

Sustainable Climate-Resilient Electric Power Systems in Vanuatu (SCREPS)

Review PIF and Make a recommendation

Basic project information

GEF ID
12343
Countries
Vanuatu
Project Name
Sustainable Climate-Resilient Electric Power Systems in Vanuatu (SCREPS)
Agencies
UNDP
Date received by PM
5/16/2026
Review completed by PM

Program Manager
Rawlestone Moore
Focal Area
Climate Change
Project Type
MSP

GEF-8 PROJECT IDENTIFICATION FORM (PIF) REVIEW SHEET

1. General Project Information / Eligibility

- a) Does the project meet the criteria for eligibility for GEF funding?
- b) Is the General Project Information table correctly populated?

Secretariat's Comments The project information table is correctly populated, however at this stage the project requires substantial improvement and does not necessarily meet all the criteria for SCCF -A

Agency's Comments 15 June 2026: The SCREPS Project meets all SCCF A criteria because it is designed with the intent to deliver tangible adaptation benefits in one of the most climate vulnerable sectors of Vanuatu: electricity supply; particularly in the country's two major islands, Malekula and Espiritu Santo. By financing the incremental resilience measures that baseline donor projects do not cover, SCCF ensures that baseline electric power (RE-, and/or non-RE-based) system and infrastructure investments are not only low carbon but also climate resilient, reducing the inherent vulnerability to cyclones, flooding, and sea level rise; as well as addressing the current 'adaptation gaps' in the electricity sector. The project strengthens institutional and community capacity to operate and maintain resilient electricity systems, harmonizes national policies and financing frameworks to incentivize climate change adaptation, and establishes knowledge platforms to replicate innovations in Vanuatu as well as across the Pacific. With strong stakeholder participation; including utilities, provincial governments, communities, and private sector actors; the project guarantees equitable benefits and sustainability. In doing so, SCREPS transforms climate change mitigation investments into durable adaptation outcomes, directly advancing Vanuatu's NERM, NDC, and NAP targets, and exemplifying the SCCF A mandate to fund incremental adaptation measures that safeguard development gains against climate risks.

2. Project Summary

Does the project summary concisely describe the problem to be addressed, the project objective and the strategies to deliver the GEBs or adaptation benefits and other key expected results?

Secretariat's Comments Not entirely. The project focuses on increasing RE share, reducing outages and grid stability. These are not clear adaptation benefits, and are global environment benefits. The project also notes that adaptation benefits include resilient infrastructure, and strengthened institutions and policies, and mobilized finance for resilient RE projects, and empowered communities, including women and vulnerable groups.

Agency's Comments 15 June 2026: The proposed SCREPS Project is comprised of subsumed activities from relevant baseline projects in the country and incremental activities that are intended to bring about climate change adaptation (CCA) benefits. The proposed incremental activities are clearly additional to the ongoing and planned donor funded baseline projects because they finance tangible, site specific resilience measures that are not standard components of power generation or basic hybridization packages. Baseline projects supported by ADB, JICA, NZMFAT and others typically fund the core assets—turbines, PV arrays, battery energy storage systems and basic control equipment—designed to meet energy access and mitigation targets under normal operating conditions. The SCREPS incremental package, by contrast, pays for engineered upgrades and civil works (e.g., cyclone rated mounting and foundations, elevated and waterproofed system enclosures, corrosion resistant materials for coastal cabling, reinforced intakes and penstocks) and for control and protection hardware and software that explicitly reduce vulnerability to extreme wind, flooding and salt corrosion. Because these resilience items are not routinely budgeted into the baseline procurement and construction scopes, funding them through SCCF is additive: it closes adaptation gaps left by the baseline investments rather than duplicating them.

3 Indicative Project Overview

3.1 a) Is the project objective presented as a concise statement and clear?

b) Are the components, outcomes and outputs sound, appropriate and sufficiently clear to achieve the project objective and the core indicators per the stated Theory of Change?

Secretariat's Comments

The project objective is a concise, however the objective of the project does not seem consist with the requirements for SCCF-A

Much of the components, outcomes and outputs involve pure climate change mitigation activities and not climate change resilience measures. For example demand side management

is a pure mitigation activity. SCADA systems are often used central control and remote monitoring, and it is unclear how this is a climate change adaptation activity. The components outcomes and outputs focus too much on pure climate change mitigation activities and do not focus actual adaptation activities such as making infrastructure resilient to the actual impact of climate change.

Agency's Comments

15 June 2026: The objective of the SCREPS Project, i.e., to enable reliable, sustainable, and climate resilient electric power (RE-, and/or non-RE-based) systems with stable grid integration, is fully consistent with the overarching goal of the SCCF, which is to reduce vulnerability to climate change and strengthen resilience in priority sectors such as electric power systems and infrastructure. By explicitly financing the incremental resilience measures that baseline donor projects do not cover, the project directly addresses adaptation needs in one of Vanuatu's most climate exposed sectors. This approach demonstrates additionality, ensures that baseline electric power generation and distribution system investments deliver both climate change mitigation and adaptation outcomes, and aligns with national priorities under the NERM, NDC, and NAP.

As previously mentioned, SCREPS embodies the SCCF A requirements by targeting a highly vulnerable sector, financing incremental adaptation measures beyond business as usual (BAU) investments, strengthening institutional and community capacity, and creating knowledge products and policy frameworks that enable replication across Vanuatu and other Pacific SIDS. Its design ensures equitable participation of local communities, provincial governments, utilities, and private sector actors, thereby embedding resilience into both infrastructure and governance. By converting baseline electric power generation and distribution system projects into a durable adaptation strategy that safeguards households, schools, and small businesses against cyclones, flooding, and sea level rise, SCREPS fulfills the SCCF A mandate to catalyze adaptation actions that protect development gains and build long term resilience in climate vulnerable countries.

