Report

Review of Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu (FASNETT)



Mid-term Review Report April 2021

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Report - Mid-Term Review of FASNETT, Tuvalu

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GEF Implementing Agency:	UNDP
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Cover photo: Tafua pond, planned for floating solar panels (Chrisanthy Anne Amosa-Baniani 2021)

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- 2. MTR evaluative matrix [evaluative criteria with key questions, indicators, sources of data, methodology]
- 3. Interview Guide used for data collection
- 4. Rating scales
- 5. MTR itinerary
- 6. List of persons interviewed during the MTR
- 7. Findings from the Gender Survey How men and women use their time on an average day and the different uses of energy
- 8. Proposed updated SESP
- 9. Signed UNEG Code of Conduct Form
- 10.Signed MTR

Annexed in separate file:

- 1. Audit trail from received comments on draft MTR report
- 2. Relevant mid-term tracking tools or core indicators
- 3. GEF Co-financing template [categorizing co-financing amounts by source as expenditure mobilized or recurrent expenditure]

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
CEO	Chief Executive Officer
CO	Country Office
СОР	Conference of the Parties
COVID-19	Corona virus disease of 2019
CSO	Civil Society Organization
DBT	Development Bank of Tuvalu
DOE	Department of Environment
DE	Department of Energy
DOE	Department of Environment
DOG	Department of Gender
EE	Energy Efficiency
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EU	European Union
EY	Ernst & Young
FAO	Food and Agricultural Organization of United Nations
FASNETT	Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu
GEF	Global Environment Facility
GEFSEC	Secretariat of the Global Environment Facility
GHG	Grenhouse Gas
GoT	Government of Tuvalu
IEO	Independent Evaluation Office
INDC	Intended Nationally Determined Contributions
IRR	Internal Rules and Regulations / Internal Rate of Return
KM	Knowledge Management
LC	Low Carbon
LDC	Least Developed Country
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
MPWIE	Ministry of Public Works, Infrastructure and Environment
MTET	Ministry of Transport, Energy & Tourism
MTR	Mid Term Review
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organisation
NIM	National Implementation Modality
NZAid	New Zealand Agency for International Cooperation
ODA	Official Development Assistance
PIR	Project Implementation Report
PMU	Program Management Unit
POPP	Programme and Operations Policies and Procedures
PRODOC	Project Document
PV	Photovoltaic
PWD	Public Works Department
RE	Renewable Energy
ROAP	Regional Office for Asia and the Pacific
RTA	Regional Technical Advisor
R2R	Ridge-to-Reef
SDG	Sustainable Development Goals
SESP	Social and Environmental Screening Template
SIDS	Small Island Development States
SMART	Specific, Measurable, Achievable, Relevant/Results-oriented and Time-bound
STAP	Scientific and Technical Advisory Panel
ТА	Technical Assistance
TANGO	Tuvalem Association of Non-Governmental Organizations
ТСАР	Tuvalu Coastal Adaptation Project
TEC	Tuvalu Electricity Corporation
ТМ	Task Manager

TNEP	Tuvalu National Energy Policy (TNEP)
TNPSO	Tuvalu National Private Sector Organization
TOR	Terms of Reference
TWG	Technical Working Group
UAE	United Arab Emirates
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USP	University of South Pacific

1. EXECUTIVE SUMMARY

Project Title: Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu (FASNETT)						
Country: Tuvalu	ry: Tuvalu of Energy - Ministry of Tra Energy & Tourism (DE-M		Management Arrangements: National Implementation Modality (with UNDP CO Support)			
UNDAF Outcome 1.1 : Improved resilience of PICTs, with particular focus on communities, throu integrated implementation of sustainable environment management, climate change adaptation/mitigation and disaster risk management.						
UNDP Strategic Plan Outp increased energy efficiency energy)	UNDP Strategic Plan Output: Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy)					
UNDP Social and Environ Category: Low	mental Screening	UNDP Gender M 1	larker:			
Atlas Project Proposal ID:	00097730	Atlas Output ID	: 00101338			
UNDP-GEF PIMS ID number	er: 5613	GEF ID number	: 9220			
Planned start date: Octobe	er 2017	Planned end da	te: November 2021			
LPAC date: 20th Septembe	er 2017 (proposed)					
FASNETT is aimed at facilitating the development and utilization of feasible renewable energy resources and application of energy efficiency technologies for achieving the Government of Tuvalu's updated target of reducing emissions of greenhouse gases from the electricity generation (power) sector by 100% by 2029 based on the country's INDC in November 2015. The facilitation or enabling objective is meant to address i.e., eliminate the identified barriers to the cost-effective application of RE technologies using the country' indigenous RE resources, as well in the effective and extensive application of EE measures and technique that are also in line with low carbon development and involved in the sustainable development in the country through a barrier removal approach. This will be achieved through the implementation of fou project components: (1) Awareness Raising on Renewable Energy and Energy Efficiency Applications; (2) Energy Policy Improvement and Institutional Capacity Building; (3) Applications of Renewable Energy Efficiency Initiatives. The project is financially supported through the GEF (USD 2,639,725) and co-financed by th UNDP (USD 250,000), the Government of Tuvalu (USD 8,250,000) and Tuvalu Electricity Corporation (USI 7.400.000).						
CEE Trust Fund		USD 2 639 725				
UNDP TRAC resources		000 2,000,720				
Cash co-financing to be adm	ninistered by UNDP					
	Ū.					
• Total Budget administered by UNDP USD 2,639,725						
PARALLEL CO-FINANCING (all o	other co-financing that is i	not cash co-financi	ing administered by UNDP)			
UNDP USD 250,000						
	Government of Tuvalu	USD 8,250,000				
Tuvalu	Electricity Corporation	USD 7,400,000				
 Total co-financing 		USD 15,900,000)			
 Grand-Total Pr 	oject Financing (1)+(2)	USD 18,539,725	5			

Project Progress Summary

The FASNETT project is well aligned with Government priorities for the energy sector and Tuvalu's INDCs with the goal of 100% power generation from renewable energy by 2025. The project design has some clear weaknesses, especially related to institutional capacity, awareness and stakeholder participation. Despite having detected low institutional capacity, it was agreed on the Nationally Implemented Modality.

The progress on overall national-level targets reflected in the results framework is 60.7% at mid-term. The project's own internal progress is generally low, with on average 65% progress on the outputs under outcome 1, 20% under outcome 2, 9.4% under outcome 3, and 13.3% under outcome 4.

The project management and reporting structure does not seem to be clear for the PMU and the Government staff. This has to do with institutional weaknesses, but also that international projects lay a heavy burden on a small government structure. The PMU is small and weak, which is the main factor that has caused serious delays of the project. The PMU staff has insufficient project management experience in the administrative, financial and technical areas. It also lacks initiative and interaction with relevant stakeholders. An international support consultant has lately improved the situation. The project is little known, both within the partner agency and other relevant stakeholders, and is not interacting with most of those engaged in confronting the barriers to the energy sector. There are many lost opportunities for collaboration with the private sector, educational institutions, NGOs, civil society, and other projects, e.g. the UNDP-GEF R2R project.

