



UNITED NATIONS DEVELOPMENT PROGRAMME

Mid Term Review of the UNDP GEF Project: Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)

FINAL MID TERM EVALUATION REPORT DECEMBER 2021

UNDP PIMS ID	5926
GEF ID	9574
Title	Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)
Country(ies)	Vanuatu
UNDP-GEF Technical Team	Energy, Infrastructure, Transport and Technology
Project Implementing Partner	Government of Vanuatu - Department of Energy, Ministry of Climate Change and Natural Disaster (DOE-MCCND)
Project Type	Full Size
MTR Review Period	November 2018 – December 2021

A Report for UNDP

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GLOSSARY

ABP	Annual Budget Plan
AWP	Annual Work Plan
APR	Annual Progress Report
CDR	Combined Delivery Report
CDT	(Local) Country Delivery Team
Ctry/ies	Country/Countries
DoA	Description of the Action of the Contribution Agreement
DOE/DOE-MCCND	Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND)
EC	European Commission
EE	Energy Efficiency
EF	Environmental Fund
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EQ	Evaluation Question
EU	European Union
FV/FVP	Field Visit/Field Visit Programme
GEF	Global Environment Facility
GHG	Greenhouse Gases
IFP	(EU) Investment Facility for the Pacific
MCCND	Ministry of Climate Change and Natural Disaster
MRV	Measurement, Reporting and Verification
NERM	National Energy Road Map
NGEF	National Green Energy Fund
PIR	GEF Project Implementation Report
Prodoc	Project Document
PMU	Project Management Unit
RES	Renewable Energy Sources
SES	UNDP Social and Environmental Standards
SME	Small and Medium Enterprise
SO	Specific Outputs
TC Harold	Tropical Cyclone Harold
ToR	Terms of Reference
UNDP	United Nations Development Programme

VANWODS	Vanuatu Women Development Scheme
VREP	Vanuatu Rural Electrification Programme

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Seán J. Burke, Brussels

William Ganileo, Port Vila

October, 2021

1 EXECUTIVE SUMMARY

1.1 Project Information Table

The table below provides a summary of the UNDP GEF Project *Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)*.

Table 1.1 – Project Summary

UNDP PIMS ID	5926
GEF ID	9574
Title	Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)
Country(ies)	Vanuatu
UNDP-GEF Technical Team	Energy, Infrastructure, Transport and Technology
Project Implementing Partner	Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND)
Joint Agencies	(Not applicable)
Project Type	Full Size

1.2 About the UNDP GEF Project: Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)

The BRANTV project (*Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu*) is centred on the removal of the barriers that constraint or make difficult the design, financing and implementation viable renewable energy (RE) and energy efficiency (EE) systems in Vanuatu, and as a result render it significantly more difficult for Vanuatu to achieve its National Energy Road Map (NERM) targets. The project involves systemically tackling these barriers, in particular barriers and constraints related to institutional capacity levels, policy and planning, institutional framework, financing, and technical and economic viability.

The project's programme of work includes a broad range of work strands and activities that address the above-mentioned barriers, and which correspond to the project's 5 outcome areas, these being i) capacity and awareness; ii) policy development; iii) institutional framework/issues; iv) financing and investments; and v) sustainable energy techniques Implementation. Activities include demonstration sub-programs focusing in the use of RE and EE, some examples include hydropower, village-scale PV, household and family compound-scale PV, and EE cook stoves, as well as training programs, design and adoption of policy and plans, institutional coordination mechanisms, financing mechanisms, and work in sourcing, best price costing, and in-country parts supply to help ensure widespread take-up of renewable energy and low carbon technologies.

The project runs for four years (November 2018 - November 2022) and is directly implemented by the Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND) and is financed through a GEF grant of US\$2,639,726 and a total co-financing from project partners, including UNDP, of US\$18,162,444.

1.3 Project Progress Summary

BRANT is highly relevant to Vanuatu's national development goals, in particular its ambitions in the area of energy access, as set out in the National Energy Roadmap (NERM), and represents an important accompanying support to Vanuatu to potentially bring a quantum leap to the rate of deployment of renewable energy access solutions to achieve the NERM's goals. The project has to-date completed installations for 11 renewable energy demonstrations, with a further 6 to be completed during Q1 2021. Solid progress has been made under Outcome 1 (*Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors*), there has been some increased awareness, even if this is somewhat more difficult to measure for each of these focus sectors/groups. This is particularly the case in the targeted local communities, where the project has invested significant resources and time in seeking to create bottom-up ownership and capacities for each of the demo sites, with significant efforts invested in consulting local communities and villages, getting the support of village leaders and building awareness and understanding of the potential uses and benefits of such renewable energy installations.

The completed installations are for the most part also delivering real benefits for the beneficiary communities - such as with the Utanlangi Solar System, Abwatuntora Clinic, Malo Island, Lolbaego Fish market, and Angoro Regional Office installations - where they are meeting real needs and making life easier and thus improving livelihoods. Examples are the improved medical services at Abwatuntora Clinic (e.g., improved lighting, medicines storage) on the island of Pentecost and the community benefits in local households (improved lighting for study, connectivity of mobile phones, entertainment, etc.). In the Saufeli Youth Centre (Malo Island), the installation has provided power to process the coconuts (as well as speeding up coconut grinding) and ready to be used for making virgin oil, where it has also led to increased production volumes and increased local income, as well as providing increased opportunities for women and youth. In Angoro, the project has provided light power and services to the in Angoro Regional Office, and has helped women in generating additional income from sewing clothes, as well as for general support to the community users (charging mobile phones, laptops, music box, torch lights, etc.), as well as increased use of the church hall outside of daylight hours.

In all cases, the BRANTV demo installations are having a positive environmental impact through reduced use of diesel generators, and reduced use of fuelwood, although more work needs to be done on measuring/estimating some of the reported GHG emission reduction. There have also been some valuable actions under financing (Outcome 4), such as the TA provided for a financing study for NGEF (with further TA planned).

1.4 Review Ratings (Summary Table)

The table below sets out the review ratings and a summary of the project's key achievements.

Table 1.2 - Overview MTR Review Ratings

Measure	MTR Rating
Project Strategy	N/A
Progress Towards Results	

Measure	MTR Rating
Objective Achievement: (Enabling the Achievement of the energy Access, Sustainable Energy, and Green Growth Targets of Vanuatu)	3 - Moderately Unsatisfactory (MU)
Component 1. Capacity and Awareness Enhancement on Sustainable Energy and Low Carbon Development	4 - Moderately Satisfactory (MS)
Component 2. Improvement of Energy Policy and Planning Formulation and Implementation.	3 - Moderately Unsatisfactory (MU)
Component 3. Institutional Framework Enhancement for Sustainable Energy and Low Carbon Development	3 - Moderately Unsatisfactory (MU)
Component 4. Sustainable Energy and Low Carbon Initiatives Financing	2 - Unsatisfactory (U)
Component 5. Sustainable Energy and Low Carbon (RE and EE) Technology Applications	3 - Moderately Unsatisfactory (MU)
Project Implementation & Adaptive Management	3 - Moderately Unsatisfactory
Sustainability	2 – Moderately Unlikely

1.5 Review Conclusions (Summary Table)

The table below summarises the mid-term review conclusions.

Table 1b - Summary of Mid-term Review Conclusions

No.	Conclusion
C1	Relevance to National Policy and Needs: The project is highly relevant to Vanuatu's national development goals, in particular its ambitions in energy access, as set out in the National Energy Roadmap (NERM). Relevance is only likely to increase in the current COVID-19 and post-COVID-19 recovery, as Vanuatu and other Pacific Island Countries seek to find ways to promote a sustainable and inclusive green recovery.
C2	Project Design and Project Strategy: The project's design of adopting a multi-component and multi-level (i.e. addressing barriers at national and local level, including policy, regulatory, financing, capacity barriers etc.) approach to addressing barriers to the deployment and uptake of renewable energy in Vanuatu is appropriate, and reflects the need to address the multi-faceted nature of the challenge of access to modern sources of energy that holds back Vanuatu's development prospects, in particular in terms of rural and local development and sustainable and improved livelihoods for its rural communities.
C3	Progress against results: The project is behind schedule with regard to attainment of results, and at this point in time there is not a clear plan to allow the project to recover some lost ground (time), to the extent that this is possible. While solid progress has been made under Outcome 1 (<i>Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors</i>), where the progress on the number of energy installations against the project mid-term target is relatively satisfactory. There has also been some increased awareness (although hard to measure) and on the whole awareness-raising has been relatively weak, although more progress has been made in development of capacities, in particular among communities in the targeted demonstration sites. There have also been some valuable actions under financing (Outcome 4), such as the TA provided for a financing study for NGEF (with further TA planned), but most action have been

No.	Conclusion
	more of ad hoc nature, and there is not a sense of barriers to energy nor financing being approached with a holistic or strategic framework.
C4	Existing Energy Installations: There are numerous actions that need to be taken on the BRANTV demo installations completed in order to ensure that installation and operation and maintenance is optimal, not to mention ensuring that they could be reviewed as fully-fledged pilot or demonstration projects that can be assessed with regard to replication or scaling. These issues need to be addressed as a priority.
C5	Project Management and Governance: Notwithstanding the strong work efforts of the project team, and the appreciation for their work effort in the Government of Vanuatu, implementation is being constrained by a series of factors, including a project team that is under-resourced and under-powered technically, and an implementation that is too activity-focussed with insufficient strategic management and forward planning. Project implementation is being constrained by a lack of a clear 'motor' and leadership, including weak leadership and guidance at the level of the Project Board and an under-powered role of the Department of Energy compared with what would be expected for a project such as BRANTV operating under the UNDP's Nationally Implementation Modality. Another constraint has been the project team's implementation approach has been somewhat too inward-looking in its focus, compared with what is needed in a project seeking to catalyse change and secure a quantum leap in the country's prospects for achieving the NERM targets, and thus proactive engagement and involvement of other Government stakeholders needs to increase.
C6	Progress against results – prospects going forward: Most stakeholder interviewed expressed doubts that the project can meet what they acknowledge as ambitious targets ¹ , have not seen a BRANTV project plan to make this possible, and believe this needs to be discussed by the project team and the Project Board.
C7	Project Impact: The project shows some promising impact at the level of communities, both in terms of empowering local communities and building capacity and skills and facilitating and creating new income-generating activities and socio-cultural activities, such as the improved medical services at Abwatuntora Clinic, the improved coconut processing and productivity at the Saufeli Centre (Malo Island) and improved opportunities for women and youth, and supporting women in generating additional income from sewing clothes in Angoro. BRANTV installations are having a positive environmental impact through reduced use of diesel generators, and reduced use of fuelwood, although more work needs to be done on measuring/estimating some of the reduction. <u>While the scale of income</u> is not part of the main indicators listed in the Project Results Framework, it is worth considering including this in the monitoring, as it also an important indicator related to community take-up and benefitting of/from these installations and an important indicator with regard to sustainability prospects, and thus important in the performance assessment of the pilot installations.
C8	Impact of COVID-19: COVID-19 has impacted to some extent progress, particularly regarding international experts. It should however be emphasised that the implementation approach of the project, where most technical expertise is sourced externally, has increased the project

¹ This statement is not about whether the AWP as a process is sufficient, rather that some of the stakeholder feedback shows doubt as to how BRANTV can meet its targets based on progress made up to end of Q1 2021, and that this has not been addressed/discussed in detail at Project Board level.

No.	Conclusion
	implementation vulnerability to COVID-19 mobility and travel restrictions. Going forward, project planning and implementation should work on a worse/negative-case scenario of assuming at least some continued incidence of COVID-19 and variants, and seek to optimise mitigation against same, in particular through increased effort to source technical expertise that is required.
C9	Project Sustainability: BRANTV has incorporated a strong focus on sustainability in the project design, and this can be seen in the effort to ensure sustainable development of capacities in terms of training of technicians and in the design of demos, including the development of Memoranda of Agreement (MoAs) and the awareness-raising, outreach and capacity development for local communities to ensure sustainable local involvement and ownership of the installations. However, BRANTV needs to place much more focus on sustainability at all levels. While building sustainable capacity at the community level has been an important focus of the project to-date, the review findings suggest there is still some way to go here. Moreover, there has been insufficient focus on sustainability at most levels of the BRANTV project, including the sustainability of renewable energy installations, with this issue of sustainability of BRANTV renewable energy installations. This is a concern across numerous Government Departments about the ownership and maintenance after the BRANTV project ends, and there has been insufficient focus on assessing the energy pilots installed in terms of learning and in particular potential for refining with a view to replication or scaling. Moreover, there is no clear strategy with regarding to creating sustainable outcomes at the policy and regulatory level nor at the financing level.
C10	BRANTV Value-Added and Positioning: The implementation approach and progress to-date suggests some level confusion or a lack of reflection on what BRANTV is. While the project's design and project objectives and outcomes suggest that BRANTV is intended to be a strategic and multi-pronged effort to address barriers to energy access at all levels, this is not fully reflected in the project implementation to-date.

1.6 Review Recommendations (Summary Table)

The table below summarises the mid-term review conclusions:

Table 1.3 - Overview of the Review General Recommendations

No.	Recommendation
R1	Action the site-specific recommendations for the BRANTV installation sites from the MTR field mission and UNDP monitoring mission.
R2	Full Review of BRANTV Demonstration Sites to Assess Potential as Pilot Models for Replication and Scaling.
R3	Develop a Comprehensive BRANTV Forward Planning.
R4	Develop a Sustainability Strategy and Work Plan.
R5	Develop a Strategic Financing Framework and Work Programme
R6	Find short-term and medium-term solutions to ensure insurance coverage of installations

No.	Recommendation
R7	Develop a Project Concept and Funding Proposal to Support the Department of Cooperatives in Delivering Renewable Energy Access to Cooperatives
R8	Consolidate needs analysis of sectors to develop scaled-up models for deploying energy access
R9	Strengthen BRANTV Monitoring around core KPIs
R10	Modify project management and implementation to reflect BRANTV's multi-level and multi-pronged holistic approach, and to dynamize implementation.

2 ABOUT THIS REVIEW

2.1 About this Report

This document sets out the draft evaluation report for the *Mid Term Review of the UNDP GEF Project: Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)*. The main goals of the MTR are to identify challenges and outline corrective actions to ensure that a project is on track to achieve maximum results by its completion and its primary output is MTR report.

The Mid Term Review process is conducted in line with the GEF Monitoring and Evaluation Policy² and the MTR report is structured as follows:

- Section 2 (this section) sets out the background context, some summary information about the BRANTV project, and the evaluation objectives, scope, and work programme.
- Section 3 sets out the BRANTV project development context.
- Section 4 sets out the MTR Main Findings.
- Section 5 sets out the Evaluation Conclusions, Ratings and Recommendations.

2.2 About the UNDP GEF Project: Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV).

Financed through a GEF grant of US\$2,639,726 and a total co-financing from project partners including UNDP of US\$18,162,444 this full-sized GEF project is a five-year project (November 2018 - November 2022) and is nationally implemented by the Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND), which is UNDP's implementing partner for this project.

Vanuatu is confronted with a number of challenges in its efforts to meet its NERMs' 2020 and 2030 targets, 71% of the nation lack access to grid electricity, from which only 35% have access to a solar lantern, this lack of access to electricity causes that 80% of the population cooks with open hearth fire, bringing heavy environmental damages. Donors have focused on providing energy to rural areas through renewable energy (RE) and there are some efforts to bring energy efficient (EE) cook stoves, however, targets are still far from being achieved. Another problem faced is the lack of funds for repairs and lack of local access to parts and services, that even when systems are installed for free, still is a huge problem as village-scale RE power systems, and in-country capabilities are extremely limited turning into broken down systems for the long-run.

The BRANTV project seeks to remove the barriers that make unsustainable, and unviable RE and EE systems to be implemented in Vanuatu. To remove these barriers the project tackles these obstacle areas of capacity, policy and planning, institutional framework, financing, and technical and economic viability. The project includes demonstration activities focusing on the cost-effective and commercial applications of RE and EE technologies. Some examples include hydropower, village-scale PV, household and family compound-scale PV, and EE cook stoves. As a key point for the success of the demonstrations, the project focuses on the payment and management system introduced to achieve savings for repairs of the RE systems. A number of activities that include, training programs, design and adoption of policy and plans, institutional coordination mechanisms, financing mechanisms, and work in sourcing, best price costing, and in-country parts supply, is the base to achieve the widespread application of low carbon technologies.

² <http://www.thegef.org/gef/Evaluation%20Policy%202010>

The overarching objective will be achieved through five interrelated outcomes of BRANTV, as set out in Table 1 below.

Table 2.1 - Overview Project Structure by Component

Component	Focus	Core Outcome
Outcome 1	Capacity and awareness	Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors
Outcome 2	Policy Development	Improved policy, planning, and regulatory regimes in the application of sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors
Outcome 3	Institutional framework	Established institutional framework enables the effective enforcement of policies and regulations, and implementation of plans, programs, and projects, on the application of sustainable energy and low carbon technologies
Outcome 4	Financing and investments	<p>A. Increased availability of, and access to, financing for sustainable energy, energy access, and low carbon initiatives in the energy supply and demand sectors</p> <p>B. Increased financing and investments from private sector on sustainable energy and low carbon projects in the energy supply and demand sectors</p>
Outcome 5	Sustainable Energy Techniques Implemented	<p>A. Sustainable energy and low carbon (RE and EE) techniques and practices adopted and implemented with both cost and technical viability in the energy, public, private sector, and residential sectors.</p> <p>B. Enhanced confidence in the economic and technical viability and long-term sustainability of sustainable energy and low carbon technology projects</p>

Regarding **project stakeholders and governance and ownership arrangements**, the Project Board is comprised of the following institutions: Ministry of Internal Affairs, Department of Energy, Ministry of Climate Change and Natural Disaster, Department of Cooperatives, Department of Water Resources, Department of Agriculture, Department of Livestock, Department of Fisheries, Department of Tourism, Department of Forestry, Department of Environment, Department of Customs and Inland Revenue, Ministry of Trades, Ministry of Agriculture, Utility Regulatory Authority, UNELCO, VUI, National Bank of Vanuatu, Bank of South Pacific, and Vanwods. The **Implementing Partner** for this project is the Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND). The responsibility for this MTR lays in the commissioning unit which is the UNDP Pacific Office in Fiji.

2.3 Review Objectives and Scope

As per the ToR, this mid-term review includes generating an assessment of the up-to-date effectiveness and efficiency of project activities in relation to the stated objective. The MTR assessed four categories of project progress – i) project strategy, ii) progress towards results, iii) Project Implementation and Adaptive Management, and iv) sustainability.

Table 2.2 - Overview MTR Categories of Progress and Sub-Areas

Category	Focus Areas/Issues
Project Strategy	<p><i>Project Design:</i></p> <ul style="list-style-type: none"> Review the problem addressed by the project and the underlying assumptions (including possible effect of any incorrect assumptions or changes to the context to achieving the targeted project results). Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Review how the project addresses country priorities. Review decision-making processes. <p><i>Results Framework/Logframe:</i></p> <ul style="list-style-type: none"> Undertake a critical analysis of the project's logframe indicators and targets, assess how "SMART" ness' of the midterm and end-of-project targets³, and suggest specific amendments/revisions to the targets and indicators, as necessary. Examine if progress so far has led to or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
Progress Towards Results	<ul style="list-style-type: none"> Review the logframe indicators against progress made towards the end-of-project targets; populate the Progress Towards Results Matrix⁴; colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for the project objective and each outcome; make recommendations from the areas marked as "not on target to be achieved" (red). Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Review. Identify remaining barriers to achieving the project objective. By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.
Project Implementation and Adaptive Management	<p>Assessment of the following categories of project progress⁵:</p> <ul style="list-style-type: none"> Management Arrangements. Work Planning. Accessibility Finance and co-finance. Project-level monitoring and evaluation systems. Stakeholder Engagement. Reporting. Communications;
Sustainability	<p>Assessment of overall risks to project sustainability factors w.r.t. following 4 categories:</p> <ul style="list-style-type: none"> Financial risks to sustainability. Socio-economic risks to sustainability. Institutional framework and governance risks to sustainability. Environmental risks to sustainability;

³ SMART - Specific, Measurable, Attainable, Realistic and Timebound.

⁴ As described in the *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*.

⁵ Idem.

The MTR team comprised an international consultant and a national consultant. The MTR approach and work programme included an inception phase, a desk phase, field (stakeholder consultation) phase and a synthesis and reporting phase. The inception phase started with an i.e., initial briefing from UNDP, and culminated with the development of the inception report, setting out the evaluation methodology. This work was carried out in parallel to the desk research phase, where the team reviewed the relevant project and context-related documents, including PIF, UNDP Initiation Plan, UNDP Social and Environmental Screening Procedure/SESP, the Project Document, project reports including annual PIRs, project budget revisions, national strategic and legal documents, as well as documentation relating to other relevant national initiatives in the sustainable energy sector.

The stakeholder consultation phase comprised two distinct components, a i) series of interviews with UNDP, the BRANTV Project Team, the UNDP Regional Technical Advisor (RTA), and national government counterparts (including the GEF Operational Focal Point); and ii) a series of interviews by the national consultant with direct beneficiaries and other stakeholders during a field mission visit programme to a number of BRANTV demonstration sites, specifically Santo Malo, Utanlangi (North Efate), Angoro (North Pentecost), and Abwatuntora (North Pentecost). The evaluation was also informed by a parallel UNDP monitoring visit to these sites at the same time as the evaluation field work. The stakeholder consultation programme was followed by the last phase in the evaluation, the synthesis and reporting phase.

3 PROJECT DESCRIPTION AND BACKGROUND CONTEXT



Section Guide

This section sets out the principal evaluation findings about:

- *Problems addressed by the Project (Section 3.1)*
- *Project description and strategy (Section 3.2)*
- *Project implementation arrangements (Section 3.3)*
- *Project timing and milestones (Section 3.4)*
- *Main stakeholders (Section 3.5)*

3.1 Problems Addressed by the Project

BRANTV has sought to address several key problems:

- Barriers that are resulting in unsustainable, unviable, or weakly disseminated RE and EE systems. These are barriers in the areas of capacity, policy and planning, institutional framework, financing, and technical and economic viability. Central to the approach is BRANTV's implementation of Vanuatu's Rural Off-Grid RE and EE Promotion Program, which includes demonstration activities on the application of hydropower, village-scale PV, household and family compound-scale PV, EE cook stoves technologies, and demonstrations for productive, livelihood-enhancing uses of RE and EE.
- Absence of a payment and management system to achieve savings for repairs of the RE systems and the nationwide road show to introduce EE cook stoves to the rural population.
- Lack of training programs, design and adoption of policy and plans, institutional coordination mechanisms, financing mechanisms, and work in sourcing, best price costing, and in-country parts supply will be carried out to influence the widespread application of low carbon technologies to achieve the energy access, sustainable energy and green growth targets of the country.

3.2 Project Description and Strategy

The objective of the project is to enable the achievement of the energy access, sustainable energy, and green growth targets of Vanuatu, as represented in the country's National Energy Road Map (NERM). The indicators for the achievement of this objective are as follows:

- Cumulative tons of incremental GHG emissions reduced from business as usual. The targets (tons CO₂) are from 0 to 6,080.9 at project mid-term, to 45,016.1 by end of project.
- Incremental number of households (with at least 20% woman-headed) in rural areas whose level of energy access is increased via village-scale off-grid RE or that benefit from newly adopting EE cook stoves. The targets are from 0 to 8,400 at project mid-term, to 14,000 by end of project.
- Total new, incremental reductions in or newly avoided amounts of annual diesel consumption achieved. The targets (litres Diesel Fuel Oil, DFO) are from 0 to 67,238 at project mid-term and 272,212 by end of project.
- Incremental fuel wood saved annually by use of energy efficient cook stoves. The targets (million kgs) are from 0 to 3.9 at project mid-term and 15.6 by end of project.

The project is consisted of five components with the following expected outcomes:

- **Component 1 (Outcome 1):** Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors.
- **Component 2 (Outcome 2):** Improved policy, planning, and regulatory regimes in the application of sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors
- **Component 3 (Outcome 3):** Established institutional framework enables the effective enforcement of policies and regulations, and implementation of plans, programs, and projects, on the application of sustainable energy and low carbon technologies.
- **Component 4.1 (Outcome 4A):** Increased availability of, and access to, financing for sustainable energy, energy access, and low carbon initiatives in the energy supply and demand sectors
- **Component 4.2 (Outcome 4B):** Increased financing and investments from private sector on sustainable energy and low carbon projects in the energy supply and demand sectors
- **Component 5.1 (Outcome 5A):** Sustainable energy and low carbon (RE and EE) techniques and practices adopted and implemented with both cost and technical viability in the energy, public, private sector, and residential sectors.
- **Component 5.2 (Outcome 5B):** Enhanced confidence in the economic and technical viability and long-term sustainability of sustainable energy and low carbon technology projects.

