**request for CEO ENDORSEMENT**

**Project Type: Full-sized Project**

**Type of Trust Fund: GEF Trust Fund**



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1. **part i: project information**

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| Project Title: Disaster Risk & Energy Access Management (DREAM): Promoting Solar Photovoltaic Systems in Public Buildings for Clean Energy Access, Increased Climate Resilience and Disaster Risk Management |
| Country(ies): | Barbados | GEF Project ID:[[1]](#footnote-1) | 5453 |
| GEF Agency(ies): | UNDP  | GEF Agency Project ID: | 5186 |
| Other Executing Partner(s): | Office of the Prime Minister (Executing Entity)Division of Energy and Telecommunications (DoET) | Submission Date: | 10 February 2015 |
|  |  | Re-submission Date: | 10 April 2015 |
| GEF Focal Area (s): |  | Project Duration(Months) | 36 |
| Name of Parent Program (if applicable):* For SFM/REDD+ [ ]
* For SGP [ ]
 | n/a | Agency Fee ($): |  164,016 |

1. **Focal Area Strategy framework[[2]](#footnote-2)**

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| --- | --- | --- | --- | --- | --- |
| **Focal Area Objectives** | **Expected FA Outcomes** | **Expected FA Outputs** | **Trust Fund** | **Grant Amount** ($) | **Cofinancing**($) |
|   | 3.1 Favorable policy and regulatory environment created for renewable energy investments | 3.1 Renewable energy policy and regulation in place |  | 377,000 | 260,000 |
|   | 3.2 Investment in renewable energy technologies increased | 3.2 Renewable energy capacity installed |  | 1,072,000 | 29,850,000 |
|   | 3.3 GHG emissions avoided | 3.3 Electricity and heat produced from renewable sources |  | 277,484 | 790,000 |
| **Total Project Costs** |  | **1,726,484** | **30,900,000** |

1. **Project Framework**

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| **Project Objective:**  To reduce GHG emissions from fossil fuel-based power generation by demonstrating the exploitation of renewable energy resources for electricity generation in Barbados. |
| **Project Component** | **Grant Type** | **Expected Outcomes** | **Expected Outputs** | **Trust Fund** | **Grant Amount ($)** |  **Confirmed Co-financing****($)**  |
| 1. Renewable energy policy framework |  | Institutional and technical capacity and awareness strengthened for clean energy development | 1.1 Grid stability assessment.1.2 Strategic planning for solar-PV deployment in Barbados1.3 Approved and strengthened licensing procedures for RE projects |  | 377,000 | 260,000(DoET) |
| 2. Clean energy capacity development |  | Institutional and technical capacity and awareness strengthened for clean energy development | 2.1 RE awareness raising programs at community and resource centers2.2: Solar development vocational training programmes |  | 83,000 | 390,000(DoET) |
| 3. Solar-PV installations |  | Feasible stand-alone solar PV electricity generation investments are successfully demonstrated  | 2.1 Feasibility studies of specific solar PV installations 2.2: Implementation assistance for solar-PV projects |  | 119,000 | 400,000(UNDP) |
|  | Inv |  | 2.3 Solar-PV demo investment projects |  | 1,072,000 | 29,750,000(DoET) |
| Subtotal |  | 1,651,000 | 30,800,000 |
| Project management Cost (PMC) |  | 75,484 | 100,000(DoET) |
| **Total project costs** |  | 1,726,484 | 30,900,000 |

1. **sources of confirmed Cofinancing for the project by source and by name ($)**

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| --- | --- | --- | --- |
| **Sources of Co-financing**  | **Name of Co-financier (source)** | **Type of Co-financing** | **Co-financing Amount** ($)  |
|  | UNDP |  | 400,000 |
|  | DoET |  | 30,500,000 |
| **Total Co-financing** | **30,900,000** |

1. **Consultants working for technical assistance components:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **Grant Amount($)** | **Co-financing ($)** | **Project Total ($)** |
| International Consultants | 0 | 100,000 | 100,000 |
| National/Local Consultants | 110,000 | 250,000 | 360,000 |

1. **Does the project include a “non-grant” instrument?**  No

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**part ii: project justification**

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| A.1: National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.  |

1. N/A

A.2: GEF focal area and/or fund(s) strategies, eligibility criteria and priorities.