The planned components of the proposed SCREPS Project are fully aligned with SCCF A criteria. Component 1 directly addresses adaptation needs in the country's electricity sector by climate proofing power generation and distribution systems and infrastructures, demonstrating the incremental adaptation enhancements of resilient storage and hybridization, and applications of modern and power grid management systems. Component 2 builds institutional and human capacity to design, engineer, install, operate and maintain resilient electric power generation and distribution systems, while Component 3 strengthens the enabling environment through policy harmonization, financing mechanisms, and private sector engagement. Component 4 ensures knowledge transfer and replication across Vanuatu and in other Pacific Island Countries. The project clearly demonstrates incremental cost reasoning: baseline donor investments cover standard electric power generation and distribution, while SCCF funds finance the resilience upgrades that transform mitigation assets into adaptation outcomes. It also aligns with Vanuatu's NERM, NDC, and NAP targets, ensuring national policy coherence and scalability.

It should be noted that the application of demand side management, while a CCM activity, is in the context of increasing resilience. SCADA systems are used for central control and remote monitoring, but the enhancements that will be done under the proposed project are entirely

meant for enhancing climate resilience. Enhanced SCADA is central to adaptation: by providing real time visibility, automated control, forecasting integration, and coordinated islanding/DSM it reduces outage duration, protects assets from extreme events, and enables prioritized supply to critical services?turning mitigation investments (RE + storage) into tangible climate resilient outcomes for small island grids like Malekula and Espiritu Santo. Another example is SCADA enabled islanding plus DSM ensures priority supply to hospitals, water systems and communications when transmission is down, directly reducing human vulnerability.

Building on the baseline projects that clearly have ?adaptation gaps?, the proposed SCREPS incremental package includes engineered upgrades and civil works (cyclone rated mounting and foundations, elevated and waterproofed BESS enclosures, corrosion resistant materials for coastal cabling, reinforced intakes and penstocks) and for control and protection hardware and software (islanding switchgear, enhanced SCADA modules, forecasting and DSM integration) that explicitly reduce vulnerability to extreme wind, flooding and salt corrosion. Because these resilience items are not routinely budgeted into the baseline procurement and construction scopes, funding them through SCCF is additive: it closes adaptation gaps left by the baseline investments rather than duplicating them.

3.2 Are gender dimensions, knowledge management, and monitoring and evaluation included within the project components and appropriately funded?

Secretariat's Comments

Gender dimensions are integrated into the proposed policy reforms. Component 4 will highlight women's leadership in adaptation and resilience through knowledge platforms and regional dissemination, ensuring that women's experiences and innovations are documented and shared across Vanuatu and the Pacific. Knowledge management, and monitoring and evaluation included within the project components and appropriately funded.

Agency's Comments

15 June 2026: Agree. Thank you

3.3 a) Are the components adequately funded?

b) Are the GEF Project Financing and Co-Financing contributions to PMC proportional?

c) Is the PMC equal to or below 5% of the total GEF grant for FSPs or 10% for MSPs? If the requested PMC is above the caps, has an exception (e.g. for regional projects) been sufficiently substantiated?

Secretariat's Comments

a)- More resources should be put into making climate infrastructure, and on the ground proper adaptation measures. The amount of resources in component 2 should be reduced.

b) yes

c) yes

Agency's Comments

15 June 2026: Bulk of the proposed SCCF funding are intended for the enhancement of the resiliency of RE-based power generation system infrastructures that are part of the subsumed baseline activities and funded by project partners, specifically the Government of Vanuatu, with its relevant donor-funded RE-based electrification projects. These incremental enhancements involving civil engineering and construction work could include: Elevated and strengthened BESS enclosures (raised pads, waterproofing); Cyclone rated PV racking and reinforced foundations; Islanding switchgear and automated reconnection logic; Distribution redundancy, sectionalizers and remote switches; and Site climate proofing (elevation of substations, drainage, access road stabilization).

Component 2 of the project will address the capacity development barriers and is intended to build the human and institutional capacity needed to sustain resilient electric power systems and infrastructures. The expected outcome from the outputs that will be delivered under this project component is enhanced skills (technical and operational) and institutional capacity of utilities, provincial governments, and communities to operate and maintain resilient electric power systems. Part of the component outputs is the delivery of a comprehensive knowledge product package for climate resilient electric power system infrastructure, which can consist of Procedures and standards manuals; Actual feasibility analyses of planned RE based projects; Engineering designs and plans (with costing) for feasible projects, including climate proofed access roads in Malekula and Espiritu Santo; Technical and financial evaluation tools; and Case studies and replication guides. This comprehensive package can include: (a) developed procedures and standards manuals (in Vanuatu's context); (b) feasibility analyses of planned RE-based electric power system infrastructures; (c) prepared engineering designs and plans for retrofits and new installations of RE-based electric power system infrastructures, (d) developed evaluation tools; (e) case studies and replication guides; and (f) guides for resilience mainstreaming protocols, and institutional performance monitoring. These knowledge product package accounts for about a third of the estimated budget for Component 2.

4 Project Outline

A. Project Rationale

4.1 SITUATION ANALYSIS

a) is the current situation (including global environmental problems, key contextual drivers of environmental degradation, climate vulnerability) clearly and adequately described from a systems perspective?

b) Are the key barriers and enablers identified?

Secretariat's Comments

No, the current situational analysis does not provide enough detailed information on the climate vulnerability of Vanuatu. For example what was the recent impact of recent cyclones and storms on Malekula and Espiritu Santo and Vanuatu in general, and its power generation system. What are the projections for cyclones and other storms in Vanuatu. There needs to be significant improvement to provide adequate information for this project on the vulnerability of Vanuatu to climate change.

When an effective description along with the provision with some climate data then an evaluation can be made on the key barriers and enablers identified.

