

# INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC7545

**Date ISDS Prepared/Updated:** 09-Mar-2015

**Date ISDS Approved/Disclosed:** 22-Apr-2015

## I. BASIC INFORMATION

### A. Basic Project Data

<b>Country:</b>	Belize	<b>Project ID:</b>	P149522
<b>Project Name:</b>	Energy Resilience for Climate Adaptation (P149522)		
<b>Task Team Leader(s):</b>	Migara Jayawardena		
<b>Estimated Appraisal Date:</b>	15-May-2015	<b>Estimated Board Date:</b>	01-Oct-2015
<b>Managing Unit:</b>	GEEDR	<b>Lending Instrument:</b>	Investment Project Financing
<b>GEF Focal Area:</b>	Climate change		
<b>Sector(s):</b>	General energy sector (100%)		
<b>Theme(s):</b>	Climate change (100%)		
<b>Financing (In USD Million)</b>			
<b>Total Project Cost:</b>	12.80	<b>Total Bank Financing:</b>	0.00
<b>Financing Gap:</b>	0.00		
<b>Financing Source</b>			<b>Amount</b>
Borrower			4.80
Global Environment Facility (GEF)			0.00
Special Climate Change Fund			8.00
Total			12.80
<b>Environmental Category:</b>	B - Partial Assessment		
<b>Is this a Repeater project?</b>	No		

### B. Project Objectives

15. The development objective of the proposed Energy Resilience for Climate Adaptation Project is to enhance resilience of the energy system to adverse weather and climate change impacts.

16. The proposed will be designed to complement the Climate Resilient Infrastructure Project (CRIP) that is being financed in parallel by the World Bank, and help reinforce the inclusion of

energy resilience as a key adaptation focus in the comprehensive National Climate Resilient Investment Plan (NCRIP).

### **C. Project Description**

Climate resilient energy systems are ones that incorporate measures to be able to better withstand the impacts of extreme weather conditions that result from climate change; and when unavoidable impacts do occur, it can rebound quickly and efficiently in support of emergency requirement as well as longer-term sustained economic development. The proposed Energy Resilience for Climate Adaptation Project (ERCAP) will focus on the following critical areas that are in urgent need of support in order to achieve its development objective including initial indicative costs, which will be finalized during project preparation taking into account the availability of funding:

Component 1: Mechanisms for Adaptation Planning and Capacity Building (\$2.5 million from SCCF, \$1.5 million GoB). Although there is considerable information and analysis available for global climate trends and impacts, more localized information that is essential for evaluating present and future vulnerabilities in specific energy systems is often limited, as is the case in Belize. Therefore, it is paramount to analyze in detail and confirm the vulnerabilities and adaptation challenges that are specific to the energy sector in Belize including its cross-sectoral linkages; and develop a risk management approach to allow for identification, quantification and prioritization of climate change adaptation interventions and investments. The energy vulnerability/adaptation assessment will need to take a long-term strategic risk management focus given the lengthy designed life-cycles of most energy infrastructure (often 20-30 years); while identifying short to medium-term adaptation mechanisms and techniques that can establish a path towards a more resilient energy system in the face of weather and climate related impacts. It will also provide the GoB with the tools to systematically and iteratively evaluate climate risks, including changing climatic trends and increasing climatic variability, and make informed, risk-based decisions regarding adaptation interventions. To this end, it is just as important to develop the institutional capacity at MESTPU and other related agencies to perform risk based climate change adaptation needs assessments, build in-house capabilities to better model and project future impacts of climate change, and to incorporate planning and design techniques for adaptation. It is foreseen such transfer of knowledge will include successful international experiences that will be appropriately adapted to be relevant in the Caribbean context in existing and future energy investments. The capacity at MESTPU will also be critical for a consultative energy vulnerability/adaptation assessment with input from various stakeholders in order to facilitate informed decisions including gender related considerations. The energy system vulnerability assessment, identification of adaption measures, and the strengthened capacity will help reinforce and mainstream energy sector resilience as a part of the overall NCRIP (in coordination with parallel World Bank operation – CRIP), which is a dynamic and evolving framework.

