



Sustainable Management and Resilient Thinking for our Energy Revolution (SMARTER)

Review PIF and Make a recommendation

Basic project information

GEF ID

10849

Countries

Barbados

Project Name

Sustainable Management and Resilient Thinking for our Energy Revolution (SMARTER)

Agencies

UNDP

Date received by PM

8/12/2021

Review completed by PM

4/25/2022

Program Manager

Ming Yang

Focal Area

Climate Change

Project Type

MSP

PIF

Part I ? Project Information

Focal area elements

1. Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF 7 Programming Directions?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes.

4/28/2022 MY:

Please address the following comments from the GEF PPO unit:

1. On the Letter of Endorsement: The records indicate that this PIF was received on 8/12/2021. The letter was signed by Ms. Kellman in December 2020 and the current OFP is Mr. Charley Browne. Please provide any evidence to show the LoE is still valid.
2. As this is a UNDP project, a checklist should be provided at PIF stage. We were not able to find out this checklist in the documents section of the Portal. Please submit it to the GEF Portal.
3. Co-financing: National Petroleum Corporation/Barbados National Oil Company ? this entity appears to be affiliated with the ministry of energy. If so, please change the source to ?Recipient Country Government?.
4. For gender, please provide more detailed information. Firstly, in the objective and relevant components, please provide more details on gender dimension. Secondly, the

project document indicates that the project is expected to close gender gaps in accessing to and controlling over natural resources. However, it does not provide any indicative information on how this project intends to do so. In the relevant sections of the project document, please provide such indicative information.

5/9/2022 /MY:

Yes, all PPO comments were addressed and issues were cleared.

Agency Response

May 9, 2022

1. An updated LoE has with signature of current OFP has been uploaded to portal.
2. The checklist has been re-uploaded to portal.
3. Co-financing table changed for National Petroleum Corporation/Barbados National Oil Company for Recipient Country government.
4. Further info on gender has been added to paragraphs 97 and 98: Potential gender gaps and corresponding actions will be further assessed during the PPG with a detailed gender assessment and the definition of a Gender Action Plan. The gender analysis will undertake an initial screening of the state of art of gender considerations in the sector and point out specific outputs and activities needed to 1. gather and identify the basic data on gender in the bioenergy sector and 2. Define key strategic activities that will place woman as strategic agents of change and not only beneficiaries of project activities.

Given the lack of reliable and updated data on gender and bioenergy sector (and the energy sector in general) in Barbados, the project has defined under component 1 - Institutional strengthening for resilient, low-emission energy planning ? a specific output focused on reviewing relevant sector policies to identify opportunities for incorporation of gender aspects in the integration and strengthening the energy-water-agriculture-health nexus in the Bioenergy sector. This upstream activity will implement a focused assessment to define policy actions to tackle gender gaps in access to and control over natural resources aiming to increase women?s participation and decision-making and amplify socio-economic benefits in the different sectors interrelated to Bioenergy. A consultive approach will be thoroughly applied as social, cultural and gender issues could adversely affect the adoption of centralised and decentralised RE systems by the project (identified as a moderate risk), a well-known problem in many countries often referred to as the ?not in my backyard? (NIMBY) syndrome.

Indicative project/program description summary

2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

1. The PM appreciates the UNDP for indicating the GEF grant budget as detailed as at project outputs. Please continue such a way of good presentation. However, please double check the numbers in Table B to make sure they are correct. For example, at output 2.1.5, the GEF grant amount is missing. Other errors can also be detected in Table B. Please revise it.

2. What are the outreach activities under output 2.1.3?

3. Please revise the budget for PMC so that the PMC will be financed from the GEF grant and the Co-financing with the same share. .

Subtotal	GEFTF	1,448,942	7,170,000
Project Management Cost (PMC)	GEFTF	144,894	300,000

2/10/2022 MY:

Not completed yet.

Please continue addressing the following comment that was indicated on 8/13/2021.

3. Please revise the budget for PMC so that the PMC will be financed from the GEF grant and the Co-financing with the same share.

Subtotal 1,448,942 8,640,000

PMC 144,894 400,000

10% 5%

4/22/2022 MY:

Yes, comments were addressed and the project doc was revised.

Agency Response

1. April 13th
Cofinance for PMC has been revised and has now the same share of GEF grant (10%: 1,116,000)

Table B figures adjusted accordingly. Please note that the Project scope and outcomes/outputs have been adjusted and updated.