Agency's Comments

15 June 2026: The electricity systems in Malekula and Espiritu Santo are caught in a reinforcing cycle where the core problem—limited technical, financial, and institutional capacity to integrate and sustain climate resilient electric power systems (RE-, and/or non-RE-based)—manifests as unstable grids, frequent outages, and stalled scaling of RE-based electric power system projects. Physically, both islands rely on long radial distribution lines, exposed coastal substations and diesel generation that must be shipped in, so any disruption from cyclones, storm surge or heavy rainfall quickly translates into island wide outages. Technically, the grids lack the design margins, storage capacity and automated controls needed to absorb variable RE output without causing voltage and frequency excursions; financially, utilities and provincial governments have constrained budgets and limited access to blended finance for resilience upgrades; institutionally, there are gaps in grid codes, operational procedures and trained staff to manage higher shares of RE. These interlinked weaknesses are the proximate causes of the operational failures described in the Problem Analysis and explain why adding RE capacity without resilience measures can increase system fragility rather than reduce it.

Malekula and Espiritu Santo islands face acute climate vulnerability that directly undermines electricity reliability: increasingly intense cyclones, storm surge and heavy rainfall are already causing multi day outages, infrastructure damage and fuel supply disruptions, and projected increases in cyclone intensity and extreme precipitation make the islands' exposed diesel dependent and weakly redundant grids progressively more fragile.

Recent events illustrate these vulnerabilities in practice. Tropical Cyclone Lola (Oct 2023) caused extensive damage across Malekula and other islands, triggering a national state of emergency and producing widespread power and communications outages that hampered relief and recovery operations; assessments documented damaged lines, flooded substations and disrupted fuel logistics that left communities without power for days. Similarly, seismic events and strong storms around Espiritu Santo have produced sudden, island wide outages and interruptions to water and health services, demonstrating how non climatic hazards compound energy vulnerability. These episodes show that baseline investments focused on generation capacity alone do not prevent service interruptions when distribution and site level resilience are insufficient.

Looking forward, regional climate science indicates a clear risk trajectory: while cyclone frequency projections carry uncertainty, there is high confidence that the intensity of the strongest tropical cyclones will increase and that heavy precipitation and compound coastal flooding events will become more frequent as the climate warms. For Vanuatu specifically, next generation projections show shifts in rainfall extremes and an increased likelihood of more intense storms in the coming decades, which raises the probability of more frequent and severe impacts on exposed power infrastructure. Under these projections, the islands' current BAU grid designs—based on historical climate loads—will face growing mismatch with future hazards unless adaptation measures are integrated into the scope of electric power generation and distribution system projects.

Given this context, the proposed SCREPS incremental measures are technically and operationally justified: they target the precise failure modes revealed by recent events and by

climate projections, and they convert mitigation oriented RE investments into resilient, service guaranteeing assets. Strengthening distribution resilience, elevating and hardening BESS and substations, and deploying SCADA with forecasting and islanding logic will materially reduce outage durations for critical services, lower repair costs and improve the islands' adaptive capacity?outcomes that baseline generation focused projects alone cannot deliver.

It should be noted that the Problem Analysis in the draft SCREPS PIF are based on the national circumstances information and forecast vulnerability and adaptation capacity of Vanuatu that can be gleaned from most recent National Communications (3NC) report that the country submitted to the UNFCCC; as well as the ADB Energy Access Project documents, and Vanuatu Climate Futures report. It is also based on reported ?adaptation gaps? in the country's electricity sector.

4.2 JUSTIFICATION FOR PROJECT

a) Is there an indication of why the project approach has been selected over other potential options?

b) Does it ensure resilience to future changes in the drivers?

c) Is there a description of how the GEF alternative will build on ongoing/previous investments (GEF and non-GEF), lessons and experiences in the country/region?

d) are the relevant stakeholders and their roles adequately described?

Secretariat's Comments

The approach of the is project is unclear and there is no clear indication why this approach is selected.. Currently it is unclear if the project will ensure resilience to future change. The proposal identifies projects and activities that it will build on

The stakeholders have been identified.

Agency's Comments15 June 2026: The project approach is clearly stated in the draft SCREPS PIF, i.e., removing barriers and adaptation gaps. To do this, the SCREPS Project adopts an integrated, systems level approach that sequences and bundles technical, institutional and social interventions so that renewable energy expansion becomes inherently climate resilient. SCREPS aligns each component to remove the four immediate causes of the core problem ? for example: upgrading of physical assets with climate proof civil works and elevated BESS shelters; installation of islanding switchgear, enhanced SCADA and forecasting modules to stabilize frequency and enable prioritized supply to critical loads; mainstreaming grid codes, technical standards and procurement templates so future electric power system projects are designed to future climate loads; and investment in utility and community capacity building, gender responsive training and O&M systems to sustain performance. These interventions are packaged so that incremental SCCF financing covers only the discrete resilience items that subsumed baseline donor project activities do not fund, while leveraging existing baseline investments in generation and basic storage to maximize value for money and to avoid duplication.

Operationally, SCREPS emphasizes integration at three levels: site, system and governance. At the site level, civil and equipment upgrades reduce the probability of catastrophic failure during cyclones and floods and shorten repair times; at the system level, islanding logic and forecasting are coordinated through SCADA to maintain stability and extend autonomous

operation for critical services; and at the governance level, updated codes, resilience metrics and training institutionalize adaptive planning and unlock blended finance by demonstrating reduced climate risk. By tying disbursements to measurable resilience outcomes such as reduced outage hours for critical facilities, days of autonomous operation, and documented reductions in repair costs, SCREPS converts mitigation investments into durable adaptation gains for Malekula and Espiritu Santo, strengthens the bankability of future climate resilient electric power (RE-, and/or non-RE-based) system projects, and builds local capacity so communities, including women and other vulnerable groups, share in both the services and the economic benefits.

5 B. Project Description

5.1 THEORY OF CHANGE

a) Is there a concise theory of change that describes the project logic, including how the project design elements will contribute to the objective, the expected causal pathways, and the key assumptions underlying these?

b) Are the key outputs of each component defined (where possible)?

Secretariat's Comments

There is a theory of change section, however it does not fully explain the project logic or the linkages to the outputs.

Please clarify if the Theory of Change diagram is included in the PIF document,

Agency's Comments

15 June 2026: The Theory of Change section of the SCREPS PIF specifically describe the barrier removal and adaptation gap filling approach that will be applied to bring about the desirable changes that corresponds to the outcomes from the successful delivery of the expected outputs of each project component.