3.3 Project Implementation Arrangements

Regarding **project stakeholders and governance and ownership arrangements**, the Project Board is comprised of the following institutions: Ministry of Internal Affairs, Department of Energy, Ministry of Climate Change and Natural Disaster, Department of Cooperatives, Department of Water Resources, Department of Agriculture, Department of Livestock, Department of Fisheries, Department of Tourism, Department of Forestry, Department of Environment, Department of Customs and Inland Revenue, Ministry of Trades, Ministry of Agriculture, Utility Regulatory Authority, UNELCO, VUI, National Bank of Vanuatu, Bank of South Pacific, and VANWOODS (Vanuatu Women Development Scheme). The Project Board meets two times a year, for an aggregate eight times in total, to review the progress of the project.

The Implementing Partner for this project is Department of Energy, Ministry of Climate Change & Natural Disaster (DOE-MCCND). The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP and GEF resources. The National Project Director (NPD), will be the Director, Electrification, DOE, as delegated by the Director of DOE. The NPD will be responsible for weekly oversight of the Project Management Unit (PMU), including strategic oversight and guidance to project implementation in close collaboration with UNDP. The NPD is not paid from the project funds but will represent a government in-kind contribution to the project.

3.4 Project Timing and Milestones

The table below set out the key project dates and milestones:

Table 3.1 - Key Project Dates and Milestones

Key Project Dates/Milestones	
PIF Approval Date	Oct 25, 2016
CEO Endorsement Date	Jun 12, 2018
Project Document Signature Date (project start date):	Nov 9, 2018

Key Project Dates/Milestones	
Expected Date of Mid-term Review	October 2020
Actual Date of Mid-term Review	December 2020

3.5 Main Stakeholders and Project Partners

The principal stakeholders of BRANTV are the Department of Energy (DOE), Ministry of Climate Change & Natural Disaster (MCCND), the World Bank's VREP Project, DB's Energy Access Project, IUCN's Talise Hydro Project, EU-GIZ ASCE Project, SPC Solar Fridge Project, the National Green Energy Fund (NGEF) and GGGI, the Department of Water Resources (DWR), New Zealand High Commission, UNICEF, the National government departments in the productive sectors (including Departments of Agriculture, Livestock, Fisheries, Cooperatives, and Tourism), the Department of Forestry and the Department of Environment, and other donors/ donor projects and programmes. Beyond the above-mentioned stakeholders, other stakeholders include private sector technical and equipment companies, commercial banks, local business persons and village communities, local civil society organisations, engineers, technical persons, and rural electricians, artisans/ potential artisans, women, other marginalized groups in the villages.

Regarding socio economic and environmental changes of significance since the beginning of the project implementation, these have included i) COVID-19 and the related disproportionately higher adverse impact on poorer and more vulnerable populations (including women), ii) the increased impetus this has given to green recovery and building back better. A third development, and linked closely to the above developments, has been the increased urgency of the climate challenge and global warming, and the related need to accelerate sustainable energy transitions and decarbonisation.

4 MAIN FINDINGS



Section Guide

This section sets out the principal evaluation findings regarding:

- *Project Strategy (Section 4.1)*
- *Progress towards Results (Section 4.2)*
- *Project Implementation Experience – Review Findings (Section 4.3)*
- *Project Implementation and Adaptive Management (Section 4.4)*
- *Project Impact – Review Findings (Section 4.5)*
- *Project Sustainability – Review Findings (Section 4.6)*

4.1 Project Strategy & Relevance – Review Findings

BRANTV is highly relevant to national needs in several respects. Firstly, it seeks to address the widespread lack of access to modern energy sources in Vanuatu, where more than 70% of the population do not have access to grid electricity, with for example 4 out of every 5 citizens cooking over open-hearth fires, with the attendant pollution and health implications. This lack of energy access is a significant constraint also on creating sustainable and resilient communities, that could not only be autonomous in terms of energy generation but allow empowerment in key areas such as pollution free heating and cooking, food and medicines storage, supporting income-generating activities, lighting for reading and education, power for charging phone and other domestic appliances, etc.

The project's strategy is also coherent with a context where past initiatives to improve energy access have not yielded a level of results that matched initial expectations, and where particular challenges have been experienced in the management and maintenance of renewable energy installations. Underlying these challenges have been insufficient local capacities for management and repair, a lack of access to spare parts and services, that has seen often seen broken-down renewable energy installations spend long periods of time out of services pending repair. Furthermore, weak local capacities regarding skills and expertise in renewable energy technologies, along with limited RE technology in the country, has often meant higher use of more expensive international contractors and longer installation periods.

In this regard, the BRANTV project seeks to address a range of identified problems to promoting increased take-up of renewable energy in Vanuatu. BRANTV is highly aligned with the Government of Vanuatu's own goals and strategy, where the Department of Energy's mission is to create a sustainable energy future for Vanuatu by increasing electricity access, reducing national dependence on petroleum through the use of renewable energy and promoting energy efficiency and conservation. It seeks to secure growth and development through the provision of secure, affordable, widely accessible, high quality, clean energy services, and rural and urban and peri-urban electrification.

The prioritisation of rural energy access can be seen through the launch of the Vanuatu Rural Electrification Programme (VREP) in 2014, with support from the World Bank and the Government of New Zealand, and as part of the Government's strategy to achieve almost two-thirds (65 percent) of power generation from renewable energy by. VREP targeted providing some 17,000 households throughout Vanuatu with access to non-grid, renewable electricity through solar energy. Given Vanuatu's low population densities and large distances between communities, a key challenge for the project has been providing access to electricity in a

way that is cost effective and efficient, and to this end VREP is subsidizing 50 percent of the cost of solar power systems for families. Community-operated and managed health posts and not-for-profit community halls also have access to subsidies to purchase solar systems. Initially, the project is focusing on solar power systems that are “plug and play” – installed easily by the owner and requiring little to no maintenance other than replacing batteries. These systems provide lighting and phone charging capabilities, with some systems able to support other uses such as radios and small televisions.

Overall, the national context and needs has been well researched and has duly informed the strategy formulation. For the purposes of strategy implementation, a clearer focus on tracking ongoing government RE deployment planning and work would have strengthened this, and in particular a work planning that considered key critical paths, and in particular that of RE site identification, validation, RE installation deployment, monitoring and validation, which is a key critical path in terms of complexity and risks linked to the number of stakeholders involved, dealing with remote sites, and heavy procurement processes.

Project Design

The project design is on the whole of a high quality, and taking into account previous experience in Vanuatu regarding the deployment of renewable energy installations, and some of the problems that have significantly constrained the effectiveness of such efforts, such as maintenance and repair solutions and financial sustainability post-installation. Furthermore, the Project employed a Theory of Change (ToC) approach, as well as a problem tree analysis, to input into the design of the project. The key area of challenge (barriers) identified - capacity and awareness; policy development; institutional framework; financing and investments; and sustainable energy techniques Implementation – are reflected in the project design and activities. While the project addresses country priorities at the overall level, the operational implementation can do more to ensure alignment, in particular with the evolving development and scale of renewable energy deployments of the Government, and in particular DOE and NGEF, and where BRANTV RE technology selection and focus corresponds to and/or complements government interests and/or needs.

If there are weaknesses or possible areas for improvement, with the benefit of hindsight, these might include further reflection on how the project team/PMU will create the implementation strategy and change that will allow achievement of the project objectives, including identifying the most important activities/priorities and the critical path. Linked to this, more focus could have been placed on the work and management processes to move from renewable energy systems installation and validation to the development of replication and/or scaling efforts. For the second half of the project, a clear framework/matrix for assessing and validating replication and scaling potential, that can be used as a dashboard and management tracking tool, can help in ensuring that this is at the heart of the monitoring approach, as well as making it easier for government stakeholder to interact with BRANTV and its work. Furthermore, regarding risk identification and mitigation, the experience of the project implementation of the identification and development of installation sites to-date suggests that more could have been done to provide risk management mitigation under the SES, for example through explicit contingency planning for sites selection such that back-up sites were readily available where problems arose with the targeted site. A second area of risk that could be strengthened is ensuring RE installations have appropriate design and construction defences against extreme weather events.

Regarding incorporation of gender equality issues, this has been satisfactorily addressed in the project document and SES.

Results Framework/Logframe

As part of this midterm review, the project results framework was assessed against “SMART” criteria, i.e., whether the indicators and targets were sufficiently specific, measurable, achievable, relevant, and time bound. With respect to being time-bound, the end targets were designed to be achieved by the end of the 5-year duration project. In the table below, the critical analysis of the project’s logframe indicators and targets is undertaken, including assessment of how “SMART” the end-of-project targets are (SMART: Specific, Measurable, Achievable, Relevant, Time-Bound) and suggest specific amendments/revisions to the targets and indicators, as necessary. The following marking is used for assessment of the objectives and outcomes. Overall, the results framework has taken adequate account of gender, with the document overall gender-sensitive. Going forward, as the project will be placing an increased focus on the income and livelihoods dimension of the energy installations, there may be scope to further deepen the gender focus, for example in regard to women’s economic empowerment through income generation and women employment promotion.

Table 4.1: Assessment of Project Indicators (SMART Analysis)

Legend:	Green: SMART criteria compliant	Yellow: questionably compliant with SMART criteria	Red: not compliant with SMART criteria)				
Indicator		End-of-Project Target	MTR SMART Analysis				
			S	M	A	R	T
Objective: Enabling the achievement of the energy access, sustainable energy, and green growth targets of Vanuatu							
Cumulative tons of incremental GHG emissions reduced from business as usual (tons CO2)		45,051.2					
Incremental number of households (w/ at least 20% women-headed) in rural areas whose level of energy access is increased via village-scale off-grid RE or that benefit from newly adopting EE cook stoves		14,000					
Total new, incremental reductions in or newly avoided amounts of annual diesel consumption achieved, litres DFO		272,212					
Incremental fuel wood saved annually by use of energy efficient cook stoves, million kgs		15.6					
Component 1: Capacity and Awareness Enhancement on Sustainable Energy and Low Carbon Development			S	M	A	R	T
Outcome 1. Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors							
No. of individuals (with at least 30% being women) in Vanuatu that are newly (as of start of project) involved in operating, maintaining, repairing, designing, and/or installing off-grid rural RE power systems as one of their main sources of income.		300					
Number of artisans in Vanuatu fabricating EE cook stoves as their main source of income		20					
Component 2: Low-carbon public buildings and utilities							
Outcome 2. Improved policy, planning, and regulatory regimes in the application of sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors							
Portion of nation’s off-grid villages for which a comprehensive electrification plan has been determined, %		100					
Number of regulations under the Off-Grid Rural Electrification Policy that are enforced		5					
Component 3: Institutional Framework Enhancement for Sustainable Energy and Low Carbon Development							
Outcome 3. Established institutional framework enables the effective enforcement of policies and regulations, and implementation of plans, programs, and projects, on application of sustainable energy and low carbon technologies							

Number of pico-/ small micro-hydro, village community PV, and village sets of family compound-scale nano-grid sites at which management model enables fee collection, savings for repairs/ parts, and payment of operator	40						
Number of villages at which DOE has cooperated with other national-level departments to implement rural electrification or EE cook stoves, as well as productive uses of RE/EE applications, if relevant	60						
Component 4: Sustainable Energy and Low Carbon Initiatives Financing							
Outcome 4A. Increased availability of, and access to, financing for sustainable energy, energy access, and low carbon (RE and EE) initiatives in the energy supply and demand sectors							
Amount of new international funding confirmed with funding entities for infusion into NGEF because of BRANTV efforts, US\$ million	10						
Outcome 4B. Increased financing and investments from private sector on sustainable energy and low carbon projects in the energy supply and demand sectors							
Amount of funding represented by financial closes reached for loans or direct equity investments to RE and EE projects under commercial or private sector financing scheme for low carbon projects, US\$ million	4						
Component 5: Sustainable Energy and Low Carbon (RE and EE) Technology Applications							
Outcome 5A. Sustainable energy and low carbon (RE and EE) techniques and practices adopted and implemented with both cost and technical viability in the energy, public, private sector, and residential sectors of the country							
Number of types of key off-grid RE power generation and mini-grid related equipment/ parts newly available or available at 25% or more less than cost at start of project	8			#1			
Outcome 5B. Enhanced confidence in the economic and technical viability and long-term sustainability of sustainable energy and low carbon technology projects							
No. communities, private sector entities, households in both on-grid & off-grid areas interested in replicating the RE-based power generation demos: <ul style="list-style-type: none"> Pico-/ small micro-hydro Hybrid pico-hydro & PV Village community PV (with or without mini-grid) Village-wide family compound-scale PV nano-grids EE cook stoves. RE-powered freezers 	<ul style="list-style-type: none"> 38 2 20 20 12,000 60 						

#1: Note: On the whole this is a very specific and well-considered indicator, but it may be quite time-consuming and challenging to monitor, and this is the only reason why it is rated as questionably compliant with SMART criteria. On the other hand, it is an indicator that could be usefully monitored by GoV (DOE) as part of its sectoral-level monitoring of the RE sector in Vanuatu,

4.2 Progress towards Results – Review Findings

The following are the MTR findings related to progress towards results by component, outcome, and outputs, as appropriate:

The MTR assessment and rating are based on review of project implementation reports, additional country reports and interviews. Assessments in this table are based on the current end date of the project (that is, not factoring in a no-cost extension).

Table 4.2: Progress Towards Results Matrix (achievement of outcomes against end-of-project targets)

MLA = Midterm level and assessment - Indicator Assessment Key (Legend):

Green	Achieved	Yellow	On target to be achieved	AR = Achievement rating - Progress towards results rating scale: Highly satisfactory (HS); Satisfactory (S); Moderately satisfactory (MS); Moderately unsatisfactory (MU) Unsatisfactory (U); Highly unsatisfactory (HU).
Red	Not on target to be achieved			

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
Objective: Enabling the achievement of the energy access, sustainable energy, and green growth targets of Vanuatu							
Cumulative tons of incremental GHG emissions reduced from business as usual (tons CO ₂)	0	6,085.6	45,051.2	<ul style="list-style-type: none"> - 17 locations where community scale PV solar systems have been completed of will be in the 2021 Q1. - The 2020 Q4 report mentioned in the demo site reports that there will be a 1680 tCO₂ lifetime GHG emission reduction 		MU	Rating is based in part on the fact that the current achievement rate is under 30% of the midterm target, which represents <15% of the end-of-project target. At the same time, delayed start to the project and challenging implementation environment should be kept in mind as mitigating factors.
Incremental number of households (w/ at least 20% women-headed) in	0	8,400	14,000	End 2020 figure reported by project is 1,454 households benefiting from community-scale PV solar System.		MU	Rating is based in part on the fact that the current achievement rate is under 25%

⁶ Quarterly Progress Report - Q1 2019 Page 11-14

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
rural areas whose level of energy access is increased via village-scale off-grid RE or that benefit from newly adopting EE cook stoves							of the midterm target, which represents 60% of the end-of-project target. At the same time, delayed start to the project and challenging implementation environment should be kept in mind as mitigating factors
Total new, incremental reductions in or newly avoided amounts of annual diesel consumption achieved, liters DFO	0	67,238	272,212	As of end 2020, project has reported that the installation sites reported 30,046.8 Liters of avoided diesel consumption.		MU	Rating is based on fact that the current achievement rate is under 50% of the midterm target, which represents only 25% approximately of the end-of-project target. At the same time, delayed start to the project and challenging implementation environment should be kept in mind as mitigating factors.
Incremental fuel wood saved annually by use of energy efficient cook stoves, million kgs	0	3.9	15.6	- Progress reports do not mention the fuel wood saved annually, some technical capacity building programs in off-grid RE technology and EE cook stove applications have been completed and that training was provided to artisans in sourcing of parts for energy efficient cook stove fabrication	N/A	?	<i>Not set?</i> <i>If intention is to collect data, one option might be to use an average estimate of fuelwood saved per cook stove, as it is near impossible to collect exact data.</i>
Component 1: Capacity and Awareness Enhancement on Sustainable Energy and Low Carbon Development							
Outcome 1. Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors							
Number of individuals (with at least 30% being women) in Vanuatu that are newly (as of start of project) involved in	0	150	300	As an example of training, training was conducted on Solar Operations and Maintenance for Local Operator at Utanlangi on Nguna island (11 trainees, which 3 are women) by the Pacific Vocational Training Centre	N/A	-	

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
operating, maintaining, repairing, designing, and/or installing off-grid rural RE power systems as one of their main sources of income.				(PVTC) in collaboration with Vanuatu Institute of Technology (VIT). <u>However, it is understood that data is not being collected by the project on this metric, nor is it a priority indicator</u> Total of 83 participants have been trained in RE technologies of which 55 have been trained as Local operators to be able to repair and maintenance RE solar systems. See excel table attached.			
Number of artisans in Vanuatu fabricating EE cook stoves as their main source of income	0	10	20	The progress reports do not mention any progress related to artisans fabricating EE stoves; mention is only made of some technical capacity building programs in off-grid RE technology and EE cook stove applications have been completed and that training was provided to artisans in sourcing of parts for energy efficient cook stove fabrication	N/A	-	
Evel Component 2: Improvement of Energy Policy and Planning Formulation and Implementation							
Outcome 2. Improved policy, planning, and regulatory regimes in the application of sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors							
Portion of nation's off-grid villages for which a comprehensive electrification plan has been determined, %	0	50	100	Activities related to this target have been postponed to 2021.	N/A	-	Based on information from DoE, progress will only likely start on rural electrification master plan during 2022. Target at risk of not being met.
Number of regulations under the Off-Grid Rural Electrification Policy that are enforced	0	0	5	Few information is provided regarding component 2, it is only mentioned: "The corresponding activities for this output are now postponed to 2021. The 2020 AWP was revised and endorsed in September 2020"	N/A	-	Difficult to say how useful this indicator will be, or how it will be monitored.

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
				BRANTV has been part of the review of the Renewable Energy Waste Management Act. This Act is coordinated by the department of Environment. Also, BRANTV took part in reviewing the 'Electrical Safety Works' Bill. This bill will be listed in the Parliament session schedule in November 2021. As planned in 2021, BRANTV will develop the Renewable Energy Bill with the support of the expertise from the private sectors and State Law Office.			
Component 3: Institutional Framework Enhancement for Sustainable Energy and Low Carbon Development							
Outcome 3. Established institutional framework enables the effective enforcement of policies and regulations, and implementation of plans, programs, and projects, on the application of sustainable energy and low carbon technologies							
Number of pico-/ small micro-hydro, village community PV, and village sets of family compound-scale nano-grid sites at which management model enables fee collection, savings for repairs/ parts, and payment of operator	0	10	40	<ul style="list-style-type: none"> - Implemented analysis and design of preferred model/models for running off-grid village RE power systems. - Progress reports provide few information regarding the sites in which the model allows to have savings for repairs and payment of operator. - 5 (tariff collection systems established in 5 community-based solar PV sites, as decided by village community groups). - Tariff systems for hydro-solar hybrid sites are work-in-progress and will be determined collectively by communities and the Utility Regulatory Authority (URA). 		MS	Difficult to assess exactly, but project appears broadly on track. More rigorous information collection on revenue streams and income generation etc. recommended under MTR recommendations.
Number of villages at which DOE has cooperated with other national-level departments to implement rural electrification or EE cook	0	0	60	<ul style="list-style-type: none"> - The Memorandum of Agreement (MoA) was signed between Ministry of Climate Change represented by department of Energy and the Village Council of Chiefs of Utanlangi community. - MoA signed between Vanuatu Government represented by Department of Energy Ministry of Climate Change and National Department of 		S	Rating based on villages that have established community-based solar PV systems are working in cooperation with the Department of Fisheries, Agriculture, Cooperative, Trade and Women's association). Rate

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
stoves, as well as productive uses of RE/EE applications, if relevant				Fisheries Ministry of Agriculture and Fisheries with Abwatuntora Voragara Fish market and Angoro Bulgaituva Womens Savings Group - The villages that have established community-based solar PV systems are working in cooperation with the Department of Fisheries, Agriculture, Cooperative, Trade and Women's association).			likely to increase with scaling-up NGEF deployments.
Component 4: Sustainable Energy and Low Carbon Initiatives Financing Outcome 4A. Increased availability of, and access to, financing for sustainable energy, energy access, and low carbon (RE and EE) initiatives in the energy supply and demand sectors Outcome 4B. Increased financing and investments from private sector on sustainable energy and low carbon projects in the energy supply and demand sectors							
Amount of new international funding confirmed with funding entities for infusion into NGEF because of BRANTV efforts, US\$ million	0	2	10	Project has commissioned a study on resource mobilisation and sustainability for NGEF, where several financing sources/streams were identified for exploration		MU	The end of year target is still achievable, but much more could be done in this area by the project.
Amount of funding represented by financial closes reached for loans or direct equity investments to RE and EE projects under commercial or private sector financing scheme for low carbon projects, US\$ million	0	0	4	Project has commissioned a study on resource mobilisation and sustainability for NGEF, where several financing sources/streams were identified for exploration. No information is provided regarding the amount of funding or any investment/financing closes. Efforts have been made with NGEF to create RE lending scheme with the National Bank of Vanuatu, Public Service Commission, Vanwods Microfinance and Teachers Union. This is made possible with the effort from TA hired by the BRANTV project.		MU	The end of year target is still achievable, but much more could be done in this area by the project.
Component 5: Sustainable Energy and Low Carbon (RE and EE) Technology Applications Outcome 5A. Sustainable energy and low carbon (RE and EE) techniques and practices adopted and implemented with both cost and technical viability in the energy, public, private sector, and residential sectors of the country. Outcome 5B. Enhanced confidence in the economic and technical viability and long-term sustainability of sustainable energy and low carbon technology projects							

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
Number of types of key off-grid RE power generation and mini-grid related equipment/ parts newly available or available at 25% or more less than cost at start of project	0	8	8	Significant preparatory site work (technical and community awareness-raising and capacity building done). For community-based solar PV systems and family-compound systems; BRANTV is liaising with VREP suppliers that already have established prices. Pricing for all types of hydro demonstration activities is yet to commence, i.e., pico-hydro mini-grid, micro-hydro mini-grid, pico-hydro solar PV hybrid mini-grid, and micro-hydro solar PV hybrid mini-grid. expert in pico-hydropower systems to deliver training, conducted site inspections on demo sites for pico-hydropower systems and demo site for pico-hydro PV solar hybrid mini-grid. Some of hydro preparatory work delayed by site changes, then COVID-19. TA also provided to i.e., artisans in sourcing of parts for energy efficient cook stove fabrication (25 technical designs completed).		MU	Much clearer presentation of all aspects of RE models and parts required, to allow project share clear model-related learning and ecosystem-related learning on all aspects, i) technical (installation, management, maintenance, repair), ii) management (incl. capacity development, needs mapping, management systems, operations) and iii) financial (all financial aspects of model). Greater prioritisation of this is important to leverage the pilot/demo dimension of BRANTV.
No. of communities and private sector entities, and households in both on-grid and off-grid areas that are interested in replicating the RE-based power generation system demos: • Pico-/ small micro-hydro • Hybrid pico-hydro & PV • Village community PV (with or without mini-grid) • Village-wide family compound-scale PV nano-grids	0	<ul style="list-style-type: none"> • 0 • 0 • 0 • 0 • 0 • 0 	<ul style="list-style-type: none"> • 38 • 2 • 20 • 20 • 12,000 • 60 	<ul style="list-style-type: none"> - PMU solicited quotations to install scale PV solar systems for four demo sites, the PMU decided the companies in charge of the demo sites and installations began in early 2020. - Furthermore, 6 communities are interested in replicating community solar PV systems. ○ Purchased PV solar systems for demonstration sites at: <ul style="list-style-type: none"> 1. Angoro Pentecost 2. Abwatuntora Pentecost ○ Implementation of Community scale PV solar systems at: <ul style="list-style-type: none"> 1. Saufeli Malo 2. Pele in Tongoa - Site inspection on pico-hydro demo sites on <ul style="list-style-type: none"> 1. Labang Nuying Tanna 		MU	Notwithstanding the significant effort, the size of the project and the approach means that too much management time and focus is on the energy installations, while at the same time a clear piloting and validation process is not sufficiently in place.