2. This previous output 2.1.3 is no longer included. As a consequence of further engagement with the government, the new PIF scope is reduced and a more realistic budget proposed. Grid-battery storage licensing, smart grids and end-user monitoring is no longer included. Several of these activities are covered by the baseline. Also, the DREAM TE allowed for a better understanding of the governance concerning the utility license and its implications for independent power production. As a whole, Barbados is making substantial steps forward, allowing the revised PIF to focus more strongly on bioenergy and RE pipeline development. We believe the current set-up is more consistent and clarifies the GEF action viz-a-viz the baseline situation. For your guidance, please note the following:
? The baseline has been updated as per Q4 2021 given the time lapsed since the PIF as submitted (compiled Q1 2020), Work on sector policy has proceeded since.
? The previous PIF was pre-COVID-19.
? Due to STAR allocation lower than foreseen, the original budget was very tight given the scope.
? The DREAM TE became available after the first PIF concept.
3. The PMC cofinance has been increased to US\$400k (MESBE cofinance).

Co-financing

3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

The ratio of co-financing is less than 5. For a country with per capita GDP about \$20,000, the PM suggests to raise the co-financing ratio to 7, and the ratio of investment mobilized to 5.

2/10/2022 MY:

No.

The ratio of co-financing is increased to 5.6 but it is still not enough. Recently, some key donor countries were concerned about the low co-financing ratios in SIDS. Please raise the co-financing ratio to 7, and the ratio of investment mobilized to 5. Thank you.

4/22/2022 MY:

Yes, comments were addressed and the project doc was revised.

Please get the co-financing letters from the engaged stakeholders sooner than later for the purpose of CEO endorsement.

Agency Response

April 13th

The government has re-engaged with stakeholders and managed to commit more cofinance resources. The cofinance is 7:1 (11,160,000) with 5:1 of investment mobilized (table C of PIF reviewed).

Please note that Barbados GDP is estimated at US\$16,100 per capita (See footnote 3, Source: <https://www.statista.com/statistics/533707/gross-domestic-product-gdp-per-capita-in-barbados/>). Barbados economy has contracted by 10% due to COVID-19 - note that the Caribbean is the region hardest hit by the pandemic globally. Yet, we increased cofinance to US\$ 9.04M and hope this fulfills GEF expectations.

GEF Resource Availability

4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. The numbers are consistent with those indicated in the LoE of the OFP.

Agency Response

The STAR allocation?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. The project-requested budget is reserved from the country's CCM STAR allocation.

Agency Response

The focal area allocation?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. The project-requested budget is reserved from the country's CCM STAR allocation.

Agency Response

The LDCF under the principle of equitable access?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

N/A

Agency Response

The SCCF (Adaptation or Technology Transfer)?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

N/A

Agency Response

Focal area set-aside?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

N/A

Agency Response

Impact Program Incentive?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

N/A

Agency Response

Project Preparation Grant

5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? (not applicable to PFD)

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes.

Agency Response

Core indicators

6. Are the identified core indicators in Table F calculated using the methodology included in the corresponding Guidelines? (GEF/C.54/11/Rev.01)

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

The methodology used to estimate GHG emission reductions is not compatible with the GEF recommended methodological framework, which is available at the web.

Please clearly state baseline scenario and its related GHG emissions in both direct and consequential ways.

Then, please elaborate GEF project investment scenario and its GHG emissions in the relevant sectors in the country.

Afterwards, the GEBs of the GEF project can be easily identified. Please present and justify assumptions in the estimation.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

We appreciate your guidance. Please note that the baseline, incremental action and expected investments and impacts have changed. (1) Efficiency gains due to improved public sector PV systems is no longer considered. (2) Energy savings as a result of residential electricity demand management (via smart grids) is no longer part of the project.

Direct GHG emission reductions are now obtained from: a) RE capacity (7.5 MW expected) installed with cofinance; and b) installed 250-kW bioenergy plant (biogas for heat and electricity). See paragraphs 83-87. Indirect emissions are expected through bioenergy market development, for which a 20% GEF causality factor is applied. We only consider bioenergy as the GEF project will focus on this technology (policy, licensing, skills and investment). GEF support will contribute to other RE project development as well, but we exclude this indirect impact to avoid any double counting. Overall GEF cost-effectiveness would be about 7.4 US\$/tCO₂e (3.5 if indirect GHG savings are considered). We believe that this is a strong case for GEF funding.