Component 2: Development and implementation of a comprehensive set of measures to demonstrate increase in the resilience of the energy sector (\$5 million from SCCF, \$3 million estimated from sources to be determined). A comprehensive resilience program developed around the demonstration of the following three key pillars, which will transfer knowledge and develop experience that can be further replicated:

- a. Planning and policy for implementation of energy resilient action. It will be important to create sufficient incentives, introduce necessary regulatory requirements and enhance the environment for making investments and taking actions to improve the resilience of the energy system and adapt it to also to future climate change. Such steps will compel stakeholders to mainstream climate adaption actions in energy related activities. It could include: (a) incentives for

greater penetration of alternate sources of energy (such as wind, biomass or solar) that will diversify generation mix and enhance the reliability of electricity supply to off-set impacts on hydro power availability; and to facilitate grid connection, encourage distributed generation, and mobilize investments to upgrade transmission and distribution infrastructure to better integrate renewable energy (smart grids), b) introduction of standards, specifications, and codes to meet requirements for enhanced resilience in energy infrastructure, c) planning and design of the electricity and transmission distribution system to be more resilient, d) introduction of a bio-energy policy to increase productivity and scale-up bio-fuel production using different biomass feedstock, and e) building Belize's capacity to strengthen its position in electricity trade negotiations with Mexico.

b. Demonstration of design/engineering techniques and investments to strengthen resilience of the energy system and reduce vulnerability to future climate change impacts. This sub-component will pilot select small-scale investments and priority activities that will strengthen the resilience of energy. It will carefully consider measures to ensure resilience to changing climatic trends and increasing climatic variability, as projected for Belize going forward. It will select urgent priority interventions and investments that will introduce and incorporate cutting-edge designs and techniques that, together with the introduction of standards and codes, will enhance the resilience of new and existing energy infrastructure to better withstand impacts of adverse weather phenomena and reduce the likelihood of potentially costly damages. The entire energy system value chain including power generation, transmission, and distribution infrastructure will be considered for opportunities for resilience strengthening, although decisions will be made through a risk-based framework that will help prioritize urgent and important energy infrastructure that will have minimal or no safeguards risks.

c. Strengthening implementation capacity for response and recovery. One key aspect is to take steps will be taken to ensure vital energy services can remain operational in the face of unavoidable extreme weather related events and additional risks posed by climate change, in order to provide vital multi-sector emergency services (such as the availability of electricity for key hospital and medical installations, or for operating pumps to relieve flooding). The other area of focus will be to ensure there is adequate knowledge and capacity for rapid recovery and restoration of energy services when damage is sustained due to adverse weather related events (such as developing redundancies, including emergency procedures, or sufficient rapid-response capabilities).

Component 3: Project Implementation Support and Dissemination for Knowledge Sharing (\$0.5 million from SCCF, \$0.3 million from GoB). The component will provide incremental support to the MESTPU designated staff that are overseeing the proposed project, with additional technical, fiduciary, safeguards, and project management capacity for successful implementation. It will also assist with the wider dissemination and sharing of experience and lessons learned through the project Energy Resilience for Climate Adaptation with stakeholders in regional countries facing similar circumstances to Belize.