Indicator	Baseline Level	Midterm Target ⁶	Project End Target ⁶	Cumulative Progress Reported	MLA	AR	Justification for Rating
<ul style="list-style-type: none"> • EE cook stoves. • RE-powered freezers 				2. Fanlambil Santo - Persena/ Big bay Santo - The progress updates on demo sites mentions that there are 17 locations where community scale PV solar systems have been completed or will be in the 2021 Q1			

4.3 Project Implementation Experience – Review Findings

Project Implementation Experience

As of end of 2020, a total of 11 installations had been completed by the project, with an additional six installations (Lunghariki, Yegavigamena, Sara, Fingione, Vaetini and Betarara) scheduled for completion during the first quarter of 2021. The table below sets out the overview of the installations state of play at end of 2020.

Table 4.3 - Overview Planned Project Sites

	Location Name	Island	RE Type	Capacity	Installation Status
1	Utanlangi	Ngura	Community Scale PV Solar	1600 W	Completed
2	Pele	Tongoa	Community Scale PV Solar	1320 W	Completed
3	Saufei Youth Centre	West Malo	Community Scale PV Solar	2640 W	Completed
4	Ambvatuntora	Pentecost	Community Scale PV Solar	3300 W	Completed
5	Angoro	Pentecost	Community Scale PV Solar	2460 W	Completed
6	Liteu	Togo	Community Scale PV Solar	3960 W	Completed
7	Lunghariki	Loh	Community Scale PV Solar	4950 W	Q1 2021
8	Yegavigamena,	Hiu	Community Scale PV Solar	3960 W	Q1 2021
9	Nerengman Community House	Mota Lava	Community Scale PV Solar	4950 W	Completed
10	Nerengman Market House	Mota Lava	Community Scale PV Solar	1120 W	Completed
11	Vinmavis	Malekula	Community Scale PV Solar	4950 W	Completed
12	Nepul,	Ambrym	Community Scale PV Solar	1040 W	Completed
13	Olal	Ambrym	Community Scale PV Solar	1040 W	Completed
14	Sara	Epi	Community Scale PV Solar	1680 W	Q1 2021
15	Fingione	Nofo	Community Scale PV System	1680 W	Q1 2021

	Location Name	Island	RE Type	Capacity	Installation Status
16	Vaetini	Emae	Community Scale PV System	1120 W	Q1 2021
17	Betarara	Maewo	Community-Scale PV Solar Systems	3960 W	Q1 2021

In all sites the project targeted the installation of community-scale Solar PV systems for the use and benefit of the whole community. While the overall field programme showed that the system was successful in most of sites, the teams setting up the installations have however faced some challenges and problems during and after the installation. In the case of Utanlangi, for instance, after the solar PV system came into service in August 2019, it has been out of service for more than six months due to inverter failing twice. It does not appear fully clear as to what was the cause of the breakdown – while initially attributed to a short circuit caused by lizards being trapped inside the inverter, the Q1 2021 monitoring field visit report from the UNDP team member⁷ raised other technical issues such as improper installation or inappropriate cable type, gauges or in line fuses, while also not excluding issues such as capacitor wear due to high temperatures, and reported that the first inverter failure was due to system overuse when a power drill was plugged in burned the inverter instantly. While both breakdowns were fixed, the downtime was not negligible, with the systems being out of operation for numerous weeks, and in the case of the Utanlangi installation the system was out of operation for approximately six months.

The project in Malo Island (more specifically, the Saufeli Youth Centre in West Malo) was delayed because of the tropical storm TC-Harold that destroyed all facilities that were already installed and functioning. It has been anticipated that by September this year, all the houses will be rebuilt. Another example, in Angoro, the system worked well but it was appreciated that the extension cables should have been installed in a much professional approach. All in all, the general recommendation addressed to all sites was that to improve the installation and guarantee its sustainability, a proper finish was still required for protecting the batteries, control and solar panels.

More generally the implementation effort has been constrained at times by insufficient budget, with additional funding required to be raised. Add to that have been the challenges in working in sites that are remote, where travel is costly and communications poor. Moreover, the lack of renewable energy expertise inside the team has further slowed down progress and increase the amount of work required in project administration and management, such as writing Terms of Reference and launching and managing procurement processes. Notwithstanding the hard work of the project team, the team size is probably too small, and in the implementation approach the project needs to be more strategic and more outward-looking (this has also likely constrained also by the size of the team). Furthermore, strategic management from both UNDP and from the Government of Vanuatu needs to be strengthened, including through the Project Board.

Stakeholder Engagement, Local involvement, and Participation

The BRANTV project team has devoted significant effort to involving local communities from the outset, in terms of engagement during the site assessment process and raising awareness about renewable energy installations and the potential benefits that they could bring. This has included consulting local village and community leaders and chiefs, and different beneficiary groups, to ensure local buy-in and ownership, as well as providing training on renewable energy installation management and maintenance.

⁷ UNDP Field Visit Monitoring Report, Donald Woulosoje, March 2021.

Local community was often participating in the project since it is directly impacting on their economy. In some sites, women and young people have participated to a greater or lesser extent. In the case of Lolbaego, for example, many fishermen were also young people. Women and children have also participated in the project, in that they have been carrying out tasks such as cleaning fish and helping with fish storage. In Angoro, women were engaged in the local committee while youth were also involved in the farmers' market and in fisheries, while in the case of Malo, women and the youth played a key role collecting coconuts and selling at the project site.

There are a number of areas that need to be addressed as a priority by BRANTV in order to increase the impact of the renewable energy installations, and the wider project contribution to helping make a quantum leap in progress towards the NERM's 2030 targets. The first is to carry out fully-fledged monitoring of the sites to understand the exact nature and scale of the different benefits, including direct and indirect. This should start with the core KPIs (such as level of energy access, system performance, downtime, etc.) and core socio-economic and environmental benefits (improved health centre access, improved study capabilities for school-goers, include ranging from improved.

Overall, it is difficult to see how the targets under **Outcome 5** can be achieved based on the rate of progress to-date, which would suggest several remedial options are needed. A first option is to significantly reduce the targets, but this would also entail a huge reduction based on progress to-date. A second option would be to significantly increase the focus on using Outcome 4 (and to a lesser extent Outcome 5), in particular on significantly increasing the project focus on helping the Government and other sustainable energy and development stakeholders secure new, additional financing for new energy access programme concepts. Linked to this, consideration could be given to an extension of the project, but this requires first work on developing a clearer strategic vision for BRANTV and taking due consideration of some of the suggestions put forward under the recommendations of this MTR.

However, what is clear, is that if BRANTV is going to register a significant contribution to Vanuatu's efforts towards, and prospects for, achieving the NERM targets by 2030, a significant shift in the implementation approach will be required. Apart from addressing resourcing issues, it will need to be more strategic, more outward looking and proactively working at the strategic level and the ecosystem level, in particular with regard to the energy sector ecosystem, the local socio-economic development ecosystem and the financing ecosystem.

4.4 Project Implementation and Adaptive Management – Review Findings

Work planning

Project implementation has had to adapt to several situations, starting with the 6-month delay in de facto project implementation while the PMU staff were being recruited. Recruitment of external TA staff has in some cases taken longer also, with the BRANTV Project Management Unit (PMU) office only being fully established and operational during January 2019, following the December 2018 inception workshop⁸. Furthermore, the COVID-19 pandemic also impacted on the schedule of the German pico-hydropower expert Dr Christophe Schroeder.

Lack of financial resources for some of the work programme activities, such as the rural electrification master plan, which was costed at significantly more than foreseen in the budget, has also been a factor, while the project has also had to adapt to the impact of TC Harold.

Regarding monitoring of the project's potential environmental impact, or related risks, the project has taken a comprehensive approach to ensure social and environmental issues and risks were addressed, under the

⁸ The inception workshop (as well as induction training) was held between 11th -14th December 2018.

Environment Social Management Plan (ESMP) framework⁹ (see also under Monitoring and Evaluation below), where external TA was used to build capacity on Environment Social Impact Assessment (ESIA) for both the project team and DoE staff, which was then followed by a practical exercise at Utanlangi Village on Nguna Island, followed by site reviews and assessment on the islands of Pentecost, Maewo, Malo and Santo. During the field trips, the project team carried out Outcome 5A and output 5A.2 to confirm and secure community support for each demo. The village chiefs and landowners signed their consents on the project form to confirm their ownership and availability of land for pico-/micro hydro station (including expansion of one pico-hydro/PV hybrid), community PV sites and family compound scale PV nano-grid. The community members also signed their consent for volunteer of work during construction of hydro systems and installations of PV solar systems.

Under Outcome 2, BRANTV has supported the National Energy Road Map (NERM) Implementation Plan (IP) by hosting an NERM workshop of the NERM IP review on 19th February 2019, to discuss the way forward on NERM implementation and in particular identify key required interventions (in addition to ongoing and planned activities) for achieving the objectives of the NERM. The workshop also reviewed NERM progress to-date against targets and developed forward progress projections based on initiatives under preparation and in the pipeline. The workshop also looked at alignment of energy programmes with the NERM and at the provincial and municipal levels, as well as DoE institutional capacity needs and levels with regard to implementation of the NERM-IP and develop a sector-level Monitoring Reporting and Verification (MRV).

At the activity level, it is worth emphasising the volume of work that has been done on assessing target sites and planning and installation of the renewable energy solutions. This has included organisation of local operator training programmes (community PV systems, family compound-scale nano and mini-grids), development of national guidelines for Community PV systems design, sourcing, and costing, EE cook stoves, household-scale PV systems and compound-scale PV nano-grids, and pico-/micro-hydro mini-grids, analysis and design of preferred model(s) for running off-grid village RE power systems, and community outreach and finalisation on (including consensus building) on off-grid village RE management models. Furthermore, it has required engagement and cooperation with departments from productive sector in identifying promising productive uses and roadmaps, as well as research and TA to achieve high quality, low-cost sourcing and transparent best cost pricing for pico-/micro-hydro mini-grids. A key downstream activity has then been the sourcing, costing, and local parts supply work for village community PV systems, compound-scale PV nano-grids, and small SHSs and plug-and-play PV systems, carrying out of research and testing of EE cook stoves appropriate to Vanuatu, and the implementation of the renewable energy generation demo program,

Finance and co-financing

The total cost of the BRANTV project is US\$20,802,170. This is financed through a GEF grant of US\$2,639,726 and US\$18,162,444 co-financing. UNDP, as the GEF Implementing Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Table 4.3 - Overview BRANTV Financing and Co-Financing

FINANCING AND CO-FINANCING	
GEF Trust Fund	USD 2,639,726
[A] Total Budget administered by UNDP	USD 2,639,726
PARALLEL CO-FINANCING (all other co-financing that is not cash co-financing administered by UNDP)	

⁹ Environment Social Management Plan (ESMP) was required in advance of any on-the-ground demonstration activity given that BRANTV's Social & Environmental Screening had a 'moderate' risk rating.

FINANCING AND CO-FINANCING	
Department of Energy, Ministry of Climate Change and Natural Disaster (DOE-MCCND), grant	USD 16,348,000
Department of Energy, Ministry of Climate Change and Natural Disaster (DOE-MCCND), in-kind	USD 714,444
Ministry of Tourism, Trade, Commerce and Ni-Vanuatu Business, grant	USD1,000,000
UNDP, grant	USD 100,000
[B] Total co-financing	USD 18,162,444
[C] Overall Total Project Financing ([A] + [B])	USD 20,802,170

Budget Disbursement and Execution

At the mid-point in 2020 (i.e., 30 June 2020) BRANTV's cumulative disbursement was USD 481,566¹⁰ (with some final adjustments to this figure still pending), with cumulative General Ledger (GL) delivery of 18.24% against total approved (Prodoc) amount. Project expenditure and disbursement has started at a very slow level, linked to the delay in getting a PMU up and running, and a slow/slower start that can often be typical of projects in the region. Expenditure in 2018 was USD 7,000, from a Budget of USD 51,000, while 2019 budget expenditure was USD 246,000, or just under 50% of the annual budget of USD 500,000. 2020 budget expenditure has been approx. 80% of the 2020 budget of USD 500,000. This shows that the project has been building momentum, despite the challenges, from a slow start, even it is still well behind its initial targets.

Management Arrangements

A Project Management Unit (PMU) was set-up jointly by UNDP and DOE. The PMU consists of three full-time personnel¹¹ hired by and paid for by the project, as well as various DOE permanent staff making part-time contributions to the project as needed. Implementation has been further supported by several part-time consultants working under the direction of the Project Manager. Key among these is a national water engineering expert, a national PV installation expert, a national EE cook stove and EE crop drying expert, local rural electricians, and local cook stove artisans.

Overall, the project implementation has in part been hampered by not having an RE specialist in the core PMU. This is not a criticism of the project team's work and effort, but BRANTV is in some respects a relatively complicated project given its multi-level scope (policy, regulatory, financing, RE access, differing RE technologies etc.), and thus the current team would have required greater strategic direction and guidance from DoE and UNDP, notwithstanding the solid operational and technical support provided from DoE staff. It is difficult to make any conclusive assessment but an impression is given that at times the project team have been in the middle of an environment where DoE has not had the resources to guide more strategically, while at the same time UNDP has considered that it was not in a position to provide implementation support given that BRANT was operating under the Nationally Implementation Modality (NIM).

At the governance level, a key task of the Project Board under GEF rules is to take corrective action as needed to ensure the project achieves the desired results, and this to-date does not seem to have been the case. The Project Board does not seem to have provided sufficient strategic direction and feedback, with too much of the input and discussion around administrative issues and activities and going forward it is important that this is addressed.

¹⁰ With some final minor adjustments to this figure still pending.

¹¹ The PMU's three full-time personnel is: (1) the Project Manager, (2) the Implementation and Monitoring Officer, and (3) The Finance and Administration Officer.

One constraint seems to have been the level of knowledge/engagement with the project, while it is also worth asking if key Government Departments that are important in the demand side (productive sectors and cooperative sector, etc.) have been sufficiently involved? Some of the stakeholder consultation during this MTR suggests they have not, and it is important going forward that the project engages sufficiently with the demand-side Ministries and other actors that have a significant interest in seeing sector-specific development and growth and general acceleration of socio-economic need, and will thus act as natural – and positive – ‘pressure points’ to ensure BRANTV brings an optimal set and scale of results.

Project level Monitoring & Evaluation Systems

In terms of core project planning, management and monitoring, the core project planning mechanism revolves around the development of an Annual Work Plan (AWP) by the PMU, accompanied by an Annual Budget Plan (ABP), which are then reviewed by the Project Board and approved by UNDP. Project monitoring is provided through quarterly operational reports and Annual Progress Reports (APRs) and any other necessary reports, with the PMU responsible for monitoring the project indicators at both the objective and outcome-level, as well as internal output-level indicators, providing updates on an annual basis in the PIR.

Given that the Social & Environmental Screening had been rated with ‘moderate risk rating’, the BRANTV project required Environment Social Management Plans (ESMPs) for all sites before undertaking any demonstration activity. To this end the PMU recruited a consultant for Environment Social Management Plan (ESMP) through a competitive tendering process, with the consultant engaged delivering a training workshop on Environment Social Impact Assessment (ESIA) to both the PMU and DoE staff in February 2019. This was then followed by a practical exercise at Utanlangi Village on Nguna Island - a proposed site for family-compound nano-PV solar system – which confirmed that Utanlangi Village was suitable to host a demonstration community-scale PV solar system due to its ongoing fishing project funded by Peace Corp and a well-established community centre.

Followed on from the training and practical by mid-March 2019, two teams from PMU and DOE left on a field trip to visit sites identified for BRANTV demonstrations on four islands, Pentecost, Maewo, Malo and Santo. The first team left on March 14th and both teams returned on 31st March. During these field trips, the team carried out activities under Component 5.1 (Outcome 5A) that are intended to deliver Output 5A.2 (Detailed design and risk mitigation plans for project demos) to confirm and secure community support for each demo, with the village chiefs and landowners signing their consent on the project form to confirm their ownership and availability of land for pico-/micro hydro station (including expansion of one pico-hydro/PV hybrid), community PV sites and family compound scale PV nano-grid. The community members also signed their consent for volunteer of work during construction of hydro systems and installations of PV solar systems.

Overall, the project has provided solid monitoring through the quarterly progress reports, but notwithstanding the work and effort involved for the project team in this, the project monitoring is overly focussed on outputs and not sufficiently centres around project objectives and outcomes. In this respect, the project monitoring is not providing a sufficiently results-based monitoring, and thus not an adequate base also for discussion and decision making by the Project Board.

Another weakness is that while Annual Work Plans are valid in themselves, they need to be based on a clear work planning to the end of the project, so that assessment of any annual work plan is also informed by what needs to/must be example done in a given year is based also upon the overall work plan which plans activities from the project end-point back. Thus, it is not now clear if for example there is sufficient time to explore and launch new funding schemes under Outcome 4, such as a possible NGEF sub-fund for deploying BRANTV, in terms of time to distil learning and demonstrate proof-of-concept of BRANTV models, explore and analyse financing options, plus the issue of whether the solar models deployed to date will be attractive/equally performant for NGEF compared

with its own models. In making this point, it is important to state that there are many unknowns, such as the findings of a full model validity analysis of BRANTV installations and depending on the analysis the time and actions required to address issues/weaknesses. Rather the point is that assessment of progress working from the target project result demonstrates the urgency of addressing this now. In this respect, using a critical path analysis of the project work programme might also help.

The recent MTR field mission and accompanying UNDP field monitoring visit also suggest that there are important technical, design, management, and maintenance issues to be addressed in some of the installations. In some cases, basic design shortcomings were identified, such as perimeter walls not being of sufficient height for basic cyclone protection, and basic maintenance issues such as sub-optimal layout and installation issues and adverse impact of not having basis spare parts (e.g., wiring) available for basis maintenance and repair. This points to a key issue in project monitoring that needs to be addressed going forward, that of BRANTV monitoring being much more about the monitoring of progress towards developing demonstration and pilot outcomes that can be provided to Vanuatu for scaling and/or replication.

4.5 Project Impact – Review Findings

Regarding the impact to-date of the **BRANTV renewable energy installations**, the MTR site visits, and project reporting show the BRANTV installations are having a clear and positive impact in the host communities. The Solar PV system installations in Pentecost Island (Abwatuntora Clinic) for example is showing demonstrable benefits for the clinic, where it has reduced operating costs and provided lighting (e.g., in hall and patient rooms), as well as power for the use of the nebuliser for those with asthma and for the storage of medicines. It has also proved to be very beneficial for the whole community, providing lighting for household uses (social gatherings possible at night, charging laptops, phones), also at school for teachers and students to print and prepare material for class. The church building and the community hall also enjoyed of lighting installations, although it was proven that still there is a room for improvement (change to led bulbs, cover properly the panels etc.). There were also other sites that benefited from the Solar system, as it was the case of the Women's centre and the Health Centre, where the costs for medicines storage and other services decreased. Fishermen represent an important group taking advantage of this programme, since they were provided with deeper freezers to stores fish and then sell it. This project aimed to boost the local market and youth employment too, especially in Malo Island.

In Abwatuntora Clinic (Pentecost Island), the installation is showing demonstrable benefits for the local community medical clinic, where it has reduced operating costs and provided lighting (e.g., in hall and patient rooms), as well as power for the use of the nebuliser for those with asthma and for the storage of medicines. The clinic has few lights and power installations, and there is therefore scope to expand the services within the clinic with the amount of power provided.

The installations have also had a positive environmental impact in all installation sites, where they have led to a reduction in fossil fuel consumption, although it is worth mentioning that communities will continue using fuel wood for special events and ceremonies and for preparing food in traditional systems. The reduction in diesel consumption has also enabled financial savings for the local community, as they are no longer using power generators. Concerning the impact of the project, the community in general is committed to continue with the project implementation, as it can be a starting point for a long process development, whereby the whole village could be equipped with batteries and panels, and lead to create a solar farm that will light up the whole village.

In the case of Abwatuntora, to create more impact, the Health Centre management should progress and engage more resources into building up and providing additional services. In the case of Malo Island however, there were no activities in progress and the benefits of the project could not be assessed because of TC-Harold damages.

Once the solar system starts functioning, the field visit programme operator could see that hot water, power connections and lighting will be the added benefit to the community.

The project installation in Lolbaego, running of the same system, has also had a general positive impact on the local community, leading to lower energy costs and associated savings. It has provided greater capability and flexibility for local fisherfolk, who can store fish in the fridges that have been installed. Other benefits include night-time light to allow children to do their homework, as well as power to charge mobile phones, music boxes, torch lights, and facilitating adults in reading and in leisure, education, and entertainment. Regarding impact on women and youth, while they are no women fisherfolk women and youth are involved in cleaning fish, apart from benefitting from improved access to fresh fish. A wider societal benefit is the increased communications possibilities, making it easier for families to stay in contact with family members working in New Zealand and Australia. The MTR field mission showed strong satisfaction among local community stakeholders and a desire to expand the project in the future if economically feasible. Looking to the future, it would also be convenient to setup a solar system just for the fish market, without sharing the capacity with the health centre.

In the case of the Angora installation, the project has provided light power and services to the in Angoro Regional Office, and has helped women in generating additional income from sewing clothes, as well as for general support to the community users (charging mobile phones, laptops, music box, torch lights, etc.), as well as increased use of the church hall outside of daylight hours.

More generally, there is limited impact on other key outcome areas, relating to the policy and regulatory system. While the project team has been faced with a challenge regarding the amount of budget foreseen for the rural electrification master plan, a clear status and strategy needs to be developed and put to the Project Board for discussion. This strategy and work plan needs to include a prioritisation of needs and issues, and a planning that works back from where the project seeks to be at project end.

4.6 Project Sustainability – Review Findings

To guarantee the correct functioning and maintenance of the Solar PV systems, most of the sites have identified a technician who will repair any technical problem if it may occur. In the case of Angoro, this issue created some discussion, as the technician trained for this purpose was not full-time resident in the community and therefore his availability was uncertain. Moreover, the two persons identified as the local technician have confirmed that they need extra trainings from the service provider (Savvy Solar) so they have a fair understanding on any maintenance issues on the systems. In contrast, in Malo Island, a local technician has not yet been identified, but also the system is not working at this moment. In the future, it is also expected that the Youth Centre in Malo Island, which is close to ETUANI vocational skills Centre, will share the Solar PV system and will connect both centres providing basic services such as printing/photocopying.

Given that the project is behind schedule, it is to be expected to some extent that sustainability prospects are not as advanced/strong as they might be. Positive aspects of project sustainability are the significant consultation and needs assessment carried out by the project at the community level, and the significant effort to build a sense of local ownership, and these aspects offer a promising basis for sustainability. A second positive aspect is the projects' clear account of environmental considerations in the site assessment work, through the ESMPs, which takes clear account of environmental risks and ensures that installations will be environmentally sustainable.

However, there are also some sustainability concerns and risks to the energy installations, where the MTR site field visits and the UNDP site monitoring visits have identified numerous issues to be addressed in some of the sites. A further risk is the lack of a clear status regarding ownership of the installations, and this is a concern

across a number of government departments, while the MTR field mission observed that the beneficiary communities visited do not have post-BRANTV sustainability plans under development, and the issue of sustainability of the installations has been raised by a number of government stakeholders during the field interviews. While BRANT project staff members maintain that sustainability planning is incorporated in agreements between the Government and the communities, these have not been seen by the MTR team. However, if this is the case, this does not resolve the issues identified above from the MTR field mission and UNDP monitoring mission, and also raises the question of the awareness of such agreements across key government departments.

A weakness in terms of project impact and sustainability is that information relating to the performance of the demonstration site installations is not being rapidly collected, analysed, and acted upon. This relates not only to the technical performance of the various installations, but also on the maintenance performance, management system, and on the financial system. Rapidly obtaining, structuring, and analysing this information is vital if the demonstration rationale and value-added of BRANTV is to be realised.

Beyond the energy installations, there are still work to be done to put a comprehensive sustainability strategy and arrangements in place. Firstly, not enough work has been invested in analysing the performance of the energy installations deployed with a view to assessing if they could be deployed at a much larger scale, the management, operations (site assessment and selection, equipment procurement, installation and post-installation maintenance) and financing model that would underpin this, and which actors and organisations would be involved. In this respect, the working of the NGEF is far clearer, with a clear system (operations) and financing model in place.

