNFCCC reporting processes (i.e. including waste, industry/trade, construction and other sectors to be determined). Existing multi-sectoral coordination mechanisms established via parallel programs including the "Low Carbon and Climate Resilient Development Strategy" and the CNCC (Comité National sur les Changements Climatiques) will be built upon as platforms for inter-ministerial working groups.

57. Under Outcome 1.2. the proposed CBIT project will support the establishment of a national knowledge base on best practices for data and information collection as well as a system infrastructure for managing data and information. Activities include: an assessment of existing best practices, mechanisms and/or tools for on data

collection (including ancillary information or metadata) in line with the ETF reporting requirements in the energy and AFOLU sectors, that will be shared to other relevant priority sectors for improved national, regional and global programming (e.g. such as via the coordination mechanism developed under Output 1.1.4., the FAO Global CBIT-AFOLU project, the CBIT Global Coordination Platform and/or other existing platforms) (*Output 1.2.1*). The use of such mechanisms and platforms will maintain established capacities beyond the lifetime of the project. Regular, reliable and systematic documentation and archiving processes, including quality assurance and control for data and information produced and reported for sector-specific inventories of GHG source and sinks, will also be improved under *Output 1.2.2*. These processes will underpin more accurate and sustainable measurement, monitoring and reporting (MRV) systems as well as monitoring and evaluation (M&E) systems in the energy and AFOLU sector, leading to improved transparency over time.

58. As an integral part of the country's improved Institutional Arrangements, a dedicated information management system (IMS) involving investment in basic but critical IT hardware, software and system infrastructure will be established to store and manage existing and projected GHG emission estimates, activity data, evidence of QA/QC processes and other essential climate and environmental information in a logical and coherent way, drawing together resources from relevant ministries, agencies and projects in the energy and AFOLU sectors (O*utput 1.2.3*). The new IMS will be designed for scalability to be able to accommodate other sectors and functionalities as well as to be fully interoperable with existing databases and information systems for field monitoring and data collection such as those of the Ministry of Energy, possibly including the decentralised bodies such as the Territorial Agency for Agricultural Development (Agence Territoriale de Développement Agricole) of the MAEP (Ministère de l'Agriculture, de l'Elevage et de la Pêche) and the communal representations of the Diréction Générale des Eaux, Forêts et Chasse of the Ministère du Cadre de vie et du Développement Durable. System functionalities and protocols will also be established to monitor the implementation and results of NDC priority mitigation and adaptation actions in the energy and AFOLU sectors as well as better track contributions from donors and other sources. These investments will be supplemented with gender-inclusive training and capacity building activities for system administrators and agency focal points to enable staff to adhere to reporting protocols and data standards and to ensure the reliability and sustainability of the ETF-ready inventory system. Scalability and progressive use of the new IMS will also result in improved transparency with time.

59. The design of the new IMS will be facilitated by information on gaps in data availability, management systems and data accessibility issues discussed at a dedicated workshop organized by the GIZ Information Matters project in Cotonou in November 2018 involving data compilers and data providers from all IPCC sectors, whose outcomes will inform the development of the project document (during the PPG phase).

Component 2: Transparency for monitoring and reporting emissions and emissions reductions: Under this component, activities will be designed to address barriers identified during the QA process delivered by experts from FAO and from elsewhere (upon support from the UNFCCC Secretariat and UNDP-GSP) on the BUR's GHG Inventory in October 2018. Improved reporting of GHG emissions and removals will be achieved by establishing more advanced measurement, monitoring and reporting systems for priority NDC emissions reduction actions that would be in line with the ETF requirements. Activities implemented under this component will draw upon baseline projects and initiatives to enhance the collection and reporting of relevant activity data for priority NDC mitigation actions.

60. Under Outcome 2.1 the proposed CBIT project will work towards strengthening the country's technical capacity to adopt and mainstream the ETF-enhanced set of MRV tools that will be developed under the FAO CBIT-AFOLU global project and other international appropriate tools for monitoring and reporting progress in the implementation of NDC mitigation activities in line with the national inventory (O*utput 2.1.1*); gender-inclusive training and support for national institutions to efficiently collect activity data and develop context-specific emissions factors for key categories to incrementally move from inventories reported using the IPCC 2006 Guidelines at tier 1 to higher tiers, where possible (*Output 2.1.2*). Through investment in human resources and measurement technology at local universities, research institutions and ministerial representations, agents on the ground will be provided with training and hardware, where required, to generate data from field surveying using fit-for-purpose measurement and monitoring equipment and systems that will interface with the IMS at the lowest possible level. Targeted investments in mobile data collection hardware and applications will be applied to expand geographical coverage. The proposed CBIT will also support the preparation of inventory sectoral reports on the inventory of GHG emissions and removals that integrate ETF requirements and include quantification of the effects of mitigation measures implemented in the energy and AFOLU sectors (*Output 2.1.3*).

61. The activities under this Output of the proposed CBIT project could contribute to stimulate the current ongoing development and trialling process of MRV systems for the REDD+ National Programme in Benin providing capacity-building activities for the collection of historical data (e.g. Collect Earth or other remote sensing-based tools) and for the calculation of emission factors required for the development of the reference levels, with priority given to deforestation and forest degradation.

62. ***Component 3. Transparency for monitoring and reporting adaptation*:** Under this component, activities will be designed to establish the basic frameworks and infrastructure for enhanced monitoring and evaluation of the adaptation activities in the energy and AFOLU sectors. Activities under this component will be linked to and leverage the results and good practices acquired during the implementation of the Low-Carbon and Climate-Resilient Development Strategy, the PANA and the PANA1 projects described above.

63. Activities under Outcome 3.1 will be designed to address barriers for monitoring and evaluation of priority NDC *adaptation actions* in the energy and AFOLU sector. Activities for strengthening the country's technical capacity will be put in place to enable the adoption and mainstreaming of the ETF-enhanced set of M&E tools that will be developed under the FAO CBIT AFOLU global project as well as other international appropriate tools (O*utput 3.1.1*); Gender-sensitive capacity building activities will include assessment of good practices and methodologies for evaluating NDC priority adaptation actions; training on adaptation monitoring and evaluation at different administrative levels and aggregating indicators to develop reporting for national level NDC achievements with respect to adaptation. Based on a review of the NDC priorities and relevant planning documents, sector specific indicators, methodologies, frameworks and interventions will be identified (O*utput 3.1.2*). These activities will build upon relevant sector-specific experiences including the FAO "Ouémé climate-resilience initiative" (GCP/BEN/060/GCF) and be designed to interface with national reporting systems for the NAP being developed under the GIZ International Climate Initiative[67]. In particular efforts will be focused on the potential to aggregate reporting on field level adaptation activities into broader outcome level indicator reporting necessary for NAP monitoring and reporting processes.

64. In tandem with activities under component 1 to establish a national IMS for GHG inventories and for enhanced monitoring and reporting mitigation activities, complimentary systems will be developed and utilized to store and manage existing and projected data and information on adaptation initiatives in support of the NDC (see *Output 1.2.3.*). The final output under this Outcome will be energy and AFOLU sectors contributions to national communications consistent with latest UNFCCC guidance on reporting adaptation contributions (*Output 3.1.3*).