This is the first time Floating Solar Photo-Voltaic (FSPV) technology is planned to be installed in the SIDS in the Pacific region. The Tafua mangrove pond where the FSPV panels would be established is heavily polluted, due to many pig farms around the pond. No ESIA was so far carried out for establishment of the solar panels, and no assessment has been done to determine biodiversity and other aspects of the site. The ESIA is part of the Engineering, Procurement, and Comissioning (EPC) contract that is currently being pursued through UNDP Copenhagen.

Based on the results of the Mid-term Review, the FASNETT has so far very few concrete results, and low possibility of impact and sustainability. The situation could however still change after installation of the FSPV, through strengthened focus on awareness and capacity building, and especially interaction with other stakeholders.

Measure	MTR Rating	Achievement Description				
Project Strategy	N/A					
Progress	Objective Achievement	The objective is expected not to achieve most of its end-of-project				
Towards	Rating: 2 (U)	targets (see below).				
Results	Outcome 1 Achievement	Good progress on assessing past RE/EE activities and capacity				
	Rating: 3 (MU)	needs, design of capacity development, website and M&E system				
		for energy supply. No progress on other targets.				
	Outcome 2 Achievement	Progress on policy research on low-carbon development and				
	Rating: 1 (HU)	institutional mechanisms, as well as policy standards. No progress				
		on other targets.				
Outcome 3 Achievement		Evaluation of applicable low-carbon development technology is the				
Rating: 1 (HU)		only sub-target finalized.				
Outcome 4 Achieveme		Some progress on inclusive financing models and capacity building				
	Rating: 1 (HU)	in that area, however recently initiated.				
Project	Rating: 2 (U)	The project is not implemented efficiently and effectively, and				
Implementation		most signs of adaptive management are due to UNDP support				
& Adaptive		initiatives. One adaptive management is to use a format for				
Management		tracking project activities and direct outputs, called "Activity				
		inventory".				
Sustainability Rating: 1 (U)		The project outcomes (if reached) would not be sustainable, due to				
		institutional, technical and financial capacity limitations.				

Ratings and Achievement Summary Table

Summary of conclusions

- The main strength of the FASNETT project is that it is well aligned with Government priorities, including the INDC goal to reach 100% power generation from renewable energy by 2025.
- The project design has some clear weaknesses, especially related to institutional capacity, awareness and stakeholder participation.
- The project is managing its official results framework (approved with the project document), which has overall national targets with little influence so far from the project. The project's own progress is poor except for component 1.
- The project management and reporting structure does not seem to be clear for the PMU nor for the Government staff.
- The PMU is small and weak, and the project has therefore experienced serious delays.
- The project is little known, both within the partner agency and other relevant stakeholders. There are many lost opportunities for collaboration (private sector, academia, NGO/CSO).
- The private sector's demand for different financial schemes and RE/EE products is not well known.
- The Tafua pond, where the floating solar panels would be installed, is heavily polluted. No ESIA was carried, however an ESIA is planned as part of the TOR for the firm to provide the FSPV.
- The situation for the FASNETT project could improve after installation of the floating solar panels, through strengthened focus on awareness, capacity building, and collaboration with other projects and stakeholders.

No.	Торіс	Recommendation
1	Terminate the NIM	UNDP and the Government should dialogue about the option of
		terminating the National Implementation Modality
2	Improve project	Reorganize in accordance with 4.3.1 of the MTR Report
	management	
3	Visibility	Improve project visibility, raising interest in collaboration and
		coordination, and disseminate best practices
4	Enhance Technical Capacity	Mainstream renewable energy into staff appraisal and training.
		International TA to DOE.
5	Partnership and	Urgently improve project stakeholder engagement with well-
	stakeholder engagement	coordinated activities and information flow
6	Integrated management	Develop and implement an integrated management plan for the
	plan for the Tafua Pond	Tafua Pond in collaboration with relevant projects and NGO/CSO
7	Build education system	Explore design and delivery of energy courses for primary to
	capacity	tertiary level education, and offer tuition scholarships
8	Intensify focus on removing	Design scheme for poor and low-income earners
	financial Barriers	
9	Business models for the	Map out demand for different financing and determine financing
	private sector	schemes for EE appliance trading
10	Focus on Beneficiaries	Focus also on individuals as primary beneficiaries (not only
		institutions and communities)
11	Installation of solar PV on	Project funding (including co-financing) cover this solar panels on
	institutions and school	buildings that don't have it.
	buildings	
12	Extension request and exit	UNDP should prepare a justified request to GEF for a 1-year no-cost
	strategy	extension. The project should also prepare an exit strategy.

Summary of recommendations

2. INTRODUCTION

2.1. Purpose and objectives of the Mid-term review

The purpose of the Mid-term Review (MTR) is to:

- Assess the progress towards the achievements of project objectives and outcomes as specified in the Project Document
- Assess early signs of project success or failure
- On this basis, identify and propose the necessary changes to set the project on-track to achieve its intended results
- Review the project's strategy and its risks to sustainability

2.2. Scope and methodology

The MTR Team applied the following **principles** through the execution of the mid-term review:

a) Free and open review process, transparent and independent from Project management and policy-making, to enhance credibility;

b) Review ethics that abides by relevant professional and ethical guidelines and codes of conduct, while the review was undertaken with integrity and honesty;

c) Partnership approach, to build development ownership and mutual accountability for results. A participatory approach was used on all levels (UNDP and its consultants, institutions, partners, beneficiaries);

d) Co-ordination and alignment, to consider national and local reviews and help strengthen country systems, plans, activities and policies;

e) Capacity development of partners by improving review knowledge and skills, stimulating demand for and use of review findings, and supporting accountability and learning; and

f) Quality control throughout the review process.

Review methodology: The review paid special attention to the progress and compliance with expected project outputs, and progress towards outcomes and initial impacts, and the influence and integration of the experiences and lessons learned. The MTR Team consisted of one Team Leader stationed in Norway and one National Consultant stationed in Tuvalu. Due to the Corona virus pandemic no international missions were included for the review, but face-to-face meetings and field trips in Tuvalu were carried out by the national consultant. Additional stakeholder interviews were carried out through Skype, phone, Whatsapp, etc., with follow-up through e-mail. Based on review of the results, the review team analysed if the program has given or is expected to give the intended impacts, to comply with the Project objectives.