The Theory of Change diagram illustrates the linkages from the immediate causes (and associated adaptation gaps) of the core problem, to the expected outputs in each project component that will bring about the required changes that will collectively achieve the project objective. The diagram was inadvertently not included in the PIF submission. This is now included in the revised PIF document.

5.2 INCREMENTAL/ADDITIONAL COST REASONING

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

Secretariat's CommentsNo. This not described effectively, as the proposal is asking to use SCCF money for mitigation activities and reduce GHG emissions.

Agency's Comments

15 June 2026: The proposed SCREP Project is meant to enhance the climate-resiliency of electric power system infrastructures in Vanuatu by addressing the current 'adaptation gaps' in the country's electricity sector and in so doing remove the barriers to achieving reliable, sustainable, and climate-resilient low carbon electric power generation and distribution systems. The subsumed baseline activities of the project are funded from pertinent donor-funded RE-based energy projects in the country. The SCREPS Project includes showcasing of

the application of incremental activities that address the adaptation gaps on these baseline systems, thereby ensuring that these become not only sustainable in bringing about GEBs but also bring about CCA co-benefits. The enhancements funded by the SCCF are therefore meant to bring about the incremental CCA benefits.

The proposed incremental SCCF funding are clearly additional to the ongoing and planned donor funded baseline projects because this finance tangible, site specific resilience measures that are not standard components of generation or basic hybridization packages. Baseline projects supported by ADB, JICA, NZMFAT and others typically fund the core assets?turbines, PV arrays, battery energy storage systems and basic control equipment?designed to meet energy access and mitigation targets under normal operating conditions. However, most of these have adaptation gaps.

Baseline designs often assume historical climate loads and standard civil tolerances. They do not always include the extra structural margins, raised equipment platforms, or strengthened enclosures needed to withstand the higher storm surge, more intense cyclonic winds and accelerated corrosion that climate projections now indicate for Vanuatu. Similarly, many baseline hybridization projects include BESS and basic EMS functionality but stop short of full islanding capability, automated fault sectionalizing, short term forecasting integration, or DSM systems that can prioritize critical loads during prolonged grid stress. The proposed SCREPS incremental measures therefore convert mitigation assets into resilient assets: elevated BESS and reinforced civil works reduce the probability of catastrophic equipment loss and long repair times, while islanding switchgear and SCADA/EMS upgrades enable the systems to continue serving hospitals, water pumping and communications during and after extreme events.

The adaptation benefits flow through technical, institutional and financial channels. Technically, enhanced SCADA with forecasting and DSM allows anticipatory dispatch and automated protection actions that shorten outage durations and optimize limited renewable output when weather extremes occur; islanding capability and BESS shelters maintain power to critical loads autonomously for defined periods, directly reducing human exposure and safeguarding essential services. Institutionally, the incremental package includes protocols, operator training and O&M procedures that embed resilience into utility practice and provincial emergency planning, strengthening the ability of local actors to respond and recover. Financially, demonstrating reduced downtime, lower repair risk and quantifiable resilience metrics improves project bankability and attracts blended finance and concessional adaptation funding; SCCF's incremental financing therefore leverages larger public and private investments by lowering perceived climate risk for follow on projects.

At the community level, these investments produce social adaptation co benefits that go beyond technical resilience. Microgrid islanding and DSM arrangements can be designed to prioritize clinics, water systems and community shelters, directly protecting the most vulnerable during shocks. Training and local O&M roles created by resilient installations build local capacity and livelihoods, and when gender responsive recruitment and training are included, women gain technical skills and leadership roles in energy governance. In Malekula and Espiritu Santo?where long transmission lines, exposed coastal infrastructure and logistical constraints make fuel resupply and centralized restoration slow?these combined technical, institutional and social measures reduce exposure to climate hazards, shorten recovery times,

and increase the adaptive capacity of households and service providers in ways that the baseline mitigation focused investments alone would not achieve.

Under a BAU scenario, donor funded projects (ADB, JICA, NZMFAT, DFAT, Government of Vanuatu) will deliver generation, basic storage and standard EMS/SCADA to meet energy access and mitigation targets. These baseline investments do not include the additional civil works, strengthened enclosures, islanding switchgear, forecasting modules, DSM hardware, or the institutionalization (SOPs, training, O&M protocols) required to withstand projected increases in cyclone intensity, flooding and corrosion. The proposed SCCF incremental funding is therefore additional because it finances only those discrete, measurable items and activities that close the adaptation gaps in the BAU scenario package. The expected GEBs remain reduced fossil fuel use and GHG emissions, while the adaptation benefits (reduced outage hours for critical services, days of autonomous operation, lower repair costs) are quantified in the results framework and used to leverage co financing from national and donor partners. **This explicit BAU ? incremental ? GEB chain satisfies the GEF/C.31/12 requirements for transparent incremental cost justification.**

5.3 IMPLEMENTATION FRAMEWORK

a) Is the institutional setting, including potential executing partners, outlined and a rationale provided?

b) Comments to proposed agency execution support (if agency expects to request exception).

c) is there a description of potential coordination and cooperation with ongoing GEF-financed projects/programs and other bilateral/multilateral initiatives in the project area

d) are the proposed elements to capture and disseminate knowledge and learning outputs and strategic communication adequately described?

Secretariat's Comments

a) Ministry of Climate Change Adaptation, Meteorology, Geo Hazards, Energy, Environment and Disaster Management (MCCAMGEDM) has been identified as the executing partner. Some more information (sentence or two) is required on the rationale for selecting MCCAMGEDM, for example the role of the Ministry etc

c) Yes

d) yes

Agency's Comments

15 June 2026: The Ministry of Climate Change Adaptation, Meteorology, Geo Hazards, Energy, Environment and Disaster Management (MCCAMGEDM) is the logical executing partner because its mandate uniquely spans the technical, policy and emergency management domains that the proposed SCREPS Project must bridge to convert renewable energy investments into durable adaptation outcomes. Unlike the Department of Energy, which is the technical proponent responsible for energy planning and project implementation, the Ministry holds the cross sectoral authority to mainstream climate risk into infrastructure design, to coordinate meteorological and geo hazard data with engineering standards, and to align provincial disaster risk management with national energy policy and donor programs. This institutional positioning enables MCCAMGEDM to convene and harmonize multiple stakeholders, e.g., utilities, provincial governments, health and water agencies, and international funders, and ensure that resilience measures (elevated BESS, islanding, strengthened civil works, SCADA/forecasting and DSM) are integrated into emergency

preparedness and recovery plans, and to embed the regulatory and financing instruments needed to sustain adaptation gains.