1. N/A

 A.3: The GEF Agency’s comparative advantage:

1. N/A.

A.4. The baseline project and the problem that it seeks to address:

1. The energy sector is governed by the Electric Light and Power Act (1899) and the Draft Energy Policy adopted by Parliament in 2008, and regulated by the Fair Trading Commission Act and the Utilities Regulation Act[[3]](#footnote-3). The responsibility for energy lies within the portfolio of the Prime Minister of Barbados and a Minister of State[[4]](#footnote-4). Within this framework, the Government of Barbados (GoB) is driven to reduce its dependence on imported fossil fuels and has taken a number of measures to ensure this reduction including the following key measures:
* The Sustainable Energy Framework for Barbados (SEFB) of 2010 that was an output of cooperation between the GoB and the IDB with financing from GEF on a comprehensive program of policy and regulatory changes from which the GoB has drafted a National Sustainable Energy Plan (NSEP). The NSEP calls for more sustainable production and consumption of fossil fuels, the use of more renewable energy, and more efficient use of electricity. *Most importantly in the context of renewable energy, the NSEP calls for specific targets which are to increase the proportion of renewable energy to 29% by 2029. However, there are no accompanying strategic plans that specify how this target will be achieved*;
* Approval of a Renewable Energy Rider (RER) pilot project proposed by the national utility, Barbados Light & Power (BL&P), in close consultation with the Fair Trading Commission in July 2010 that allows eligible customers with renewable power sources to sell excess power to the grid. Private households were allowed to install up to 5 KWp and commercial establishments up to 50 KWp for a total capacity of 1.6 MW or 200 projects for the pilot phase whichever was achieved first;
* A proposed limit by BL&P for intermittent RE (solar and wind) to be 10% of peak demand due to the possible negative impact on grid stability and reliability. This represents 19% of the minimum system demand, until the results from their Intermittent Renewable Energy Penetration Study (2014) are evaluated and appropriately reported. The aim of the Intermittent Renewable Energy Penetration Study was to further evaluate the potential penetration levels that can be accommodated and maintained without compromising grid stability and reliability. *The issue for the GoB is that an independent grid stability assessment is required that will evaluate the potential VRE into the grid and strategies and investment options to increase VRE penetration into the Barbadian grid to as high as 144 MW out of a total installed capacity of 235 MW*;
* Revisions to the ELPA in late 2013 to incorporate increased demand for RE power generation and improve the conditions for meeting the RE targets of the government of 29% RE power generation by 2029[[5]](#footnote-5). Revisions proposed will allow the Energy Minister to supersede the RER as of July 2014. As a result, the GoB and the private sector have committed to implementing RE technology from 2014-2015 (with absolute certainty) and 2016-2020 (with reasonable certainty). Beyond 2020, the level of certainty and reliability of committing to and implementing on the ground projects decreases, with the 2015 solar-PV limit of 12 MW, set by BL&P, to be possibly adopted or raised depending on the outcomes of grid stability assessments;
* A second extension of the RER in 2014 to partially meet the high demand for rooftop solar PV that will now translate into a total to 10 MW with another 8 MW reserved for a utility scale system. To date, there are currently more than 710 customers benefitting from the RE Rider Programme with cumulative installed capacity of 5.5 MW; and
* Further amendments to the ELPA in late 2014 provide the framework of a licensing regime to regulate and set standards for the future RE installations. In its context of promotion of the generation of electricity from renewable sources in Barbados, the Act now stipulates that independence producers of electricity must obtain a license before electricity can be supplied to other persons. *As would be the case with any new legislation, the Government anticipates that the experiences from the issuance of the first licenses will inform them of further required changes to strengthen the licensing regime and streamline the licensing process. Streamlining of the licensing process is important to the Government as it seeks to meet the demand for renewable energy and reduce electricity prices in Barbados*.
1. The problem that this proposed GEF-supported Project seeks to address is the lowering or removal of barriers to increased use of RE, and in particular, with rooftop solar PV. These barriers include:
* Uncertainty of how much VRE can be injected into the existing Barbadian grid. This impacts the ability to prepare a strategic plan for growth of the renewable energy in Barbados;
* The lack of a strategic plan under the country’s NSEP under which the pace of RE development could be defined in terms of annual installed capacity. This would assist policymakers and programme implementers on the required resources, the capacity needed to staff the programme, the required volume of solar-PV equipment required and the potential employment generation for local youth and other local skilled vocational trades;
* Uncertainty over technical measures that could be undertaken to upgrade the grid to increase the existing grid’s absorptive capacity for VRE;
* Current Government awareness raising programmes are not sufficiently sustained and need to speak to the issue of what renewable energy technology are available for exploitation, and in particular, how solar-PV technology can reduce energy costs. The ECRE and the GoB do not have sufficient personnel or resources to promote the benefits and feasibility of solar-PV and RE for Barbados; and
* Insufficient demonstrations of operational rooftop-solar-PV installations that would convince more Barbadian citizens of its feasibility.