Regarding the lack of focus on managing BRANTV tightly as a 'test laboratory' damaging the project's prospects to register a significant impact on Vanuatu's efforts and rate of progress towards its NERM targets, one example of an opportunity that is not being fully explored is linked not just to a green recovery, but in particular recovery **support for communities damaged by TC Harold**. The initial messages regarding the community sites boost to income generation would suggest that a new programme could also be possibly explored where such (proven) installations with proven income generation are deployed as part of the rebuilding effort, in order to kickstart local recovery and create new revenue streams that will spur faster recovery. If income generation in some cases was sufficient to warrant some element of loan repayments, along with for example donor support for some of the capital investment (e.g., using a blended financing model such as the EU's Investment Facility for the Pacific), this might allow the Government to accelerate rebuilding and recovery with the same amount of government resources. This could be valid for TC Harold recovery efforts, but also become part of a prepared policy and intervention response for recovery efforts from future tropical cyclones, in other words integrating/mainstreaming validated BRANTV models into Vanuatu's disaster risk management and response arsenal.

It should of course be emphasised that the TC Harold has also impacted the progress in some of the demo sites, while communication challenges and distance also have played a role. But these issues need to be factored into a project planning and implementation approach that takes a more systemic approach. In this regard, there is also likely to be value for BRANTV in discussing in-depth with NGEF in terms of how it is organising the deployment of its solar installations.

Beyond the urgent need to strengthen sustainability planning and focus regarding Outcome 1 and 5, there has been limited progress under Outcome 4. While there have been, as mentioned, valuable actions such as the TA provided for a financing study for NGEF (with further TA planned), and this has prompted further thinking and reflection within NGEF's leadership team, there is a lack of a strategy and plan that is holistic. As an example,



there is a need for a comprehensive strategy and plan to engage with the private sector regarding investing in renewable energy and energy efficiency projects.

More generally, there is not a clear strategy and plan in place as to how BRANTV can meet its targets, in particular how it would work to develop a sustainable financing ecosystem to power a significantly increased acceleration of renewable energy deployment, as well the strategy and work plan to create the required policy, regulatory and legislative framework conducive to allowing Vanuatu achieve its ambitious NERM goals by 2030.

Similarly, there is not a clear plan for post-project management and maintenance, and sustainable transfer of skills, and more focus needs to be put on creating a sustainable capacity development and delivery ecosystem. In this context, the project should also look to engage more strategically with key government departments and actors, such as the Department of Local Authorities and the Department of Cooperatives.

5 REVIEW CONCLUSIONS AND RECOMMENDATIONS



Section Guide

This section provides an overview of the following:

- *Review Conclusions (5.1)*
- *Lessons learned (5.2)*
- *General Review Recommendations (5.3)*
- *Site-Specific Review Recommendations (5.3)*
- *Review Ratings (5.4)*

5.1 Review Conclusions

The mid-term review conclusions are set out below. Each conclusion (C) is numbered.

1. **C1: Relevance to National Policy and Needs:** The project is highly relevant to Vanuatu's national development goals, in particular its ambitions in energy access, as set out in the National Energy Roadmap (NERM). Relevance is only likely to increase in the current COVID-19 and post-COVID-19 recovery, as Vanuatu and other Pacific Island Countries seek to find ways to promote a sustainable and inclusive green recovery.
2. **C2: Project Design and Project Strategy:** The project's design of adopting a multi-component and multi-level approach (i.e. addressing barriers at national and local level, including policy, regulatory, financing, capacity barriers etc.) to addressing barriers to the deployment and uptake of renewable energy in Vanuatu is appropriate, and reflects the need to address the multi-faceted nature of the challenge of access to modern sources of energy that holds back Vanuatu's development prospects, in particular in terms of rural and local development and sustainable and improved livelihoods for its rural communities.
3. **C3: Progress against results:** There are numerous actions that need to be taken on the completed BRANTV demo installations to ensure that their operation and maintenance are optimal, not to mention ensuring that they could be reviewed as fully-fledged pilot or demonstrations that can be assessed with regard to replication or scaling. These issues need to be addressed as a priority.
4. **C4: Progress against results:** The project is behind schedule with regard to attainment of results, and at this point in time there is not a clear plan to allow the project to recover some lost ground (time), to the extent that this is possible. While solid progress has been made under Outcome 1 (*Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors*), where the progress on the number of energy installations against the project mid-term target is relatively satisfactory. There has also been some increased awareness (although hard to measure) and on the whole awareness-raising has been relatively weak, although more progress has been made in development of capacities, in particular among communities in the targeted demonstration sites. There have also been some valuable actions under financing (Outcome 4), such as the TA provided for a financing study for NGEF (with further TA planned), but most action have been more of ad hoc

nature, and there is not a sense of the barriers to energy nor financing targeted by the project being approached with a holistic or strategic framework.

5. **C5: Project Management and Governance:** Notwithstanding the strong work efforts of the project team, and the appreciation for their work effort in the Government of Vanuatu, implementation is being constrained by a series of factors, including a project team that is under-resourced and under-powered technically, and an implementation that is too activity-focussed with insufficient strategic management and forward planning. Project implementation is being constrained by a lack of a clear 'motor' and leadership, including weak leadership and guidance at the level of the Project Board and an under-powered role of the Department of Energy compared with what would be expected for a project such as BRANTV operating under the Nationally Implemented Modality. Another constraint has been the project team's implementation approach has been somewhat too inward-looking in its focus, rather than actively and strategical engaging government and other key stakeholders, compared with what is needed in a project seeking to catalyse change and secure a quantum leap in the country's prospects for achieving the NERM targets, and thus proactive engagement and involvement of other Government stakeholders needs to increase.
6. **C6: Progress against results – prospects going forward:** Most stakeholder interviewed expressed doubts that the project can meet what they acknowledge as ambitious targets, have not seen an updated project strategy and plan to make this possible (i.e., reach these targets), and believe this needs to be discussed by the project team and the Project Board.
7. **C7: Project Impact:** The project shows some promising impact at the level of communities, both in terms of empowering local communities and building capacity and skills and facilitating and creating new income-generating activities and socio-cultural activities. Examples are the improved medical services at Abwatuntora Clinic (e.g., improved lighting, medicines storage) on the island of Pentecost and the community benefits in local households (improved lighting for study, connectivity of mobile phones, entertainment, etc.). In the Saufeli Youth Centre (Malo Island), the installation has provided power to process the coconuts (as well as speeding up coconut grinding) and ready to be used for making virgin oil, where it has also led to increased production volumes and increased local income, as well as providing increased opportunities for women and youth. In Angora, the project has provided light power and services to the in Angoro Regional Office, and has helped women in generating additional income from sewing clothes, as well as for general support to the community users (charging mobile phones, laptops, music box, torch lights, etc.), as well as increased use of the church hall outside of daylight hours.

In all cases, the BRANTV installations are having a positive environmental impact through reduced use of diesel generators, and reduced use of fuelwood, although more work needs to be done on measuring/estimating some of the reduction. Tropical Cyclone (TC) Harold has also adversely affected project impact to-date, such as at the Saufeli Centre where it has delayed realising some of the benefit for the 142 target beneficiary households that are part of the local project. However, there is insufficient focus and urgency on monitoring the scale of income generation, with a view to assessing potential to develop a viable model. As noted earlier, it is important to mention that the scale of income is not part of the main indicators listed in the Project Results Framework, it is worth considering including this in the monitoring (and it can be considered at least to some extent as a weakness in the design and results framework), as it also an important indicator related to community take-up and benefitting of/from these installations and an important indicator with regard to sustainability prospects, and thus important in the performance assessment of the pilot installations.

8. **C8: Impact of COVID-19:** COVID-19 has impacted to some extent progress, in particular about international experts. It should however be emphasised that the implementation approach of the project, where most technical expertise is sourced externally, has increased the project implementation vulnerability to COVID-19 mobility and travel restrictions. Going forward, project planning and implementation should work on a worse/negative-case scenario of assuming at least some continued incidence of COVID-19 and variants, and seek to optimise mitigation against same, in particular through increased effort to source technical expertise that is required.
9. **C9: Project Sustainability:** BRANTV has incorporated a strong focus on sustainability in the project design, and this can be seen in the effort to ensure sustainable development of capacities in terms of training of technicians and in the design of demos, and building sustainable capacity at the community level has been an important focus of the project to-date, the review findings suggest however that there is a need for more focus on the sustainability of the renewable energy installations, with this issue of sustainability of BRANTV renewable energy installations. This is a concern across numerous Government Departments regarding the ownership and maintenance after the BRANTV project ends, and there has been insufficient focus on assessing the energy pilots installed in terms of learning and in particular potential for refining with a view to replication or scaling. Moreover, there is no clear strategy with regarding to creating sustainable outcomes at the policy and regulatory level nor at the financing level.
10. **C10: BRANTV Value-Added and Positioning:** The implementation approach and progress to-date suggests either confusion or a lack of reflection on what BRANTV is, or where and how it delivers maximum added value. The project's design and project objectives and outcomes suggest it is intended to a strategic and multi-pronged effort to address barriers to energy access at all levels, but as things stand there is at least in part a lack of a clear identity in its positioning and value-added, and in the prioritisation of barriers to be addressed, and this needs to be addressed. Going forward, this requires a more strategic reflection and approach, involving greater input from key stakeholders, and clearer more proactive and results-oriented engagement with government stakeholders across relevant Departments and Ministries, and a more outward-looking project focus.

5.2 Lessons Learned

Regarding lessons learned, one lesson to-date would be the importance to align the structure and resourcing of the project team with the scale of ambition of the project, both in terms of the project team size and in particular in having inhouse access to renewable energy expertise to improve flexibility of reaction and speed of implementation.

A second lesson is the need to ensure that the project implementation is also assessed against the risk of adverse impact of COVID-19, not just in terms of virus incidence in Vanuatu but in terms of implementation vulnerability /risk exposure from having international experts engaged in implementation. Going forward, a key part of this should be looking at Covid-proofing the implementation approach to the optimal extent, in particular in terms of exposure to international experts on short-to-medium mission. A third lesson, and possibly the most important, is that a multi-level and multi-pronged approach such as that of BRANTV requires stronger management and leadership, including a more demanding management and governance at the Project Board Level, and in particular in a stronger involvement of key Government Departments beyond the Department of Energy.

A fourth lesson is that an initiative that has a clear pilot or demonstration dimension, such as BRANTV, needs to have project management practices in place to monitor and learn from implementation and effectively distil learning from its pilot activities. A fifth lesson is that a more outward-looking approach is needed to ensure



greater mobilisation and invigoration of relevant stakeholders, and linked to this and lesson 1 above, a project implementation approach and team modus operandi that better caters for this.

5.3 General Recommendations

The general recommendations from the mid-term review are set out below, followed by site-specific recommendations in the following section.

The table below provides an overview of the general recommendations.

Table 5.1 – Overview of the Review General Recommendations

No.	Recommendation
R1	Action the site-specific recommendations for the BRANTV demonstration sites from the MTR field mission and UNDP monitoring mission.
R2	Full Review of BRANTV Demonstration Sites to Assess and Prioritise Potential as Pilot Models for Replication and Scaling.
R3	Develop a Comprehensive BRANTV Forward Planning.
R4	Develop a Sustainability Strategy and Work Plan.
R5	Develop a Strategic Financing Framework and Work Programme
R6	Find short-term and medium-term solutions to ensure insurance coverage of installations
R7	Develop a Project Concept and Funding Proposal to Support the Department of Cooperatives in Delivering Renewable Energy Access to Cooperatives
R8	Consolidate needs analysis of sectors to develop scaled-up models for deploying energy access
R9	Strengthen BRANTV Monitoring around core KPIs
R10	Modify project management and implementation to reflect BRANTV's multi-level and multi-pronged holistic approach, and to dynamize implementation.

The detailed recommendations are set out below:

1. **Recommendation 1: Action the site-specific recommendations for the BRANTV demonstration sites.** The MTR field mission and the recent UNDP BRANTV field monitoring mission have identified a broad range of actions across selected BRANTV sites. These recommendations should be actioned over the coming months and a report presented to the Project Board on how they have been addressed.
2. The recommendations for each demo site are too detailed to be repeated here, but some of the more common actions recommended across the demos are recapitulated here:
 - a. Ensuring all installations are disaster-proofed to withstand extreme weather events, in particular cyclones. This includes in particular ensuring a standard building design for the system control units where they can withstand Cat.5 tropical cyclones, as well as provisioning space for storage of maintenance parts of the system and for securing the panels when there is a cyclone to avoid the damage of solar panels.
 - b. Re-connecting the Solar PV system in installations damaged by TC Harold as soon as the buildings are rebuilt.

- c. Ensuring suitably qualified and trained local technicians, using a standardised process for training (BRANTV should also discuss with the DoE to ensure where possible using common standardised and certified training), while also ensuring local technicians have a basic maintenance tool kit.
- d. Standardising processes to ensure a focus on sustainable maintenance and onboarding, by ensuring that local technicians are recruited and selected before installations, so that they can also get hands-on on-the-job training from the contracted PV supplier.
- e. Ensuring there is a basic inventory of spare parts/supplies for lower-cost parts, to reduce the risk of long downtimes periods while waiting for parts.
- f. Ensuring all contractors develop simple and brief manuals on each of the systems and develop a schedule of maintenance programme for the local technicians to follow. This will help for proper monitoring of operations and maintenance issues over time.
- g. Fencing off the solar PV panels and system control rooms to safeguard against vandalism and domesticated animals.
- h. Ensuring batteries are stowed on a basement to avoid any leakage of battery acid from the battery cells, and that control rooms are well ventilated.
- i. Ensuring a full focus on tracking the range of benefits (direct and indirect, energy and non-energy, financial and non-financial etc.) that are or can flow from these installations, and ensuring local management committees and structures are well set-up to be effective.

Regarding a possible work process to reviewing and actioning these recommendations, it is suggested that the project team:

- Reviews the site-specific recommendations, and estimate the resource implications of each. In this regard particular focus should also be on cost-efficiency and sustainability, such as maximising the scope for community participation (e.g., supervised voluntary support/labour).
- Develops a work activity scheduling and prioritisation plan for carrying out these work tasks.
- Discusses and validates with the Project Board.

3. **Recommendation 2: Rapid and Full Review of BRANTV Demonstrations to Assess Potential as Pilot Models for Replication and Scaling.** Carry out a full review of all aspects to BRANTV installations to assess potential for models for replication and scaling.

- a. This should include all costs and financial aspects, including installation costs, maintenance costs, variable cost factors/influencers, as well as overall performance (technical, including installation performance, number of breakdowns, number of spare part replacements, quality of installation and equipment, amount of downtime, speed of repairs, quality of maintenance, etc.). It should also include income generation, as well as strengths and weaknesses and areas for improvement.
- b. This assessment work should also be informed by where would the demand / market demand for the various solutions come from, and/or the needs of different stakeholder groups in Vanuatu (Recommendation 8 below). As an example, the Department of Cooperatives has ambitious goals to deliver significantly increased renewable energy access for cooperatives, and it should be explored as a matter of priority if existing BRANTV pilots could be part of a solution, and if not, how the needs of this Department might be catered through other/future pilot installations from BRANTV.

- c. While BRANTV has a lot of this information some may need to be updated, but the first step should be to create an assessment matrix to ensure consistency of assessment across sites, and to first carry out a desk review of existing BRANT information, before identifying any missing information gaps.
- d. It is recommended that the Project Board considers temporarily halting approval of further energy installations until this review is done, or at least minimising same, and the findings discussed within the PMB, and with other relevant government actors. Plans for prioritisation of future sites should ideally be based on a full assessment report of the models, their potential for deployment in scaled-up efforts.
- e. It should be emphasised that this recommendation for a full review of the pilot installations should not be interpreted as casting doubt on their potential. This review/assessment of the projects is foreseen by the project in any case, but has not yet happened, and is a standard step for any project of a pilot nature.

4. Recommendation 3: Review BRANTV Implementation Approach, Develop a Comprehensive BRANTV Forward Planning. While much effort has been invested by the project team up to this point, there is a sense that the project has over-focussed on deployment of the energy installations, (partly due to the under-resourced project team). There is a risk that by project end while most of the installations have been completed but that the project will not be able to meet its targets, nor achievement significant progress.

The project is being somewhat hampered by a clear forward planning that has a clear strategic dimension, and a results-based, and needs to develop a comprehensive forward planning, including planning back from key target results. This is particularly the case for standout target results such as development and enactment of a **Renewable Energy Generation Act**, where the planning needs to realistically estimate the time required for development of the Act, but in particular the time likely to be required for the Government to bring it to Parliament and have it enacted.

5. Recommendation 4: Develop a Sustainability Strategy and Work Plan. BRANTV needs a much clearer sustainability strategy and planning at all levels, and it is recommended that this starts with a review and a sustainability discussion paper. Key areas to be addressed:

Regarding fostering a sustainable energy sector in Vanuatu:

- a. Strategy and work plan to develop a **sustainable financing ecosystem** to power a significantly increased acceleration of renewable energy deployment.
- b. Strategy and work plan to create **the required policy, regulatory and legislative framework** conducive to allowing Vanuatu to achieve its ambitious NERM goals by 2030.
- c. Strategy and work plan for ensuring fully sustainable renewable energy installations at the project's demo sites. (This includes addressing the issue of insurance coverage against disaster-related risks, which is addressed separately below).
- d. Strategy and work plan for developing a **sustainable capacity development/skills** capability in Vanuatu, including both at Government level and the level of the local communities. Regarding ensuring sustainable site management and maintenance, and sustainable transfer of skills, the Department of Local Authorities and the Department of Cooperatives should also be part of this discussion.

Regarding project-level sustainability:

- a. BRANTV needs to develop a specific Sustainability Strategy for the project, in terms of ensuring the sustainability of at least some of the outcomes mentioned above (e.g., strengthened and sustainable financing ecosystem, sustainable capacity development system etc.) but also in terms of definition of the

project's core added value and if it should see to sustain efforts beyond this project's timeframe in order to ensure achievement of the project's aims.

- b. **BRANTV and Natural Disaster/Tropical Storm Recovery:** Linked to this – and to Recommendations 5 (and 7 and 8) below, BRANTV and UNDP should explore the need and potential for creating an explicit new project concept (or concepts) around deployment of community-based energy systems with productive/income generation and skills development dimensions that can be used by Government as 'off-the shelf' models that can be part of an enhanced/accelerated response to rebuilding community and village infrastructure (residential and community/shared infrastructure) affected by TC Harold and future natural disasters, by boosting socio-economic livelihoods, and catalysing a faster productive boost and wealth creation dynamic to support such communities' recovery.

6. **Recommendation 5: Develop a Strategic Financing Framework and Work Programme.** It is recommended that BRANTV starts urgently bringing more strategic framework to the project's ambitions around financing (Outcome 4)¹². This should start with carrying out a **rapid review of the financing landscape and ecosystem, its strengths and weaknesses and development needs**. This could include domestic and regional and international providers of finance in Vanuatu, as well as including the private sector. This review should be the first step in informing the development a BRANTV strategy and action to support the development and strengthen of the financing ecosystem, including how the project can help to generate new project proposals and funding requests. It is recommended that the project consider how it can help develop and strengthen the government understanding of the financing landscape, and how the financing ecosystem can be strengthened and improved. As part of the above, UNDP's own **Integrated National Financing Framework (INFF)** could possibly inform some aspect of this work.

The strategic financing framework work could for example involve the following:

- Discussion and development of financing estimates for Vanuatu's renewable energy financing needs
- Assessing scale of need of different types of funding (e.g., grant funding needs, reimbursable components), different funding sources (e.g., donor grant funding, donor blended financing, private sector RE financing (e.g., RE funds/trusts), commercial bank financing etc.)
- Assessing financial models of different RE models, in terms of different income generation scenarios and ROI timeframes
- Comparing NGEF and other Govt/DoE models experience and performance and BRANTV demos experience (after full assessment of models has been done), and how complementarity could best be leveraged.
- Developing a framework and roadmap of how to significantly increase access to international financing to support Vanuatu in achieving its goals in terms of RE deployment under the national energy roadmap.
- Within the above, identifying and prioritising key barriers that need to be addressed to accelerate RE deployment and financing of same.
- Closely linking this work with work on development of models and (market/sector) needs analysis of other sectors and Government Departments.

¹² The project work around financing has not been a (sufficient priority focus up until now, and thus time has been lost. But it may well also be an area where BRANTV could add much more/most value, in particular if this is done within a clear strategy framework informed by ecosystem-level analysis of financing barrier and needs.

7. **Recommendation 6: Find short-term and medium-term solutions to ensure insurance coverage of installations.** A key concern regarding sustainability is financial risk protection, and more specifically, the lack of insurance cover for installations in the case of damage occasioned by natural disasters such as cyclones. It is important that a funding mechanism is designed and put in place as a matter of urgency, and the Project Board should consider allowing BRANTV to play a leading/co-ordinating role in finding a shorter-term solution, and scoping out a longer-term solution. This issue of insurance coverage is, in many respects, a good example of what a strategic focus on Vanuatu's financing ecosystem should be looking at. This action (which could be added as a new activity, or possibly inserted under the scope of 4A1.1.1 or 4B2.1) should either be led by DOE, or by BRANT team with clear government support, for example setting up a mini cross-Ministry Task Force along the lines of task forces suggested as one option under Recommendation 10 (see Recommendation 10, f), and with technical support from BRANTV if/as needed, to bring greater speed, dynamism and national ownership to BRANTV implementation.
8. **Recommendation 7: Develop a Project Concept and Funding Proposal to Support the Department of Cooperatives in Delivering Renewable Energy Access to Cooperatives.** Specifically, the project should explore with the Department of Cooperatives the development of a project concept and funding request to significantly increase the scale of deployment of renewable energy installations to support the development and re-invigoration of cooperatives. Such a project concept could also explore to what extent it could provide wider support to cooperatives, as well as the scope for a reimbursable funding component. Such a concept would likely be particularly attractive in terms of a wider government green recovery effort (as well as the Vanuatu 2020-23 Recovery Strategy from TC Harold and COVID-19, in that it would rapidly deliver benefits and local development and revenue generation for cooperatives and their members. Should a reimbursable financing component prove possible, EU blending instruments such as the (EU) Investment Fund for the Pacific, or the country window for the Pacific Region (Pacific island Countries) for the global EU renewable energy blending facility ElectrIFI (or any other provider of RE financing, including other providers of blended financing such as the European Investment Bank (EIB), ADB, Kreditanstalt fuer Wiederaufbau (KfW), Agence Francaise de Developpement, FMO, etc.) could likely become of particular interest.
9. **Recommendation 8: Consolidate needs analysis of sectors to develop scaled-up models for deploying energy access.** It is recommended that BRANTV places an increased focus on the development needs of various sectors, starting with the sectors where it has supported income-generating needs. This relates to how BRANTV is meant to work with government departments active in the productive sectors, for example in connecting NGEF with local proponents of productive use of RE ("PURE") initiatives. A recommended first step is to consolidate existing information (from BRANTV's own work, from Government research and policy documents etc.), as well as some interviews with Government staff. This development needs analysis could then be used, along with analysis of the BRANTV models (and other existing ones, such as those used by NGEF), to develop renewable energy, management and financial models for scaled up deployment, and developing project proposals and funding requests to seek third-party funding, for example from donors in the region.
10. **Recommendation 9: Strengthen BRANTV Monitoring around core KPIs.** Project monitoring is in part constrained by challenges of distance/remoteness of sites, limited communication, and this needs to be addressed. It is recommended that:
 - a. A clear project monitoring and results dashboard should be created for the energy access provision dimension of the project, where each sites' results are monitored in a clear and rigorous manner.

- b. This dashboard should be focussed on the key KPIs, including amount of energy generated, number and type of final beneficiaries, livelihood impacts, development impact, and other community/village impacts. Within this, specifically, KPIs should be modified to ensure livelihood impact is monitored, including income generation.
- c. To strengthen project implementation and site (post-installation) monitoring, local community should be trained to **input data directly to an online dashboard**. The project team is trying to take the first steps towards an online system, and this should be supported and prioritised actively by government and by the Project Board.

11. **Recommendation 10: Modify project management and implementation to reflect BRANTV's multi-level and multi-pronged holistic approach, and to dynamize implementation.** It is recommended that, in tandem with reviewing the project strategy and work plan, that the implementation resourcing is reviewed. The BRANTV team appears too small, and not having technical renewable energy expertise reduced the potential speed of progress and deprives the project team of some flexibility, while increasing the workload and time on administrative matters such as procuring technical expertise. It is recommended that UNDP and the Government (DoEnergy) take some of the following actions/options to address these issues and speed up the pace of implementation by increasing resources, technical expertise and urgency.