Project/Program taxonomy

7. Is the project/program properly tagged with the appropriate keywords as requested in Table G?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

It seems that Table G (**Project Taxonomy**) is not completed. Please double check it and complete it if applicable.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response **Table updated in Annex C and table G of the word document and in the GEF portal.**

Part II ? Project Justification

1. Has the project/program described the global environmental/adaptation problems, including the root causes and barriers that need to be addressed?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. The project justification is presented on pages 5-8.

Agency Response

2. Is the baseline scenario or any associated baseline projects appropriately described?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

Please project carbon emissions in the relevant sectors at the baseline scenario, on which the additionality of the GEF project can be justified. For example, to justify Outcome 1.1.." to provide MEWR with policy instruments and tools to facilitate the uptake of RE power systems and smart grids in the country ", it is necessary to elaborate the current situation in the country in terms of policy instrument and tools and carbon emissions that are related to these policy and instrument tools.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

The baseline scenario has been fully reworked, see par 39-50. While acknowledging the progress made by Barbados, relevant barriers have been identified (par. 21-37) and summarized in the table, page 12. The barrier descriptions identify voids challenges and provides lines of action to address them. Par. 38 gives a brief description of the baseline, barriers, and the ambition level of the proposed SMARTER Project, as follow: ?38. In summary, all types of barriers are present to a larger or lesser extent, affecting Barbados? capacity to achieve its goal to become a 100% RE country by 2030 and foster the utilization of domestic bioenergy. The barriers that can reasonably be addressed within the framework of a GEF MSP are: sector governance and energy asset management; access to (bioenergy) technology; and RE pipeline development. Transversal challenges include inter-sectorial dialogue, information, and development of the energy nexus, in particular linked to circularity, resilience and gender?.

The 2021 NDC states and updates the original 2015 baseline emissions data {page 18} in summary as follows: Total absolute emissions in the base year (2008) have been restated at 2,123Gg CO₂e. The 2015 NDC inventory stated emissions at 1,816Gg CO₂e. The absolute emissions reductions resulting from this 2021 NDC update conditional contribution below the 2008 base year are 705Gg CO₂e (2025) and 1,459Gg CO₂e (2030) respectively. Total economy-wide BAU emissions projections are 1,881Gg CO₂e (2025) and 1,958Gg CO₂e (2030) respectively.

3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Not completed, since the baseline scenario is not clear. Please update the alternative scenario after the baseline scenario is revised.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

The proposed alternative scenario has been fully rewritten to reflect the changes in scope and identified outputs and outcomes. The revised proposal takes benefit from the GEF-5 DREAM Terminal Evaluation (which became available June 2020 - after the first PIF concept was compiled) and advanced by MESBE (which made some originally proposed outputs less relevant). See paragraphs 51-75, as follows:

- Component 1, par 52-57
- Component 2, par 58-64
- Component 3, par 65-71
- Component 4, par 72-75.

Bioenergy is a strategic option for Barbados as reflected in the Barbados National Energy Plan 2019-2030, which offers a framework for all RE technologies and grid-connected storage. Barbados also has an effective land use zoning policy and procedures for its revision. Recently, land use for wind and solar energy has been incorporated. However, a specific policy for bioenergy and forthcoming regulation is not in place in Barbados, and the GOB lacks the expertise. Which is the main rationale behind GOB request for UNDP and GEF support. (Neither is adequate expertise present among national stakeholders, hence the inflow of knowledge, technology and expertise to Barbados is highly needed).

Barbados is committed to become 100% fossil-free and environmentally sustainable. We therefore increasingly look at bioenergy from the perspective of economic circularity to maximize economic value and minimize environmental externalities and waste. We have tried to reflect this in the new PIF design.

4. Is the project/program aligned with focal area and/or Impact Program strategies?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. it is aligned with "CCM-1-1 Promote innovation and technology transfer for energy breakthroughs - De-centralized RE power with energy storage."

Agency Response

5. Is the incremental/additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Not completed.

Please allocate some of the GEF grant to output 2.1.5, without which it would be very difficult to justify why the GEF should finance this kind of project if country stakeholders can use their own funds to cost-effectively invest in low carbon technologies on ground without the test and verification of new policy and new instrument tools to be developed by the GEF project.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

Your comment refers to GEF support for investment. Please note the revised project framework and output numbering. Some GEF funding is now allocated in 3.1.4 to enable investment. For 3.1.5 funding is enhanced in support of bioenergy project. We fully agree that installed RE (specifically bioenergy) plants on the ground are key to verify policies and procedures, for building a supportive ecosystem, and verify the actual delivery of all types of benefits (incl. GHG emission reductions).