The specific design and methodology for the MTR was based on the TOR, presented in the Inception Report and agreed with UNDP and PMU. The Team developed a detailed review framework based on the evaluation questions. These questions are those that the MTR team should be able to respond based on information from multiple sources. For each stakeholder interview it was given emphasis to have a flexible approach where the questions would vary according to the specific information held by each stakeholder, which is assuring efficient use of the interview time. This flexible approach also gives the opportunity to go deeper into some important topics might come up during the interviews, to assure that the total information achieved would be as complete as possible. Many questions were however repeated in interviews with different stakeholders, to triangulate the information, thereby assuring the correct data. The approach still allows for differences of opinion, where opposing opinions (if any) could be mentioned in the report.

The MTR team tried to cover all stakeholders that are relevant for the project, both women and men, from any ethnicity and age group. Tuvalu is a small country with only approx. 10,500 inhabitants¹, and

¹ According to the last census (2017), Tuvalu has a population of 10,645, out of which 10,507 is resident population (5,403 men and 5,104 women). 6,320 lived in Funafuti and 4,187 on the outer islands.

considering the type of project it was never an option to interview many local people. Those interviewed reflect the stakeholders that are important within the project or in relation to it, including the % of each gender (that was recorded). Since the project has progressed very little so far, the only beneficiaries to consider were participants in the training events. The fact that the team had a national woman to carry out the local interviews assured a gender responsive approach and her confidence with the women interviewed. Apart from gender mainstreaming, other cross-cutting issues covered were social and environmental impact, and support to the Sustainable Development Goals (SDGs), which both are incorporated into the MTR report.

The MTR team assumed that all the most relevant documents would be available from the start of the review, including the updated results framework, updated financial information and updated GEF Climate Change Tracking tool. This was not the case, and it was a challenge for the reviewers having to wait before the last of these documents was finalized. This weakness delayed the review progress and the opportunity to verify data from the mentioned documents during the stakeholder interviews, apart from contact with UNDP and PMU.

Carrying out the MTR during the COVID-19 pandemic gave many challenges. First of all, it was not possible to carry out international travel for the review, and this was also not expected according to the TOR. For that reason the national consultant carried out all the field visits and the majority of the local stakeholder interviews. The national consultant was still able to carry out some field visits, as well as meetings with all the important decision makers, partners and other stakeholders. Interviews with other persons were carried out through Internet platforms and phone.

2.3. Target audience for the review findings

The conclusions, recommendations and lessons learned from the review would be useful especially for UNDP and the Government of Tuvalu represented by the Executing Agency Department of Energy, Ministry of Transport, Energy & Tourism (DE-MTET), while another important partner is Tuvalu Electricity Corporation. It is also expected that the MTR report would be useful for other small island development states (SIDS), especially in the Pacific region and the evaluation offices of UNDP and GEF.

2.4. Structure of the MTR report

The MTR report is structured based on an analysis of elements with a logic sequence:

- a) Understand the Project Context, Design and Strategy: *What will the Project like to achieve?* (including review of the content and use of the results framework)
- b) Review the Project performance: *Is the Project achieving what it should, and having sufficient progress?*

(progress towards results, barriers to overcome, project management, etc.)

- c) Consider opportunities for or risks to the *sustainability of project outcomes* (including financial, socio-economic, institutional and environmental issues), and
- d) *Recommendations* for the rest of the program implementation.

3. PROJECT DESCRIPTION AND BACKGROUND CONTEXT

3.1. Development context

This sub chapter considers the different external factors that are relevant for the FASNETT project and could affect its performance, but that to very limited degree are influenced by the project during the implementation period.

3.1.1. Environmental factors

Tuvalu is a SIDS, an atoll² country, and the fourth smallest country in the world with land size only 26 km². It is one of the most environmentally fragile states in the Pacific due to its low elevation that makes it vulnerable to climate change with raising ocean level, beach erosion and natural disasters such as typhoons and tropical storms. In the atoll countries, the soils are mostly infertile and not very good for

² Atoll is a coral island or islands, consisting of a belt of coral reef, partly submerged, surrounding a central lagoon or depression

agriculture. Limited freshwater resources, combined with excessive drainage, make agriculture even more difficult, with the result that annual crops often are produced only in the rainy season.

Renewable energy (RE) resources such as solar, wind, biomass and ocean energy are recognized as potential energy alternatives in the country. RE contribution reached 42% of the national electricity supply capacity mix in 2016, mainly from solar PV, but the share of RE has later declined because the total energy consumption has increased with a higher % coming from petroleum.

3.1.2. Socio-economic factors

Tuvalu is the third-least populous sovereign state in the world (approx. 10,000 in 2014). It is one of the Least Developed Countries (LDC), and the small size combined with geographic isolation makes it nearly impossible to achieve economy of scale in any sector. One of the many constraints to development is the high dependency on imported energy resources, mainly petroleum products, while alternative national energy resources are poorly developed. High fuel prices and fluctuations have a destabilizing effect on businesses and households, limiting growth and reducing food security, especially in the outer islands.

3.1.3. Institutional factors

The Department of Energy under the Ministry of Transport, Energy and Tourism is in charge of the energy policy, renewable energy projects, and regulation of the storage and sale of petroleum fuels. There is no independent energy regulator; but the state company Tuvalu Electricity Corporation (TEC) was established in 1991. The Ministry is closely involved in key decisions of the TEC including energy regulation, but there is little interaction among these entities in energy project implementation. TEC has however been actively involved in early project development consultations, design, inception, and project board meetings during implementation, as well as monitoring and reporting of RE power generation, all in accordance with MTET/DOE's mandate.

3.1.4. Policy factors

The Government of Tuvalu declared in the 2009 Tuvalu National Energy Policy (TNEP) that 100% of the country's electricity would come from renewable energy sources by 2020, a goal that was not reached. In November 2015, after signing the Paris Agreement on Climate Change, the Government submitted its INDC to UNFCCC, confirming a national goal to reduce GHG emissions from electricity generation by 100%, and reach almost zero emissions by 2025 through the use of renewable energy sources and energy efficient technologies. The goal was ratified through the enactment of the Climate Change Resilience Act 2019, however it refers to the Energy law and policies for the renewable energy and energy efficiency which are under review. The Nationally Determined Contribution (NDC) pursuant to the Paris Agreement may be delayed due to the current review of the Energy Efficiency Act. The TNEP also needs updating in light of the NDCs and does not provide a detailed action plan for the energy policy and development of the sector. The process needs to be completed by: (i) prescribing the emission reduction targets as required by the Climate Change Resilience Act; and (ii) officially communicating the NDC for Tuvalu to the UNFCCC.

3.2. Development Problems that the project sought to address

3.2.1. Problem statement

Tuvalu's small size (land size and population), being a least developed country (LDC) and one of the most fragile states in the Pacific due to its low-lying land are parts of the country's difficult context. A constraint to development is the high dependency on imported energy resources, mainly petroleum, with few alternatives developed so far, which is the problem the project sought to address.