- a. **Bring technical expertise into the project team:** Consider increasing the team to include at least one professional with technical energy experience.
- b. **More mentoring and support:** Provide more proactive guidance and mentoring support to the project team (it is understood for example that some recommendations were made in the past by the UNDP Regional Hub in Bangkok to hire a CTA)
- c. **A more proactive and dynamic Project Board:** The project board needs to be more dynamic and proactive.
- d. **A pool of technical/energy experts:** Linked to the forward planning, estimate technical expertise requirements, and consider a larger procurement tender or a call for experts to set up a project roster of pre-qualified experts that can be called up more quickly as needs arise, and to provide support for project task forces (see below)¹³.
- e. **Greater flexibility and reactivity:** Building greater flexibility to react to issues and changes. For example, in addition to the options discussed immediately above, increased flexibility/reactivity could also be built into the implementation, for example in the case where the project continues with further site assessment and deployment by having back-up site options as contingency will help avoid delays if problems arise with the initial site selected.
- f. **Create Results-oriented task forces:** To dynamize the urgency of project implementation, and build stronger GoV involvement and ownership, consideration should be given to creating **result-focussed Task Forces** that are given a specific, results-focussed and time-bound work mandate. Moreover, this would help avoid creating unrealistic expectations on a very small project management team, reinvigorate the project oversight, and better reflect/match the BRANTV's multi-level and multi-pronged holistic approach, and to dynamize implementation.

¹³ This would depend on the forward planning and in particular prioritisation of needs, and the scale and nature of specialist technical or financial expertise needed.

Task Forces focus could for example be structured somewhat to reflect BRANTV's target outcomes and key distinguishable blocks of work, for example.

- Strategy & Sustainability (S&S-TF)
- Financing (F-TF)
- Policy, Legislative and Regulatory Task Force ((PRL-TF)
- Local energy solutions deployment (LESD-TF)
- Management, Financial Models Testing and Validation (MFMTV-TF)
- Community/Ecosystem
- Local Development Activities & Models (income generation models, etc.)
- New Project Development and Mobilisation of Financing.

Task Forces could be supported by the project team as needed, and/or by external TA from the roster of experts pre-qualified by the project. Alternatively, if stakeholders felt that the subject matter or complexity required more specialist skills, an external expert could be used to lead.

Table 5.2 – Example of Possible Task Force Focus Areas (indicative only)

	Task Forces – Examples of Possible Focus Areas	Task Force Members (Drawn from Govt. Ministries, International Donors, Regulatory Authorities, RE actors, private sector actors, representative associations)				International and Local Technical Assistance
		Member 1	Member 2	Member 3	Member X	
1.	Strategy & Sustainability (S&S-TF)					Available on a flexible draw-down basis from an existing roster of experts.
2.	Financing (F-TF)					
3.	Policy, Legislative and Regulatory Task Force ((PRL-TF					
4.	Local energy solutions deployment (LESD-TF)					
5.	Management, Financial Models Testing and Validation (MFMTV-TF)					
6.	Community/Ecosystem					
7.	Local Development Activities & Models (income generation models, etc.					
8.	New Project Development and Mobilisation of Financing					

Tasks Forces should work from clear plans, time-bound plans with clear delivery timeframes and outcomes, approved the Project Board, along with any resource estimate.

5.4 Recommendations by Project Demonstration Site

Site-specific recommendations are set out below in respect of selected BRANTV demonstration sites:

5.4.1 SANAMA /Santo Malo (Saufeli Youth Centre)

Regarding the SANAMA / Santo Malo Site, the following recommendations are made:

- j. As soon as the buildings are rebuilt (since installations were devastated by TC-Harold), the Solar PV system should be re-connected to the newly built structures and switch on for operations.
- k. It is highly recommended to identify and recruit a suitable qualified young talented person for the post of local technician (set a standard TOR for the recruitment process). And a proper training should be provided by the local technician by the system supplier and even Department of Energy (DOE).
- l. Prior to installation of the PV systems, the local technicians should have been selected where the local contractors can provide hands-on-the job training with them so transfer of knowledge and skills to carry out the roles and functions of maintenance is under their supervision.
- m. Each of the selected technicians should be equipped with a basic maintenance tool kit or toolbox.
- n. The contractors are obliged to develop simple and brief manuals on each of the systems and develop a schedule of maintenance Programme for the local technicians to follow. This will help for proper monitoring of operations and maintenance issues over time.
- o. Highly recommended to fence of the array of solar PV panels and even the system control rooms to safeguard against vandalism and domesticated animals.
- p. Batteries should be stowed on a basement to avoid any leakage of battery acid from the battery cells. And the control rooms should be well ventilated.
- q. The benefits could not be measured because of TC Harold damages. But once the solar is operational, one can assess the benefits that the solar system will provide to the community. I see hot water, reading using lights and use of power for powering other things will be the added benefit to the community. Regarding the environmental benefits however, the solar system reinstallation will allow them to stop the use of fuel powered generator. Wood burning in the kitchens may continue. But for the centre, the use of powered will provide a lot of good things from the coconut waste. It will contribute to chicken and pig feed.

5.4.2 PENAMA / ABWATUNTORA (North Pentecost)

Regarding the PENAMA / ABWATUNTORA site in North Pentecost, the following recommendations are made:

- a. There should be a standard building design for the system control units where it can stand Cat.5 tropical cyclone. And the building should offer the space for storage of maintenance parts of the system, and even ample space to secure the panels when there is a cyclone to avoid the damage of Solar panels.
- b. Shared recommendations from points 2 to 7 of the previous project.
- c. Could have been recommended during the design stage of the PV system, the design should have considered separating the Mauna Health Centre with the Solar Freezer for the fishermen which was about 150 meters from the control panel house located at the health centre. The Fishermen association should have had its own Solar Panel and a separate regulator and inverter for the 500 -litre freezer.
- d. The project should take the lead role to formalize an executive board composed of members from the fishermen association and Mauna hospital management. A simple TOR should be formulated to clearly define

the roles/responsibilities of the executive board to manage and oversight the operation and maintenance of the PV systems to ensure proper collection of fees are collected by the end users/beneficiaries. The funds if strictly managed can be a trust account to support the maintenance work and expansion of the system to meet the future demand of energy access for the hospital and nearby communities.

- e. The introduction of the solar system has lessened costs for the clinic and provided lights that could light all night (hallways, patients' rooms...). There is still room to expand the services within the clinic with the amount of power provided. The solar system also provides power for the use of the nebuliser for those with asthma, for the storage of medicines, patients' treatment also at night, etc. Nonetheless, the hospital still has few lights and power installations.

5.4.3 PENAMA / ANGORO Community (North Pentecost)

Regarding the PENAMA /ANGORO Community Site, the following recommendations are made:

- a. There should be a standard building design for the system control units where it can stand Cat.5 tropical cyclone. And the building should offer the space for storage of maintenance parts of the system, and even ample space to secure the panels when there is a cyclone to avoid the damage of Solar panels.
- b. Shared recommendations from points 2 to 7 of SANMA /Santo Malo (Saufeli Youth Centre) project.
- c. Given the (NBV) National Bank has a branch operating in Angoro serving the people of North Pentecost, the project team in collaboration with other Government agencies forming the technical working group (TWG) of the project such as Department of Fisheries, Industries, Cooperatives and Energy should take the lead role to engage such financial/commercial institutions through financial literacy training for the women and encourage them to grow their savings for future investments as part of business incentives and diversify into other potential business opportunities.
- d. The project should take the lead role to formalize an executive board composed of members from the Angoro Women's Center association and Community and church leaders. A simple TOR should be formulated to clearly define the roles/responsibilities of the executive board to manage and oversight the operation and maintenance of the PV systems to ensure proper collection of fees are collected by the end users/beneficiaries. The funds if strictly managed can be a trust account to support the maintenance work and expansion of the system to meet the future demand of energy access for the Women's centre association and nearby communities.
- e. There is in general a positive impact of the project because a modern and a clear source of power (solar system) has been setup. There are now much more possibilities for the community to introduce a learning centre, a reading club, a terminal to send emails or being in contact with relatives living abroad (messenger, Zoom, Teams). Also, there has been some training to a technician to keep the maintenance of this solar system for the future. Nevertheless, the community has not planned any post project after BRANTV.
- f. The light and bulbs installation in the church could be improved, putting cables in order, and fixing correctly to the wall/ceiling.

5.4.4 SHEFA / UTANLANG Community, Nguna Island (North Efate)

Regarding the SHEFA / UTANLANG Community Site on Nguna Island, the following recommendations are made:

- a. There should be a standard building design for the system control units where it can stand Cat.5 tropical cyclone. And the building should offer the space for storage of maintenance parts of the system, and even ample space to secure the panels when there is a cyclone to avoid the damage of Solar panels.

- b. Shared recommendations from points 2 to 7 of SANMA /Santo Malo (Saufeli Youth Centre) project.
- c. Community Light Committee should be well organized and schedule regular meetings to discuss ways to manage the productive use of the PV system. And this will require collaboration of fishermen's association to ensure fishing activities continue to be part of the project initiative in making use of the PV system.
- d. The project needs to assist the community to purchase a new inverter. The local technician is on willing to install the new inverter with assistance of PCS technicians. And the community is willing to pay for replacement of a new Inverter.
- e. The project is considered as a starting point for a long process development whereby the whole village could be equipped with batteries and panels, which would lead to create a solar farm that will light up the whole village.

5.5 Review Ratings

The table below sets out the review ratings.

Table 5.3 - MTR Ratings Table for BRANTV

Measure	MTR Rating
Project Strategy	N/A
Progress Towards Results	
Objective Achievement: (Enabling the Achievement of the energy Access, Sustainable Energy, and Green Growth Targets of Vanuatu)	3 - Moderately Unsatisfactory (MU)
Component 1. Capacity and Awareness Enhancement on Sustainable Energy and Low Carbon Development	4 - Moderately Satisfactory (MS)
Component 2. Improvement of Energy Policy and Planning Formulation and Implementation.	3 - Moderately Unsatisfactory (MU)
Component 3. Institutional Framework Enhancement for Sustainable Energy and Low Carbon Development	3 - Moderately Unsatisfactory (MU)
Component 4. Sustainable Energy and Low Carbon Initiatives Financing	2 - Unsatisfactory (U)
Component 5. Sustainable Energy and Low Carbon (RE and EE) Technology Applications	3 - Moderately Unsatisfactory (MU)
Project Implementation & Adaptive Management	3 -Moderately Unsatisfactory
Sustainability	2 – Moderately Unlikely

6 ANNEXES

6.1 Annex I: Evaluation Bibliography

1. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Project Document.
2. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Project Implementation Review (PIR)
3. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** PIF
4. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** UNDP Initiation Plan
5. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** UNDP Project Document
6. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** UNDP Social and Environmental Screening Procedure (SESP)
7. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Project Inception Report
8. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Quarterly progress reports and work plans of the various implementation task teams.
9. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Audit reports
10. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Finalized GEF focal area Tracking Tools/Core Indicators at CEO endorsement and midterm.
11. **Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV):** Oversight mission reports.

6.2 Annex II: List of Stakeholders Consulted

List of MTR Stakeholder Interviews – Government and UNDP (Port Vila & Suva)

(Does not include stakeholders consulted during field missions to BRANTV installation sites)

No.	Name	Position	Organisation/Department
1	Antony Garae	Director	Department of Energy
2	Ridley Joseph	Director	Department of Cooperatives,
3	Leith Veremaito	Director,	Local Authorities Department, Ministry of Internal Affairs
4	George Amos	Director	Department of Fisheries
5	Lizzie Govan	Chief of Staff	Utilities Regulatory Authority (URA) of Vanuatu
6	Georgewin Garae	Director	National Green Energy Fund (NGEF)
7	Noel Soriano	Regional Technical Advisor (RTA)	UNDP Regional Technical Hub, Bangkok
8	Dr Wini Nainoca	Acting Team Leader	UNDP Pacific Office Suva, Resilience & Sustainable Development
9	Doreen Leona	BRANTV Project Manager	Department of Energy
10	Donald Wouloseje	UNDP Programme Analyst	UNDP Vanuatu
11	Emma Sale	Programme Analyst	UNDP Pacific Office Suva, Resilience & Sustainable Development
12	Arthi Kumar	Programme Associate	UNDP Pacific Office Suva, Resilience & Sustainable Development

The table below sets out the proposed Stakeholder Interview in the field visit interview programme to the project demonstration sites.

Stakeholder Interview List (Field Visit Programme)

No.	Demo Sites	Capacity	Supplier/ Vendors	Installation Date	Contact Name (s)	Position/ Role	Management Framework/ Committee	Contact Numbers
16	Utanlangi, Nguna	1600 W	Savvy Solar	19 Dec. 202	Abbi Mariawoto Matuitabu	Chief	Village Chief Council	7102808
17					Samuel M			
18					Gladys Jack			
19					Peter Sampson	Technician		
20	Saufeli Youth Centre, Malo	2640 W	System supply by PCS and installed by Trainees	19 Dec. 2019	Vui	Chief	Saufeli Youth Centre	7770596
21					John	Director IT Centre		5909601
22	Pele, Tongoa	1320 W	Etech	28 th Feb. 2020	Serah Karie	Community Chief	Village Chief	5218162
23					Pakoa Josphe			
24					Etel Erick	Technician		
25					Alick Rugo			
26					Paul Thomson			
27	Angoro Pentecost	2460 W	Savvy Solar	May 2020	Stephen Loli	Village Representat ive	Bulgaituva Womens Savings Association	7617549
28					Colinette Siba	Technician		5423313
29	Abwatuntora Pentecost	3300 W	Savvy Solar	May 2020	Bradley Francis Ray	Technician	Abwatuntora	7663458
30					Dome Helenson Gao		Voragara Fish Market	5329427
31					Dome Rau			

6.3 Annex III: Evaluation Framework

The interview framework is set out below:

Overview Evaluation Questions

No.	Evaluation Question (and Evaluation Parameter)	Data Collection Methods
Project Strategy		
1	To what extent are the objectives of the project still valid?	Desk Research Stakeholder interviews
2	Are the activities and outputs of the project consistent with the overall goal, objectives and intended impacts and effects?	Desk research Stakeholder interviews Analysis and synthesis post-field interviews
Progress Towards Results		
3	To what extent has the project managed to achieve a development impact through the targeted capacity building of public, private, business development and social stakeholders, and development impact achieved can reasonably be attributed to, or be associated to the project?	Desk research (including comparison delivery of activities and outcomes against planning) Stakeholder interviews
4	To what extent is the experience, impact, best practices, and lessons learnt at the country and regional levels fed into national and international dialogue on the low carbon development for an enhanced global impact of similar project on Sustainable Development?	Desk research Stakeholder interviews (primarily)
5	What has happened (to-date) because of the project and what real difference has the activity made to the beneficiaries (including no. persons impacted)?	Desk research (where reported in project reporting and tracking) Stakeholder interviews
6	How can the programme leverage existing partnerships with relevant continental institutions in ways that better coordinate efforts, minimize duplications and scale up impact?	Desk research (including comparison other initiatives) Stakeholder interviews
Project Implementation		
7	Is decision-making transparent and undertaken in a timely manner? What is the gender balance of project staff? What steps have been taken to ensure gender balance in project staff?	Desk research Stakeholder interviews Analysis and synthesis post-field interviews
8	To what extent the envisaged partnerships in the implementation of the project have been effective in the expected achievements in the country?	Desk research Stakeholder interviews Analysis and synthesis post-field interviews
9	What have been the major factors influencing the achievement or non-achievement of the objectives?	Desk research (NB project reporting) Stakeholder interviews

No.	Evaluation Question (and Evaluation Parameter)	Data Collection Methods
10	Have the project's actions to-date to achieve the outputs and expected outcomes been timely, effective, and efficient (including cost-efficiency and w.r.t any implementation alternatives)?	Desk research (including review of implementation guidance and advice) Stakeholder interviews
11	To what extent has the project managed to provide implementation guidance and advice on the delivery of the focus country activities?	Desk research (including review of implementation guidance and advice) Stakeholder interviews
<i>Sustainability prospects</i>		
12	To what extent are the results sustainable? Will the outputs lead to benefits beyond the lifespan of the first phase of the project particularly in the country?	Desk research (analysis of impacts and contributory and sustaining factors) Stakeholder interviews
13	How has the project been able to build sustainable capacity in the country in ways that would outlast the project?	Stakeholder interviews Overall analysis (post-field interviews)
14	How could project results be further sustainably implemented and expanded, having in mind the contribution of low carbon development for local, as well as broader country, regional and global development?	Stakeholder interviews Overall analysis (post-field interviews)
15	What were the major factors which influenced the achievement or non-achievement of sustainability of the project?	Desk research (NB implementation-influencing factors, challenges etc.) Stakeholder interviews Overall analysis (post-field interviews)

6.4 Annex IV: Stakeholder Interview Questionnaire

The stakeholder interview questions are set out below:

Stakeholder Interview Questions

Field Interview Guide (BRANTV MTR)

- 1. Relevance to your needs:** What is the project's relevance to your community's needs?
 - a. Which needs does it address?
 - b. How effectively does it address these needs?
- 2. Project implementation:** Are you satisfied with the project's implementation (site installation etc.?)
 - a. What has worked well?
 - b. What problems were encountered? And what solutions were found?
- 3. Project management:** Do you have a committee in place to manage the system?
 - a. If yes, who is involved in this committee/management structure.
 - b. What are members' levels of education and their experience to manage the project?
 - c. Are women, youth, involved in this this committee?
 - d. Are some sectors/groups/competencies not represented?
- 4. Local involvement and participation:** To what extent is the local community **aware about/involved/participate** in this project/solar system?
 - a. Are community members well informed about the installation and (potential) benefits?
 - a. Do women and youth participate in the project? If yes, in which aspects
 - b. Does the chief take a deep concern about the project?
 - c. How many people have pledged their support? In what ways were the support given?
- 5. Benefits and successes:** What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?
 - a. Domestic chores (cooking) / hot water / education (e.g., schooling/homework) / leisure (e.g. reading) / Health / Other?
 - b. Environmental benefits? (Reduced burning of firewood, reduced use of diesel?)
- 6. Impact on community/ change:** Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?
 - a. Positive impacts/longer-term changes (e.g., changed behaviours, attitudes, new possibilities)
 - b. Any negative or unforeseen impacts?

7. Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

- a. Installation reliability and performance
- b. Maintenance (including security)
- c. Repair

8. Sustainability - Sustained benefits beyond the project end/in the future: How do you think the project will function after UNDP GEF BRANTV support has ended.

- a. Installation management
- b. Maintenance (including security) arrangements.
- c. Repair arrangements
- d. Financial/operation and maintenance and repair costs, etc.

8. New needs or possibilities: Is there ways the project could help now, or in the future, to address needs / new possibilities that it is currently not doing?

6.5 Annex V: Evaluation Terms of Reference

Terms of References

Project Title:	Mid Term Review Vanuatu BRANTV
Project:	Vanuatu Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (BRANTV)
Supervisor	
Location:	Home Based
Travel is required:	No (Covid-19)
Practice Area:	
Type of Contract:	Standard – International; Standard - National
Duration:	35 days -starting 19th October - 5th Dec 2020
Presence in the UNDP premises	Partial presence

1. Background and Purpose of the Consultancy:

Location and Justification

Without incremental support, Vanuatu is unlikely to meet its NERMs' 2020 and 2030 targets. As of 2017, about 71% of the nation's over 270,000 people lacked access to grid electricity. Over 80% of the population cooks over open hearth fire. Of the off-grid population, over half have no other access to power aside from a solar lantern. While donor efforts to improve energy access in rural areas via renewable energy (RE) have been substantial and some more limited efforts to promote energy efficient (EE) cook stoves have been initiated, results have far underperformed targets. Particularly, it is widely agreed that sustainability of off-grid RE power systems is poor. Even when systems are installed for free, lack of funds for repairs and lack of local access to parts and services repeatedly result in broken down systems for the long run. For village-scale RE power systems, in-country capabilities are extremely limited, so that the few systems set up require costly international contractors and take protracted periods to complete. Dissemination of EE cook stoves in rural areas is virtually imperceptible.

BRANTV takes a multi-pronged approach to removing the barriers that are resulting in unsustainable, unviable, or weakly disseminated RE and EE systems. It does so in the interrelated areas of capacity, policy and planning, institutional framework, financing, and technical and economic viability. Central to the approach is BRANTV's implementation of Vanuatu's Rural Off-Grid RE and EE Promotion Program, which includes demonstration sub-programs in each of hydropower, village-scale PV, household and family compound-scale PV, EE cook stoves, and productive, livelihood-enhancing uses of RE and EE. Critical to success of these demonstrations and their replication will be the payment and management system introduced to achieve savings for repairs of the RE systems and the nationwide road show to introduce EE cook stoves to the rural population. Training programs, design and adoption of policy and plans, institutional coordination mechanisms, financing mechanisms, and work in sourcing, best price costing, and in-country parts supply will be carried out to influence the widespread application of low carbon technologies to achieve the energy access, sustainable energy and green growth targets of the country.

Objectives and Key Outcomes

BRANTV has the objective of enabling the achievement of the energy access, sustainable energy, and green growth targets of Vanuatu, as represented in the country's National Energy Road Map (NERM). The objective indicators are as follows:

- Cumulative tons of incremental GHG emissions reduced from business as usual. The targets (tons CO₂) are from 0 to 6,080.9 at project mid-term, to 45,016.1 by end of project.
- Incremental number of households (with at least 20% woman-headed) in rural areas whose level of energy access is increased via village-scale off-grid RE or that benefit from newly adopting EE cook stoves. The targets are from 0 to 8,400 at project mid-term, to 14,000 by end of project.
- Total new, incremental reductions in or newly avoided amounts of annual diesel consumption achieved. The targets (liters Diesel Fuel Oil, DFO) are from 0 to 67,238 at project mid-term and 272,212 by end of project.
- Incremental fuel wood saved annually by use of energy efficient cook stoves. The targets (million kgs) are from 0 to 3.9 at project mid-term and 15.6 by end of project.

The overarching objective will be achieved through seven interrelated outcomes of BRANTV:

- **Outcome 1.** Improved capacity and awareness on sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors.
- **Outcome 2.** Improved policy, planning, and regulatory regimes in the application of sustainable energy, energy access, and low carbon development in the energy, public, private, and residential sectors
- **Outcome 3.** Established institutional framework enables the effective enforcement of policies and regulations, and implementation of plans, programs, and projects, on the application of sustainable energy and low carbon technologies.
- **Outcome 4A.** Increased availability of, and access to, financing for sustainable energy, energy access, and low carbon initiatives in the energy supply and demand sectors
- **Outcome 4B.** Increased financing and investments from private sector on sustainable energy and low carbon projects in the energy supply and demand sectors
- **Outcome 5A.** Sustainable energy and low carbon (RE and EE) techniques and practices adopted and implemented with both cost and technical viability in the energy, public, private sector, and residential sectors.
- **Outcome 5B.** Enhanced confidence in the economic and technical viability and long-term sustainability of sustainable energy and low carbon technology projects.

3. MTR PURPOSE

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project's strategy and its risks to sustainability.

NOTE, per COVID-19 survey: There are potentials for adjusting some of the project activities (e.g., RE-based power generation demos in towns/villages) to include aspects of social use of renewable energy in the operation of community/village healthcare facilities (e.g., hospitals, health centers). The capacity building activities can also be supplemented with training on the applications of RE-based energy supply to, and energy conserving and energy efficient operation, of healthcare facilities. The technical assistance activities on policy, regulations and standards can be supplemented with policies and standards that are supportive of the application of RE/EE technologies/techniques and practices in the health sector. Policy assistance in the reform of existing kerosene subsidy can be included to further strengthen the project activity on EE cook stoves promotion. Such changes can be discussed during the next Project Board meeting.

Depending on Government's request, qualified local technicians and labourers on Port Vila, Vanuatu who may have lost their jobs due to COVID-19 could be employed for the installation of demonstration activities. Also, locals could be employed to be part of an outreach programme that will finalize the preferred model/models for implementing village community-based solar photovoltaic technology that are planned as part of Outcome 3

activities. In both instances, a series of 'virtual training workshops' would be required in the re-skilling of qualified local capacities.

4. MTR APPROACH & METHODOLOGY

The MTR report must provide evidence-based information that is credible, reliable, and useful.

The MTR team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Social and Environmental Screening Procedure/SESP), the Project Document, project reports including annual PIRs, project budget revisions, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review. The MTR team will review the baseline GEF focal area Core Indicators/Tracking Tools submitted to the GEF at CEO endorsement, and the midterm GEF focal area Core Indicators/Tracking Tools that must be completed before the MTR field mission begins.

The MTR team is expected to follow a collaborative and participatory approach¹⁴ ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), the Nature, Climate and Energy (NCE) Regional Technical Advisor, direct beneficiaries, and other key stakeholders.