6. Are the project's/program's indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Not at this time.

Please justify any assumptions in GHG accounting. For example, the following statement, which is copied from paragraph 78 of the PIF, contains a lot of assumptions without justification.

". Smart energy management including behavioural change can typically yield 10% energy savings; it is assumed assumed that half of the target group is reached. The annual energy savings then attained are 15,700 MWh/yr (equivalent to about 2.0 MW of baseload capacity). At an approximate GHG intensity of the grid of 0.8 tCO₂eq/MWh, the annual GHG emission reductions are 12.6 kton CO₂eq. Over a 10-year period, accumulated reductions are 126 kton CO₂eq."

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

We acknowledge your comments on the initial GHG reduction estimates. Note that the GHG calculations for this modified PIF is fully re-worked. See par 83-87 and under Q6 for further details.

7. Is there potential for innovation, sustainability and scaling up in this project?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. They are shown in paragraphs 80-87 of the PIF.

Agency Response

Project/Program Map and Coordinates

Is there a preliminary geo-reference to the project's/program's intended location?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Not completed. On the map shown in paragraph 88, please mark the targeted project demonstration sites.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

The following project site coordinates are considered:

(1) Portvale Sugar Factory: 13.195029370718755, -59.61616080709527

(2) Pom marine: 13.076189421673508, -59.59656892666094

Stakeholders

Does the PIF/PFD include indicative information on Stakeholders engagement to date? If not, is the justification provided appropriate? Does the PIF/PFD include information about the proposed means of future engagement?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Not completed yet.

If possible, please put the names of project stakeholders to match the outputs of the project in Table B. In the description of project components, please indicate which organizations or project stakeholders will execute the sub-components of capital investments for technology demonstrations. Please be aware that approval of the PIF does not imply that the GEF Implementing Agency will execute the Project. The implementing agency cannot be an executing agency in the project. There must be specific project stakeholders to execute the project.

Please elaborate whether this project will benefit or impact any Indigenous or minority Peoples and Local Communities. If so, please show evidence that they have been

consulted with the project impacts. Please indicate which stakeholders will be affected by the project on ground and how they have been consulted.

Please ensure that the PIF includes information about the future roles of stakeholders and proposed means of future engagement. Please check if the future roles of stakeholders have been identified. Please demonstrate how the project keeps engaging stakeholders through adequate means.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

1. An initial stakeholder list with their potential role in or with the Project has been included (Table par. 95). A comprehensive stakeholder engagement plan will be developed during PPG. As per SESP pre-screening a comprehensive stakeholder engagement plan will be developed during PPG defining roles, means of engagement (participation methods) and responsibilities of the diverse project partners. UNDP will apply the 2017-2021 ICPE (Independent Country Programme Evaluation) lessons learned by using an inclusive approach that draws on stakeholder consultation and the principles of leaving no one behind. Together with MESBE UNDP will work with state and non-state actors in each phase of the project cycle. This approach will enhance buy-in and ownership of the projects.

2. Note that the Project will likely be Nationally Implemented (NIM), i.e. executed by the Government (MESBE). This will be confirmed during PPG phase by the HACT results. Government has not requested support services from UNDP.

3. There are no indigenous peoples in Barbados. In any case, policy planning and projects involving land use are subject to public consultation processes established by Law. Recently, zoning for wind and solar energy was done under such a process. As a further warrant, UNDP project are all subject to Social and Environmental Screening, based on which Social/Environmental Management Plans are put in place with the objective to meet all possible safeguards and standards. A Stakeholder Engagement Plan, Gender Plan, and consultation with all types of rightholders is part of the process.

Gender Equality and Women's Empowerment

Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

Please check and elaborate preliminary issues or findings on gender-specific context of the project, describe plans to address gender issues during the project development phase. For example, please show any planned gender responsive measures/activities to address gender gaps and promote gender equality and women's empowerment that is related to the project.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

Some preliminary information throughout the PIF :

- Economically, women and youth face structural inequalities related to access to capital and other resources, and the persistent gender pay gaps and highly unequal distribution of unpaid care work . This inequality, and the region's heterogeneity, are reflected in Barbados ranking 56 of 162 countries in the Gender Inequality Index.

- Source: www.ccreee.org Barbados? 2019 Energy Report Card. Data indicates employment in the sector is as follows: 112 females, 208 males and an additional 351 people not aggregated by gender.