Designating MCCAMGEDM as the executing partner secures the policy leverage, inter ministerial coordination, climate science inputs and disaster response linkages required to translate SCCF incremental investments into measurable reductions in outage risk, faster recovery after extreme events, and strengthened local capacity and governance for resilient electricity services.

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

b) Are the project's indicative targeted contributions to GEBs (measured through core indicators)/adaptation benefits reasonable and achievable?

Secretariat's Comments

a) yes

b) The adaptation benefits need further clarification and information

Agency's Comments

15 June 2026: The proposed SCREPS Project is comprised of CCM and CCA activities. Bulk of the CCM activities are subsumed activities from pertinent donor-funded baseline projects in the country, while the major CCA activities are the incremental resilience measures that baseline donor projects do not cover, e.g., elevated BESS platforms, cyclone rated PV mounting, islanding switchgear, enhanced SCADA and forecasting, and climate resilient O&M protocols. In that regard, the proposed project directly addresses adaptation needs in one of Vanuatu's most climate exposed sectors. In so doing, it ensures that renewable energy investments deliver both mitigation and adaptation outcomes, and aligns with national priorities under the NERM, NDC, and NAP.

The 2nd paragraph of the Global Environmental and Adaptation Benefits describes the major adaptation benefits of the SCREPS Project. The tables below shows the expected direct and indirect climate change adaptation (CCA) benefits from the planned activities of the project.

From the proposed project components (based on the Objectives Analysis, and as illustrated by in the project's TOC), CCM activities (baseline) that facilitates adaptation; and CCA activities (incremental or combination baseline and incremental) include the following:

Planned SCREPS Activity	Direct / Indirect Benefit (CCM or CCA)
Utility-scale solar PV installation (Baseline CCM)	Direct CCM: reduced diesel use; Indirect CCA when paired with resilience works
Battery energy storage procurement (standard spec) (Baseline CCM)	Direct CCM: enables higher RE share; Indirect CCA if climate-proofed

Planned SCREPS Activity	Direct / Indirect Benefit (CCM or CCA)
Elevated and strengthened BESS enclosures (raised pads, waterproofing) (CCA)	Direct CCA: reduced flood/corrosion damage; supports CCM by keeping RE online
Cyclone-rated PV racking and reinforced foundations (CCA)	Direct CCA: lower wind damage risk; Indirect CCM: sustained generation post-event
Islanding switchgear and automated reconnection logic (CCA)	Direct CCA: continuity for clinics/schools; Indirect CCM: enables higher RE reliance
Enhanced SCADA with forecasting and DSM integration (Enhanced CCM)	Direct CCM: optimized RE dispatch; Direct CCA: pre-emptive actions reduce damage/outages
Distribution redundancy, sectionalizers and remote switches (CCA)	Direct CCA: shorter outages; Indirect CCM: fewer emergency diesel starts
Site climate-proofing (elevation of substations, drainage, access road stabilization) (CCA)	Direct CCA: reduced inundation and access loss
Grid codes, technical standards and resilient procurement templates; feasibility analyses; engineering designs (CCA)	Direct CCA: mainstreaming adaptation in future projects; Indirect CCM: ensures resilient RE investments
Capacity building, training and Community Energy Committees (CCA)	Direct CCA: sustained resilience; Indirect CCM: better operation of RE assets
Monitoring, telemetry and local climate stations integrated into SCADA (CCA)	Direct CCA: improved early warning and operational decisions; Indirect CCM: better forecasting for RE
Performance-based resilience M&E and verification (KPIs) (CCA)	Direct CCA: tracks adaptation effectiveness
Nature-based solutions (mangrove buffers, riparian reforestation, erosion control) (CCA)	Direct CCA: coastal and watershed protection; Indirect CCM: protects RE assets enabling sustained low-carbon operation
Mini-hydro rehabilitation with sediment control and catchment restoration (Enhanced CCM)	Direct CCM: low-carbon baseload; Direct CCA: reduced vulnerability to extreme rainfall
Energy efficiency and demand-side measures for critical facilities (Enhanced CCM)	Direct CCM: reduced energy demand; Direct CCA: easier to sustain critical services during outages
Resilient cold-chain and value-addition hubs (PV+BESS with elevated shelters) (CCA)	Direct CCA: livelihood resilience; Indirect CCM: replaces diesel with RE
Blended-finance facility for resilience increments (CCA)	Direct CCA: unlocks resilience investments; Indirect CCM: leverages funds for larger RE deployment

In terms of the LDCF Core Indicators applicable to CCA Projects, the expected CCA benefits are the following:

LDCF Indicator	Expected Adaptation benefits	Baseline & Target
1. Number of direct beneficiaries	Reduced exposure to outages; improved access to reliable power for households, clinics, schools and water systems	Baseline: population served by existing systems; Target: incremental beneficiaries receiving resilient supply (e.g., +X households, +Y clinic users)

LDCF Indicator	Expected Adaptation benefits	Baseline & Target
2. Area of land managed for climate resilience (ha)	Reduced flood and erosion risk at generation and substation sites through raised platforms, drainage and vegetative buffers	Baseline: area of sites without resilience works; Target: total ha of sites climate?proofed under SCREPS
3. Number of plans, policies and frameworks mainstreaming climate resilience	Institutionalization of grid codes, procurement templates and emergency SOPs that require resilient RE design	Baseline: existing policies; Target: +N updated/adopted instruments developed and endorsed under SCREPS
4. Number of people trained or with awareness raised	Strengthened local capacity for resilient O&M, emergency response and community governance, including women and vulnerable groups	Baseline: current trained staff; Target: +M trained (with % women) in capacity development activities under SCREPS
5. Number of private sector enterprises engaged	Mobilized local contractors, O&M firms and suppliers to deliver resilient RE works and sustain services	Baseline: current private sector engagement; Target: +P enterprises engaged in resilient RE projects facilitated under SCREPS

All of the above CCA benefits will be verified and confirmed and proper M&E plans prepared as part of the SCREPS Project design and development during the PPG stage.