NOTE: The delays in project activities implementation caused by COVID-19 will affect the project beneficiaries in terms of delayed results/benefits from the project activities. For example, the beneficiaries of the demonstration activities. The impact could be the delayed realization of the results/benefits.

The BRANTV project mid-term review is scheduled to begin in October and complete by December 2020. If travel restrictions are still in-place, then evaluation consultations with stakeholders will be done by virtual means. All documents will be made available online and signing will be done by document sharing.

Engagement of stakeholders is vital to a successful MTR. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to the list provided under partners and stakeholders; executing agencies, senior officials and task team/ component leaders, key experts and consultants in the subject area, Project Board, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR team (comprising a local consultant) is expected to conduct field missions to *the Department of Energy in Port Vila*, including the following project sites:

Island	Demonstration Site Village	Size of System, Panel Size (Watts)	Installation Date	Vendor	Projected GHG ERs contribution by end of project (tons)
West Malo	Saufeli Youth Center	2,640	12-13 March 2020	Savvy solar Ltd	16.4
Nguna	Utalangi	1,600	18-19 December 2019	BRANTV training participants	10.0
Tongoa	Pele	1,320	27-28 February 2020	E-Tech Vanuatu	8.2
Pentecost	Angoro	2,460	April 2020	Savvy Solar Ltd	15.3
Pentecost	Abwatuntora	3,300	April 2020	Savvy Solar Ltd	20.6

The MTR should indicate also other demonstration sites (including specifications) that may have been identified and confirmed after the project design and inception. At the same time, if any of the demonstration sites listed in the table has been changed/replaced, the MTR should provide the reasons why and the impacts on the project.

¹⁴ For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see [UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results](#), 05 Nov 2013.

Sites that are planned for additional installations are listed below. The MTR should clarify whether these were identified and confirmed during the project design/inception or during project implementation. The MTR should also indicate other additional demonstration sites (including specifications) that may have been identified and confirmed after the project design and inception. At the same time, the MTR should identify if any of the demonstration sites listed in the table has been changed/replaced and provide the reasons why and the impacts on the project.

<i>Location Name</i>	<i>RE Type</i>	<i>Site Inspection & Design</i>	<i>Capacity</i>	<i>Vendor</i>	<i>Planned Installation Date</i>
Lateu, Toga Island	Community Scale PV Solar	Completed	3960 W	PCS Ltd	Q3
Lunghariki, Loh Island	Community Scale PV Solar	Completed	4950 W	Savvy Solar	Q3
Yegavigamena, Hiu Island	Community Scale PV Solar	Completed	3960 W	Savvy Solar	Q3
Nerengman Community House Mota Lava Island	Community Scale PV Solar	Completed	4950 W	Savvy Solar	Q3
Nerengman Market House Mota Lava Island	Community Scale PV Solar	Completed	1120 W		
Vinmavis, Malekula	Community Scale PV Solar	Completed	TBC	TBC	Q3
Nepul, Ambrym	Community Scale PV Solar	Completed	1040 W	E-tech	Q3
Olal, Ambrym	Community Scale PV Solar	Completed	1040 W	E-tech	Q3
Batnapne	Family PV solar nano-grid	Site inspection completed. Design in progress	TBC	TBC	TBC
Sara, Epi	Community Scale PV Solar	Site inspection completed. Design in progress	TBC	TBC	Q4

Fingione, Emae	Community Scale PV System	Site inspection completed. Design in progress	TBC	TBC	Q4
Vaetini, Emae	Community Scale PV System	Site inspection completed. Design in progress	TBC	TBC	Q4
Liro, Pamma	Family Compound PV Solar Nano-Grid	Site inspection completed. Design in progress	TBC	TBC	Q4
Betarara, Maewo	Community-Scale PV Solar Systems	Site inspection completed. Design in progress	TBC	TBC	Q4
Amatbobo, Pentecost	Community-Scale PV Solar Systems – Solar Water Pump	Site inspection completed and design in progress. Monitor water level for 12 months	TBC	TBC	TBC
Uripiv, Malekula	Community-Scale PV Solar system – Water salinization	Site inspection completed and design in progress	TBC	TBC	TBC

The specific design and methodology for the MTR should emerge from consultations between the MTR team and the above-mentioned parties regarding what is appropriate and feasible for meeting the MTR purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The MTR team must use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the MTR report. For this reason, bidders for this MTR consultancy assignment are required to present their proposed methodology for the MTR.

The final methodological approach including interview schedule, field visits and data to be used in the MTR must be clearly outlined in the Inception Report (when there is already a selected bidder and will be prepared by him/her) and be fully discussed and agreed between UNDP, stakeholders, and the MTR team.

The final MTR report must describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

As of 11 March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic as the new coronavirus rapidly spread to all regions of the world. Travel to the country has been restricted since late March 2020 and travel in the country is also managed. If it is not possible to travel to or within the country for the MTR mission then the MTR team should develop a methodology that takes this into account the conduct of the MTR virtually and remotely, including the use of remote interview methods and extended desk reviews, data analysis, surveys and evaluation questionnaires. This should be detailed in the MTR Inception Report and agreed with the Commissioning Unit.

If all or part of the MTR is to be carried out virtually then consideration should be taken for stakeholder availability, ability, or willingness to be interviewed remotely. In addition, their accessibility to the internet/computer may be an issue as many government and national counterparts may be working from home. These limitations must be reflected in the final MTR report.

If a data collection/field mission is not possible then remote interviews may be undertaken through telephone or online (skype, zoom etc.). International consultants can work remotely with national evaluator support in the field if it is safe for them to operate and travel. No stakeholders, consultants or UNDP staff should be put in harm's way and safety is the key priority.

A short validation mission may be considered if it is confirmed to be safe for staff, consultants, stakeholders and if such a mission is possible within the MTR schedule. Equally, qualified, and independent national consultants can be hired to undertake the MTR and interviews in country if it is safe to do so.

5. DETAILED SCOPE OF THE MTR

The MTR team will assess the following four categories of project progress. See the *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for extended descriptions.

If a data collection/field mission is not possible then remote interviews may be undertaken through telephone or online (skype, zoom etc.). The international consultant can work remotely with the national evaluator support in the field if it is safe for them to operate and travel.

i. Project Strategy

Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, considered during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
 - Were relevant gender issues (e.g. the impact of the project on gender equality in the programme country, involvement of women's groups, engaging women in project activities) raised in the Project Document?

- If there are major areas of concern, recommend areas for improvement.

Results Framework/Log frame:

- Undertake a critical analysis of the project's log frame indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

ii. Progress Towards Results

Progress Towards Outcomes Analysis:

- Review the log frame indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved" (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicator ¹⁵	Baseline Level ¹⁶	Level in 1 st PIR (self-reported)	Midterm Target ¹⁷	End-of-project Target	Midterm Level & Assessment ¹⁸	Achievement Rating ¹⁹	Justification for Rating
Objective:	Indicator (if applicable):							
Outcome 1:	Indicator 1:							
	Indicator 2:							
Outcome 2:	Indicator 3:							
	Indicator 4:							
	Etc.							
Etc.								

Indicator Assessment Key

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
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In addition to the progress towards outcomes analysis:

¹⁵ Populate with data from the Log frame and scorecards.

¹⁶ Populate with data from the Project Document.

¹⁷ If available

¹⁸ Color code this column only

¹⁹ Use the 6-point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

- Compare and analyse the GEF Tracking Tool/Core Indicators at the Baseline with the one completed right before the Midterm Review. [NOTE: The MTR should check if the stated mid-term target for the Core Indicators (6 & 11) were achieved or not. The MTR should present the reasons for over-, or under-achievement, and provide recommendations.]
- Present and explain best estimate of the degree of removal of the barriers that are targeted to be removed in each project component. [NOTE: There should be recommendations on: (1) How to improve the rate of barrier removal if this is currently lagging - state the factors that are causing or contributing to the lag in barrier removal and recommend ways to address them. (2) How to at least sustain the rate of barrier removal if this is currently on-track (or even ahead of schedule) – state the factors that may prevent this and recommend ways to address them.]
- Identify remaining barriers to achieving the project objective in the remainder of the project. Specify the % removal as of mid-term of each remaining barrier.
- Identify other barriers that may have occurred during the 1st half of the project implementation and recommend actions to address them. [NOTE: The additional barriers may not necessarily be those that hinder the implementation of RE/EE in Vanuatu, but barriers to the implementation of the BRANTV Project (e.g. COVID-19).
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

The MTR must provide clear conclusions about the following: (a) the estimated overall percentage completion of project by mid-term; (b) the estimated percentage achievement of the project objective; (c) the percentage removal of each major barrier categories; and (d) the percent chance or probability that the project will be completed, project objective is achieved, and all barriers are removed by (i) the original project completion date; and, (ii) by the completion date that will be allowed in case a project implementation period extension is requested.

Considering the conclusions that will be drawn, the MTR must provide realistically achievable recommended actions to make rectification of any “not favorable” conclusions. Make sure that the recommended actions include suggestions on **how to, who will, and when to** carry them out.

iii. Project Implementation and Adaptive Management

Management Arrangements:

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.
- Do the Executing Agency/Implementing Partner and/or UNDP and other partners have the capacity to deliver benefits to or involve women? If yes, how?
- What is the gender balance of project staff? What steps have been taken to ensure gender balance in project staff?
- What is the gender balance of the Project Board? What steps have been taken to ensure gender balance in the Project Board?

Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?

- Examine the use of the project's results framework/ log frame as a management tool and review any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations because of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out by the Commissioning Unit and project team, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly to align financing priorities and annual work plans?

Sources of Co-financing	Name of Co-financer	Type of Co-financing	Co-financing amount confirmed at CEO Endorsement (US\$)	Actual Amount Contributed at stage of Midterm Review (US\$)	Actual % of Expected Amount
		TOTAL			

- Include the separate GEF Co-Financing template (filled out by the Commissioning Unit and project team) which categorizes each co-financing amount as 'investment mobilized' or 'recurrent expenditures'. (This template will be annexed as a separate file.)

Project-level Monitoring and Evaluation Systems:

- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?
- Review the extent to which relevant gender issues were incorporated in monitoring systems. See Annex 9 of *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?
- How does the project engage women and girls? Is the project likely to have the same positive and/or negative effects on women and men, girls, and boys? Identify, if possible, legal, cultural, or religious

constraints on women's participation in the project. What can the project do to enhance its gender benefits?

Social and Environmental Standards (Safeguards)

- Validate the risks identified in the project's most current SESP, and those risks' ratings; are any revisions needed?
- Summarize and assess the revisions made since CEO Endorsement/Approval (if any) to:
 - The project's overall safeguards risk categorization.
 - The identified types of risks²⁰ (in the SESP).
 - The individual risk ratings (in the SESP).
- Describe and assess progress made in the implementation of the project's social and environmental management measures as outlined in the SESP submitted at CEO Endorsement/Approval (and prepared during implementation, if any), including any revisions to those measures. Such management measures might include Environmental and Social Management Plans (ESMPs) or other management plans, though can also include aspects of a project's design; refer to Question 6 in the SESP template for a summary of the identified management measures.

A given project should be assessed against the version of UNDP's safeguards policy that was in effect at the time of the project's approval.

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners, and internalized by partners.

Communications & Knowledge Management:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.
- List knowledge activities/products developed (based on knowledge management approach approved at CEO Endorsement/Approval).

iv. Sustainability

- Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Register are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- In addition, assess the following risks to sustainability:

²⁰ Risks are to be labeled with both the UNDP SES Principles and Standards, and the GEF's "types of risks and potential impacts": Climate Change and Disaster; Disadvantaged or Vulnerable Individuals or Groups; Disability Inclusion; Adverse Gender-Related impact, including Gender-based Violence and Sexual Exploitation; Biodiversity Conservation and the Sustainable Management of Living Natural Resources; Restrictions on Land Use and Involuntary Resettlement; Indigenous Peoples; Cultural Heritage; Resource Efficiency and Pollution Prevention; Labor and Working Conditions; Community Health, Safety and Security.



Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long-term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

Conclusions & Recommendations

The MTR team will include a section in the MTR report for evidence-based conclusions, considering the findings.

Additionally, the MTR consultant/team is expected to make recommendations to the Project Team. Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. Recommended actions to be done should include the "how" aspects of the suggested actions, i.e., how will these be carried out.

Considering the conclusions that will be drawn, the MTR must provide realistically achievable recommended actions to make rectification of any "not favorable" conclusions. The recommended actions should also include suggestions on how to, who will, and when to carry them out.

A recommendation table should be put in the report's executive summary. See the *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR team should make no more than 15 recommendations total.

Ratings

The MTR team will include its ratings of the project's results and brief descriptions of the associated achievements in an *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTR Ratings & Achievement Summary Table for BRANTV

Measure	MTR Rating	Achievement Description (please rate the level of achievement of the outcomes based on the set mid-term targets (see annex in project document))
Project Strategy	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
Project Implementation & Adaptive Management	(rate 6 pt. scale)	
Sustainability	(rate 4 pt. scale)	

6. TIMEFRAME

The total duration of the MTR will be approximately 35 working days over a period of seven (7) weeks and shall not exceed five months from when the consultant(s) are hired. The tentative MTR timeframe is as follows:

ACTIVITY	NUMBER OF WORKING DAYS	COMPLETION DATE
Document review and preparing MTR Inception Report (MTR Inception Report due no later than 2 weeks before the MTR mission)	3 days (recommended: 2-4 days)	19 - 21 October 2020
MTR mission: stakeholder meetings, interviews, field visits	15 days (recommended: 7-15 days)	22 October – 11 November 2020
Presentation of initial findings- last day of the MTR mission	1 day	12 November 2020
Preparing draft report (due within 3 weeks of the MTR mission)	15 days (recommended: 5-10 days)	12 November 2020

Finalization of MTR report/ Incorporating audit trail from feedback on draft report (due within 1 week of receiving UNDP comments on the draft)	4 days (recommended: 3-4 days)	4 December 2020
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Options for site visits should be provided in the Inception Report.

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	MTR Inception Report	MTR team clarifies objectives and methods of Midterm Review	No later than 2 weeks before the MTR mission	MTR team submits to the Commissioning Unit and project management
2	Presentation	Initial Findings	End of MTR mission	MTR Team presents to project management and the Commissioning Unit
3	Draft MTR Report	Full draft report (using guidelines on content outlined in Annex B) with annexes	Within 3 weeks of the MTR mission	Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, GEF OFP
4	Final Report*	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	Within 1 week of receiving UNDP comments on draft	Sent to the Commissioning Unit

*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

8. MTR ARRANGEMENTS

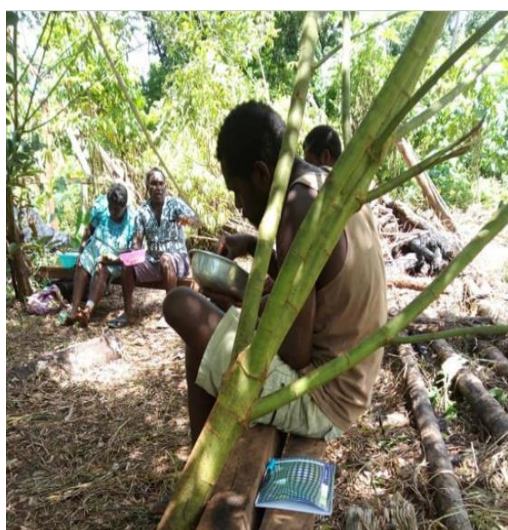
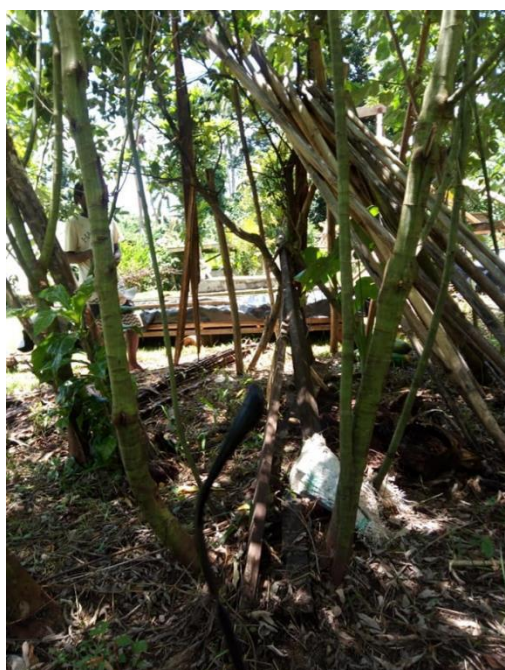
The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project's MTR is the UNDP Country Office in Fiji called the UNDP Pacific Office in Fiji.

The Commissioning Unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within Vanuatu for the MTR team and will provide an updated stakeholder list with contact details (phone and email). The Project Team will be responsible for liaising with the MTR team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

6.6 Annex VI: Field Mission Site Reports

Field Interview Report -Malo Island

The Malo site has had the solar system built and connected to allow for use by 10 youth groups within the Saufeli area council of chiefs on the island. All the panels had been built and connected to the inverter and battery in a strong room built by the community. There were other buildings that were built to house the machines to produce virgin oil. Unfortunately, TC Harold destroyed most of the training centre house and the IT training schoolhouse. This has crippled the functions of the site outcomes¹ desired by the project.



¹ Making of soap and virgin oil.



Field Interview Guide (BRANTV MTR)

Relevance to your needs: What is the project's relevance to your community's needs?

Which needs does it address?

Provided power to process the coconuts and ready to be used for making virgin oil.

The machines will speed up the process of grinding the coconuts the normal way.

It will increase the volume of virgin oil to over 20 litres per day.

It will boost income to the community.

It will bring income to the youth center through the sales of virgin oil and soap.

It will provide employment for the youths.

How effectively does it address these needs?

Now, the solar system is still there and functioning but all the houses that had been used as the training centre have all been destroyed. It has been anticipated that by September this year, all the houses will be completed. When asked the question, they told us that priority now is our homes because all our homes and gardens have been destroyed. The project will become a secondary issues to deal with after our homes have been put back to normal. It is unfortunate that the TC Harold came and destroyed our initiative and our gardens. We are starting all over again.

Project implementation: Are you satisfied with the project's implementation (site installation etc.?)

c. What has worked well?

The system has just begun to start when TC Harold hit Malo. Now that it has been shut down and awaiting the renovations, I cannot say when will the project be up and running. There was no mention about contracting someone to rebuild the houses. The community has started cutting posts and timber to rebuild the houses.

What problems were encountered? And what solutions were found?

The problems we observed were the aftermath of TC Harold. Since most of the homes and gardens destroyed, the youth have returned to their homes to rebuild them. They will have to plant their gardens before the return to the project site.

Project management: Do you have a committee in place to manage the system?
If yes, who is involved in this committee/management structure.

There is a committee in place. The chairman of the project is the chairman of Area council of chiefs. He is being assisted by a Manager, a Secretary (year 10 leaver), a woman youth is a vice secretary with a year 11 school leaver.

What are members' levels of education and their experience to manage the project?

The level of education that the committee holds ranges from being appointed by the people to the highest level a year 11 school leaver. The level is high in terms of a managing group to hold on to the project into the future.

Are women, youth, involved in this committee?

Yes, there are women or girls that are being represented in the committee.

Are some sectors/groups/competencies not represented?

I think all sectors are represented by those holding onto the positions.

Local involvement and participation: To what extent is the local community
aware/about/involved/participate in this project/solar system?

Are community members well informed about the installation and (potential) benefits?

The community has been doing soap and oil for sometimes now. The manual system they are used to scrub coconuts and squeezing it to get the creamy part out will now be replaced by the electric grinder. When they requested the project to assist them, it showed their desire and know that the potential benefits that the system will provide and support them with will be huge.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

They have contributed by taking sand and coral from the coastal area, bought bags of cement, transport costs, and bought timber and iron roof to build the shelter to store batteries and inverter inside. They built the shelter to house the batteries.

Do women and youth participate in the project? If yes, in which aspects

Yes. There are 10 communities within the Supenavanua council that are members of the Saufeli project. There are 142 household with a total of 503 people in all that form the project. There are women and youth that play a key role in this project. They collect coconuts and sell at the project site.

Does the chief take a deep concern about the project?

The chief ensures that what the project needs must be done perfectly. He shares his concerns on the maintenance of the equipment's, how to be used and who can operate it. He wants to see that.

How many people have pledged their support? In what ways were the support given?

142 household with a total of 503 people have pledged their support. Manpower to build the house, collect sand and coral before delivering it to the project site. They paid for transports to transport the sand and coral, iron roof and timber from the coastal areas are deliver them to the Saufeli youth center where the small house was built to accommodate the batteries and the inverter. The other things that the community was involved in was building the youth centre house where processing was to take place. Unfortunately, this house and an IT school were destroyed by TC Harold.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

As described above, without their efforts to build the house to house the batteries, the state of the project as it is now may not be safe but destroyed during the cyclone. The small house stood the category 5.

Local Monitoring & reporting: How does the community/village monitor/measure/report the performance of the BRANTV activity(ies) in their locality to the BRANTV PMO?

At this point of the report, the work has not even started to monitor the progress. So really there was no activities that was executed except the building the house to house the equipment's.

Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

Installation reliability and performance

I need to say that there was nothing at the time when the MTR went to visit the site as TC Harold has destroyed the whole project before it took off.

Maintenance (including security)

The security was good. The chief told the MTR team that people do not touch anything that belongs to someone else. This has been our old ways of life.

Repair

As per the solar system, everything is still intact. It's just the training center that needs to be rebuilt and power can be connected back to run the machines.

Benefits and successes: What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?

Domestic chores (cooking) / hot water / education (e.g. schooling/homework) / leisure (e.g. reading) / Health / Other?

As I had stated above, I could not measure any benefits. But once the solar is operational, one can assess the benefits that the solar system will provide to the community. I see hot water, reading using lights and use of power for powering other things will be the added benefit to the community.

Environmental benefits? (reduced burning of firewood, reduced use of diesel?)

It will stop the use of fuel powered generator. Wood burning in the kitchen may continue. But for the center, the use of power will provide a lot of good thing from the coconut waste. It will contribute to chicken and pig feed.

Cross-cutting issues: To what extent have cross-cutting issues have been considered?

Including

Gender dimension, specifically consideration and/or involvement of women and youth, and/or (other) vulnerable groups

With this project, there is no limit to who does not involve. Since it is a business project, the more coconuts you sell to the center, you will be given a lot of monetary benefits at the end of day. This means that anyone can sell coconuts to the center for oil processing.

Climate change dimension (mitigation/adaptation) and disaster risk reduction

Rights-based approach

Everyone has the right to have energy provide to them somehow. This is a small project that might only help to full fill one part of the process but not all. Since it is a community project, its outcomes are to produce enough virgin oil for export. The oil will replace other cooking imported oil.

Impact on community / change: Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?

Positive impacts/longer-term changes (e.g. changed behaviours, attitudes, new possibilities)

The positive impacts that the project will provide to the community is people will have more money to use to buy new things to change the current life system. People may want to invest into new homes with the money gained from this oil project. Some may venture into feeding chickens from the leftovers of the coconut.

Any negative or unforeseen impacts?

One of the unforeseen impact is when the project becomes a big project and there is less coconut to feed the project. Since coconut is both used for copra and now virgin oil, there will be high demand for the coconuts and moving them to the oil factory will be very demanding. There will be fight amongst people with coconut farms with those who do not have coconuts. Because it will be quick money, it will make people use their ways to steal coconuts to sale for quick cash. But this will come very late during the life of the project.

Impact on community / (counter-factual): If/had there been no BRANTV project, would the community/village (and citizens) have been able to realise some of the benefits and changes mentioned by you by some other means? And if yes, over what timeframe?

They had started the project before the machines came. Yes, they will see the benefits now at a higher level with changes. This is because virgin oil is of high demand. And the island of Malo is known to produce high copra and good virgin oil, this will bring added benefits to the people and community.

Sustainability - Sustained benefits beyond the project end/in the future: How do you think the project will function after UNDP GEF BRANTV support has ended, with respect to the following aspects?

Installation management (e.g., does your community/village have a specific post-project plan in place?)



They do not have one. It is understood that they are thinking of putting together a plan of work that will guide their project. But now they do not have one. By the time they have one and the project is running, it will guide them to carry out the outcomes as they will propose in the plans.

Maintenance (including security) arrangements (e.g., does your community/village have a specific post-project plan in place?)

As the project has not even taken off, it was noted that the community may have not reached this level.

Repair arrangements (e.g., does your community/village have a specific post-project plan in place?)

There is a local solar technician on the island which they have indicated that he will be responsible to take care of anything with the system if it breaks down. He will be responsible for all repair works if there are faults with the system.