- Additional Information - Source:
https://www3.weforum.org/docs/WEF_GGGR_2021.pdf

- Page 10 - Barbados is listed as 27th out of 156 countries as measured in the WEF Global Gender Gap Index 2021 which is 1st in the Caribbean and 3rd in the entire LAC region.

- Similarly, Page 18 indicates that Barbados scored 7th out of 156 countries for Gender based Economic Participation and Opportunity second only behind the Bahamas in the entire LAC region.

More strategically, the revised SMARTER concept aims to respond to one of the findings of the DREAM Terminal Evaluation, i.e., that the gender-energy nexus in Barbados is not well understood nor documented. Energy always has a gender component, but how this works out in Barbados is not so clear. The SMARTER project shall provide more insight, which will be used to update the initial Gender Analysis and Action Plan (mandatory UNDP annexes for the PPG).

Even more importantly, we believe that systemic changes will occur in the near term as Barbados is phasing out fossil fuels and energy end-uses will either switch to grid electricity, self-generation, or new (clean) fuels. This will bring along changes in how energy is used, how and by what means people will use transport, what appliances will be used in the house, etc. GOB and UNDP want to be able to understand how the energy transition will affect all energy-nexus, including transport, agriculture, tourism, fishery, and gender.

Private Sector Engagement

Is the case made for private sector engagement consistent with the proposed approach?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. It is stated on para 92 of the PIF.

Agency Response

Risks to Achieving Project Objectives

Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

In Section 5. Risks, please address risks due to climate change. While doing so, please include:

1. Outlining the key aspects of the climate change projections/scenarios at the project locations, which are relevant for the type of intervention being financed (e.g. changes in temperatures, rainfalls, increased flooding, sea level rise, saltwater acquirer contamination, increased soil erosion, etc.).

1.1 please include time horizon if feasible/data available (e.g. up to 2050).

1.2 please look at list of examples from STAP guidance.

2. Listing key potential hazards for the project that are related to the aspects of the climate scenarios listed above. This means elaborating a narrative that describes how the climate scenarios indicated above are likely to affect the project, during 2020-2050.

3. Describing plans for climate change risk assessment and climate risk mitigation measures during PPG. Please see the STAP guidance.

If the project developer does not know well the requirement of GEF STAP, please ask UNDP New York office for help.

Also, please brief the measures to cope with COVID-19 by responding the following three questions:

1. General: Describe briefly how the pandemic overall is addressed in the project, including associated impacts, risks and opportunities. Projects are required to identify and establish likely impacts and risks from COVID-19, and how they will be dealt with in the context of delivering global environment benefits and climate adaptation and resilience benefits;

2. Risk analysis: Please consider any risks and measures to deal with the risks that are caused by COVID-19 and post-COVID-19. These risks include (1) availability of Technical Expertise and Capacity and Changes in Timelines in the selected provinces; and (2) any expected financing from the government and co-financing from all stakeholders. Please describe further how risks from COVID-19 have been analyzed and mitigation strategies incorporated into the design of this project. The PIF is expected to include consideration to the risks that COVID-19 poses for all aspects of project design and eventual implementation.

3. Opportunity analysis: Describe further how the project has identified potential opportunities to mitigate impacts (if any) caused by COVID-19 to deliver GEBs and/or climate adaptation and resilience benefits, and contribute toward green recovery and building back better.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

Climate Risks:

1. UNDP's common Multi-Country Assessment (CMCA) has identified that the climate emergency and data availability are two of the top three issues cited across the Sub-Region. These issues are directly correlated, as data gaps make it difficult to undertake robust analysis to inform mitigation and adaptation planning. Therefore, at this point is difficult to outline detailed climate change scenarios for project locations with large time horizons. However, an initial screening of potential risks, vulnerabilities and possible mitigation measures, focused generally in the RE sector has been added to the PIF in paragraph 100, based on a recent RE climate risk assessment developed by the German GIZ specifically for Barbados(2019).
2. Climate Risk assessment for the Renewable Energy Sector :
 - 1) Hazards: Barbados has not experienced a major climate shock since Hurricane Janet in 1965, and nothing on the scale of the catastrophic events that its neighbours have experienced in recent years. It has, however, been affected in recent decades by various climatic shocks including Hurricane Tomas in 2011 which damaged approximately 1,500 houses, caused interruptions to 80% of the island's electricity supply and resulted in approximately USD1.85m (BBD37 million) worth of damages (Grainge 2017).