3.2.2. Threats

The MTR team considers that the main threat to the objectives of the project is the institutional capacity. In Tuvalu there is a combination of weak capacity on both executing partner level (DE-MTET) and PMU level, which could negatively affect the project outcomes and sustainability. It seems like the weakness is both technical and organizational. This goes back to generally low capacity in the very small country and weaknesses in the project design (see 4.1.1). The fact that UNDP staff and consultants are doing what they can to support implementation, it does not make up for institutional weaknesses and the

threat that the results of the project might not be sustainable in the future under purely national implementation modality.

3.2.3. Barriers

Insufficient Awareness: The level of awareness in the country is low regarding the benefits of RE and EE, including the attitude towards energy conservation and application of RE in people's daily activities. Most capacity building and awareness rising on these issues have been done only on the main island of Funafuti, not much on the outer islands. Some level of visibility has however been achieved through multi-media and social platforms e.g. the recently established FASNETT Facebook page. Most of the previous and ongoing RE projects in Tuvalu are on solar PV power generation, and the capacity development is mainly on installation, operation, repair and maintenance of the systems. Knowledge of RE/EE is low, and there is a significant lack of technical, policy and financial skills on the topic, including the public sector. There is also insufficient communication and information sharing between different branches and programs of the government.

Policy and Regulatory Barriers: The TNEP (2009) is not up to date, not in line with the INDC (2015), and therefore not an efficient instrument for energy sector development. It also does not provide a detailed action plan for implementing and enforcing the country's energy policy. Further barriers include: (i) lack of clear and appropriate policies, strategies, rules and regulations on energy development and utilization, e.g. the role of the private sector; (ii) inadequate enforcement of existing energy policies, strategies, rules and regulations; (iii) subsidized costs for electrification and petroleum fuels; (iv) government not able to pay its power bills on a regular basis; and (v) lack of policies for financial/fiscal incentives to encourage private sector in sustainable energy projects.

Institutional Barriers: The Ministry of Transportation, Energy and Tourism is not directly involved in sustainable energy programs, despite being in charge of the implementation strategies and work plans for government energy projects. At the time of the MTR, there was only one staff left, however TEC and PMU are expected to augment the lack of capacity. There is no independent energy regulator, but there is a corporatized state owned TEC, as well as a separate entity that looks after the petroleum products that comes in and utilized in the country. It is therefore difficult to achieve a coordinated and effective public sector in support of the official policy on RE/EE.

Technical Barriers: The only technology that has been deployed in relatively large scale is solar PV energy. Risks regarding long-term operation mainly concern corrosion and rust, since all sites are close to the ocean and the air is rich in salt. Despite the lack of land for PV installation, there are still many rooftop sites that have not been utilized. The technical capacity on energy is mainly in TEC, and to less extent in DE-MTET. In TEC, many of the technical applications need continuous improvement. The country has not developed a coordinated technical resource base, where different entities working on RE/EE can have access to the same information and dialogue on how to deal with technical issues. TEC is operating the RE/EE unit based on recommendations from a NZ funded study in 2010. Financial Barriers: Most of the RE based power generation projects are funded through bilateral and multi-lateral sources, while there is very limited co-financing or separate initiatives from the public or private sector. The reasons include: (i) power generation of the TEC being the only legitimate supplier of electricity in the country - all the projects carried out for TEC; (ii) the private sector relies mainly on electricity supply from TEC; and (iii) The residential sector purchase of EE appliances is limited to those that are being sold in the country, e.g. cheap Chinese technology that is not the most energy efficient; (iv) the Development Bank of Tuvalu (DBT) is risk-averse to investments for projects similar to the RE projects (but it has a loan program for homeowners). A DBT awareness and marketing campaigns on solar lighting for remote areas has so far approved only one application, and the financial solutions are still work-in-progress; and (v) multi-country financing opportunities have not been working efficiently in favor of Tuvalu.

3.3. Project description and strategy

3.3.1. Objective

The objective of the FASNETT project is the facilitation of the development and utilization of feasible renewable energy resources and application of energy efficiency technologies for achieving realistic energy targets in Tuvalu.

3.3.2. Outcomes and expected results

The project has one official results framework, with targets on overall national level, and for project management uses a table called "Activity inventory" with outputs on project level. The following table summarizes the project's content with outcomes and outputs for each component.

Table 1. Project content

Outcomes	Outputs
1. Improved awareness and	1.1 Report on impact analysis of previous EE/RE capacity development activities
attitude towards sustainable RE &	1.2 Completed capacity needs assessment in the area of EE/RE applications
EE technology applications in the	1.3 Completed design and implementation of suitable EE/RE capacity development programs for key
public, commercial and energy	stakeholder groups
sectors	1.4 Comprehensive evaluation report on implemented capacity building programs
	1.5 Published and disseminated information on: (a) Sustainable EE & RE technology applications in island
	communities; (b) Results of project activities particularly from the EE/RE technology and commercial
	application pilots and demonstrations; (c) Formulated and approved policies and regulatory frameworks in
	support of EE/RE applications, low carbon devel.; (d) Mechanics of the established financing schemes.
	1.6 Established and operational information exchange network and website for the promotion and
	dissemination of knowledge on low carbon development
	1.7 Established and operationalized energy supply and consumption monitoring and reporting and data
	banking system
2. Coherent and integrated	2.1 Completed policy research, analysis and assessment on low carbon community development, as well as
implementation of enhanced	institutional mechanisms compatible to the Tuvaluan context
policies, regulations and projects	2.2 Recommended standards, policies and implementing rules and regulations (IRRs) on the promotion and
on energy development and	application of EE/RE technologies, and financing schemes for EE/RE applications embodied in an energy
utilization with the country's	bill based on completed researches as well as results of implemented low carbon (EE/RE) technology
energy act in support of national	application demonstrations in Tuvalu and other similar SIDS
economic development	2.3 Formulated and enforced policies by well-informed legislators and administrators on the provision of
	energy services, including the publication and dissemination of guides and reference documents for the
	integrated energy planning and low carbon development in the context of Tuvalu
	2.4 Enforcement of the institutional framework and guidelines that support the implementation of low
	carbon development policies, and IRRs
	2.5 Adopted and enforced: (a) sustainable low carbon standards, policies, and IKKS; and (b) suitable institutional mechanisms that integrate low carbon development with the casis, economic climate scharge
	and diseases measurement objectives of the equation
	and unsaster management objectives of the country
	2.0. Performance evaluation report on the adopted institutional namework and internatisms
	2.7 Appl over follow-up and sustainability plan for the enforcement of consistent government development
3.1 Enhanced energy utilization	plans, poncies and institution report on applicable LC development technologies including applicable RF
efficiency and development and	sources and EE technologies that can be feasibly applied in the small island environment in Tuyalu
application of feasible renewable	3.1.2 Completed designs, plans of demonstrations of approved RE and EE technologies that promote and
energy resources in support of	support LC development in the country
national economic development	3.1.3 Successful demonstration of approved EE and RE technologies that promote and support LC
_	development in the country and comparative evaluation report from monitoring of other existing RE/EE
	installations
	3.1.4 Published energy performance and impact reports on implemented LC projects; including action plan
	for community-supported LC energy initiatives in island communities
	3.1.5 Completed technical information packages and guidelines based on RE/EE project implementation
	experience for use in the capacity development program
	3.1.6 Completed design/implementation plans for replication of demonstrated successful LC energy projects
3.2 Increased application of viable	3.2.1 Completed and operational LC development technology application demonstrations in accordance to
climate resilient RE and EE	established quality standards in pilot tropical coastal communities enhancing market opportunities for
technology applications in the	RE/EE applications
country	3.2.2 Implemented LC projects in selected communities
4.1 Improved availability of, and	4.1.1 Completed design and development of feasible inclusive financing models and schemes to facilitate
access to, financing for climate	financing of EE and RE projects
resilient renewable energy and	4.1.2 Completed capacity building to increase confidence of the existing banks (including the Development
energy efficiency	Bank of Tuvalu) and private sector on technical and financial viability of residential/ commercial climate-
	resilient EE and RE projects
4.2 GoT, the financial sector and	4.2.1 Established and operational low carbon technology application support program
donor agencies providing	4.2.2 Developed and recommended financing schemes for implementation and capitalization by the GoT
accessible financing for climate	and/or private sector financial institutions
resilient renewable energy and	4.2.3 Completed RE and EE technologies application projects financed either through the established
energy efficiency projects	financing scheme or by private sector investments
	4.2.4 Completed evaluation and continuing enhancement of suggested financing policies and schemes for
	supporting initiatives on low carbon development