It is expected that the climate change adaptation assessment of the energy sector (Component 1) will identify considerable investment needs that will require mobilization of public and private funds. The overall \$8 million funding envelope in the proposed Energy Resilience for Climate Adaptation Project, which is based on the potentially available SCCF financing, will only likely be able to cover a small sub-set of the urgent priority activities that are most urgent in need and can be piloted to have a demonstration impact. An initial assessment and preliminary screening will be carried out during project preparation in order to confirm identified priority areas for support and develop a framework for investment selection that can be applied during project implementation (incorporating a

corresponding Environmental and Social Management Framework (ESMF) to screen for safeguard risks). However, these initial demonstration pilot investments are expected to catalyze the mainstreaming of climate resilient energy infrastructure in support of the overall climate adaptation and development goals of Belize. For example, leveraging a single additional private investment, for example, in biomass co-generation, alone could lead to a \$40-\$50 million in additional investments. In addition, the CRIP project will parallel finance investments and activities that total \$30 million, where many will be inter-linked complementary infrastructure priorities. The climate change adaptation assessment of the energy sector is also expected to develop a road-map of investment prospects that can be progressively implemented by leveraging additional public and private funding in order to enhance the sector's resilience. Since the proposed project will be implemented under the NCRIP framework, the road-map of energy resilience techniques and investments will help integrate and reinforce energy adaptation in the overall planning process in the country. As such, the proposed project has a high potential for a transformational impact in terms of planning coordination, knowledge-transfer, and mobilization of investments.

The proposed project is also expected to have spill-over effects regionally, where a number of countries face similar circumstances as Belize. Although disaster risk management (DRM) is a mainstreamed development activity especially in the Caribbean region, which is prone to adverse weather related impacts, the application and mainstreaming of resilience consideration in the energy sector is a relatively limited. Despite the crucial role played by energy systems in facilitating economic development and poverty alleviation as well as its critical need during catastrophic crisis situations, much of the effort at addressing energy resilience has concentrated on high level assessments rather than customized local application through practical measures. Therefore, the demonstrative nature of the proposed Energy Resilience for Climate Adaptation Project in Belize will serve as a pilot operation providing useful learning and lessons for replication in other countries. It is expected to be the first in a series of potential future operations in the Caribbean region to address energy resilience within an overall framework for DRM.

#### **D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

#### **E. Borrowers Institutional Capacity for Safeguard Policies**

The Ministry of Energy, Science and Technology, and Public Utilities (MESTPU) was established in 2012, for the purposes of better focusing on energy sector development in Belize. There is little information on MESTPU's capacity for safeguards implementation, which will be further assessed before appraisal.

During project preparation, safeguards capacity assessments of MESTPU, and both BEL and PUC (because of their respective roles in project coordination/implementation) would be conducted and the results of these assessments would briefly be described in the appraisal stage ISDS.

The capacity assessments would be used to define capacity development/strengthening programs to be included in the project. These capacity development programs would be described in the ESMF.

#### **F. Environmental and Social Safeguards Specialists on the Team**

Bernard Baratz (GFMDR)

Noreen Beg (GENDR)

Norval Stanley Peabody (GEEDR)

Peter F. B. A. Lafere (GSURR)

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## II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>Potential adverse environmental impacts on human populations or environmentally important areas are site-specific, and are related to small-scale retrofitting or introduction of design features to strengthen resilience of key energy infrastructure to demonstrate techniques for greater climate adaptation. There may also be pilot support to facilitate projects by the private sector in renewable energy such as biomass, wind, and solar installations . Environmental impacts are expected to be mainly localized, temporary, reversible and readily manageable with standard codes of good practice.</p> <p>The exact location and/or nature of potential small investments to be financed under this project will be identified following the vulnerability assessment that will be carried out during implementation and potential adaptation measures are determined. Therefore, an Environmental and Social Management Framework (ESMF) will be prepared to conform to Government of Belize and World Bank safeguard policies. The ESMF will be part of a larger decision making framework that will be applied for selecting a sub-set of small, priority pilot investments, and incorporate environmental and social considerations to assure that potential impacts are minor, of limited extent, limited duration, reversible and easily mitigated with standard well-established codes of good practice. The ESMF will detail safeguard procedures and documentation requirements to be followed by the implementing agencies in the evaluation and preparation of potential investments. Investments that fall outside the scope of the World Bank project and/or exceed the funding available in the project, will be screened out from participating in the project, and therefore, will not be required to follow ESMF procedures. However, MESTPU staff will receive safeguards training in accordance with international best practice for environmental assessment, and projects with issues related to land acquisition/involuntary</p>