Hurricane Matthew in 2014, and a tropical depression in 2016 have led to flooding throughout the island (Robinson and Rogers, 2018).

2) Assessing vulnerability and exposure and rating the risks: According to Grainger (2018), "between 1972 and 2010, approximately 70% of damages to infrastructure caused by storms and hurricanes in the Caribbean were to the transport sub sector, while 25% was to the energy subsector and the remainder to the water and sanitation sub sector". With the integration of more renewable energy sources, it is important to ensure that the existing and future energy generation and transmission/ distribution infrastructure is climate resilient. In the case of a climatic shock, the power sector is highly exposed, but it is generally the transmission and distribution infrastructure that presents systemic risks. As Bioenergy is not a relevant part of RE transition in Barbados yet, a further analysis of vulnerability and exposure of project locations and GEF financed interventions will be undertaken during PPG phase.

3. Possible measures to manage the risk: The potentially catastrophic nature of climate risks in the Caribbean, particularly in the context of climate change, means that risk transfer is likely to play an important role in building resilience. This is enabled by the design of appropriate financial instruments, including insurance. Currently there are significant barriers to risk transfer in the renewable energy sector. As the client of IPPs, and sole distributor of electricity on the island, BL&P bears the risk of supply interruptions. Going forward, as it signs more power purchase agreements with IPPs, it may be important to include contractual clauses that require IPPs to implement similar risk management procedures to their projects. Barbados' bioenergy policy shall address the impact of climate change on the availability of land and marine biomass resources in Barbados.

COVID:

1. The COVID-19 impact has been incorporated in the baseline of the PIF (par 40) and in Risks section: 1, 4, and 5 (on Risk Table in par 98).
2. In January 2022, 51% of the population is fully vaccinated. COVID has fast tracked the roll out of online services in the public sector and Barbados as a whole. Most government services are available online, including payments. A flexible work arrangement policy has been rolled out and public officers, where possible, now carry out their duties remotely. Online meetings have now been normalized and there is acceptance and a growing familiarity with the online video conferencing for meetings, workshops and consultancies. These changes can well contribute to a higher pace of digitalization of public services, which is an important element of this project (licensing processes).
3. This project will directly support the national green development strategy to become energy independent and 100% Fossil-Fuel Free by 2030, thus significantly reducing the impact on the environment and GHG emissions. Project will support community-driven, decentralised RE projects and identify and strengthen value chains sustaining bioenergy projects in the agricultural sector, hotel and tourism industry and sugar sector. These sectors were all hard hit by the pandemic. It will also strengthen Barbados' energy security and support the process of becoming energy independent

Coordination

Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined? Is there a description of possible coordination with relevant GEF-financed projects/programs and other bilateral/multilateral initiatives in the project/program area?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

In Section 6. Coordination, please draw a chart to show the coordination relationship among all stakeholders of the project. Please specify how the private sector, CSO, and indigenous people will be coordinated in the project.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

Coordination of stakeholders will be detailed in the Stakeholder Engagement Plan, which is a mandatory UNDP project annex. Briefly, GOB consults with CSO (Civil Society Organizations) and IP Coordination with other agencies will also be assured by UNDP through inter-agency meetings, notably with IDB, EU, CDB, IRENA, bilateral agencies as well as national agencies, such as the Barbados Sugar Industries Limited (BSIL), and the Barbados Biogas Association (BBA).

To ensure effective coordination and build-up of know-how, a technical working group comprising experts from the IP and other sector Government stakeholders will be established. Its interrelation to Project board will be defined during PPG. A technical advisory group shall be established with institutions involved in other renewable energy programs in Barbados, such as Public Sector Smart Energy Programme (PSSEP) and the Energy Smart Fund II (ESF-II), to guarantee complementarity and integration of initiatives. At this point, details are not finalized but after due consideration during the design phase, details will be outlined in the CEO endorsement package.

Consistency with National Priorities

Has the project/program cited alignment with any of the recipient country's national strategies and plans or reports and assessments under relevant conventions?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

Please elaborate how this project implementation is consistent with the country's roadmap towards 2030 zero-carbon energy scenario.

2/10/2022 MY:

Yes, comments were addressed.

Agency Response The final draft of the IRRP speaks to 20MW biomass plants of which 10MW should be built by 2025. Component 1 of the SMARTER project seeks to develop a bioenergy policy as well as update the licensing regime to include bioenergy which is a necessary first step in support of implementation of the technology. Bioenergy projects are already being proposed that would benefit from the policy and licensing regime.