65. As the implementing entity of the proposed CBIT project, FAO will draw upon its deep technical understanding of the AFOLU sector and wide range of tools and methods for development of emissions inventories, measuring and monitoring emissions from AFOLU MRV systems, quality assurance protocols and adaptation planning and monitoring. Furthermore, based on regular collaboration with other relevant international actors such as the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the International Energy Agency (IEA) and others, FAO will continue to exert its role of coordination for best supporting Benin in delivering the energy component of this project.

- *Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF, CBIT and co-financing:*

66. Without the CBIT project, necessary conditions for meeting the Paris ETF will not be met in Benin. The country has prioritized emissions reductions and adaptation actions in the energy and AFOLU sectors as part of its NDC. These actions will need to be monitored and reported under the Paris ETF. Without assistance from CBIT, the serious capacity and institutional gaps identified above will continue to result in incomplete, inconsistent and inaccurate reporting of GHG inventories and possible emissions reductions from the most important economic sectors, while participation of women in these processes will remain low. In addition, adaptation actions will continue to be reported in a sporadic, piecemeal fashion based upon individual projects with little or no aggregation

[67] https://www.international-climate-initiative.com/en/nc/details/project/sciencebased-support-for-national-adaptation-plan-nap-processes-in-francophone-least-developed-countries-ldcs-of-subsaharan-africa-16_II_135-488/

to inform national adaptation priorities or NDC reporting requirements and with little consideration for gender issues.

67. *With respect to GHG inventories and emissions reporting*, although good inroads have been made for the preparation of the Third National Communication with the setting up of specific guidelines for developing a national inventory[68], necessary activity data and emission factors using the latest IPCC guidelines (2006) are not always available for compiling robust national GHG inventories for agriculture and land use sectors. Supported by funds under the GEF Enabling Activity, Benin is preparing its first BUR submission. For this stand-alone activity, Benin has been collecting surface-related activity data from remote sensing for the agriculture and forestry sectors[69]. However, no efforts appear to having been made to improve the capacity to compile and analyze information on GHG inventories and emission reductions from non-surface related AFOLU sector (i.e. livestock, fertilizers, biomass, etc.) as well as the energy sector and particularly the transport sub-sector. Given the booming of fuel-based transports and the significant expansion of the agriculture sectors in Benin over the past decade to the expenses of forests, it is essential that the proposed CBIT project intervenes to address the lack of robust GHG inventory data and reporting on emissions from these sectors. Poor information on these important economic sectors is a crucial impediment to effective overall transparency and will restrict the Beninese government's ability to identify and program activities that could improve energy use and production efficiency as well as farm and forest-related productivity and efficiency, while also reducing emissions.

    With the CBIT project, Benin's national capacity to track progress of priority actions on climate mitigation from the energy, the agriculture and land use sectors as identified in the NDC will be strengthened, and the necessary information will be collected in a systematic manner to fulfill the ETF requirements. Secondly, with the support of the project, Benin will improve the quality and coverage of data collected and reported on GHG emissions from the energy, agriculture and land use sectors by transitioning from the IPCC 2006 Guidelines (AFOLU) for national GHG inventories Tier 1 to Tier 2 emission factors where possible and practical. Thirdly, the project will provide Benin with the support needed to address the recommendation delivered by the QA process performed on the BUR's GHG Inventory in October 2018. Moreover, with an increased national capacity to measure, monitor, and report against the priority actions identified in the NDC, it puts Benin in a better position to increase its level of ambition on including higher emissions reducing activities in the agriculture and land sectors.

68. *With respect to adaptation*, a range of baseline projects and initiatives are developing potentially relevant headline indicators and reporting systems; largely on a project basis. This CBIT project will provide incremental support for necessary hardware and software systems to coordinate adaptation reporting and to aggregate sector specific M&E processes in the energy, agriculture and land use sectors to provide coherent national reporting on adaptation activities and progress toward NDC adaptation targets.

69. Lastly, the project intervention will enhance Benin's long term vision for climate change reporting and transparency improvement over time through enhanced institutional capacity and arrangements targeting wider/national sector emissions and adaptation accounting. As a result, Benin capacity will also be strengthened to elaborate the new Biennial Transparency Reports (which will include the National Inventory Report) that the countries will have to submit to the UNFCCC secretariat by end of 2024 at the latest following decisions taken at COP24 in Katowice.

- ***Global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF)***

70. The global environmental benefits targeted by this proposed capacity building program will flow from the improved coordination and capacity to monitor and report action to address the drivers and impacts of climate change in a transparent manner. A total 100 persons are expected to benefit directly from the project capacity development initiatives, half of which will be women.

71. In the near term the project will support the upgrading and establishment of systems to provide an evidence-base for more effective mitigation and adaptation in the energy and AFOLU sectors. Over time the systems supported by the project will allow policy makers and planners at national and provincial levels to design interventions to

[68] http://permisdeconstruire.bj/informations/textes-officiels-conventions-internationales/tcn-benin-mise-en-place-d-un-systeme-national-d-inventaire-des-gaz-a-effet-de-serre-au-benin/download
[69] http://permisdeconstruire.bj/informations/textes-officiels-conventions-internationales/prba-benin-elaboration-du-premier-rapport-bienal-actualise-du-benin-sur-les-changements-climatiques/download

address climate change drivers and impacts based upon a more complete understanding of what works. In the longer-term the improved understanding of mitigation and adaptation potentials made possible through the project will provide the Beninese Government with greater opportunity to increase levels of ambition for both mitigation and adaptation in future iterations of Benin's NDC and better articulate the magnitude and types of financial and technical support required to meet national priorities.

72. The project directly supports Benin to adopt transformational shifts towards low-emission and resilient development. Global environmental benefits can also be expected in the form of enhanced contributions from Benin to work towards aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2 °C above pre-industrial levels.

- ***Innovation, sustainability and potential for scaling-up:***

Innovation:

73. The proposed CBIT project will facilitate scientific innovation through investment in infrastructure and systems to update and modernize the measurement and monitoring capacities of the Beninese Government and local technical and research institutions well beyond the reporting requirements of the UNFCCC and into a real national environmental information and management system. The project will facilitate investment and technology transfer for new and updated equipment at local universities and labs to measure and monitor emissions from a wide range of energy-related and AFOLU activities. The project will also facilitate investment in dedicated knowledge management information systems and IT hardware for the more effective management and reporting of data and information related to transparency of both mitigation and adaptation actions. Field monitoring systems will be overhauled under the project through the upgrading of data collection processes with the wider application of mobile telecommunications, app-based data collection platforms and cloud-based data storage and transfer services where appropriate. Systems upgraded through the project in the Direction Générale de l'Energie, Ministère de l'Energie et de l'Eau (DGE), Direction Générale des Transports Terrestres, Ministère des Infrastructures et des Transports (MIT), Ministry of Environment (MCVDD) and Ministry of Agriculture, Fisheries and Forestry (MAEP) will be able to replicate in other national Ministries, and at reduced effort and cost.

74. In the AFOLU sector, these systems will be designed to benefit from recent advances and tools for estimating GHG emissions or collect activity data. Indeed, FAO and its partners have developed or are currently developing a suite of tools for standardizing emissions monitoring and reporting at Tier 1 and 2. Such tools, hereafter summarized, will feature prominently among those of the MRV and M&E ETF-enhanced packages that the FAO CBIT-AFOLU global project will introduce.

75. The Global Livestock Environment Assessment Model (GLEAM) establishes baselines and assesses the impacts of different mitigation and adaptation scenarios at local and national scale. Based on IPCC Tier 2 methodology and GIS based modeling of livestock distribution, GLEAM allows the assessment of all major GHG emissions from livestock and the impacts of all actions to reduce emissions from the sector.