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		<p>resettlement, and indigenous peoples, to provide them with the safeguard skills they would need to evaluate these investments.</p> <p>The ESMF will be designed with appropriate criteria to assure that only investments offering minimal or no safeguard risks will be eligible for further consideration within the proposed project.</p> <p>The Environmental and Social Management Framework will include:</p> <ul style="list-style-type: none"> <li>i) the existing environmental and social baseline conditions of the affected areas</li> <li>ii) the location and description of the interventions</li> <li>iii) legal provisions</li> <li>iv) screening criteria for the interventions</li> <li>v) as applicable, environmental and social management tools and mitigation measures necessary during the design, construction and operation of the interventions. This should include licensing and permits, as well as health and safety measures</li> <li>vi) the institutional provisions (e.g. roles and responsibilities of the implementing agency for preparing and implementing the ESMF). This is particularly important given the limited environmental and social management capacity of MESTPU.</li> </ul> <p>Stakeholder Consultation. The ESMF will include appropriate information disclosure and consultation mechanisms that are commensurate with the size and nature of the interventions. The consultation with affected groups and NGOs will be undertaken as early as possible and the results of such public consultation will be in the draft of the ESMF.</p> <p>The ESMF will be publicly disclosed prior to Project Appraisal and will be incorporated into the project Operations Manual.</p> <p>The Project is classified as Category B – Partial Assessment - assigned to projects that are likely to have limited and reversible environmental impacts, that can be readily mitigated</p>
Natural Habitats OP/BP 4.04	TBD	<p>Although this project will not support or lead to the conversion of natural habitats, one component of the project that should be addressed carefully is the pilot for proving concept of expansion of biomass to offset</p>

		<p>volatility of hydropower availability. A feasibility analyses has been carried out by 5Cs and the Clinton Climate Initiative (CCI), which identified Arundo Donax, an indigenous, thick grass that has a high heat-content capable of growing in marginal land as a potential crop that could serve as feedstock for generating power. A test pilot is proposed in an existing biomass power plan (BELCOGEN) to extend the availability beyond the sugar-cane harvesting season (current feedstock). An analysis should be undertaken confirming that Arundo Donax is not an invasive species, and that the area it will be grown on will neither be located on a critical natural habitat, or that the nature of the grass will not encroach on key natural habitats or pose a risk to local fauna or avifauna.</p> <p>The ESMF will explicitly forbid any direct or linked investments in areas supporting critical natural habitats or inducing significant conversion or degradation of critical natural habitats.</p> <p>The ESMF will: i) have appropriate screening criteria to ensure that no investments which involve the significant conversion of natural habitats; and/or ii) have acceptable mitigation measures in place for those investments likely to affect non-critical natural habitats.</p>
Forests OP/BP 4.36	No	<p>This project will not lead to the destruction of forests and forest ecosystems. The ESMF will explicitly forbid any direct or linked investments in areas supporting destruction or conversion of forests and forest ecosystems. The ESMF screening will explicitly forbid direct or linked investment activities that would lead to the destruction, degradation or conversion of forests and key forest ecosystems or which affect the management of forests or the rights and welfare of forest dependent communities, and to ensure that any impacts on forests be mitigated through measures defined as part of the broader approach on natural habitat protection under OP 4.04.</p> <p>Screening mechanisms will be incorporated into the ESMF to ensure that any small scale impacts on forests are mitigated through measures defined as part of the broader approach on natural habitats.</p>