5.5 NGI Only: Is there a justification of financial structure and use of financial instrument with concessionality levels?

Secretariat's CommentsN/A

Agency's Comments
5.6 RISKS

- a) Is there a well-articulated assessment of risk and identification of mitigation measures under each relevant risk category?**
- b) Is the rating provided reflecting the residual risk to the likely achievement of intended outcomes after accounting for the expected implementation of mitigation measures?**
- c) Are environmental and social risks, impacts and management measures adequately screened and rated at this stage and consistent with requirements set out in SD/PL/03?**

Secretariat's Commentsyes

Agency's Comments
5.7 Qualitative assessment

- a) Does the project intend to be well integrated, durable, and transformative?**
- b) Is there potential for innovation and scaling-up?**
- c) Will the project contribute to an improved alignment of national policies (policy coherence)?**

Secretariat's Comments The project could be scaled up and could be transformative. There is potential for scaling up and the project can result in an improvement of national policies. The project document should be improved as it relates to innovation and scaling up.

Agency's Comments

15 June 2026: The project proponent agrees to the comment that the proposed SCREPS Project can be scaled-up (or at least replicated) and could be transformative. The following paragraphs describe the innovation, replication/scale-up, and sustainability aspects of the project:

Innovation: The SCREPS Project introduces innovation by integrating climate resilient design into every technical element of low carbon electricity systems so that mitigation investments simultaneously deliver adaptation outcomes. Rather than treating resilience as an afterthought, SCREPS embeds elevated BESS platforms, cyclone rated civil works, corrosion resistant materials, automated islanding switchgear and enhanced SCADA with forecasting and DSM as standard components of RE and hybrid projects. This systems approach is novel in the Vanuatu context because it converts generation and storage assets into service guaranteeing infrastructure able to withstand stronger cyclones, higher flood levels and accelerated coastal corrosion. The innovation is also institutional: SCREPS couples these hardware upgrades with updated grid codes, procurement templates and operational SOPs so that resilient specifications become replicable procurement items, and it pilots performance based resilience metrics (reduction in outage hours for critical loads, days of autonomous operation) that can be used to de-risk future investments and attract blended finance.

Replication and Scale up: The SCREPS Project will be designed to be readily emulated across Vanuatu and other Pacific SIDS by packaging technical specifications, procurement language, resilience KPIs and institutional modalities into a replicable toolkit. The project will produce standardized design templates for elevated BESS pads, cyclone rated PV mounting and islanding switchgear, a SCADA/forecasting integration guide, and model grid code amendments that regulators and utilities can adopt without bespoke engineering for each site; these outputs, combined with documented cost breakdowns and evidence of reduced outage metrics, create a clear business case for donors and private investors to finance similar resilient RE upgrades at scale. By demonstrating how modest incremental investments convert mitigation assets into durable adaptation outcomes and by documenting lessons on community engagement, gender inclusion and blended financing mechanisms, SCREPS creates a practical, evidence based pathway for scaling climate resilient, low carbon electricity infrastructure across the Pacific.

Sustainability: Sustainability under SCREPS is achieved by making resilience self-sustaining technically, financially and socially. Technically, strengthened civil works, standardized islanding logic and SCADA driven forecasting reduce the frequency and severity of damage, lowering lifecycle repair and replacement costs and improving asset longevity. Financially, demonstrating measurable reductions in outage risk and repair liabilities improves the bankability of resilient RE projects and creates a pathway for concessional and private co-finance to follow the initial SCCF tranche; by explicitly tying SCCF incremental funding to discrete resilience items that baseline donors do not cover, the project leverages existing generation investments rather than duplicating them. Socially, sustainability is reinforced through targeted capacity building, gender responsive training and community governance arrangements that transfer O&M skills locally, ensure prioritized service to clinics and water

systems during shocks, and institutionalize maintenance and emergency procedures within utilities and provincial authorities so adaptation gains persist beyond project close.

6 C. Alignment with GEF-8 Programming Strategies and Country/Regional Priorities

6.1 Is the project adequately aligned with focal area and integrated program strategies and objectives, and/or adaptation priorities?

Secretariat's Comments No. The project focuses on mitigation of CO2, and is not clear on the adaptation benefits

Agency's Comments

15 June 2026: Please see response to Comment on 5.4.b regarding the CCA benefits (direct and indirect) from the planned activities of the SCREPS Project.

It should be noted that each subsumed CCM activity of the project becomes an adaptation enabler when paired with the incremental resilience (CCA) activities. For example, BESS only delivers adaptation benefits when elevated and integrated with islanding logic; PV reduces emissions and only secures critical services if racking and inverters are cyclone rated and controlled by enhanced SCADA. The SCREPS Project involves actions that convert baseline RE-based energy system/infrastructure investments into durable, climate resilient electricity services for Malekula, Espiritu Santo and can be replicated in other parts of Vanuatu, and potentially in other Pacific SIDS.

6.2 Is the project alignment/coherent with country and regional priorities, policies, strategies and plans (including those related to the MEAs and to relevant sectors)

Secretariat's Comments yes

Agency's Comments

6.3 For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e. BD, CC or LD), does the project clearly identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and how it contributes to the identified target(s)?