76. In the land use sector, the FAO free and open source software Collect Earth will be made available along with capacity building trainings to fill gaps in data collection for the land use and land use change mapping, which will greatly contribute to improving the GHG inventory. Collect Earth is a tool that enables data collection through Google Earth based on customizable samplings. In conjunction with Google Earth, Bing Maps and Google Earth Engine, users can analyze high and very high resolution satellite imagery for a wide variety of purposes, including: Support multi-phase National Forest Inventories; Land Use, Land Use Change and Forestry (LULUCF) assessments; Monitoring agricultural land and urban areas; Validation of existing maps; Collection of spatially explicit socio-economic data; Quantifying deforestation, reforestation and desertification. Its user friendliness and smooth learning curve make it a perfect tool for performing fast, accurate and cost-effective assessments. It is highly customizable for the specific data collection needs and methodologies. The data gathered through Collect Earth is exportable to commonly used formats and can also be exported to Saiku.

77. With the application of GHG estimation tools such as GLEAM, Collect Earth and others developed by FAO and improved or expanded under the FAO CBIT AFOLU project, Benin national institutions will have enhanced capacity to measure progress toward NDC priorities in the AFOLU sector. At global level, evidence tested and compiled in Benin will facilitate the improvement of scientific knowledge of GHG emissions reduction potential from AFOLU sector, consequently improving our capacity to capture global environmental benefits. These systems

once implemented and operational will support the potential for improved understanding of mitigation and adaptation potentials and the possibility for increased levels of ambition and quantification of support required in future iterations of Benin's NDC in the lead up to and during the commitment period of the Paris Agreement.

78. In the energy sector, the CBIT project will support the strengthening of monitoring systems, methodologies for data collection and modeling to fill in the current gaps in the DGRE databases, particularly with regard to the activity and energy consumption data needed for the assessment of climate change mitigation and mitigation policies in the road transport and in the residential sector. This will enable DGRE to acquire improved vehicle registration statistics (by type, use and fuel) as well as technical capacity to handle a model of petroleum product demand in the road transport sector, and to develop a sample frame for energy consumption surveys in the residential sector. These improvements will also benefit from the integration of the DGRE's databases in the new IMS developed by the CBIT project.

79. In addition to the above, the proposed CBIT project adopts an innovative approach that integrates extensive gender-sensitive stakeholder consultations and assessments of capacity needs and baseline activities for monitoring the progress. The project interventions have been formulated by taking into account the need to enhance national capacity in monitoring mitigation and adaptation actions for the energy, AFOLU and relevant sectors as a whole emerging from the representatives of line ministries of Benin at the Second Annual Meeting of the West African South-South Network on MRV and Transparency[70] organized in Dakar, Senegal in October 2017 and at the GIZ Information Matters data management workshop held in Cotonou in November 2018. The country's needs and capacity gaps were equally addressed by taking into due account the outcomes and recommendations of the Quality Assurance process delivered by FAO and other experts in collaboration with the UNFCCC Secretariat on the GHG inventory of Benin's Third National Communication in October 2018.

Sustainability:

80. With the project support, Benin will be able to articulate a clear plan of action with regards to national reporting of its NDC, utilizing the monitoring and reporting roadmap, coordination mechanisms, and technical guidelines prepared by the project. All stakeholders will be empowered to access, archive, analyze, and monitor the necessary information and activities with regards to the energy and AFOLU sectors, as well as to inform processes by lessons learned in other sectors. Equally important, Benin will be in a position to elaborate Biennial Transparency Reports and National Inventory Reports.

81. Through the capacity building activities, the capacities of technical and policy focal points from the participating ministries as well as the capacities of relevant national institutions will be improved. The soft skills and knowledge acquired will be retained through the systematic support put in place through the establishment of a climate change Information Management System (IMS).

82. The core outcome of the project is to establish an enabling institutional coordination mechanism to ensure greater, stable and financially sustainable collaboration among line ministries, in particular, the National Committee on Climate Changes (CNCC), the Ministry of the Environment and Sustainable Development (MCVDD), the Ministry of Energy (ME), the Ministry of Infrastructures and Transports (MIT) and the Ministry of Agriculture, Livestock and Fisheries (MAEP). During the project life cycle, at least one energy, Agriculture and FOLU (IPCC 2006) chapter within the country NDC reporting will be facilitated and improved by the government with technical supervision of FAO. This experience and institutional memory will prepare the government of Benin to better manage the national inventory in the next reporting cycle from 2024 onwards. Furthermore, the transfer of GHG measurement and estimation technologies supported through improved national capacity in the energy and AFOLU sector is expected/will potentially help Benin improve its ambitions by including reductions in GHG emissions from these sectors into its NDC emissions reductions targets.

Potential for scaling-up:

83. The project specifically embeds opportunities to scale-out and scale-up the measures implemented. As highlighted, the relative importance of the energy and AFOLU sectors to the Beninese economy and the significant technical challenges and capacity gaps for enhanced transparency in these sectors in the Beninese context necessitate a focused, sector specific approach. However, the information management systems and infrastructure for

[70] http://www.un-gsp.org/event/second-annual-meeting-west-african-south-south-network-mrv-and-transparency

monitoring and reporting mitigation and adaptation actions in the energy and AFOLU sectors established under the project will be designed in a way to allow for easy replication and adoption by other sectors.

84. Indeed, hardware, capacity building and training provided to national and local level stakeholders will be developed as modules that can be adapted to improve data collection methods and analysis across all sectors. By working through and strengthening the institutional mechanisms in place for transparency of climate change actions, the project will be able to better facilitate this process of scaling out project-developed systems and processes. The enhanced capacity provided by the project will enable regular national reporting of actions to address climate change drivers and impacts as envisioned under Paris Agreement, Article 13.

85. Outcome 1 of the project will also facilitate Benin's engagement in international transparency-related processes under the UNFCCC. With the enhanced institutional capacity and engagement with international process, the government of Benin will be capacitated to identify potential partners to further develop scaling-up actions and investment opportunities for further improving transparency over time, as well as to benefit other countries in the region to develop more transparent, accurate, complete, consistent and comparable monitoring and reporting systems.

86. The government will use a combination of national budget and planned international support for fulfilling its reporting requirements to the Convention and ensure continued application and sustainability of the transparency systems and infrastructure for the other sectors.

1b. *Project Map and Coordinates.* For geo-referenced information and map where the project interventions will take place please refer to Annex A.

2. *Stakeholders.* Select the stakeholders that have participated in consultations during the project identification phase:

☐ Indigenous Peoples and Local
☒ Communities; Civil Society Organizations;
☐ Private Sector Entities;
☐ If None of the above, please explain why.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

87. The project identification phase has involved experts in the climate change domain previously or currently involved in the elaboration of national reports to the UNFCCC from relevant government ministries and other public research bodies or international organizations working in the country on climate-related themes.