3.3.3. Field sites

The project sites visited during the MTR review were as much as possible chosen with the purpose of covering a representative selection. However, the main project site visited is the pond where it is planned to establish floating solar panels with support from the project. The national consultant also visited the CDI field site, which showed that so far no work has been done there³. Since this project so far has very limited field results, the most important information was achieved through direct stakeholder interviews. Complementary information was achieved from UNDP staff and consultants, the Internet, documents and other sources.





³ The University of Technology in Sydney (UTS), selected as the EPC contractor for the Solar/CDI Water Purification Demo, visited the CDI site in November 2019 as the basis for their proposal submitted in April 2020 and a draft MOA. The Contract is being finalized at the time of the MTR. The UNDP Team carried out a field visit there in March 2020.

3.4. Project implementation arrangements

3.4.1. Implementing partner

Department of Energy – Ministry of Transportation, Energy and Tourism (DE-MTET) on behalf of the Government of Tuvalu.

3.4.2. Implementing partner arrangements

The project has its office in Funafuti and is supported by two UNDP offices. The UNDP Pacific Office in Fiji (Suva) provides programmatic oversight while UNDP Bangkok Regional Hub provides technical oversight and ensures fiduciary compliance of UNDP/GEF. The Government of Tuvalu has the overall role as the Implementing Partner in the National Implementation Modality (NIM). According to the project document, the designated implementing partners of the project are, additional to ED/MPUI (now DE-MTET), the Tuvalu Electricity Corporation (TEC) and the Department of Energy. The following table also mentions other stakeholders that are important for the FASNETT project implementation.

Stakeholder	Roles and Responsibilities in Project Implementation	Type of stakeholder ¹
United Nations Development Programme (UNDP)	GEF Implementing agency. In charge of monitoring and support to project implementation, budget management and reporting to GEF	IG
Department of Energy - Ministry of Transport, Energy & Tourism	Lead project executing agency with overall responsibility for project management and communication with UNDP	GO
Tuvalu Electricity Corporation (TEC)	State-owned national power utility company assisting in management and implementation of the project. In charge of the implementation of project activities such as EE and RE technology.	BI
Department of Environment – Ministry of Public Works, Infrastructure & Environment (DOE/MPWIE)	Provision of technical support and assistance on promotion of RE/EE technologies and provision of data inputs on plans and programs of donor funded sustainable and environment- friendly energy projects. Minor role than the previous two.	GO
Department of Rural Development	Coordination, communication and provision of data for the implementation of project activities on selected islands, sustainable livelihood and community mobilization	GO
Development Bank of Tuvalu	Implementation of financing models and recommendations in the enhancement and capacity building, and act as the project's manager for financing/grant schemes	GO
NGO, Social community and the other social/civic groups	Assistance and advice in the identification and analysis of barriers to the application of RE/EE in village development and participation of socio-civic groups in project activities.	NG
Island communities and households	Assistance and advice in the identification and analysis of barriers to the application of RE/EE in village development and engagement of community leaders.	NG
Kaupule (outer islands local councils)	Demonstration and replication activities, operation/maintenance, resource mobilization and engagement of local government.	GO
Department of Gender	Advice on the gender-sensitive project capacity development, including the involvement of women in demonstration activities.	GO
Tuvalu National Council of Women	Collaboration and regarding gender participation in project activities, RE and EE-based livelihoods.	NG

Table 2. Key stakeholders for the FASNETT project

¹Stakeholder group refers to the nine main groups recognized by Agenda 21, where these are included in the table: *BI*=Business and Industries; *NG*=Non-Governmental Organizations. The Reviewers have added Governmental (*GO*) and Inter-governmental organizations (IG).

3.4.3. Project Board

The Project Board consists of representatives of UNDP Pacific Office, UN Joint Presence Office in Tuvalu, Ministry of Transportation, Energy and Tourism -Department of Energy (DE-MTET), and Tuvalu Electricity Corporation (TEC). The Board is the decision-making body at policy level, and responsible for review of the project implementation, endorse the annual work plans, and decide on major and significant changes e.g. in the results framework, including governance and management arrangements.

The Senior Beneficiary, DE-MTET, TEC and the Outer Islands represent the interests of the project beneficiaries. Their primary function within the Board is to ensure the realization of project results. The Project Board is responsible for ruling by consensus, but in case this cannot be reached, final decision rest with the UNDP Pacific Office Resident Representative. Project Board decisions should be made in

accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition.

Fig. 2. Project structure



3.5. Project timing and milestones

Project timing and milestones are reflected in table 3 and 4. The project goal of reaching 100% electricity generation from renewable energy by 2025 led to a series of milestones that were included in the project document, and expected to be used as a tracking tool to check project achievement. Results are given by year and by island. Sadly, this did not happen and the development has in fact gone in the opposite direction (see table 5).

Islands	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Funafuti	14%	20%	34%	48%	60%	72%	81%	89%	96%	100%
Outer Islands	82%	86%	90%	93%	96%	97%	98%	99%	99.5%	100%
Total Tuvalu	26%	32%	44%	57%	67%	77%	84%	91%	97%	100%

Table 3. Roadmap to achieving 100% RE electricity generation by year 2025

As previously mentioned, the project manage two frameworks, one "Activity inventory" with outputs on project level and one results framework on national level. The national level is the result of all relevant stakeholder activities. Table 4 presents the milestones on national level milestones are defined with baseline, mid-term and end of project level, and they complement the yearly targets included in table 3. However, the project outputs have little relation with these milestones, partly because FASNETT is one of many projects, and partly because the project has limited political influence on the policies that would lead to compliance with the milestone targets. These are issues that will be further analysed and discussed in the next chapter.