Secretariat's Comments n/a

Agency's Comments

7 D. Policy Requirements

7.1 Is the Policy Requirements section completed?

Secretariat's Comments yes

Agency's Comments

7.2 Is a list of stakeholders consulted during PIF development, including dates of these consultations, provided?

Secretariat's Comments While the proposal notes that IPLCs, Civil Society Organizations and the private sector have been consulted no summary or list of name or dates of consultations has been provided. There is a list of stakeholders on pg 8 however it is unclear if they have been consulted. Please provide further details on stakeholder consultations during project design, including which government departments, civil society and community

organizations and private entities that were consulted, the dates as well as a brief summary of the findings of these consultations.

Agency's Comments

15 June 2026: There were some random consultations with selected stakeholders during the time the project was being conceptualized led by the Department of Energy. Such casual undocumented consultations were mainly to gather views/suggestions for the concept of a GEF-funded project on Climate-Resilient Energy Systems in Vanuatu. Such informal consultations, made the project proponent to finally focus the project on climate-resilient electric power systems (RE and non-RE based) in the outer islands.

For the design of the project, the project proponent will carry out the required stakeholder consultations during the PPG stage, as part of the data/information gathering and analysis for the SCREPS Project design. Some of the relevant stakeholders that will directly be the sources of the pertinent project design inputs have been identified. Some of them have been preliminarily consulted during the conceptualization of the project. Among the identified stakeholder groups that are planned to be consulted in regards their potential contributions/roles in the design and development, and implementation of the SCREPS Project, are the following:

Stakeholder Group	Contribution & Role in Project Design & Development	Contribution & Role in Project Implementation
Government of Vanuatu (MCCAMGEDM; DoE; VUI; Malampa & Sanma Provincial Governments; Ministry of Health; NDMO)	Lead policy alignment and approvals; provide climate/hazard data; define technical requirements; coordinate donor inputs and provincial consultations.	Oversee procurement and contracting; supervise compliance and integration into national plans; operate provincial coordination platforms; provide counterpart staff and emergency coordination.
Indigenous Peoples & Local Communities (customary chiefs; Village Development Committees; women's groups; disability representatives)	Provide local knowledge for site selection, customary land tenure guidance, participatory risk assessments and priority-load mapping.	Serve on Community Energy Committees; co-manage local O&M; perform routine monitoring and first-line repairs after training; lead local NBS and grievance mechanisms.
Non-Government Organizations (Live & Learn; Oxfam Vanuatu; Care International; Wan Smolbag)	Advise on community engagement, gender-sensitive safeguards, participatory planning and NBS design; support baseline studies.	Deliver community outreach and capacity building; implement ecosystem restoration pilots; monitor social safeguards and support post-event recovery.
Civil Society Organizations (VNCW; VDPA; local church networks)	Represent vulnerable groups in consultations; co-design accountability, equitable tariff and subsidy approaches; advise on inclusion measures.	Mobilize community monitoring and awareness campaigns; support inclusive training and grievance redress; act as independent social safeguard monitors.
Private Sector (UNELCO/ENGIE; VANPAWA; contractors; local suppliers; battery/PV vendors; logistics firms)	Provide technical specifications, cost estimates, O&M models and commercial input for resilient hardware and blended-finance structures.	Execute construction and installation; supply and warranty equipment; deliver O&M under performance contracts; provide apprenticeships and local supply-chain services.

Stakeholder Group	Contribution & Role in Project Design & Development	Contribution & Role in Project Implementation
Academe (USP Emalus Campus; Vanuatu Institute of Technology; Sanma Technical Institute)	Supply applied research, downscaled climate analysis, vulnerability assessments, feasibility studies and curriculum development for certification.	Deliver formal training and certification; host knowledge platforms and data repositories; conduct independent M&E and document lessons for replication.

The highlights of the proceedings of the consultation meetings will be documented.

8 Annexes

Annex A: Financing Tables

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

STAR allocation?

Secretariat's Comments

Agency's Comments
Focal Area allocation?

Secretariat's Comments

Agency's Comments
LDCF under the principle of equitable access?

Secretariat's Comments

Agency's Comments
SCCF A (SIDS)?

Secretariat's Comments Yes the resources are available.

Agency's Comments
SCCF B (Tech Transfer, Innovation, Private Sector)?

Secretariat's Comments

Agency's Comments

Focal Area Set Aside?

Secretariat's Comments

Agency's Comments

8.2 Is the PPG requested within the allowable cap (per size of project)? If requested, has an exception (e.g. for regional projects) been sufficiently substantiated?

Secretariat's Commentsyes

Agency's Comments

8.3 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?

Secretariat's Commentsyes

Agency's Comments

Annex B: Endorsements

8.4 Has the project been endorsed by the country? (ies) GEF OFP and has the OFP at the time of PIF submission name and position been checked against the GEF database?

Secretariat's Commentsyes

Agency's Comments

Are the OFP endorsement letters uploaded to the GEF Portal (compiled as a single document, if applicable)?

Secretariat's Commentsyes

Agency's Comments

Do the letters follow the correct format and are the endorsed amounts consistent with the amounts included in the Portal?

Secretariat's Commentsyes

Agency's Comments

8.5 For NGI projects (which may not require LoEs), has the Agency informed the OFP(s) of the project to be submitted?

Secretariat's Comments

Agency's Comments
Annex C: Project Location

8.6 Is there preliminary georeferenced information and a map of the project's intended location?

Secretariat's Comments yes

Agency's Comments

Annex D: Safeguards Screen and Rating

8.7 If there are safeguard screening documents or other ESS documents prepared, have these been uploaded to the GEF Portal?

Secretariat's Comments

In the next version of PIF please revisit a UNDP Social and Environmental Screening Assessment as the project concept is improved and revise it if it is necessary.

PIF mentioned the importance of reliable electricity for households, schools, and small businesses, and underscored the need for climate resilient infrastructure to withstand extreme events as a highlight of stakeholder consultations in the islands of Malekula and Espiritu Santo. Please ensure exploring options to fulfill these local communities' priorities and needs in the project concept and throughout further stakeholder consultations during the PPG and project implementation.