88. The project will be implemented in close cooperation with relevant stakeholders at the national, provincial and district levels. Key executing entities will include:

TABLE 8 CBIT PROJECT STAKEHOLDERS AND ROLES

Agency	Role or mandate	Involvement in CBIT Project
Ministry of Environment and Sustainable Development (MCVDD), Directorate General of Environment and Climate (DGEC) [71]	The DGEC is responsible for the project technical oversight, policy guidance, review and endorsement. Relevant staff at MCVDD acts as focal point for key conventions (CBD, UNFCCC, UNCDD) and plays a key role in coordination with other relevant ministries and stakeholders.	• Lead agency for all coordination and decision-making on ETF issues • Overall lead of CBIT project activities and integrating CBIT project learning into ETF activities of other relevant sectors
Directorate General of Forests and Natural Resources (Direction	DGEFC is the national agency that coordinates the development and implementation of state policy on the	• Lead agency for engaging on technical issues related to forestry

[71] https://www.changementsclimatiques.bj/cadre-institutionnel-des-changements-climatiques-au-benin/

Générale des Eaux, Forêts et Chasses, DGEFC)[72]	sustainable management of forests and natural resources. Its mission is to ensure the development and sustainable management of forests and natural resources through the National Program for Sustainable Management of Natural Resources (PNGDRN). DGEFC mission is to ensure the development and rational management of natural resources (forest, wildlife and other).	• Will provide support for capacity building activities; particularly sharing experiences on forest-related mitigation actions and MRV
Ministry of Agriculture, Livestock and Fisheries (Ministère de l'Agriculture, de l'Elevage et de la Pêche, MAEP)[73]	MAEP deals with the Beninese agricultural sector, including the implementation of the PSDSA.	• Lead agency for engaging and coordinating with agriculture stakeholders at national and provincial levels; and providing, data, information and technical advice with respect to the AFOLU sector.
Ministry of Energy (ME), Directorate General for Energy Resources (DGRE)[74]	DGRE is the State department in charge of statistics on energy in Benin. It has the obligation to establish and publish each year the national energy balance. The DGRE is also the institution responsible for coordinating the work of the National Team set up by MCVDD for the preparation of annual inventories of GHGs in the energy sector as well as the assessment of GHG mitigation in that sector.	• Lead agency for engaging on technical issues related to the energy sector mitigation and adaptation measures identified in the NDC
Ministry of Infrastructure and Transport (Ministère des Infrastructures et des Transports, MIT), Direction Générale des Transports Terrestres (DGTT), also known as Agence National des Transports Terrestres (AnTT)	AnTT (DGTT)[75] is responsible for the regulation of road and rail transport, issuance and control of travel documents, transport authorizations and the coordination of road freight.	• Lead agency for engaging on technical issues related to the transport sector mitigation measures identified in the NDC
Ministry of Infrastructure and Transport (Ministère des Infrastructures et des Transports, MIT), National Meteorological Agency (Agence nationale de la météorologie, ANM)	MIT houses the ANM, which manages the country's meteorological stations along with other related issues	• Lead agency for engaging on technical issues related to weather and climate measurements needed for the appropriate implementation of many of the NDC mitigation and adaptation options
Ministry of Family (Ministère de la Famille, des Affaires Sociales, de la Solidarité Nationale, des Handicapés et des Personnes de Troisième Age, MFASSNHPTA)	MFASSNHPTA is responsible for encouraging public institutions, civil society and the private sector to integrate gender equality into their policies and programs, and acts as a coordinator and facilitator for gender mainstreaming across government	• Will provide advice regarding integration of CBIT activities with the National Policy for the Promotion of Gender
National Committee on Climate Change (Comité National sur les Changements Climatiques, CNCC)	CNCC is the main agency charged with the management of all climate change-related national processes, although recent	• Support for coordination activities led by MCVDD and supplementary guidance on M&E processes on actions listed in the NDC

[72] http://dgfrn-bj.org/
[73] http://agriculture.gouv.bj/
[74] http://eaubenin.bj
[75] http://www.dgttbenin.com/index.php

	analysis[76] indicates weak capacity to operate and options to streamline action.	
Provincial departments (Directions Départementales) of MCVDD and MAEP	Notably for environment and agriculture responsible for implementation of national law and policy at provincial level in terms of natural resources management and protection. With the project, they will be also responsible for implementation and coordination of activities at provincial level for effective capacity, monitoring and reporting	• Lead agencies for engaging with provincial level authorities to plan, coordinate and implement field level monitoring and reporting activities • Responsible for coordinating and supporting capacity development, consultation and data collection at provincial levels

89. In addition, specialized national and provincial agencies will be engaged to enhance data and information collection and coordination with the participating ministries, ME, MIT, MCVDD and MAEP and other relevant sectors as prioritized in the Benin's NDC.

90. Civil Society Organizations (CSOs) and research institutions have been and will continue to be engaged in the design and implementation of the project, including the baseline assessment and stocktaking of the existing activities and systems. The institutional and coordination structure will consider including dissemination strategies for effective data management and reporting processes.

3. *Gender Equality and Women's Empowerment.* Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? yes ☒ /no ☐/ tbd ☐;
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;
☒ And/or generating socio-economic benefits or services for women.
Will the project's results framework or logical framework include gender-sensitive indicators? yes ☒ /no ☐/ tbd ☐;

91. The project will ensure the preparation of the necessary documentation and publications in which the principle of gender sensitivity and specific data and information are included. Gender concepts, gender equity and issues in the energy, agriculture and climate change will be mainstreamed during the implementation, making sure a better participation of women in the project activities is facilitated, as illustrated above. Through cooperation with the government partners, the project intervention will be in line with the GEF Gender Equality Action Plan and with the existing policies in the country, including the National Policy for the Promotion of Gender of the Ministry of Family and National Solidarity (2008)[77]. The project will ensure that women's specific needs are met, that women enjoy equal access to project activities and that women benefit equitably from the project's activities, starting with but not limited to capacity building. This will contribute to raise Benin's gender profile by facilitating the presence of women in relevant technical and decisional positions such as those related to tracking of NDC implementation, reporting of GHG emissions to UNFCCC and/or data management systems and infrastructure.

92. In terms of overall socio-economic benefits, the project will benefit the Beninese society and economy by supporting the Government in advancing its NDC implementation, monitoring progress of national mitigation and adaptation priority activities in the NDC. An appropriate transparency framework can generate multiple social, economic and environmental co-benefits such as human capacity, local and national institutions, cost-effective national budgeting and planning, reduced vulnerability of its food systems, and the national resources and ecosystems that the food systems depend upon. Through improved and more transparent data, the project also supports improved and better targeted local, regional and national investment and decision making.

[76] https://www.changementsclimatiques.bj/wp-content/uploads/2017/06/Evaluation-CNCC-V1-Diagnostic-et-PR-1.doc
[77] http://www.inpf.bj/IMG/pdf/politique_nationale_promo_genrebenin.pdf. Other policies relevant to gender are mentioned here: https://plateforme-elsa.org/wp-content/uploads/2016/10/Profil-Genre-Benin.pdf

4. *Private sector engagement.* Will there be private sector engagement in the project? (yes ☒ /no ☐). Please briefly explain the rationale behind your answer.

93. The new reforms being implemented by the Government through the PAG encourage and provide incentives to private sectors involvement in the agriculture sector. The institutional arrangements component of the CBIT will consider the engagement and roles of the private sector.

94. Collaboration with private entities such as international research groups and/or agencies, is envisaged in the proposed CBIT as a means to facilitate the assessment and dissemination of best practices in ETF reporting. Collaboration with local association of farmers, as well as other national entities relevant to the AFOLU sector, will also be established to perform the stocktaking of the existing activities and systems; identify and test possible adaptation indicators in the AFOLU sector; as well as for disseminating lessons learned on transparency, with a specific attention to gender issues.