Table 4. Milestones on national level, part of FASNETT design

Objective: Facilitation of the development and utilization of feasible renewable energy resources and application of energy efficiency technologies in Tuyalu for achieving realistic energy targets in Tuyalu							
Milestones on objective level	Baseline	Mid-term target	End of project target				
% share of RE in the national power generation mix	26%	44%	67%				
Incremental GHG emission reduction from power generation, tons CO ₂	757	5,000	15,000				
No. of women actively involved in the planning and implementation of energy services provision in the outer islands	0	5	10				
Milestones on outcome level		•					
Outcome 1. Improved awareness and attitude towards sustainable RE & EE techn	ology applica	tions in the r	oublic,				
commercial and energy sectors	05 11	1	,				
1.1 No. of communities that are capable of organizing, planning, designing, implementing, operating, and maintaining RE-based power generation systems	0	2	4				
1.2 No. of households, schools, public buildings, and commercial establishments that are using low carbon technologies (by RE- and EE-based energy systems)	396	400	410*				
Outcome 2. Coherent and integrated implementation of enhanced policies, regulations and projects on energy development and utilization with the country's energy act, in support of national economic development							
2.1 No. of planned RE & EE projects benefiting from the policies and regulations supported by the Energy Act	0	0 50 100					
Outcome 3 Enhanced energy utilization efficiency and development and application of feasible renewable energy							
3.1 No. of companies adopting the established standards in supplying or producing RE/EE system equipment or component parts	0	1	2				
3.2 % new users of RE/EE system equipment and component parts that are satisfied with the quality, cost, and operating performance of these items	0	25	80				
Outcome 4 Increased application of viable climate resilient renewable energy and applications in the country	energy effici	ency technol	ogy				
4.1 Increased number of low carbon technology projects (new, or replication, or scaled-up)	16	20	31				
Outcome 5 Improved availability of, and access to, financing for climate resilient renewable energy and energy efficiency							
5.1 No. of established and operational financing schemes for RE/EE projects	0	1	2				
5.2 No. of private sector RE/EE projects financed by commercial banks and/or by the private sector	0	1	2				
Outcome 6 Government of Tuvalu, the financial sector and donor agencies providing accessible financing for climate resilient renewable energy and energy efficiency projects							
6.1 Increase in government budget for low carbon technology-based projects, US\$	0	200,000	400,000				

*Proposed by PMU to be changed to 2,740

4. REVIEW FINDINGS

4.1. Project strategy

4.1.1. Project design

The Review Team reviewed the quality of program design, based on the key sources the Project Document with annexes and the Results Framework. The project design has some major weaknesses, especially related to institutional capacity, awareness and stakeholder participation. Some issues could have been dealt with in major detail during the PPG phase, such as the capacities, roles and responsibilities of the national project partner and other stakeholders. The project was designed from 2015 and GEF CEO endorsed in 2017. Some indicators have been adjusted later, partly due to better sets sets of information compared with the reference documents that were used during the design phase.

(i) Problems addressed

The problems Tuvalu is confronting are mentioned in the project document and summarized in 3.1 and 3.2, including the high dependence on energy from diesel⁴. To confront this specific problem, renewable energy (RE) resources such as solar, wind, biomass and ocean energy are recognized as potential energy alternatives for the country. Tuvalu's INDCs (2015) defined the objective to reduce GHG emissions from power generation to almost zero by 2025 through the use of RE and energy efficient (EE) technologies. This would however require to overcome important barriers, such as RE & EE awareness, Policies and regulations, as well as institutional, technical and financial barriers.

Relevance: The national ownership of the project is reflected in the relevance for the priorities in Tuvalu's policy and strategies for climate change mitigation. The 2009 National Energy Policy defined a target of 100% renewable energy for power generation by 2020. This goal was reaffirmed in Tuvalu's INDC, submitted prior to COP21, with the target date extended to 2025.⁵, however the NDCs have not yet been formally presented to the UNFCCC. An undermined assumption was made of an easy achievement of the national target based on an assessment in mid-2016 of RE contribution of 42% and existing baseline projects in 2017. Sector developments in pipeline (i.e. Convention center, rebuilding of Government houses, housing, institutional expansion including school renovations and hospitals branches in outer-islands, and private sector developments), existing competing land or property interests on Funafuti, and immigratory patterns for population increase.

Projects in the energy sector from different donors were reviewed during the design phase, including the World Bank, EU, New Zealand Aid, UAE-Pacific Partnership Fund, and Finland. It was decided to complement other agencies (World Bank, ADB, bilateral cooperation), but the PPG studies did not find many available places to put solar panels. A study was therefore carried out to find out where, and came up with the idea of floating PV. It had been used since 2008 by a French company, but never in the Pacific.

(ii) Assumptions and risk analysis

Insufficient national capacity: The design team assumed that the project could be implemented on time, but Tuvalu is a very small Least Developed Country (LDC) with low national capacity on most levels, and according to people interviewed there is no sense of urgency. The Government's developments in pipeline at the time, including the construction of extra houses for employees, the Rt. Sir Tomasi Puapua Convention Centre, importation of project materials and cars were also not foreseen. This led to 6-7 months start-up delay in 2017, almost 1 year delay in 2018 to review and adjust indicators, and major delays in 2019 to start procurement of floating solar panel. Tuvalu is also one of the countries in the world with highest official development aid (ODA) per capita⁶, with a lot of development projects that put a high pressure on the weak public institutional structure. Also the private sector is weak, and cannot make up for deficiencies in the public sector. During the PIF review on July 31, 2015, the GEFSEC commented that it is not clear whether the capacity of business and commercial actors will be strengthened so that the low carbon technologies are introduced and maintained properly. It was therefore recommended to include activities for these business and

⁴ Table 1 and Table 2 of the Project Document.

⁵ Te Kakeega III, page 8.

⁶ According to the World Bank, Tuvalu ODA was USD 18.81 Million in 2018, or more than USD 1,700 per capita.

commercial actors in relevant components and as stakeholders to reduce the technical barriers. It should be highlighted that **when there is insufficient capacity to implement a project, the error is in the design, not in the PMU**, because the weakness should have been captured during the design phase and led to another implementation modality or stronger measures of capacity building.

The MTR Team considers that it was a high risk to add a project in Tuvalu, especially under the national implementation modality (NIM), due to the low national capacity and because the project intends to introduce new technology (floating solar panels) that had never been used in the Pacific region before.