Financial/operation and maintenance and repair costs, etc. (e.g., does your community/village have a specific post-project plan in place?)

Again, if they do not have a plan, they will not tell the MTR team if they have a post plan.

Any other challenges/obstacles/risks to the satisfactory continuation of your installation after the project ends?
The project will continue to grow. Since the project will work along the Ministry of Trade and External Trade to find buyers overseas, the challenges now are the market. The other thing also is the satisfactory and continuation of the supplies and demands that will enter the regional market.

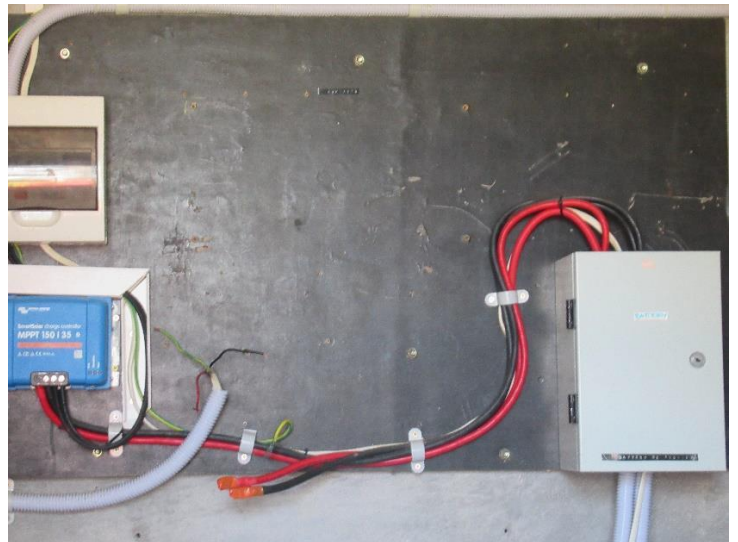
New needs or possibilities: Is there any way the project could help now, or in the future, to address needs/new possibilities that it is currently not doing?

Need to have a Business plan for the project. There should also be a corporate plan to drive the work forward to ensure the community understands what it must do to meet the targets as may have been documented in the plan.

Need to train the committee to understand the plan. The committee must be on top of the plan and ensure that it meets the target outcomes.

Field Interview Report - Utanlang Solar System

The project site in the village of Utanlang on the island of Nguna island had the full solar system built and connected to allow for use by the community. A deep freezer was also installed for fishermen to store and sell their fish here. All the panels and accessories had been built and connected to the inverter and battery in a strong erected community house on the side of a soccer pitch. When the MTR team visited the site, it was noted that the inverter was burnt by an unknown fault. This is the second time the inverter that was burnt during the last 11 months since the system was installed here. The technician said he has no idea of what has caused the inverter to burn. He said, it must have been the lizards that crawl between the cables and this might have caused some faults resulting in the crippling of the whole system. Besides the deep freezer, there is also a printer that connects to the solar system. The introduction of the solar system had boosted the fisherman's interest but the burning down of the inverter has crippled the program for the community meetings reports, community reports, school reports and what ever can be printed using the printer.





Field Interview Guide (BRANTV MTR)

Relevance to your needs: What is the project's relevance to your community's needs?

Which needs does it address?

Provide power for a freezer, a laptop, and a printer.

Provides power to print community meetings minutes, students schoolwork, church plans and activities and the chief councils' resolutions.

Provides power to charge mobile phones, torch lights, laptops, and music box.

Provides power to light up the community hall during social gatherings.

Copy movies from laptop to personal flash drives to be used on TV screens at home.

How effectively does it address these needs?

It has addressed the needs well until when the inverter died. The lights have provided the community to conduct longer times for meetings, and other social gatherings. The school was blessed with the power to assist in preparing students work and allow it to be printed and circulated the next day for the children. It has made the community plan work with all seeing and looking at the progress that has happened with the plans prepared using the power that the BRANTV project has provided.

There are three systems currently supporting the people of Utanlang. One solar system was donated by the Peace Corps, the other the New Zealand volunteer after cyclone PAM.

Project implementation: Are you satisfied with the project's implementation (site installation etc.?)

What has worked well?

The whole system was working well. There might be some issues with the installation that has caused the inverter to burn the second time. There needs to be a thorough check again by the company that installed the system to ensure that the system does not go through the same situation again.

What problems were encountered? And what solutions were found?

The inverter was burnt the second time. The inverter was sent back to town to a solar company, which sells the inverter. It is fortunate that the warranty is still within the timeframe. But there are currently no inverters in town which is taking longer than expected to ensure that it is sent back, and the fisherman can use the deep freezer again.

Project management: Do you have a committee in place to manage the system?

If yes, who is involved in this committee/management structure.

A committee has been established to manage the system. There is a chairman, a secretary, a treasurer, and a technician.

What are members' levels of education and their experience to manage the project?

The chief is the chairman, the technician was trained by the BRANTV technicians with a certificate 3 under QAV, a secretary a form 3 leaver

Are women, youth, involved in this committee?

Yes, there are women and youth in the groups.

Are some sectors/groups/competencies not represented?

All the people use the system. The system is for everyone to use.

Local involvement and participation: To what extent is the local community aware about/involved/participate in this project/solar system?

Are community members well informed about the installation and (potential) benefits?

Yes. The community was well informed. Fisherman knew their rights and the community also.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

The house to shelter the batteries and the inverter. The community built this house ready to house the systems inside. The room was also shared for the deep freezer.

Do women and youth participate in the project? If yes, in which aspects

Yes. The women use the shelter for their meetings. They also use the shelter to prepare food at night times for the community social gatherings. Lights from the solar system also allows children to play at night.

Does the chief take a deep concern about the project?

Yes, the chief has taken the full ownership of the project. He has always made sure that everyone benefits from the system in whatever ways possible.

How many people have pledged their support? In what ways were the support given?

The full community pledged their support at the beginning of the project by assisting in building the shelter to house the battery and the inverter. They brought in sand and coral from the coastline and mixed it with cement and water and laid out the foundation and later blocks and iron roof.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

The prepared food for the carpenters to build the house, prepared food for the solar company who installed the system.

Local Monitoring & reporting: How does the community/village monitor/measure/report the performance of the BRANTV activity(ies) in their locality to the BRANTV PMO?

The community monitors the work at the community level only. They do report the number of kilos of fish and fish types which is the work under the department of fisheries. The report is shared between the SHEFA provincial government and fisheries division.

Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

Installation reliability and performance

Needs some assessment again on the ways the installation has been done to ensure that the inverter does not burn again. This is the second time that the inverter is burnt and could hurt the community if they are not prepared to stand alone to finance other spare parts of the solar systems.

Maintenance (including security)

They make money with the sale of fish. This means that they can manage the system if it continues to run normally. The house in which the system is stored in is safe and secure. Since the community has willingly accepted the installation of the solar system, they have shown that they will take care of the system as it will be theirs to stay.

Repair

If I may comment, the community has a local technician on the ground trained by BRANTV which is a bonus to the project. He can do trouble shooting to the system if there are issues but when it comes to something terrible, it must be repaired in Vila.

Benefits and successes: What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?

Domestic chores (cooking) / hot water / education (e.g. schooling/homework) / leisure (e.g. reading) / Health / Other?

The good things shared by the committee was that it assisted teachers to prepare students homework, student reports, community reports, reports for different committees in the village. Since the system came to assist us, we have allowed it for everyone's use.

Environmental benefits? (reduced burning of firewood, reduced use of diesel?)

There was reduction in diesel consumption by the community. All social gatherings are being lit up by solar lights. Fuel wood continues during special ceremonies and they will continue to use firewood to prepare food in the traditional systems.

Cross-cutting issues: To what extent have cross-cutting issues have been considered?

Including

Gender dimension, specifically consideration and/or involvement of women and youth, and/or (other) vulnerable groups
In terms of using the system to charge mobile phones, music box, laptops, torch etc, this was done among all groups of people in the area. If you own any of the above, you can use the system at a small cost to the community fund.

Climate change dimension (mitigation/adaptation) and disaster risk reduction

No more fuel has been used since the establishment of the solar system. This has reduced greenhouse gases immensely.

Rights-based approach

According to the Energy road map, Vanuatu should have access to energy by 2030. This is a national government policy that needs to be rolled out to all communities in Vanuatu. The people have the right to have energy, but it has been very difficult to get this to all the communities in Vanuatu. But the government is working on it to ensure that all citizens rights to energy is being met.

Impact on community / change: Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?

Positive impacts/longer-term changes (e.g. changed behaviours, attitudes, new possibilities)

Good projects such as this must come with the full impact and expectations that the community must know as a start to their future. This is a very critical issue that all projects' partners must know when a free offer is given to support a start of a long process. The more the people make out of the fish, they may start to buy additional battery and panels which at the end the whole village may have a solar farm that will light up the full village.

Any negative or unforeseen impacts?

There are no unforeseen impacts as the review was done.

Impact on community / (counter-factual): If/had there been no BRANTV project, would the community/village (and citizens) have been able to realise some of the benefits and changes mentioned by you by some other means? And if yes, over what timeframe?

The community had two systems that are still running now. The other two systems are used for a TV and a laptop. This third one is a bigger system and was used to run a freezer to store frozen foods, ice cream etc. It would have been better that money is sourced and increase the capacity of the existing ones and some more.

into the future. This would do the same thing as the BRANTV project. As I will mention further, such projects or anything introduced needs to have a plan of actions to meet future unexpected issues and or new outcomes.

Sustainability - Sustained benefits beyond the project end/in the future: How do you think the project will function after UNDP GEF BRANTV support has ended, with respect to the following aspects?

Installation management (e.g., does your community/village have a specific post-project plan in place?)

The village has a trained technician and has been installing other solar systems in the village for different individuals. This is a plus to the community because once the system is transferred to them, he can manage the system himself.

Maintenance (including security) arrangements (e.g., does your community/village have a specific post-project plan in place?)

The community does understand that after the project ends, it will own the system to manage. In the view of the reviewer, they know their obligation when the project was signed by the chief and he has accepted it to be for his community. Since the village has its own set up with different committee representatives in both NGO and Government, they will manage it to grow for the communities' benefits.

Repair arrangements (e.g., does your community/village have a specific post-project plan in place?)

The village will meet the cost of the repair themselves. Since they are saving money from the other two projects, it was noted that they can meet the cost of repairs in the future.

Financial/operation and maintenance and repair costs, etc. (e.g., does your community/village have a specific post-project plan in place?)

The community does not have a post project plan, but they wanted this to happen. This was sensed during the discussions where they stated that the community has a savings account collected from village projects.

Any other challenges/obstacles/risks to the satisfactory continuation of your installation after the project end?

The challenge the project faces is continued failure of the inverter. The whole system is okay, but the breakdown of the inverter has been downhearted by the community sentiments because the inverter has been away from them since December 2020.

Their project on fishing has helped the fishermen and has given the community to eat healthy meat that is fish. Since there are so many fisherman in the village, most of them depended on the freezer when it was operating. But even after the inverter died, they now continue to catch fish and sell at the markets in town.

New needs or possibilities: Is there ways the project could help now, or in the future, to address needs /new possibilities that it is currently not doing?

There are some possibilities that the community will need to be prepared for.

The community will need a plan on how to use the solar system. This will be reflected in a plan of action that the community will have to agree to for them to work towards it. The plan will assist everyone to know what is going on and expectations are there to meet.

Draw up the plan for the community.

Provide some recording mechanism.

Set up a wireless system to allow teachers to download files and print.

Charge papers used.

Do fundraisings to support the initiative to ensure that additional systems are set up in the village.

To allow the solar company to address the continued system failure.

Field Interview Report - Angoro Regional Office

The Angoro site is situated on the northern part of the island of Pentecost. The Lini Memorial college is just a few meters from where the solar system was erected. Under the structure of the Anglican church, this is the Regional Headquarter that governs three parishes. It means that the solar system has been set up in an appropriate location for all the people to have access to. It is proper too that if the church were the leading manager of the solar system, it would be proper as it is sitting on its land.



The solar panels have been fitted and linked to the inverted and batteries in a strong house built by the community. From the main power, there are electric cables that have been connected to the church, the church hall, the Women's cooperative where a deep freezer is being used to store fish, ice cream and other items desired by the members and the Saonleo sewing club. Additional connection should reach the rectors office and his residence and the dispensary. This is yet to be done.

Upon the MTR mission trip, there were a lot of discussions on the management of the solar system. A committee was formed with the president, a vice president, a secretary and a treasurer and a vice treasurer. The president oversees the savings and signs on the bank accounts. The women's cooperative is made up of women of Angoro village, but nearby villages are not represented in the cooperative. The sewing club is owned by an individual. There was no clear direction given for sewing machines which complicated the whole thing. The machines were requested and were delivered for the community under the Bulgaituvwa Cooperative. The sewing machine however went under Saonleo Sewing Club and is being managed under one person. Young girls and women within the region do not have access to the sewing machines.

The cooperative society should be the contact point for the solar system. Since the solar system was introduced here to assist them, they should be the main contact point for the future assistance to the community. If there was going to be a phase two of the project, this would allow power to be connected to every home within the Angoro village to ensure that each person has power and light in his home.



As per the cooperative, the current administration should ensure that members of Anwalu parish, Ioltavola parish and Herenhala parish should all join here to form this cooperative and build it into a bigger cooperative to assist the women and men who want to be part of the cooperative. Since UNDP is assisting them, this should be a starting point to a bigger power system that could help the people in the future.

Relevance to your needs: What is the project's relevance to your community's needs?
Which needs does it address?

Gives us power to assist mums to sew clothes and sell to others.

Provides power to host an ice box.

Provides to charge mobile phones, laptops, music box, torch lights.

Provides light for evening prayers in the church.

Provides power to use the church hall at night.

How effectively does it address these needs?

It has provided these services with the best value it can give. The sewing machines have been used to sew clothes for children and dresses for women of all ages. They have sewn shirts. The population has used the power to charge mobile phones, torch lights, music box and laptops at a price agreed on by the committee.

Project implementation: Are you satisfied with the project's implementation (site installation etc.?)
What has worked well?

The installation has been completed with all cables connected to where they were asked to set power points and lights.

What problems were encountered? And what solutions were found?

The church hall lights seem to connect to one switch only for 6 lights. This is not economical. If the switch is damaged, there will be no more use of the lights. The lights should be with cables running in good tacting of different sizes and leading to single ones to hold one light per switch.

It is highly recommended that there should be one light to one switch. Additional switches need to be put in place and cables be directed to each single bulbs. The second phase should allow this to happen and should apply to all new locations if there is extension of the solar system.

Project management: Do you have a committee in place to manage the system?

If yes, who is involved in this committee/management structure.

There is a committee in place to manage the solar system. The committee structure is as follows:

A President

A Vice President

A Secretary

A Treasurer

And A Vice treasurer.

What are members' levels of education and their experience to manage the project?

Most the members had completed Elementary school with a class 6 certificate.

Are women, youth, involved in this this committee?

There are women involved in the committee. No youth is a member of the committee.

Are some sectors/groups/competencies not represented?

Since the solar power has been set up within the premises of the church, it would have been proper that members of the clergy and other church arms like youth, companions should be involved in the committee. The project should be looked after by the church and rent out to the cooperative because the MTR team has noticed that the women's cooperative covers only one village. If it had been the church, there would be 16 villages that would be owned by the people within the Anwalu Region.

As it is now, that the church is left out, the youths, disabilities are not in the program.

Local involvement and participation: To what extent is the local community aware about/involved/participate in this project/solar system?

Are community members well informed about the installation and (potential) benefits?

From the perspective of using the power from the solar system, this may have been understood. This was why request was made by the women's cooperative and the sewing club but how these two are to be managed to support the project to grow by use of sewing machines and deep freezers, there are no good plans to allow consistency. During the MTR review, it was noted that the two projects are being operated separately. Instead of them both working together, they are being separated with the cooperative not operating in full where the fridge should be filled with sausages, meat, ice cream and water.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

They have assisted to build the house in which the batteries and the inverted are stored inside. They have contributed to buy sand and coral from resource owners and paid for trucks to transport sand and coral to the site where the BRANTV project is located. They mixed cement with coral and sand to build the house.

Do women and youth participate in the project? If yes, in which aspects

Their participation comes in different scenarios. Some fish and sell to the mothers. There is a Farmers market everywhere cooked food and or greens are sold here. At night, the villagers may sell kava here.

Does the chief take a deep concern about the project?

The chief takes a full concern of the project.

How many people have pledged their support? In what ways were the support given?

There were a few people who have given their supported towards the setup of the project. The support was given during the building of the shelter, preparing of food for carpenters and assisting to mix cement, sand, and coral to build the house. Youths have assisted to bring sand by transport to site, mould bricks to be used to construct the house.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

Increase the use of solar power to run deep freezers and storing meat for a while and selling them at a price. Increase good quality clothing for mothers through sewing of quality clothes. Increase revenue for individual through the selling of fish to the cooperative.

Local Monitoring & reporting: How does the community/village monitor/measure/report the performance of the BRANTV activity(ies) in their locality to the BRANTV PMO?

This is a very hard thing to report against as people in the community do not report on paper but would be good on talking. At the time of the report, they have shown that someone is collecting money on the use of collection of payments by the on the performance of the project, it can be measured now.

Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

Installation reliability and performance

The system is working well and providing the deep freezer a service point for people to sell their catches to cooperative. In return, people have paid for the services from both the fridge and the sewing machines. The people have used the power to charge their phones at a small fee, torchlights, music box, and the use of power to run sound system during special ceremonies.

Maintenance (including security)

The system does not seem to have any issues to date after it was installed. The security is good as it within the church area and this alone has given a sense of belonging by the people that the system is theirs to stay and there will never be a time that the system will be destroyed.

Repair

At this point of time, there has been no repairs yet. Unless the project starts to become more bigger, then there might be a possibility to add some new systems to enable the system to boost more power.

Benefits and successes: What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?

Domestic chores (cooking) / hot water / education (e.g. schooling/homework) / leisure (e.g. reading) / Health / Other?

There was no mention of the community using the system for student to study at night. It seems no one has used the system to boil water using a heater and provide morning tea at the church hall. There was no sign of using the facility to provide cooking, prepare hot meals, etc. This might depend on the committee to see how they can improve on the system.

Environmental benefits? (reduced burning of firewood, reduced use of diesel?)

The only environmental benefits this has given is the reduction of diesel. But let us be more specific that this project only serves a small portion of the community. Firewood burning is continuing and will continue unless bigger systems are put in place to stop then burning.

Cross-cutting issues: To what extent have cross-cutting issues have been considered?

Including

Gender dimension, specifically consideration and/or involvement of women and youth, and/or (other) vulnerable groups

It is good that the project has tried to ensure that all people must be part of the project. The committee involved both men and women. This is to ensure that any decisions are carried out by both sexes.

Climate change dimension (mitigation/adaptation) and disaster risk reduction

The introduction of the project is a good indicator to show that use of diesel will decrease. However, the use of the system has not been utilised to its full potential to ensure that some of the risks are reduced.

Rights-based approach

The people have the right to use the solar system if they do not have one. But the management of the project is the other thing that protects the rights of users by putting a stop to a free service. One must pay for the energy to use.

Impact on community / change: Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?

Positive impacts/longer-term changes (e.g. changed behaviours, attitudes, new possibilities)

The positive impacts the project is giving is power, which the traditional system has been through a powered generator. Now it is no longer the old system but a clean power through the solar system. The new possibilities that the community will have to take into are using the system fully and that is through use of proper mediums for children if the school system ever introduces it. The community should introduce a learning centre, a reading club, a terminal to send emails or use terminals to send emails to families in NZ and Australia or use FB to chat with families to cut costs from long distance phone calls. The use zoom, FB, messenger can introduce knowledge to children if they had not been using one before.

Any negative or unforeseen impacts?

The negative impacts that could happen is shutting down the use of the deep freezers if the church places are not to the cooperative that is higher than the income it makes from selling fish and other things.

Impact on community / (counter-factual): If/had there been no BRANTV project, would the community/village (and citizens) have been able to realise some of the benefits and changes mentioned by you by some other means? And if yes, over what timeframe?

They would not have realised it if they had not been guided to reach it. There are some things that villagers will never get to know because they do not have a knowledge of it or have not seen or used it before. But to introduce new things like internet search for children with the introduction of an internet system would allow students to learn fast.

The changes that will take place will be for some 6 years or so once they have really set and looking at the benefits that the solar system is providing them.

Sustainability - Sustained benefits beyond the project end/in the future: How do you think the project will function after UNDP GEF BRANTV support has ended, with respect to the following aspects?

Installation management (e.g., does your community/village have a specific post-project plan in place?)

The community is fortunate to have a trained technician in solar system. Also if at anytime the system goes down, they may be able to use the services of the technician's in town if they have saved enough money to hire a person to fix the issues that the project is going through.

The community does not have a post project plan. It is a pity that the people should have been told at the beginning of the project, but they were not being informed. Maybe they have been informed but during the MTR, no-one spoke of a post plan. The project should take this up as the second phase of the project to ensure that there is a post project plan to ensure that the community works towards.

Maintenance (including security) arrangements (e.g., does your community/village have a specific post-project plan in place?)

The community does not have a post project plan. It is intended that the second phase of the project, there should be plan put in place for post project plans to ensure that the community understands what needs to be done after the project ends.

Repair arrangements (e.g., does your community/village have a specific post-project plan in place?) The same as above.

Financial/operation and maintenance and repair costs, etc. (e.g., does your community/village have a specific post-project plan in place?)

The committee does not have a post project plan. But an indication that shows that they might be able to take care of the system after the project ends is that they have saved some money from the charge collections. It needs the committee to start doing a post plan now to ensure that they can start to plan the future of the project if it ends.

Any other challenges/obstacles/risks to the satisfactory continuation of your installation after the project end?

The only challenge that the MTR has noticed is after the committee has started, there has never been a single committee meeting to discuss issues that might happen to the system. There is no policy to manage the system.

New needs or possibilities: Is there ways the project could help now, or in the future, to address needs /new possibilities that it is currently not doing?

The second phase of the project should ensure that the community cooperative should have more than 800 members. To have more members will mean that church will try to ensure that it will create a bigger venue to host more fridge and it will not allow the church to move them out. Also, the project will ensure that a contract must be signed between Saonleo sewing and Bulgaituvwa Cooperative that Saonleo sewing is part of the cooperative and that the services that both are providing are under the Bulgaituvwa Cooperative. In this way, the committee can manage the full system as one and the post project plan can forecast new plans towards the project.

In the second phase, there should be some trainings that could involve other government departments such as Cooperative on management and shares. There should be trainings on writing reports and keeping good records of what is being bought and sold. There should be some discussions on what the government wants to achieve under the productive sector. If possible, the cooperative should try and apply for some grant under cooperative to start buying local food and store them in freezer and resale per kilo. The idea is to allow to extend to Lini Memorial College next door to start buying local finish products from the women's cooperative at a reasonable price.

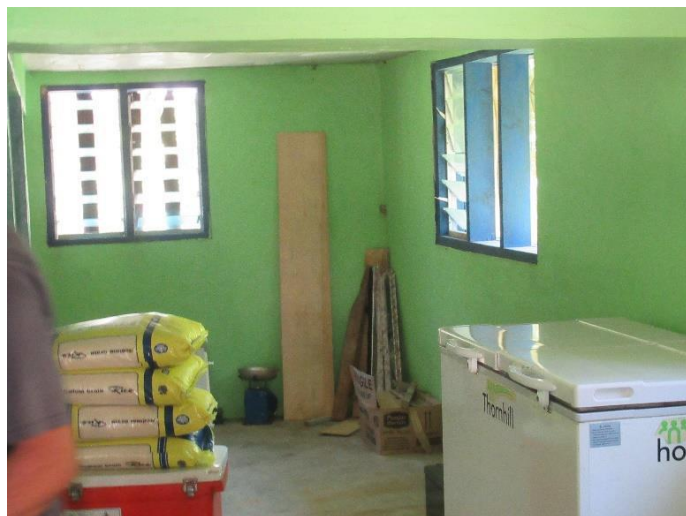
The second phase should look at setting up the cooperative proper and training secretaries and managers to manage the project well. If possible, expand the use with a terminal, a wireless system, the clinic with an incubator and nebuliser as the number of people within the area is big than the Abwatuntora clinic area. This is the fast-growing area with a small land mass, but a lot of development are taking place here.

Field Interview Report - Lolbaego Fish market











The Fish market site on the island of Pentecost is an extension of the Abwatuntora clinic solar system. The fish market has had so much difficulty in the past with high cost of running the fridge with powered generator. Since fuel cost is so high, the establishment of the solar system has proven to lower the cost of energy and save money for the fisher men who have been running the fish market. It has made it possible to test the system and see how much money can be made over the months and weeks it is still under the BRANTV project. Since the solar system is free, it has given other opportunities also for the owners.