5. *Risks.* Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved or may be resulting from project implementation, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

TABLE 9 RISKS TO CBIT PROJECT IMPLEMENTATION AND MEASURES TO ADDRESS THEM

No.	Description of risks	Types of risks	Probability and Impact (Scale 1-5)	Measures to address the risks
1	Lack of political will to support the project activities due to change government	Political	P=2 I=5	Benin has now ratified the Paris Agreement and submitted its first NDC. This implies that the government at all levels and across all sectors is fully committed to implementation of the Paris Agreement and associated ETF requirements. To safeguard against changes in key government posts, risk management measures will include awareness raising among key decision makers combined with a strong stakeholder involvement plan.
2	Lack of coordination among concerned ministries and local government authorities	Organizational	P=3 I=4	To address risks associated with coordination the project will work through existing coordination mechanisms such as the *Low Carbon and Climate Resilient Development Strategy* (transversal axis) and the PSDA. Clear project institutional arrangements that specify roles and responsibilities of those concerned will be reinforced by working through these existing mechanisms.
3	Limited cooperation on data and information sharing among stakeholders	Organizational	P=3 I=5	To address risks associated with data management, consultation and data system assessments will be crucial elements of activities under Outputs 2.1.2 and 3.1.3. The project will also build on existing systems, where possible: the TNC with respect to mitigation and the PANA with respect to adaptation. Clear agreements between the different stakeholders will be established/reinforced to collect and hand over required data and information within the given regular government budget.
4	Inability for the government to fund the ETF related activities beyond the project cycle	Financial	P=4 I=4	The proposed CBIT project will include measures to mainstream ETF activities into government budgetary and extra-budgetary processes. It will be proposed that ETF reporting be incorporated into current and future PAG (Government Action Programme) processes.
5	Gender mainstreaming hindered by resistance from local and national stakeholders	Cultural	P=3 I=3	Clear initial communication on gender equality as one of the key monitoring element for tracking progress of the project – particularly with respect to adaptation monitoring and reporting and co-benefits.
6	Transparency related work loses momentum as the Paris Agreement is not adopted	Political	P=1 I=4	See risk 1 above. To address this issue CBIT project activities will focus on the potential positive externalities associated with improved data collection, monitoring and reporting of the energy and AFOLU sector mitigation and adaptation activities. These could include more effective targeting of initiatives to improve fuel, farm and land-use efficiency and strengthen energy independence and rural resilience. This 'no-regrets' approach will aim to highlight the need for and benefits of this transparency work that will go beyond the lifetime of the Paris Agreement.

6. *Coordination.* Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

95. The MCVDD and FAO will be directly responsible for coordination. FAO will lead in ensuring coordination with international partners and initiatives in the project's sectors of interest, whereas MCVDD will ensure coordination with national and local partners as well as national related initiatives. More in detail, MCVDD will ensure an appropriate coordination with all the stakeholders listed in Table 10 below, and FAO will ensure appropriate linkages are made with the local Representation, other ongoing projects and international partners in the energy sector.

96. To assist coordination, a national Project Technical Committee (PTC) will be established. Membership of this PTC will include MCVDD, ME, MIT, FAO and technical experts. The role of the PTC will be: (i) to review and comment on workplans and terms of reference; (ii) to mobilize stakeholders and resources to project activities; (iii) to review and comment on draft outputs and; (iv) to share information and facilitate joint planning of activities. The PTC will be supported by a Project Management Unit (PMU), and one staff member will be responsible for supporting coordination.

97. The proposed CBIT project will complement past, ongoing and pipeline activities to support the Government of Benin to enhance management and monitoring practices in the energy and AFOLU sectors (Table 10).

TABLE 10 OTHER INITIATIVES THAT WILL BE COORDINATED WITH UNDER PROPOSED CBIT PROJECT IN BENIN

Other Ongoing and Pipeline Initiatives	Areas of complementarity with the proposed CBIT Project
Strengthening the Resilience of the Energy Sector in Benin to the Impacts of Climate Change. GEF-UNDP. USD 39,5M. (2016-2022)[78]. Project objective is to reduce the impacts of climate change and variability on Benin's energy sector though a number of key actions: • mainstreaming climate change into energy policies and management and planning strategies and tools; • introducing sustainable land and forest management practices for strengthening the climate resilience of wood energy supplying areas; and promoting the transfer of efficient technologies of production and use of wood energy and alternative forms of energy.	The proposed CBIT project will ensure coordination with this project to the extent possible to ensure the sustainable land and forest management practices introduced are captured by the domestic MRV system for tracking mitigation actions.
Promotion of sustainable biomass based electricity generation in Benin. GEF-UNDP. USD29,7M (approx..). (2016-2021) The project objective is to introduce an integrated energy and ecosystems-based approach to sustainable biomass electricity generation in Benin.	The proposed CBIT project will ensure coordination with this project as a possible example of mitigation and adaptation action to monitor and report/evaluate in the energy and AFOLU sectors.

[78] https://www.adaptation-undp.org/building-sustainable-energy-future-benin
https://www.thegef.org/project/strengthening-resilience-energy-sector-benin-impacts-climate-change

Building core capacity for implementation, monitoring and reporting of Multilateral Environmental Agreements (MEAs) and relevant Sustainable Development Goals (SDGs) in Benin, GEF-UNEP. USD45M. (2018-2021) This project aims to strengthen national capacity for environmental information and knowledge management for the implementation, monitoring and reporting of Multilateral Environmental Agreements (MEAs) and relevant Sustainable Development Goals (SDGs) in Benin	The proposed CBIT project will ensure coordination with this project to the possible extent to make best use of the system for management of information envisaged therein in order to enhance transparency-related processes; and to learn from the efforts to strengthen coordination agreements among key line ministries and agencies on the streamlining of data collection and sharing to fill data gaps and reduce unnecessary duplication.
Strengthening the resilience of rural livelihoods and sub-national government system to climate risks and variability in Benin. GEF-UNDP. (2018-?) The proposal aims to build capacities and increase the preparedness of national and sub-national authorities to effectively identify, sequence, and combine available resources for addressing climate change adaptation, while addressing the country's highest priority actions identified in the Benin NAPA.	The proposed CBIT project will ensure coordination with this project to the possible extent to enhance ETF processes related to adaptation, by learning from strengthening of technical capacities among extension services as well as of adaptive capacity and resilience of agriculture-dependent communities, with a focus on smallholder production, the application of climate-resilient agricultural techniques, reduced green-house gas emissions through conservation agriculture, collaborative activity and value chain development, and community-based sustainable natural resource management.
Preparation of Benin's First Biennial Update Report (BUR1) to UNFCCC. GEF-UNEP. 385K USD. (2014-2016) This project aims to prepare and submit Benin's first biennial update report (BUR) to the UNFCCC and in doing so enhance Benin's capacity to meet its reporting obligations under the UNFCCC on continuous basis.	The proposed CBIT project will fully coordinate with and contribute to enhance and maximise the ongoing efforts towards the making of the first BUR in all processes related to the GHG national inventory system. Synergetic activities will be put in place/lessons learned will be captured to achieve a sustainable institutional setting and operational MRV system that includes an efficient digital infrastructure for managing inventory data, an improvement in the activity data collection framework, an improved QA/QC system, the strengthening of the monitoring and reporting system for mitigation actions. The proposed CBIT will directly benefit the BUR in terms of enhanced capacity development on data collection, production and transparency as well as monitoring.
Flood Control and Climate resilience of agriculture infrastructures in Ouémé Valley. GEF-AFDB. USD75 M (approx.). (2014-2019) This project aims to improve and secure agricultural outputs through making agricultural infrastructure climate resilient in the Ouémé Valley - Benin	The proposed CBIT project will ensure coordination with this project to enhance ETF processes related to adaptation, and will learn from the adaptation options implemented and the strengthening of technical capacities among farmers associations as well as try and test the identified ETF-ready adaptation evaluation and reporting methodologies.
Strengthening Climate Information and Early Warning Systems in Western and Central Africa for Climate Resilient Development and Adaptation to Climate Change. GEF-UNDP. USD18M (approx.). (2013-2016) The project intended to strengthening climate information and early warning systems in Western and Central Africa for climate resilient development and adaptation to climate change – Benin	The proposed CBIT project will ensure lessons learned from this project are captured on relevant adaptation technologies, capacity development of relevant public services as well as experiences in setting up an environmental monitoring infrastructure.
Appui à l'élaboration du projet de développement des écosystèmes forestiers côtiers en république du Bénin (ProDEFoC). FAO. USD68,000. (2018-2019). FAO-TCP/BEN/3701/C1. This project aims to develop the full Project Document for a GEF project aimed at restoring coastal ecosystems and more particularly those of mangroves to mitigate and adapt to the effects of climate change and contribute to the food security of neighboring populations.	The proposed CBIT project will ensure coordination with the GEF project that will be developed through this TCP to the extent possible and provide a framework for the monitoring and reporting of the ground activities implemented.