Support from Local Communities: An important risk properly identified in the Inception Report is that "...local communities in Funafuti and the outer-islands may not support the project implementation promptly and sufficiently"⁷. The MTR team considers that the measures required to mitigate this risk were misunderstood⁸, because the project is well supported by the local communities that know about it. Particularly for Funafuti, the required support demanded more than mere acceptance of demo projects to be conducted. It required cleaning the Mangrove Pond by addressing the sources of pollution. The Funafuti Kaupule through a local project titled "Saugavaka" has this as their primary objective, however, it is currently at the stage of seeking funds⁹ through the Climate Change Department to GCF and also partnering with the UNDP-GEF Reef to Reef project (GEF ID 5550).

Not well defined risk for pond: No proper assessment was done on the pond site to be used for solar PV, which consists of brackish water surrounded by mangroves. The SESP mentioned the risk of potential adverse biodiversity impacts to habitats in the pond areas to be used for floating solar PV plants¹⁰. The concern is why this would be identified as a *risk* when the pond already was contaminated at the time of the design, and still is. The biodiversity in the area is threatened from human and animal waste dumped in the pond, which is heavily contaminated. The two sources of pollution are (i) human waste – dumped rubbish such as plastics and buckets, and the pond is also used to wash the pig buckets; and (ii) animal waste from the pigs with no sewage system. In a small context of limited natural resources, land area and required expertise, the term 'demonstration' or 'pilot' is unfitting. Individuals and communities would have the same impact if the project is not restructured. The government has issued orders in terms of regulating the disposal of waste into the pond. Additionally, the EPC contractor will provide expert advice and update the risk analysis by updating the Environmental and Social Impact Analysis (ESIA) and recommend an Environmental and Social management Plan (ESMP) to address the risks brought by the potential pond water quality effects on the FSPV facilities.

Financial barrier to access funds for energy efficiency appliances: The mechanism undertaken by the Development Bank of Tuvalu (DBT) serves a great contribution to the project. However, there is no categorization to map out low-income households. It is highly unlikely that members of such households would attempt to use the scheme or purchase these appliances from the stores. Poverty is an existing factor in Tuvalu reflected in its LDC status¹¹.

(iii) Decision-making processes

Poor stakeholder engagement: Some key stakeholders were not included in the project design phase, especially the two key umbrella organizations Tuvalu Association of Non-Governmental Organizations and Tuvalu National Private Sector Organization; the local project Saugavaka for Piggery Relocation; and the educational institutions University of the South Pacific (USP) – Tuvalu Campus¹², Mareta Kapane Halo school, Fetuvalu Secondary school, as well as the Department of Education. Most importantly, outer-island local government and island communities on Funafuti were not consulted during the Inception phase. Based on the timeline presented in the Inception Report, there was no multi-stakeholder workshop to compliment the findings during the PPG phase.

⁷ Inception Report (2018) – Risks Table page 11.

⁸ Ibid.

⁹ Pesega Lifuka, Project Manager for Saugavaka

¹⁰ Annex F: UNDP SESP, Part B

¹¹ The funds are now opened for both EE appliances and RE (mostly solar PV) small RE power applications. The financial incentives have been adopted by DBT, and GoT has included them in the draft Energy Bill that would establish further the legal aspects of the support for the RE and EE program of Tuvalu. If approved, this would reduce the mentioned risk.

¹² https://www.usp.ac.fj/index.php?id=3647

Insufficient RE & EE Awareness: Outcome 1 seeks to address the knowledge barrier and attitude of local people, and any new concept to be introduced presents a boundless challenge. Under outcome 1.3.2: Design, organization and conduct of suitable capacity development program for the public particularly starting with secondary students taking up appropriate RE/EE and climate change subjects in school curricula, the GEFSEC commented at CEO endorsement: "Please explain why secondary school students are key stakeholders. If not please delete this activity and use financing for other outputs". The Activity has only signed off an MoU with the Education Department. However, educational capacity seems to be good in the country to develop the curriculum needed. Therefore, the response should have been to 'teach' about renewable energy and energy efficiency appliances. Exploring partnerships with educational institutions such as USP Tuvalu and the Public Library would have assured worthy investment and capacity building. There are available regional resources to design local certificates in sustainable energy or offer scholarships for such courses to be undertaken at USP Tuvalu. It is a well justified response due to the geographical restraints and limited land area. Staff of the Energy Department could have been mandated to undertake such courses.

Insufficient direct ministry responsibility in the project management structure – A weakness in the design as well as in practice is that the PMU is carrying out its carrivities with support from UNDP but nearly independent from senior management in DE-MTET. The Ministry has low capacity (both technical and number of staff), while more technical capacity is found in Tuvalu Electricity Corporation (TEC). During the design phase TEC was proposed as the main partner, but later reduced to co-implementing partner with the task to provide data. Considering the size of the country and the public system, as well as the approved NIM modality, FASNETT should have been fully integrated into the government structure and carried out under direct government leadership.

(iv) Gender issues

Women participation and involvement is one of the primary outcome indicators at the overall objective level, where a target is the "number of women actively involved in the planning and implementation of energy services provision in the outer islands". The project design referred to the Tuvalu National Gender Policy, including the Strategic Action Plan 2014-2016¹³ that focused on four key policy measures: Institutional strengthening and capacity building, Women's economic empowerment, Women in decision-making, and Ending violence against women as a result of the stock taking and analysis in 2013. To reach the overarching goal of gender equality and empowerment of women, an important contribution should be application of RE/EE technologies in community-based projects. The project design includes updating of relevant gender mainstreaming policy and guidelines in the project action plans and strategies during implementation.

The project document presents opportunities for involvement of women in both management and technical departments of the Tuvaluan Government and implementation of the project. This should be reached with gender-sensitive policies in the energy sector and the energy end-use, e.g. women's participation in projects that promote or enhance women-owned and women-operated businesses that make use of RE-based energy or energy efficient appliances. A specific annex to ProDoc covered an assessment of gender mainstreaming. A specifically relevant stakeholder is the Department of Gender, Tuvalu National Council of Women, which was expected to provide advice on the gender-sensitive capacity development activities of the project, including the involvement of women in demonstration activities, RE-based livelihoods and energy conservation.

4.1.2. Results framework/LogFrame

The official results framework mentioned in the ProDoc includes targets on overall national level. It deals with % share of RE in the national power generation, national CO_2 emissions, low-carbon technology on buildings, company standards and users of RE/EE, new carbon technology projects, financing schemes for RE/EE, increase in government budget for RE/EE, projects benefitting from a planned Energy Act, women involved in energy services, and community capacity on RE power generation. These are all indicators that are the result of national policy and the accumulated impact of

¹³ Tuvalu National Gender Policy (2014-2016) and Stock Take of the Gender Mainstreaming Capacity of Pacific Island Governments – Tuvalu by the Secretariat of the Pacific Community (2013).

multiple projects. Such a framework is common to sign between a government and the World Bank or regional development bank in relation with a sector loan linked to national policy and payment for results, and it is difficult to understand why an individual project such as FASNETT should monitor it. It should be the responsibility of the Government itself (Department of Energy), preferably in coordination with all the main international agencies involved in the energy sector. The PMU staff does not seem to understand why they should monitor the national indicators, when these are not direct outcomes of the project and some would be little impacted by the project. Additionally, the PMU uses another table called "Activity inventory", which looks more like a standard project results framework with the outputs of the FASNETT project. It was developed based on the project document and approved by the Project Board to guide the project activities.