Pest Management OP 4.09	TBD	<p>The project will not finance any activities that would result in procurement or use of pesticides. There will be no pesticide use in construction or maintenance of works. Any land clearing in preparation for civil works and/or maintaining rights-of-way will be undertaken manually or mechanically.</p> <p>A feasibility analyses has been carried out by 5Cs and the Clinton Climate Initiative (CCI), which identified Arundo Donax, an indigenous, thick grass that has a high heat-content capable of growing in marginal land as a potential crop that could serve as feedstock for generating power. A test pilot is proposed in an existing biomass power plan (BELCOGEN) to extend the availability beyond the sugar-cane harvesting season (current feedstock). It should be confirmed that no pesticide or herbicide will be used to either clear land for this activity, or to grow this crop.</p> <p>Minor use of pesticides to control pests affecting workers in construction areas will be addressed in the ESMF.</p>
Physical Cultural Resources OP/BP 4.11	Yes	<p>The project is not expected to have negative impacts on cultural property, including movable or immovable objects, sites, structures, groups of structures or natural features or landscapes with archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.</p> <p>The ESMF will include specific screening provisions for evaluating potential impacts on cultural resources. During implementation, potential sub-project direct or linked investments will be assessed to determine whether or not they will have an impact on physical cultural properties. If the assessment indicates possible impact, the investment would not be financed.</p> <p>“Chance finds” during implementation of activities could be possible. The ESMF will provide specific guidance on chance finds procedures, consistent with World Bank policy, to be included within the EMP for use in procurement and contracting documents.</p>
Indigenous Peoples OP/BP 4.10	TBD	It’s not been determined whether this policy would be triggered or not. In the event that activities would

		<p>be undertaken in areas where indigenous peoples are present or when country wide policy advice or activities would affect indigenous communities, the MESTPU will prepare or commission the preparation of a Culturally Appropriate Consultation and Participation Plan before appraisal. This instrument will provide guidance on (i) the appropriate consultation protocols to engage ethnically diverse stakeholders during the participatory process, which will in turn, inform the design of Component 1's energy vulnerability/adaptation assessment; (ii) identify potential adverse impacts on indigenous peoples and establish actions (with a detailed budget) that the MESTPU would implement to mitigate these impacts; (iii) describe relevant traditional practices on adaptation measures (as part of Component 1) identified during the social assessment, that can also be updated during implementation with the inputs from the Component 1's participatory process, thus opening channels for the MESTPU to work with indigenous peoples in risk-based climate change adaptation needs-assessment and related interventions.</p>
Involuntary Resettlement OP/ BP 4.12	Yes	<p>The project is expected to have limited involuntary resettlement impacts such as easements, temporary impacts, displacement of houses or businesses with or without formal titles or small-scale land acquisition. For sub-projects identified by Appraisal, a Resettlement Action Plan (RAP) will be developed, consulted and disclosed prior to Appraisal. As it might not be possible to identify all sites for subprojects, an Involuntary Resettlement Framework will also be prepared, consulted and disclosed prior to Appraisal to guide the development of (Abbreviated) Resettlement Action Plans during project implementation and prior to the start of works.</p> <p>In addition, any "subsequent investments" that are (a) directly and significantly related to the Bank's project; (b) necessary to achieve its objective; and (c) carried out or planned contemporaneously with the project, will also be required to develop Resettlement Action Plans in accordance with the guidelines described in the project's Involuntary Resettlement Policy Framework.</p>
Safety of Dams OP/BP 4.37	TBD	The project is not expected to finance or retrofit any

		dams, but it will be determined during preparation whether safety inspections or related activities will be required for climate adaptation purposes.
Projects on International Waterways OP/BP 7.50	No	Potential investments under the project are not expected to have any adverse effects on the water quantity or quality of international waterways.
Projects in Disputed Areas OP/BP 7.60	TBD	

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS:** 01-Jun-2015

**B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

N/A

### IV. APPROVALS

Task Team Leader(s):	Name: Migara Jayawardena	
<b><i>Approved By:</i></b>		
Safeguards Advisor:	Name: Glenn S. Morgan (SA)	Date: 10-Apr-2015
Practice Manager/ Manager:	Name: Malcolm Cosgrove-Davies (PMGR)	Date: 22-Apr-2015

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.