Partnership for Sustainable Rice Systems Development in Sub-Saharan Africa. FAO (RAF). USD 5M. (2016-2018). GCP /RAF/489/VEN. This partnership aims to develop sustainable and productive rice systems in Africa to increase food security and enhance sustainable development of the rice food chain among the smallholder farmers in the region.	The proposed CBIT project will ensure lesson learned are captured from this partnership while integrating its outcome(s) with the climate dimension, including through monitoring of the mitigation (GHG emissions) and evaluation of the adaptation (value chain, resilience) components by use of ETF-ready methodologies identified.
Monitoring water productivity by Remote Sensing as a tool to assess possibilities to reduce water productivity gaps. FAO. USD 10M (approx.). (2015-2019). FAO-GCP /INT/229/NET. This action framework aims to provide workable solutions, available for stakeholders at different scales - from the policy level to the farm level-, to sustainably increase agricultural land and water productivity. The framework will be based on robust state of the art Remote Sensing and Information and Communication Technologies to assess the terrestrial soil water balance and related biomass production to monitor agricultural land and water productivity, as well as the uptake of carbon dioxide by vegetation.	As this GCP project intends to increase sustainable agricultural land and water productivity, that represents one of the possible adaptation measure to climate change with mitigation co-benefits, the proposed CBIT project will ensure coordination to the extent possible to try and test the identified ETF-ready adaptation monitoring and evaluation methodologies as well as to assess possible use of the developed methodologies to improve the GHG emission estimate capacities of the country.
Building Capacity of ECOWAS for effective CAADP Implementation in West Africa. FAO. (2012-2018). GCP /RAF/461/SPA The project, now in its final phase, aims to exploit the immense regional potentials of West Africa to promote a productive and sustainable agriculture, to ensure the food security and sovereignty of the region, vector of economic development, export growth and rural poverty reduction	The proposed CBIT will capture lesson learned on the measures implemented to increase agricultural productivity (and treat them as adaptation options) as well as on the experience gained while strengthening technical capacity in relevant institutions on investments in the agriculture sector.
Support Transition Towards Climate Smart Agriculture Food Systems. The project, now in its final phase, contributes to the overall development goal of the ECOWAP/ CAADP RAIP (above) to modernize the agricultural sector to achieve food security in the perspective of regional integration. The long-term impact will be a contribution towards the transformation of the agriculture sectors into one that has increased productivity and incomes and increased resilience to climate change; thereby contributing to reducing hunger and poverty in the target countries, and as such contributing to the achievement of the Millennium Development Goals (MDGs) as well as the Sustainable Development Goals (SDGs).	The proposed CBIT will capture lesson learned on the best practices identified to implement CSA measures (and treat them as mitigation and adaptation options) and on the coordination mechanisms put in place among different ministries to scale up results.

Ouémé climate-resilience initiative (OCRI) FAO. USD 50M. (2019-2023). FAO-GCP /BEN/060/GCF. The objective of the project is to increase resilience of smallholder farmers across Ouémé watershed through improvement of their productivity and implementation of soil, land and water adaptation and mitigation measures, to enable the transition towards sustainable and climate-resilient agro-ecosystems and rural communities. The project will support the establishment of a watershed-based multi-stakeholder platform to promote the adoption and dissemination of adaptation and mitigation activities in line with the Ouémé Master Management Plan and the Nationally Determined Contributions. The platform will strengthen governance and promote public-private partnerships to restore watershed productivity and diversification of livelihoods, with the objective of enhancing farm and landscape climate-resiliency. Capacity development, community-based monitoring and knowledge transfer will ensure the scaling-up, replication and institutionalization of the adaptation and mitigation measures.	The proposed CBIT project will ensure coordination with this initiative to the extent possible to elaborate and test appropriate indicators and ETF-ready adaptation monitoring and evaluation methodologies as well as to assess possible use of the developed methodologies to improve the GHG emission estimate capacities of the country.
Supporting AUC and countries in the formulation and tracking the progress of NDC implementation plans in Africa. FAO. USD399,000. (2018-2020). FAO-TCP/RAF/3704. The objective of this project is to enhance technical and institutional capacities of the African Union Commission (AUC) and member countries on the formulation, implementation and tracking progress of NDCs. By 2021, five years after the Paris Agreement entered into force, the AUC expects to publish a report on NDC implementation in Africa. This project is FAO's response to AUC's request for technical assistance for the preparation of such report. In this context, Agriculture, Forestry and other Land Use sectors (AFOLU) were identified as areas of technical support. The project will deliver the compilation of tools, methods and experiences on NDC implementation in the AFOLU sectors in Africa as well as an overview and analysis of progress made so far in terms of NDC planning, implementation and monitoring together with recommendations to advance the NDC agenda in Africa. Direct support for the formulation and/or tracking progress for NDC Implementation plans will be provided to at least 4 pilot countries to be selected during the project inception phase based on agreed selection criteria with the AUC and available resources. The project will also foster countries' exchange of experiences and best practices on implementation and tracking progress.	The proposed CBIT project will ensure close coordination with this TCP to the extent possible to avoid duplication of efforts in the production of knowledge on implementation and tracking of progress of NDC measures in the AFOLU sector, particularly with reference to the outputs planned under component 2, as well as make best use of the planned opportunities for awareness raising, exchange and dissemination of knowledge if available.

7. *Consistency with National Priorities*. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how:

- ☒ National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention
- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD

- ☒ National Communications (NC) under UNFCCC
- ☒ Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD
- National Implementation Plan (NIP) under POPs
- ☒ Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- ☒ Biennial Update Report (BUR) under UNFCCC
- ☒ Others

98. The proposed capacity building program is drawn directly from the priorities outlined in Benin's NDC, which is based upon existing national laws, regulations, and policies on issues related to climate change and the energy and AFOLU sectors. These policies such as the Low Development strategy, the PAG and the PANA were outlined in the baseline section. The proposed CBIT project will also contribute to and build upon additional policies related to sustainable development in the energy and AFOLU sectors.