Knowledge Management

Is the proposed knowledge management (KM) approach? in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project's/program's overall impact and sustainability?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

Please provide information on Knowledge Management with the following requirements:

1. an overview of existing lessons and best practice that inform the project document
2. plans to learn from relevant projects, programs, initiatives & evaluations
3. proposed processes to capture, assess and document information, lessons, best practice & expertise generated during implementation
4. proposed tools and methods for knowledge exchange, learning & collaboration
5. proposed knowledge outputs to be produced and shared with stakeholders
6. a discussion on how knowledge and learning will contribute to overall project impact and sustainability

7. plans for strategic communications

2/10/2022 MY:

Yes, comments were addressed.

Agency Response

1. Please note that the revised SMARTER concept incorporates lessons learned from the UNDP GEF-5 DREAM project in Barbados.

2. Knowledge Management is addressed specifically under Component 4 - a KM framework shall become in place in the inception phase of the project, which is also a mandatory UNDP requirement.

In general terms the approach will consider four steps in the knowledge management of project's activities:

- Identification and collection of project's reports, results, lessons learnt and other experience. The focal point at the PMU for this task will be either project manager or a communication specialist

- Analysis and formatting of the collected material, to be integrated in the knowledge management system.

- Accessibility and dissemination of knowledge materials. This is mainly provided through the project website and other regional platforms

- Publication and sharing of experiences and knowledge with international peers. The C-SERMS Platform Thematic Working Groups are envisioned as a conduit to increase exposure and impact, as Caribbean SIDS share similar circumstances and challenges.

MESBE has 2 websites that can be used for knowledge management. The latter ? smart energy website being specifically targeted towards the BNEP and the national objectives:

- <https://energy.gov.bb/>

- <http://www.smartenergybarbados.com/>

Environmental and Social Safeguard (ESS)

Are environmental and social risks, impacts and management measures adequately documented at this stage and consistent with requirements set out in SD/PL/03?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

No.

1. Please ensure that the project document has provided the overall risk categorization (High/Substantial, Moderate/Medium, Low). Please check for appropriate justification.

2. Please confirm that the project document includes information on any measures to address ESS related risks and impacts during project implementation.

3. Please upload any available screening/assessment reports such as preliminary Environmental and Social Risk and Impact Assessment report(s).

4. Please consider social measures to deal with the impact of COVID-19 at local communities where the mining activities are conducted.

2/10/2022 MY:

Not completed yet.

In the section of 9. Environmental and Social Safeguard (ESS) Risks of the PIF, please check item by item to see if the section has fully addressed all the issues that were listed in the comments above dated 8/13/2021. COVID 19 risk for example was not addressed.

4/22/2022 MY:

Yes, comments were addressed and the project doc was revised.

Agency Response

April 13th

1. The Safeguards risk categorization has been added to PIF (paragraph 99): The project has a range of potential moderate risks that require further assessment during PPG, and collectively make the project Substantial Risk at this early stage. Please check the pre-SESP report (uploaded to portal) which has a full screening of all potential ESS related risks and specific target assessments planned for PPG.

2 & 3. The targeted assessments planned for PPG are:

? Gender analysis (to generate gender action plan)

? Comprehensive stakeholder analysis (to define Stakeholder Engagement plan)

? Waste audit/analysis (to Waste Management Plan);

? ESIA (Environmental and Social Impact Assessment) : To be confirmed during the PPG according to the scope of demonstrative activities. Potentially needed for demonstrative activities that demand infrastructure planning and construction.

? SESA (Strategic Environmental and Social Assessment): To be confirmed during PPG; Potentially needed for upstream policy activities.

4. The comment above related to ? COVID at local communities where mining activities are conducted? is not clear as there are no mining activities in SMARTER project.

All info regarding safeguards is in the detailed Social and Environmental Screening Template (pre-SESP screening document) attached to the PIF and uploaded in the portal.

Part III ? Country Endorsements

Has the project/program been endorsed by the country's GEF Operational Focal Point and has the name and position been checked against the GEF data base?

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

Yes. The LoE is uploaded onto the GEF Portal.