A. 5. Incremental /Additional cost reasoning:

1. By building on the updated baseline assessment carried out during PPG work, some complementary activities to and some rewording of the previous activities presented in the PIF have been added into the Project design. These changes are reflected in the Project Results Framework presented on pgs 41-42 of the UNDP-GEF project document. The changes from the PIF are as follows:

* The addition in Component 1 in the PIF of an independent grid stability assessment of the existing grid’s ability to absorb VRE, and the required upgrades of the existing grid to allow it to absorb higher percentages of VRE;
* Enforced procedures under Component 1 that will only include technical assistance to a new licensing system for solar PV installations;
* Dropping of Component 2 outputs of institutional peer-to-peer training development and the dissemination of best practices and lessons learned of solar PV, and replacing it with awareness raising programmes at community and resource centers. These programmes will serve as a possible recruitment mechanism for solar PV vocational programs under the “Public Sector Smart Energy Programme” (PSSEP); and
* Focusing a Component 3 output originally consisting of national solar PV business plans and financing options for public buildings with more specific detail of implementation assistance required by the Government of Barbados for the successful installation of solar PV panels at the community and research centres and polyclinics.
1. Overall, the project will still promote reduction of Barbados’s carbon footprint as a result of the GEF-funded intervention. The direct GHG emission reductions expected from this Project are 276,895 tonnes CO2eq cumulative for an estimated project lifetime of 10 years. This Project will also generate indirect emission reductions resulting from the improved capacity of the ECRE to act as a renewable energy investment facilitation center or clearing house and an enabled RE investment environment that will result in the indirect “top-down” reduction of 718,400 tonnes CO2eq based on a causality factor of 40%.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

1. Some complementary risks were identified during the project preparation, which are reflected in Table 6, pg 38, and Annex I of the ProDoc of the UNDP-GEF project document.

A.7. Coordination with other relevant GEF financed initiatives:

1. There are no changes in the proposed coordination from when the PIF was approved.

**B. additional information not addressed at Pif stage:**

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| B.1 Stakeholder engagement in project implementation. 1. The Project Steering Committee (PSC) will have oversight of the Project Management Unit (PMU). The PSC will consist of a Chairperson (from the Office of the Prime Minister), with PSC members from DoET, one representative from ECRE, BL&P, MoEWRD, MoH, MoSCCECD and UNDP Barbados and the OECS. The primary functions of the PSC will be to provide the necessary direction allowing the Project to function and achieve policy and technical objectives, and to approve annual Project plans and M&E reports. Other stakeholders to be engaged in project implementation are discussed in Paras 29-38 of the UNDP-GEF Project Document.
 |

B.2 Socioeconomic benefits gender dimensions, and global environment benefits:

1. The social impacts of improving solar energy access to disaster response and relief centers in Barbados include:
* Reliable backup power sources from renewable energy at community and resources centers in the event of an extreme weather event that knocks out grid power;
* Reliable uninterrupted power supplies for polyclinics which serve as relief centers that require uninterrupted power to store medicines and other vital goods;
* Raised awareness of the benefits of solar energy and the possible entrance of those interested into further vocational training disaggregated by gender that will translate into jobs for women and men in a scaled-up solar-PV industry in Barbados.
* Increased understanding of willingness of women vis-à-vis men to invest in solar PV panels to better address gender-related barriers to the uptake of renewable energy technology.
* Promoted use of renewable energy by women at the community level in order to strengthen the resilience of households and buildings in Barbados to extreme weather events and adapt to climate change.