99. As a result, the proposed capacity building program is highly consistent with the national priorities of Benin with respect to efforts to tackle the drivers and impacts of climate change.

TABLE 11 SYNTHESIS OF RELEVANT POLICY FRAMEWORKS FOR CBIT BENIN

Policy Framework	Relevance
Government Action Programme (PAG) (2016-2021)	PAG (2016-2021) provides for actions and reforms to relaunch the economic and social development of Benin in a sustainable manner including the development and implementation of adaptation, mitigation and disaster management measures and the NAPA The proposed CBIT project will be relevant as it will contribute to the implementation of PAG's sectoral projects as well use some of its outputs (census) in a multiplication effect.
National Adaptation Programme of Action (NAPA, 2008)	The NAPA of Benin assesses the vulnerability of livelihoods to climate change, indicating priority needs in terms of resources and capacities of the stakeholders concerned. Five priorities are listed: establishment of a climate risk prediction and early warning system for food security in four vulnerable agro-ecological zones; adaptation of households to climate change by promoting renewable energies, affordable and efficient cook stoves in highly degraded areas vulnerable to climate change; mobilization of surface water for adaptation to climate change in the most vulnerable communities of Central and North departments; protection of children under five and pregnant women against malaria in areas most vulnerable to climate change; protection of the coastal zone from rising sea levels. The NAPA has informed priorities actions in Benin's NDC. As a result, the proposed CBIT project will contribute to national efforts to better report progress toward NAPA priorities, including the elaboration/improvement/implementation of an ETF-ready M&E mechanisms for adaptation envisaged in the PANA. In turn, PANA's sector specific projects and objectives will provide a basis for capacity building, peer exchange and reporting to the proposed CBIT project. Also a number of sub-projects supporting the NAPA in the capacity building domain (as listed in the baseline section) are of high relevance to CBIT.
Strategic plan for the development of the agricultural sector (PSDSA) (2017-2025)	PSDSA aims to support the Government adaptation strategy and to reduce the vulnerability of rural communities and urban climate variability through resilient energy production, transport and distribution. Three interventions are envisaged: facilitate integration of climate risks into energy-needs projections; support the development of climate change-ready frameworks for energy policies and strategies; reduce the climate vulnerability of Benin's energy sources through protection of power generation and distribution centers, watersheds, and of forest areas as sources of energy. The proposed CBIT will coordinate with the PSDSA and enhance the country capacity to quantify mitigation policy measures in the energy and AFOLU sectors.
Low Carbon and Climate Resilient Development Strategy (2016-2025)	The strategy aims at contributing to Benin's sustainable development by integrating climate considerations into the country's strategic sectoral operational plans such as the PSDSA and the National Agricultural Investment, Food and Nutrition Security Plan (PNIASAN, 2017-2021), reducing carbon intensity and increasing resilience of development options. The strategy is implemented though twelve sub-programmes structured around three main themes: adaptation, reduction of climate risks and mitigation of GHG emissions. The Strategy was communicated to the UNFCCC on 12/12/2016 in accordance with Article 4, paragraph 19, of the Paris Agreement, and decision 1/CP 21, paragraph 35. The proposed CBIT project well complements the Strategy towards establishing institutional arrangements to coordinate preparation of ETF reports for energy, agriculture, land-use and other relevant sectors, and will also contribute to the achievement of the coordination, capacity building and management of knowledge objectives.
Climate-Smart Agriculture National Development Strategy (AIC) and Action Plan (2018-2022)	The AIC strategy enables, through the PSDA and PNIASAN, the implementation of concrete and sustainable actions to reverse the trend of declining productivity in the agricultural sector due to climate change by strengthening the coordination between the relevant institutions, stimulating the research on AIC and climate change, and mobilizing funding for the implementation of AIC practices. The AIC strategy informed Benin's NDC on adaptation options, particularly on gender and the improvement of productivity of crop and livestock, highly relevant to the proposed CBIT project adaptation component. The proposed CBIT will also capitalize on the capacity building and coordination experience acquired by the AIC strategy.

8. *Knowledge Management.* Outline the "Knowledge Management Approach" for the project and how it will contribute to the project's overall impact, including plans to learn from relevant projects, initiatives and evaluations.

100. The project adopts two core knowledge management approaches: 1) Dissemination and maintenance of on-line based database and learning forums; and 2) Promotion of knowledge sharing culture and coordination. To

successfully implement these approaches, the project plans to employ a national communication specialist who will produce key knowledge products in locally acceptable formats using electronic materials for webpage, ICT, radios, paper, or other appropriate means. Knowledge products will be fully translated into local languages for better dissemination and integration. Secondly, the project aims to promote knowledge sharing culture and coordination for data collection and analysis in Benin. This includes an enhanced coordination among line ministries, local governments, and grass root actors working together towards improved transparency in climate change related data for the energy and AFOLU sectors. Under the CBIT project, coordination will be facilitated primarily under Component 1 and activities to design the integrated sector roadmap for transparency and peer-to-peer exchanges implemented, also in collaboration with the other CBIT projects and inititatives mentioned above (CBIT Global Coordination Platform, CBIT-AFOLU, CBIT-Forest).

101. Cost effectiveness is at the core of the proposed project as all interventions draw upon the latest tools and methodologies with regards to GHG emissions measurements/estimation and analytical frameworks for assessing the impacts of adaptation actions for energy and AFOLU sectors that have already been developed by FAO and other international partners and applied to larger national contexts.

102. The institutional mechanisms for UNFCCC reporting will build on existing national structures and political processes instituted by MCVDD-DGEC rather than creating new systems. Institutional and technical capacities developed through component 1 to 3 will build on existing national efforts based on comprehensive capacity needs assessment to avoid duplication of work or overlaps. The coordination mechanism will largely depend on existing networks that consist of stakeholders who hold some capacities in climate-related transparency work. Online platforms and IMS will be facilitated to further assist sharing and systematic management of knowledge and information. Although in-person trainings will be conducted in some places, the project aims to increase the use of on-line trainings and e-learning platforms for long-term education purpose. Such archiving, communication, and capacity building efforts will help the project reaching out to broader stakeholders and partners with minimal cost.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Delphin Aidji	GEF Focal Point	MCVDD	29/10/2018

Annex A

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES

(when possible)

103. The proposed CBIT project will be implemented on the whole territory of Benin, whose (bounding box) coordinates are: 0.772335646171, 6.14215770103, 3.79711225751, 12.2356358912 degrees. A geographical map is provided[79]:

[79] Source: https://countrystat.org/home.aspx?c=BEN

Annex B

GEF 7 Core Indicator Worksheet

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

Core Indicator 1	**Terrestrial protected areas created or under improved management for conservation and sustainable use**						***(Hectares)***
			Hectares (1.1+1.2)				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
Indicator 1.1	Terrestrial protected areas newly created						
Name of Protected Area	WDPA ID	IUCN category	Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
		(select)					
		(select)					
		Sum					
Indicator 1.2	Terrestrial protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score			
				Baseline		Achieved	
				Endorsement	MTR	TE	
		(select)					
		(select)					
		Sum					
Core Indicator 2	**Marine protected areas created or under improved management for conservation and sustainable use**						***(Hectares)***
			Hectares (2.1+2.2)				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	*TE*	
Indicator 2.1	Marine protected areas newly created						
Name of Protected Area	WDPA ID	IUCN category	Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
		(select)					
		(select)					
		Sum					
Indicator 2.2	Marine protected areas under improved management effectiveness						
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score (Scale 1-3)			
				Baseline		Achieved	
				PIF stage	Endorsement	MTR	TE
		(select)					
		(select)					
		Sum					
Core Indicator 3	**Area of land restored**						***(Hectares)***
			Hectares (3.1+3.2+3.3+3.4)				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
Indicator 3.1	Area of degraded agricultural land restored						
			Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	