Agency Response

Termsheet, reflow table and agency capacity in NGI Projects

Does the project provide sufficient detail in Annex A (indicative termsheet) to take a decision on the following selection criteria: co-financing ratios, financial terms and conditions, and financial additionality? If not, please provide comments. Does the project provide a detailed reflow table in Annex B to assess the project capacity of generating reflows? If not, please provide comments. After reading the questionnaire in Annex C, is the Partner Agency eligible to administer concessional finance? If not, please provide comments.

Secretariat Comment at PIF/Work Program Inclusion

8/13/2021 MY:

N/A

Agency Response

GEFSEC DECISION

RECOMMENDATION

Is the PIF/PFD recommended for technical clearance? Is the PPG (if requested) being recommended for clearance?

Secretariat Comment at PIF/Work Program Inclusion
8/13/2021 MY:

Not at this time.

Please address the comments above.

2/10/2022 MY:

Not at this time.

Please address the comments above.

4/28/2022 MY:

Please address the comments of the PPO that are presented in Box 1 of this review sheet.

5/9/2022 /MY:

Yes, all PPO comments were addressed and issues were cleared.

The PM recommends technical clearance for this project.

ADDITIONAL COMMENTS

Additional recommendations to be considered by Agency at the time of CEO endorsement/approval.

Secretariat Comment at PIF/Work Program Inclusion
5/9/2022 /MY:

Please present the results of a detailed gender assessment and the definition of a Gender Action Plan at the CEO ER stage.

Review Dates

	PIF Review	Agency Response
First Review	8/13/2021	
Additional Review (as necessary)	2/10/2022	
Additional Review (as necessary)	4/22/2022	
Additional Review (as necessary)	5/9/2022	
Additional Review (as necessary)		

PIF Recommendation to CEO

Brief reasoning for recommendations to CEO for PIF Approval

CEO cover memo for the PIF

1. Barbados is a major tourism destination thanks to its splendid beaches and the safe environment for visitors. Although it is ranked as a high-income country, Barbados faces many of the challenges typical for a SIDS. Given its small economy and dependency on imports (including fuels), the country is exposed to global economic shocks. The country is also vulnerable to the effects of climate change, in particular flooding and wind damage. Notably, Barbados ranks among the countries with lowest available freshwater resources per capita in the world.
2. As most SIDS, Barbados' energy sector is characterized by a dependency on imported fossil fuels and an under-exploitation of local renewable sources. Electricity generation accounts for about 50% of total fossil fuel imports (diesel and heavy fuel oil), while 33% is consumed by the transport sector. The high average electricity consumption (3,655 kWh/yr per capita) and price level (approx. US\$ 0.21 per kWh) undermine the competitiveness of the manufacturing and services sector and put a large burden on households' budgets. Barbados has some domestic oil production by the National Petroleum Corporation (NPC) which is a fraction of the demand (less than 10%). Fuel imports amounted to about US\$ 250 million (11% of Gross Domestic Product - GDP) in 2018. The fuel bill for electricity generation alone was US\$176.5 million in 2017. Due the fossil fuel share, the carbon-intensity of grid electricity is high (0.87 ton CO₂eq/MWh).

3. Per the baseline scenario of the project, there has been a huge impact of the COVID-19 pandemic on the national economy. Studies reveal that COVID-19 has significantly worsened existing financial, economic and social vulnerabilities as tourism arrivals have collapsed; unemployment, inequality and poverty levels have grown worse; and economic output (GDP) has contracted (about 10% for Barbados). It must be noted that the Caribbean has the highest GDP losses for 2020 and the third-highest job losses worldwide due to COVID-19. Women are disproportionately hit by the pandemic given their role as micro-entrepreneurs and family caretakers, and as workers in the tourism industry. This GEF project will timely support the government to better reform its relevant energy and climate policy to cope with the COVID-19. More detailed analysis on impact and opportunities from COVID-19 on this project will be undertaken during the PPG stage.

4. To reduce fossil fuel consumption and import, the government of Barbados sets a goal of 100% RE by 2030 in its updated National Energy Policy (BNEP 2019-2030). This GEF project will significantly contribute towards this goal. The objective of the project is to strengthen Barbados' institutional and technological capacities to transit towards a resilient, affordable and low-carbon electricity infrastructure. The project consists of four components: 1. Institutional strengthening for resilient, low-emission energy planning, 2. Bioenergy policy and technology, 3. Preparation and investment for decentralized renewable energy power systems, and 4. Knowledge management, monitoring and evaluation. With \$1.6 million project cost, this project targeted to mobilize \$11.2 million co-financing, and mitigate 423,000 tonnes of CO₂ in its lifetime operation.