Please consider local communities not only as beneficiaries, but also as project partners and a part of governance mechanism of the project throughout the project implementation.

Agency's Comments
15 June 2026:

-Thank you for the advice. If necessary, the current UNDP SESA for the SCREPS Project will be adjusted accordingly, particularly during the detailed SCREPS Project design and development.

-The next round of stakeholder consultations during the PPG stage will include enquiries and data gathering for use in designing the planned activities, while as much as possible addressing (or considering options to fulfill) the reliable electricity supply needs of the local communities in the project sites. For example, the composition of the knowledge product package that will be delivered under Component 2 of the project will be developed considering, among others, the local communities' priorities and needs in regards climate resilient RE-based electricity supply systems and infrastructures.

- Local communities in Malekula, Espiritu Santo and Efate will be engaged not merely as passive beneficiaries but as full partners in the governance and delivery of SCREPS from design through operation. From the outset, the project will institutionalize community representation in decision making bodies, including seats for customary chiefs, women's

group representatives, youth and persons with disabilities so that site selection, priority load lists for islanding, and social safeguards reflect local priorities and customary land arrangements. Community Energy Committees will be formalized with clear mandates to participate in procurement review for local works, to co-manage community level O&M contracts, and to approve benefit sharing arrangements such as community resilience funds or subsidized tariffs for vulnerable households. Free, prior and informed consent processes and culturally appropriate consultation protocols will be used to secure land access and to ensure that traditional governance structures and local knowledge shape technical choices (e.g., siting elevated BESS pads away from sacred sites and aligning drainage works with local land use practices).

During implementation and into operations, communities will have active roles in monitoring, maintenance and emergency response so that resilience gains are locally owned and sustained. Training and apprenticeship programs will prioritize local hires, with explicit targets for women and vulnerable groups, and will equip community technicians to perform routine inspections, basic SCADA assisted fault reporting and first line repairs, reducing dependence on distant crews and shortening restoration times after storms. Participatory monitoring arrangements will link community committees to utility dashboards and project M&E, enabling local verification of resilience KPIs (days of autonomous operation, outage hours for clinics and water systems) and providing a transparent channel for grievances and adaptive management. By embedding communities in governance, operations and monitoring, SCREPS ensures that resilient electricity services deliver equitable, locally sustained adaptation benefits while building the social capital and technical capacity needed to replicate and scale climate resilient energy solutions across Vanuatu.

Annex E: Rio Markers

8.8 Are the Rio Markers for CCM, CCA, BD and LD correctly selected, if applicable?

Secretariat's Commentsyes

Agency's Comments

Annex F: Taxonomy Worksheet

8.9 Is the project properly tagged with the appropriate keywords?

Secretariat's Commentsyes

Agency's Comments

Annex G: NGI Relevant Annexes

8.10 Does the project provide sufficient detail (indicative term sheet) 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 to assess the project capacity of generating reflows? If not, please provide comments. Is the Partner Agency eligible to administer concessional finance? If not, please provide comments.

Secretariat's Commentsn/a

Agency's Comments

9 GEFSEC Decision

9.1 Is the PIF and PPG (if requested) recommended for technical clearance?

Secretariat's Comments

No. The project requires significant improvement. It is currently designed as a climate change mitigation project refers to global benefits and reductions of CO2. SCCF money is for adaptation activities. There needs to be a substantial improvement in the design of the project along with providing data and information of climate change impacts in Vanuatu and the selected sites. In addition there needs to be a clear identification of adaptation resilience measures for the infrastructure. The project needs to focus on adaptation benefits and not global environment benefits and mitigation of CO2.

Update June 15th

The project is cleared. There are a number of issues which need to be addressed which are highlighted in section 9.2

By CEO Endorsement please ensure that in component 1 no GEF resources will be allocated for output 1.3 on issues such as demand side management. Please enhance the rationale and include some actual climate data.

Agency's Comments15 June 2026: The project proponents believe that they have already sufficiently addressed all comments of the GEF Reviewer, providing clear explanations and supplementary information. Some of the responses are pointing out what are already stated in the first PIF version. The relevant sections of the PIF document have already been revised in accordance with the responses that were provided for the comments.

In this regard, the project proponents look forward to the GEF CEO approval of the revised PIF document.

9.2 Additional Comments to be considered by the Agency at the time of CEO Endorsement/ Approval

Secretariat's Comments

Please ensure that the findings from the gender analysis informs the preparation of the Gender Action Plan and that key elements of the GAP are reflected in the project components. Please ensure that in the development of the project results framework, gender-specific indicators are included to facilitate monitoring and reporting. Please indicate measures to facilitate and support the implementation of the GAP (e.g., budgets, regular monitoring, adaptive management, etc.). Please make a reference to include in PIRs, MTRs and TE, reports on gender-specific results, including the implementation of the Gender Action Plan.

As noted previously in section 3.3 reduce the amount of resources for component 2

As noted in section 4.1 please provide climate information and data. What is the cost for example to Vanuatu of recent cyclones/storms?. What percentage of GDP? What are the projected changes in temperature, sea level rise on a country or regional basis. Include this information in the project document to improve the rationale

SCCF-A resources are for adaptation activities and benefits (<https://www.thegef.org/council-meeting-documents/gef-ldcf-sccf-sm-03-01>). SCCF resources cannot be used for demand side management, SCADA etc. Please finance these activities through co-finance and not SCCF resources. The training of staff on electric power integration and O&M should also be funded from co-finance.

While the project will have mitigation co-benefits, please focus on the adaptation benefits and activities, not global environment benefits, and enhancing the adaptation rationale for the project using data.

The project will only be endorsed if all of the issues above have been addressed sufficiently in the project document.

Agency's Comments 15 June 2026: The project proponents have taken note of the above pieces of advice in regards the preparation of the SCREP Project's Gender Action Plan, and are committed to do the necessary.

Review Dates

	PIF Review	Agency Response
First Review	5/27/2026	6/15/2026
Additional Review (as necessary)		
Additional Review (as necessary)		
Additional Review (as necessary)		
Additional Review (as necessary)		