Indicator 3.2	Area of forest and forest land restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 3.3	Area of natural grass and shrublands restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 3.4	Area of wetlands (including estuaries, mangroves) restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 4	**Area of landscapes under improved practices (hectares; excluding protected areas)**					***(Hectares)***
		Hectares (4.1+4.2+4.3+4.4)				
		Expected		Expected		
		PIF stage	Endorsement	MTR	TE	
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.2	Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.3	Area of landscapes under sustainable land management in production systems					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 5	**Area of marine habitat under improved practices to benefit biodiversity**					***(Hectares)***
Indicator 5.1	Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial					
			Number			
			Expected		Achieved	

			PIF stage	Endorsement	MTR	TE
Core Indicator 6	**Greenhouse gas emission mitigated**					***(Tons)***
			Tons (6.1+6.2)			
			Entered		Entered	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)					
	Expected CO2e (indirect)					
Indicator 6.1	Carbon sequestered or emissions avoided in the AFOLU sector					
			Tons			
			Entered		Entered	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)					
	Expected CO2e (indirect)					
	Anticipated Year					
Indicator 6.2	Emissions avoided					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)					
	Expected CO2e (indirect)					
	Anticipated Year					
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 6.4	Increase in installed renewable energy capacity per technology					
		Technology	Capacity (MW)			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		(select)				
		(select)				
Core Indicator 7	**Number of shared water ecosystems (fresh or marine) under new or improved cooperative management**					***(Number)***
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products					
		Shared water ecosystem	Rating (scale 1-4)			
			Rating		Rating	
			PIF stage	Endorsement	MTR	TE
Core Indicator 8	**Globally over-exploited fisheries Moved to more sustainable levels**					***(Tons)***

			Metric Tons			
			PIF stage	Endorsement	MTR	TE
Core Indicator 9	**Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products**					***(Tons)***
			Metric Tons (9.1+9.2+9.3)			
			Expected		Achieved	
			PIF stage	PIF stage	MTR	TE
Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) and POPs containing materials and products removed or disposed					
POPs type			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
(select)	(select)	(select)				
(select)	(select)	(select)				
(select)	(select)	(select)				
Indicator 9.2	Quantity of mercury reduced					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.3	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.4	Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities					
		Technology	Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 10	**Reduction, avoidance of emissions of POPs to air from point and non-point sources**					***(Grams)***
Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.3	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	**Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**					***(Number)***
					Number Achieved	
					MTR	TE
				Female		
				Male		
				Total		

Annex C

Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/ topics/themes that best describe this project.

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

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

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

		☐ Forest	
			☐ Amazon
			☐ Congo
			☐ Drylands
	☐ Land Degradation		
		☐ Sustainable Land Management	
			☐ Restoration and Rehabilitation of Degraded Lands
			☐ Ecosystem Approach
			☐ Integrated and Cross-sectoral approach
			☐ Community-Based NRM
			☐ Sustainable Livelihoods
			☐ Income Generating Activities
			☐ Sustainable Agriculture
			☐ Sustainable Pasture Management
			☐ Sustainable Forest/Woodland Management
			☐ Improved Soil and Water Management Techniques
			☐ Sustainable Fire Management
			☐ Drought Mitigation/Early Warning
		☐ Land Degradation Neutrality	
			☐ Land Productivity
			☐ Land Cover and Land cover change
			☐ Carbon stocks above or below ground
		☐ Food Security	
	☐ International Waters		
		☐ Ship	
		☐ Coastal	
		☐ Freshwater	
			☐ Aquifer
			☐ River Basin
			☐ Lake Basin
		☐ Learning	
		☐ Fisheries	
		☐ Persistent toxic substances	
		☐ SIDS : Small Island Dev States	
		☐ Targeted Research	
		Pollution	
			☐ Persistent toxic substances
			☐ Plastics
			☐ Nutrient pollution from all sectors except wastewater
			☐ Nutrient pollution from Wastewater
		☐ Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		☐ Strategic Action Plan Implementation	
		☐ Areas Beyond National Jurisdiction	
		☐ Large Marine Ecosystems	
		☐ Private Sector	
		☐ Aquaculture	
		☐ Marine Protected Area	
		☐ Biomes	
			☐ Mangrove
			☐ Coral Reefs
			☐ Seagrasses
			☐ Polar Ecosystems
			☐ Constructed Wetlands

	☐ Chemicals and Waste		
		☐ Mercury	
		☐ Artisanal and Scale Gold Mining	
		☐ Coal Fired Power Plants	
		☐ Coal Fired Industrial Boilers	
		☐ Cement	
		☐ Non-Ferrous Metals Production	
		☐ Ozone	
		☐ Persistent Organic Pollutants	
		☐ Unintentional Persistent Organic Pollutants	
		☐ Sound Management of chemicals and Waste	
		☐ Waste Management	
			☐ Hazardous Waste Management
			☐ Industrial Waste
			☐ e-Waste
		☐ Emissions	
		☐ Disposal	
		☐ New Persistent Organic Pollutants	
		☐ Polychlorinated Biphenyls	
		☐ Plastics	
		☐ Eco-Efficiency	
		☐ Pesticides	
		☐ DDT - Vector Management	
		☐ DDT - Other	
		☐ Industrial Emissions	
		☐ Open Burning	
		☐ Best Available Technology / Best Environmental Practices	
		☐ Green Chemistry	
	☒ Climate Change		
		☒ Climate Change Adaptation	
			☐ Climate Finance
			☒ Least Developed Countries
			☐ Small Island Developing States
			☐ Disaster Risk Management
			☐ Sea-level rise
			☐ Climate Resilience
			☒ Climate information
			☐ Ecosystem-based Adaptation
			☐ Adaptation Tech Transfer
			☒ National Adaptation Programme of Action
			☐ National Adaptation Plan
			☒ Mainstreaming Adaptation
			☐ Private Sector
			☐ Innovation
			☒ Complementarity
			☐ Community-based Adaptation
			☐ Livelihoods
		☒ Climate Change Mitigation	
			☒ Agriculture, Forestry, and other Land Use
			☒ Energy Efficiency
			☐ Sustainable Urban Systems and Transport
			☐ Technology Transfer
			☒ Renewable Energy
			☐ Financing
			☐ Enabling Activities
		☐ Technology Transfer	
			☐ Poznan Strategic Programme on Technology Transfer
			☐ Climate Technology Centre & Network (CTCN)

			☐ Endogenous technology
			☐ Technology Needs Assessment
			☐ Adaptation Tech Transfer
		☒ United Nations Framework on Climate Change	
			☒ Nationally Determined Contribution
		☒ Climate Finance (Rio Markers)	☒ Paris Agreement ☐ Sustainable Development Goals ☒ Climate Change ☒ Mitigation 1 Climate Change ☒ Mitigation 2 Climate Change ☒ Adaptation 1 ☒ Climate Change Adaptation 2