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| B.3. Cost-effectiveness in project design:  1. The cost-effectiveness is reflected in the Project design that addresses a key technical barrier of how much VRE can be absorbed by the existing grid and with an upgraded grid. This barrier removal activity will allow the Government to strategize, plan and implement phased approaches to increasing RE in Barbados. The Project will also provide technical assistance to streamline approvals for the new licensing regime and to the process of installing solar PV panels to ensure quality installations to maximize generation of electricity. Lastly, the Project will strengthen the country’s disaster risk response programmes through the provision of clean backup solar power to community and resources centers and polyclinics. The cost of total emission reductions resulting from this Project is estimated at USD 1.73 per tonne of CO2 reduced.

 1. This Project also seeks to produce knowledge of regional and global value on transforming renewable energy markets that can be applied in small island states in the region, not participating in the Project and even for countries in other regions of the world. The value of these early lessons will make the GEF resources applied, more cost-effective in the medium term.
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**C. m &e plan:**

1. Project monitoring and evaluation will be conducted in accordance with the established standard UNDP and GEF procedures. For further details, please see Para 99-100 and Table 8 of the UNDP-GEF project document.

**PART iII: Approval/endorsement by gef operational focal point and gef agency**

**Record of Endorsement of GEF Operational Focal Point(s) on Behalf of the Government:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Position** | **Ministry** | **Date** *(MM/dd/yyyy)* |
| Mr. Rickardo WARD | GEF Operational Focal Point | **Ministry of Environment, Water Resources and Drainage** | 07/12/2013 |

**B. GEF agency certification**

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| This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project. |

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| --- | --- | --- | --- | --- | --- |
| **Agency Coordinator, Agency Name** | **Signature** | **Date *(Month, day, year)*** | **Project Contact Person** | **Telephone** | **Email Address** |
| Adriana DinuUNDP – GEF Executive Coordinator  |  | April 10, 2015 | Raul Alfaro-Pelico, Regional Technical Advisor, EITT | +5073024751 | raul.alfaro@undp.org |

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**ANNEX A: PROJECT RESULTS FRAMEWORK**

Complete project results framework can be found on Pgs 41-42 of the UNDP-GEF project document

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

**Disaster Risk & Energy Access Management (DREAM)**

No comments received from STAP  **Annex C: status of implementation of project preparation activities and the use of funds[[6]](#footnote-6)**

A. provide detailed funding amount of the ppg activities financing status in the table below:

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| PPG Grant Approved at PIF: USD 100,000 |
| ***Project Preparation Activities Implemented*** | ***GEF/LDCF/SCCF/NPIF Amount ($)*** |
| ***Budgeted Amount*** | ***Amount Spent To date*** | ***Amount Committed*** |
| Technical review (Baseline analysis of the regulatory framework, policy, technology and market) | 40,015 | 40,015 | 0 |
| Project design and project document preparation including institutional arrangements, monitoring and evaluation | 42,566 | 42,566 | 0 |
| Financial planning and co-financing investments (Stake holder analysis and capacity needs assessment, co-financing commitment letters) | 11,325 | 11,325 | 0 |
| Stakeholders consultation and validation workshops | 6,094 | 6,094 | 0 |
| **Total** | **100,000** | **100,000** | **0** |

The PPG phase of the project achieved its main outcome of developing a Medium-Size Project Proposal for submission to GEF.

**annex D: calendar of expected reflows:**

**NA**

1. Project ID number will be assigned by GEFSEC. [↑](#footnote-ref-1)
2. Refer to the [Focal Area Results Framework and LDCF/SCCF Framework](http://www.thegef.org/gef/node/3624) when completing Table A. [↑](#footnote-ref-2)
3. ECOFYS. (2009). *Energy-policy Framework Conditions for Electricity Markets and Renewable Energies: 16 Country Analyses.* Berlin: ECOFYS Germany GmbH [↑](#footnote-ref-3)
4. ECLAC. (2009). *A Study on Energy Issues in the Caribbean: Potential for Mitigating Climate Change.* Port of Spain, Trinidad and Tobago: Ecoonimic Comission for Latin American and the Caribbean: Sub-regional Headquarters [↑](#footnote-ref-4)
5. At the end of 2013, there was only 3 MW of installed capacity of solar PV from the RER programme of BL&P [↑](#footnote-ref-5)
6. If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. [↑](#footnote-ref-6)