The owner has started a small convince shop selling imported products. During the field observation, there were some bags of rice, local woven baskets, locally sewn dresses, and skirts displayed at the time of the observation.

Field Interview Guide (BRANTV MTR)

Relevance to your needs: What is the project's relevance to your community's needs?

Which needs does it address?

Provides meat - protein to the people within the 6-area council of chiefs.

Provides power to keep the fish fresh in the ice box over a longer period before they get rotten.

Bigger quantity of fish can be stored for longer periods but still fresh.

People can have access to power to charge their music box, torch, laptop, mobile phone with a small charge.

Provides power to host an ice box.

Provided a deep freezer for the fishermen's Associations.

It has encouraged the establishment of a Fisherman's Association.

It has assisted fishermen from North to South Pentecost and South Maewo to sell their catch here.

Assisted in the experiences of the fisherman to use the facility to make money to support their family financially.

b. How effectively does it address these needs?

The needs are being addressed on a casual basis. Since business in rural areas does not require huge mass advertisements but by words of mouth, the business is moving slowly each day to attract people. There are different ceremonies on the island that has allowed people to come far to buy meat. The owner of the project has extended his desires to other fishermen who often comes to sell fish at the fish market. The support of the project has increased the number of fishermen to around 30 boats.

2. Project implementation: Are you satisfied with the project's implementation (site installation etc.?)

c. What has worked well?

The installation of the solar system has been installed and tested and have been proven okay. Based on the location, it is saved from severe cyclone. The buildings and the high hills behind it have given the system a safer environment from being destroyed. Since the hospital and the fish market share one solar system, this report looks at the fish market part only. The second report will be based on the Abwatuntora clinic solar system.

The donation of the fridge to the fishermen has assisted the fishermen to meet the people's demands to eat fish. It has also lessened the time for the fishermen to sell their catch and allowed them a place to store and sell their catch rather than having to wait for someone to come and buy the fish. It has also given the opportunity to the fisherman to budget the time spent and cost of fuel which is the most expensive part of fishing. Most boats use outboard motors to run the boats and at a given day, one boat can run with 40 litres of benzene.

The fish market buys the fish at 600vt per kilo and resells at 700vt. A mark up of 10vt is charged to assist with the administration of the fish market.

What problems were encountered? And what solutions were found?

Since the establishment of the solar freezer, no technical issues have caused the machines but there were shortages of fish at sometimes when the weather is bad. It was noted that the idea of the fish man association was possible but it needs sometimes to consult all fisherman and allow the fisher men to come together and allow them to set up the office bearers.

What the fishermen should do now is to start mobilising them to set up the committee well. It will be only through this committee that the project can expand and allow this to be for the fishermen mouthpiece to the Fisheries Department. Project management: Do you have a committee in place to manage the system? If yes, who is involved in this committee/management structure.

There is not a committee in place. The family is managing the fish market until a time when all the fishermen will come together to elect a committee. Though there is no committee, the fish market is functioning in full as though there is a committee.

The person who acts as secretary and treasurer has been keeping a good record of all the fish kilos coming in from different fishermen, money saved, how much is spent and who has provided a huge number and kilos of fish. The records show that there is good management and safe keeping of the facilities. By experience, these fishermen have about three boats. They have been in the fish business for over 15 years now.

When they were asked the question of the committee, they said, the island is still recovering from the TC Harold. But they have discussed the committee with other fisherman and will see if they can all come together and form a committee to manage the freezers sometimes in 2021. They said they see a need for it would be appropriate since this is a government support program to the people.

What are members' levels of education and their experience to manage the project?

The fishermen who are managing the fish project have over 15 years in fishing business. They attended elementary school and completed some courses offered by the Fisheries Department.

Are women, youth, involved in this committee?

Not at all. Only one fisherman is involved but all records is exposed to all. But there will be a committee to manage the project to see that there will be other people in the program to manage the project facilities.

Are some sectors/groups/competencies not represented?

Since a committee is still to be established in the future, no records will be provided at this stage.

Local involvement and participation: To what extent is the local community aware about/involved/participate in this project/solar system?

Are community members well informed about the installation and (potential) benefits?

The group of people who were present and those who signed the forms for the installation were aware of the project. It is unfortunate that the most people in the community do not own boats to fish and sell at the fish market. Some have home-made canoes built in traditional ways. These canoes also sell their catches here to the fish market.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

The contributions of the community in the fish market were the approval that was negotiated to ~~to~~ the fish market and the project. People were involved in carrying out panels, carry sand and coral from the coastal areas to plant the posts for erection of the solar panels. They were also involved in assisting in pulling the electrical cables that came from the main distribution point to the house where the fridge is located.

Do women and youth participate in the project? If yes, in which aspects

There are youths who are fishermen. No women are fishermen. Based on the discussions, the cleaning of fish is done by all when the fish are dropped off to be stored in the freezers. The children assist in cleaning and washing the fish.

Does the chief take a deep concern about the project?

The chief was the signatory of the project at the beginning of the negotiations. It seems that during the MTR review, the chief's opinion about the name put up on the notice board gave him some contradictions as he might.

have thought lights will be distributed to all homes in the community. This does not reflect a concern by the chief. However, the other chiefs stated that the project has come, and it will stay with us.

This is not a bad idea to be thinking and make long term plans for the expansion of the project is the chief is thinking of expanding the project. It all depends on the committees of the two projects. If a joint meeting is held between the two projects, there might be a higher chance to run a full hybrid solar system within the full village.

How many people have pledged their support? In what ways were the support given?

Most of the fishermen have pledged their support to join the association and sell fish at the fish market during the installation of the deep freezer. But the amount of fish to reach the project does not meet the demands since fishing for commercial purpose is not something that most of the fishermen can do every day. Most of the fishermen have wanted to establish a fish market before which this project has fulfilled. The hardest part now is to get the supplies into the fridge. It is necessary to establish the fishermen's cooperative and allow to draw plans on how to manage the fish market. The hardest thing that must be sorted out is to start a design on an agreement that has to be signed between all the fishermen. The contractual agreement should state the amount for the fish catch by each fisherman and allow certain percent under the agreement to be used to upgrade and expand the fish market.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

With this project, the house where the fridge is being located has been built by the owners of boats who have started the project some 15 years ago. Coral, and sand comes from the community land. Cement were purchased by the owners of the fish market.

Local Monitoring & reporting: How does the community/village monitor/measure/report the performance of the BRANTV activity(ies) in their locality to the BRANTV PMO?

The person responsible for monitoring the project is through the number of kilograms that each fisherman's catch. Every day, the manager who buys fish and keeping the number of catches each day reports on the total kilograms of fish, what species of fish and the amount that should be paid to the fisherman.

The report is a requirement by the Department of fisheries to show the department on the number of kilos of fish species being caught on the island. This has been going on well.

Though the members of the executive have not been set up, based on the works that has happened over the past 15 years when the brothers were running three fishing boats are keeping a good record of what is happening with the fish catch and earnings of the fishermen.

Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

Installation reliability and performance

There is enough power to enable two deep freezers to be running with fish inside. Now, there has not been any issues with the performance.

Maintenance (including security)

One person has been trained to take care of the solar system. Each day he checks the inverter, the level of power released to be used by the two sites. The system has been well maintained since the day it was installed.

Repair

The system has not gone through major repair when the MTR team was on the ground. If there was going to be some additions made, there would be more circuit breakers to control the level of energy given out by the panels. If there were going to be additional panels connected to the current ones, there must be a good assessment before such is made.

Benefits and successes: What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?

Domestic chores (cooking) / hot water / education (e.g. schooling/homework) / leisure (e.g. reading) / Health / Other?

Providing power for deep freezers

Providing light for school children at night to do their homework.

Charging mobile phones

Charging music box

Charging torch lights

Reading at night

Environmental benefits? (reduced burning of firewood, reduced use of diesel?)

Reduce use of fossil fuels to run the deep freezers.

If the power was alone, the community might have ventured into using the power to boil tea and cook on it. This would have been very good as the location of the village shows that people travel inland across hills to collect firewood to the village. A stand-alone system will assist the community to cook on the solar system.

Cross-cutting issues: To what extent have cross-cutting issues have been considered?

Including

Gender dimension, specifically consideration and/or involvement of women and youth, and/or (other) vulnerable groups

The fishing project is open for anyone who has the passion to be a fisherman. One can use a canoe or a banana boat to catch fish to sell at the fish market. Now, for the incoming catch, women and

youth are all involved in cleaning the fish before they are weighed before they are placed in the freezers.

Climate change dimension (mitigation/adaptation) and disaster risk reduction

The fish market no longer uses fuel generators to power the freezers to keep fish inside. It now has moved to using solar that is clean and will not cause effects to the environment.

Rights-based approach

It needs to be stated that at times, top-down approach does not capture what the top-level management seems to be expecting more from the local people. It is often a failure also when the design of the project is wrong and what the people needs to know is often a silent word. The right based approach should have been the very first thing that the users of the project should have been given during a workshop to allow them to understand what they must do before the project ever comes.

These are:

A committee with a TOR

Each committee member with a JD

Level of education for all positions

What facilities they will have to manage the project (ie. Laptop, printer, paper etc)

Business Plan

Contributions from each fisherman

Filing cabinets

Manilla folders

Training manuals

The future of such establishments needs constant advices. Since these people have other jobs to do also to sustain their lives, it needs some people on the ground to be trained by such project personnel to ensure that what is given to support the community is really making a difference in the people's lives. Once an agreement and approval are made, for our people, this will live for ever in their hearts and prayers.

Impact on community / change: Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?

Positive impacts/longer-term changes (e.g. changed behaviours, attitudes, new possibilities)

The positive impacts the project has on the society is that it has provided meat every day to those who can afford to buy fish. A good measure for society to move out from eating canned meat which is good for lessening NCD reaching the life of the people.

People can charge their phones and talk to their loved ones in Vila and Santo and even those who have left home to work on the RSE program in New Zealand and Australia.

Any negative or unforeseen impacts?

There are no negative impacts at all.

Impact on community / (counter-factual): If/had there been no BRANTV project, would the community/village (and citizens) have been able to realise some of the benefits and changes mentioned by you by some other means? And if yes, over what timeframe?

The ongoing benefit now shared by the BRANTV is that there is always fish in the fridge because power is available at any time given time of the day. If there was less fish, the community could produce ice block, sell ice cream, continue to use their mobile phones as power is always there. In the past, when there was no fuel, no fish will be stored. All mobile phones will be dead for a week or two if there was endless rain.

Sustainability - Sustained benefits beyond the project end/in the future: How do you think the project will function after UNDP GEF BRANTV support has ended, with respect to the following aspects?

Installation management (e.g., does your community/village have a specific post-project plan in place?)

There seems to be no post plan but the ways the villagers have tried to welcome a few things to take place within the project proximity is "making money". Now, a savings of 115,000vt has been saved and is sitting with the management of the fish market. Since the management has seen the benefits of project, it is possible to expand the project from the fossil fuel use which is too expensive. They have expressed their commitment and wish to expand it they can make the money in the future.

Maintenance (including security) arrangements (e.g., does your community/village have a specific post-project plan in place?)

Since the solar system is shared by two projects. The hospital has a management team in place that takes care of the welfare of the equipment's within the hospital vicinity. This is where the full solar system is placed. As observed, the committee is committed to enhance new systems once they have properly set up the current system and seeing the benefits incurred to the community.

Repair arrangements (e.g., does your community/village have a specific post-project plan in place?)

Since the installations of these solar system were given to local solar companies who are licenced to carry out the works, training and maintenance, it is hopeful that those local people on the ground who were trained by the BRANTV project will assist after the project ended. The managers on the ground have started saving money from their fish catches and sales. The more money they make from the sales will surely assist to sustain the project.

Financial/operation and maintenance and repair costs, etc. (e.g., does your community/village have a specific post-project plan in place?)

The community does not have a plan in place, but they seem to understand that one day the project will end all assets will be given to the community. As stated above, the community has started saving some money, which will directly go to repair and maintenance costs after the project life.

Any other challenges/obstacles/risks to the satisfactory continuation of your installation after the project end?
The challenges that I see is that BRANTV project should also include in its outputs some management skills if a business is going to happen with the use of the solar system, a solar technician certificate level 3 or best, a book keeping certificate level 3, a business plan, a corporate plan and a strategic plan for the project. It would be very good to start training the village people to understand what will happen after the project end.

The sustainability of such systems rests on the daily use of the systems. That is, if there was a technician training given to a few youths, they will continue to monitor the level of energy supplied by the system and would recommend for switching of etc. If the solar system came to support a group of people for business like, then there needs to be a set up under the laws of this country. The operation should have a ~~Coop~~ plan, a Strategic and a Business plan that the BRANTV project will produce for each project site and allow trainings on the use of these plans before the project ends. If this is going to be something that must be done now under this review, then the initial set up will come under the Cooperative Departments and operate as cooperatives. This is the only way out after the project end as support will continue to come under the Ministry of Trade.

New needs or possibilities: Is there ways the project could help now, or in the future, to address needs /new possibilities that it is currently not doing?

As it is now, the demand for fish is high. It will be very good if the project could support the fish market to be a stand-alone solar system after the setup is good with all its members under a cooperative system. That is, it should have a different solar system on its own that will power more deep freezers to cater for the 30 fishermen if all are fishing and filling the freezers. It is not feasible to connect with the hospital one since the hospital will also have other facilities and equipment must use. As a point to note, the hospital will operate machines for operation of human parts, which means that the current output will be very small to run both the hospital and the fish market.

If the fish market completes its management plans proper with trainings proposed and plans under section 11 (e) above, then one can say that the small fish market that was once supported by the BRANTV project (government) has now fully grown into a business to support the fisherman cooperative with more new ideas under the current plans.

Thank you for your time and contribution!

Field Interview Report - Abwatuntora Clinic

The site at Abwatuntora clinic on the island of Pentecost has had the solar system built and connected to allow for use by the community clinic. All the panels had been built and connected to the inverter and battery in a strong room within the hospital vicinity. During the MTR visit it was noticed that the same solar system was shared with Fishermens project at lolbaego. A separate report has been submitted for the fishermen's project.

The Abwatuntora clinic has been using a powered generator to run the lights and the nebuliser within the clinic. The introduction of the solar system has lessened costs for the clinic and provided lights that could light all night to provide visibility for the nurses to walk at night. There is still room to expand the services within the clinic with the amount of power provided. This report will try and provide some ideas and recommendations that will guide the administration based on the power output and plans to ensure that the clinic operates a fully with the current solar system.





Field Interview Guide (BRANTV MTR)

Relevance to your needs: What is the project's relevance to your community's needs?
Which needs does it address?

Provides light to the outpatients and all rooms in the clinic and security to the clinic.

Provides power for the use of the nebuliser for those with asthma.

Provides power for the storage of medicines in the freezer.

Provide power for treatment of patients at night.

Solves the issues of working with patients at

Charge mobile phone batteries

Charge torch lights
Charge music box
Charge small lamps for outpatients.
Gives power to connect fans during hot time.

How effectively does it address these needs?

Since the solar system was built, the above issues that has once been a need for the clinic have now been lessened as the solar system is used night and day. The hospital is saving money on fuel use as it is no longer using power generators. The power is readily available, and patients can use it for the above-mentioned uses.

Project implementation: Are you satisfied with the project's implementation (site installation etc.?)

What has worked well?

I am not really satisfied with the project implementation as it is now. This is because the full hospital should not only have a few lights as it is now but should have at least one or two lights in a room with enough switches and power points. The light cables are not professionally done with tagtings and cables to the walls and ceilings.

What problems were encountered? And what solutions were found?

Not all the rooms have lights and the sick patient rooms, veranda, and no power points in the sick manrooms. There were 3 power points installed during the time of the installation of the solar system. It might have been based on the power outputs that the solar system is giving that no additional lights and power can be installed. These were reported during the interview with the nurse in charge.

No solutions have been stated otherwise as this is a technical issue that needs to be addressed by the project itself. If there must be more lights and power points installed, it must be the BRANTV project that will make it happen. It would be best to do it and complete it all for once.

Project management: Do you have a committee in place to manage the system?

If yes, who is involved in this committee/management structure.

Yes. There is committee in place. There is a chairman, and a secretary. The secretary is also the treasurer. The clinic has its representative in all the villages within the 8 ward councils within the Vatunmalan Vanua council of chiefs.

What are members' levels of education and their experience to manage the project?

The chairman is a class six leaver. The nurse is secretary/treasurer. She graduated with a nursing certificate from the nursing school in Port Vila. All other members from more than 30 villages are all farmers with some have completed year 6 primary school.

Are women, youth, involved in this committee?

The secretary/treasurer is a woman. Other member's names were not given by the nurse as their commitment has been very weak to support the works of the clinic. The MTR team feels that the committee needs to be resurrected to ensure that the current infrastructure and management of the hospital is managed with the new initiatives with an open mind that give benefits to the community.

Are some sectors/groups/competencies not represented?

There are no young people, no disabled people and church representative in the committee. But the administration is spread across the full Area council of chiefs that covers 8 ward councils of chiefs. It could mean anyone can be a member if they are chosen by the council to sit on the clinic board.

Local involvement and participation: To what extent is the local community aware about/involved/participate in this project/solar system?

Are community members well informed about the installation and (potential) benefits?

The community was involved. Since the chief has signed the project documents, this proves that the people has been made aware of the benefits that the project will bring into the community. Maybe not now but into the future especially the clinic

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

On a smaller scale, the introduction of the solar system has reduced greatly the expenses of fuel to run the generators to light up the hospital. Fuel wood will continue unless a much bigger system is put in place to ensure that fuel wood is not being used anymore.

Do women and youth participate in the project? If yes, in which aspects

The women and youth have not participated directly but have shown their appreciation to allow the system to be erected on their custom land help with the sick patients.

Does the chief take a deep concern about the project?

Yes, the chiefs take a deep concern about the project.

How many people have pledged their support? In what ways were the support given?

There were people who have pledged their support to the project by ways of inkind support towards the project.

What is/are the specific contribution(s) of the community/village in the implementation of the BRANTV activity(ies) in their locality, and in hosting the implementation of such activity(ies)?

Helping in building the solar by way of digging the land and burying the pipes that hold the solar panels together. They also look after the solar panels from being destroyed.

Local Monitoring & reporting: How does the community/village monitor/measure/report the performance of the BRANTV activity(ies) in their locality to the BRANTV PMO?

During the MTR review, there was no mention of how the manager of the hospital was reporting the activities to the PMO. It must be noted that if this were to be done, it would have been stated at the start of the project and what exactly was to be reported to the PMO.

Management and maintenance: What have been the main benefits/advantages/good things that you have seen on the use of the solar system?

Installation reliability and performance: The benefits seen from the solar system are:

There is light to work with at night if a sick patient comes in, taking away the torch light to a very bright fluorescent light inside the outpatient ward and emergency ward.

The lights are there 24 hours.

Use of the two nebuliser.

Use of electrical machines.

Possibility to host an incubator.

Maintenance (including security)

There are some local technicians who can deal with issues at the first stance and maybe call on the company to come and rescue the system or the Dept of Energy if the issue is much bigger.

Repair

Since the project will upgrade the skills of those who are gotten lower certificates approved under QVA, there will be personnel that will be available to do minor repairs on the solar system if it ever break downs. There is a technician at Angoro project who can be used to do minor repairs.

Benefits and successes: What have been the main benefits/advantages/good things and successes that you have seen on the use of the solar system?

Domestic chores (cooking) / hot water / education (e.g. schooling/homework) / leisure (e.g. reading) / Health / Other?

Reading, school work, leisure can be done hot water boiling for sick patients but may not reduce some of the life systems that is happening unless a big system is established to cover the full community where the clinic is located.

Environmental benefits? (reduced burning of firewood, reduced use of diesel?)

It will end the use of diesel at the hospital. But it may not stop it completely but will allow the generator to function when there is a heavy task that needs to be done especially during operations.

Cross-cutting issues: To what extent have cross-cutting issues have been considered?

Including

Gender dimension, specifically consideration and/or involvement of women and youth, and/or (other) vulnerable groups

The clinic accommodates any sick patient who maybe both young and old, male, and female. The solar system will assist any persons of gender for support and comfort. Issues of asthma can affect anyone, and the establishment of the solar system and the nebuliser will assist all.

Climate change dimension (mitigation/adaptation) and disaster risk reduction

On a small note, adaptation is good for the project. Mitigating the effects of greenhouse gas is possible but very small as the island does not have huge emission unless it is the seasons for shifting cultivation.

Rights-based approach

It is necessary to have the system as the clinic has been saving lives. With the addition of this solar system, it has created good opportunities for additional services to be provided to the hospital if the capacity permits it.

Impact on community / change: Is the project impacting you/the community in positive ways/was that are creating longer-term (positive) change?

Positive impacts/longer-term changes (e.g. changed behaviours, attitudes, new possibilities)

It is creating a very good image in the community with clean lightning and power that does not need to add other elements like powered generators. This is a very positive in the community to lessen pollution in the space which the people deserve to have now and into the future.

- a. Any negative or unforeseen impacts?

There are no negative impacts now. The unforeseen impacts are the likely effect of being destroyed by any cyclones which then will cause other impacts that may have longer term effects on the administration of the hospital.

- 3. Impact on community / (counter-factual):** If/had there been no BRANTV project, would the community/village (and citizens) have been able to realise some of the benefits and changes mentioned by you by some other means? And if yes, over what timeframe?

The changes they see now will go further if the management engages more resources into building it up to provide additional tasks that is not happening at the clinic. People know of solar system but smaller ones from this. The changes that they will see are saving lives and doing most things here at home and not referring patients to Vila or Santo. If the full system is working, amputation of body parts to prevent diabetes and cancer will happen on the site.

- 4. Sustainability - Sustained benefits beyond the project end/in the future:** How do you think the project will function after UNDP GEF BRANTV support has ended, with respect to the following aspects?

- a. Installation management (e.g., does your community/village have a specific post-project plan in place?)

They do not have a post plan, but they know that one day the full system will be handed over to the Abwatuntora clinic. As mentioned for other project site, the BRANTV project should assist the community on this so that the committee of the hospital can start to plan. Without a plan the committee will not be able to take the management forward again. This is a critical thing that the project needs to do for any of the project that it establishes just to make sure that the community know their roles and how they will manage it after the project ends.

- b. Maintenance (including security) arrangements (e.g., does your community/village have a specific post-project plan in place?)

The community also does not have a post project plan in place. Again, this is something that must be prepared by the project and bring it to the community and allow the community to discuss on how they will take care of it once the project ends. It needs this report to open doors for the next ones to ensure that project lives longer than one may expect.

The people in the community do not sit down and read but they do what we want them to do. Writing of reports is not common to them but recording something is easy. To say that they can write down, this is a fortune to them which will never happen in any ways.

- c. Repair arrangements (e.g., does your community/village have a specific post-project plan in place?)

They do not have a post project plan, but the clinic will have money to pay for someone to do repairs if the system collapses. As mentioned above, these post project plans will have to be produced by the BRANTV consultant to ensure that any other new established project must have all these plans to ensure that each project has all the post plans to provide sustainability in the project.

- d. Financial/operation and maintenance and repair costs, etc. (e.g., does your community/village have a specific post-project plan in place?)

The hospital collects money from patients each day. How they allocate money for the management of the hospital rests on the management and the committee. If there is a financial plan in place, then the solar system will have a budget in there to ensure that there is a repair cost inside.

- e. Any other challenges/obstacles/risks to the satisfactory continuation of your installation after the project end?

There are no challenges now. The management wants to see that the facility could be upgraded and provide the needed services that it is not happening on the island now.

5. New needs or possibilities: Is there ways the project could help now, or in the future, to address needs /new possibilities that it is currently not doing?

The solar system needs to be separated into 2 different systems. There should be one for the fisheries and one for the hospital. The reasons are:

1. The fish project will use more power when 30 more fishermen will join the project and will force them to purchase additional freezers. This will not be a very good outlook to the clinic since power use will be short for other machines to be used by the hospital.
2. Run a good lighting system in the entire clinic.
3. Add power points in all outpatient rooms and storage rooms in the hospital for future works.
4. Add good lights in the outpatients' rooms.
5. Ensure the system could use both solar and powered generator if neither does not work, the other can supply the needed energy.
6. Increase capacity of the solar system to cater for new installation.
7. Run and test all equipment's within the theatre and the clinic at one time to ensure that the hospital can accommodate the energy without failures.