Both the mentioned tools had clear weaknesses, and even though they were updated and presented to the MTR very late, it was still necessary with a dialogue and advisory process to improve the tables. For instance, not all baselines were finished, and not all targets and baselines were directly related to be able to compare the figures. Most of the indicators in the result framework and "activity inventory" are not SMART (Specific, Measurable, Attainable, Relevant, and Time-bound). The tables included in 4.2 are the updated versions after the advice from the MTR Team, but it is still recommended to do further changes to make all the indicators SMART.

4.2. Progress towards results

4.2.1. Outcomes

(i) National level outcomes

To comply with the TOR, the review team has included table 5, but not a column for level in 1st PIR (self-reported), because much of this information was either not filled out, misunderstood, or had not achieved any result. The table was therefore filled out with advice from the MTR team during the review.

A successful FASNETT project would have been able to impact on some of the indicators, but all results would be the outcome of the national effort with support from different donors, such as the World Bank, ADB, and NZAid. The project can therefore not be unilaterally blamed for the low progress, but could also not have considered a potential success as only the product of its own work.

The information included in table 5 needs some additional comments. The best indicator for overall compliance is achieved when no results above 100% are considered in the calculation, because a very high % on one result does not compensate for deficient results on other targets.

Objective level: The very negative result that the share of RE has been decreasing with 9% instead of increasing with 18% is due to the following: (i) Demand is increasing in all stations but it is mainly served by additional diesel generation; (ii) Some PV installations in Funafuti were down during the year 2020 and a few are still down because of spare parts; (iii) 3 stations in the outer islands experience deterioration of batteries, so the diesel generators are turned on for more time; (iv) Pre-payment meters for solar PV have not yet been installed, waiting for the borders to open after COVID-19; and (v) Improvements in % RE power generation would be felt when the ADB and WB RE/EE projects and other RE/EE projects are in operation. This would also be encouraged by approval of the Energy Act and its rules and regulations (IRR).

The term 'incremental" was added for GHG emission reductions by the Project Board in Oct 2019. The nine women actively involved in the planning and implementation of energy services provision in the outer islands are two of six women who participated in Mama Solar Training 2016, two from the PMU, one from DOE, two girls who served in the energy surveys, and two local consultants.

Project strategy	Indicator	Baseline level	Mid- term target	End of project target	Mid-level and assessment	Achieve- ment rating	% of mid- term target + justification
(Objective): Facilitation of the development and utilization of	% share of RE in the national power generation mix	26%	44%	67%	17%		-9 / HU
feasible renewable energy resources and application of	Incremental GHG emission reduction from power generation, tons CO ₂	757	5,000	15,000	1,893		37.9 / HU
energy efficiency technologies in Tuvalu for achieving realistic energy targets in Tuvalu	No. of women actively involved in the planning and implementation of energy services provision in the outer islands	0	5	10	9		180 / S
1. Improved awareness and attitude towards sustainable RF & FF technology	1.1 No. of communities that are capable of organizing, planning, designing, implementing, operating, and maintaining RE-based power generation systems	0	2	4	2		100 / S
applications in the public, commercial and energy sectors	1.2 No. of households, schools, public buildings, and commercial establishments that are using low carbon technologies (by RE- and EE- based energy systems)	396	400	410 (proposed to be increased)	2,685		671.3 / HS
2. Coherent and integrated implementation of enhanced policies, regulations and projects on energy development and utilization with the country's energy act in support of national economic development	2.1 No. of planned RE & EE projects benefiting from the policies and regulations supported by the Energy Act	0	50	100	0		0/HU
3 Enhanced energy utilization efficiency and development and application of feasible	3.1 No. of companies adopting the established standards in supplying or producing RE/EE system equipment or component parts	0	1	2	0		0 / HU
renewable energy resources in support of national economic development	3.2 % new users of RE/EE system equipment and component parts that are satisfied with the quality, cost, and operating performance of these items	0	25	80	55 estimate		220 / S
 Increased application of viable climate resilient renewable energy and energy efficiency technology applications in the country 	4.1 Increased number of low carbon technology projects (new, or replication, or scaled-up)	16	20	26	16		0 / HU
5. Improved availability of, and	5.1 No. of established and operational financing schemes for RE/EE projects	0	1	2	1		100 / S
resilient renewable energy and energy efficiency	5.2 No. of private sector RE/EE projects financed by commercial banks and/or by the private sector	0	1	2	1		100 / S
6. Government of Tuvalu, the financial sector and donor agencies providing accessible financing for climate resilient renewable energy and energy efficiency projects	6.1 Increase in government budget for low carbon technology-based projects, US\$	0	200,00 0	400,000	430,000		215 / HS
· · ·		Average com	ipliance wi	th national o	utcome targets		134.6
	Average compliance w	ith national o	outcome ta	rgets with no	o result >100%		60.7

Table 5. Compliance with mid-term targets for the Results framework (national level targets).

(ii) Project level results

The analysis of progress towards outcomes has considered the information of activities, outputs and outcomes registered in the "Activity inventory", which was adjusted and updated during the MTR process by the PMU and project consultants. This table was developed based on the approved project document, but it was not part of that document. The operational start date 13th February (after the project signing) is being used by UNDP in its reporting because the planned start date of October 2017 was not realized. All baselines are zero because it considers only project outputs, and there are no midterm targets. The main findings are:

Outcome 1. Improved awareness and attitude towards sustainable RE & EE technology applications in the public, commercial and energy (average progress 65%)

Under outcome 1, an impact analysis and capacity need assessment were finalized already in 2018. The project's website was recently established, but must be updated with information. Regarding the database (output 1.7), the structure and data sets format are completed, and training for the PMU staff

would be carried out after the database is transferred to a PC that will arrive in 2021. Capacity development and public awareness workshops/radio programs on RE and EE also had good progress. Several activities under this outcome have however not yet started, including evaluation of capacity building and publications on RE/EE technology. An issue to resolve is that the Project Board in 2018 decided to kick-start demonstration work (under 1.5), but this has still not started.

Table (Duci	o o to o		e fer	0	1
Table 6.	PTO	ectu	οαιραι	S IOF	Outcome	1

Outputs	Target	Result	% progress
1.1 Report on impact analysis of previous EE/RE capacity development activities	1.1: Evaluation of the impacts of past and ongoing RE/EE capacity building activities in Tuvalu	Finalized	100
1.2 Completed capacity needs assessment in the area of EE/RE applications	1.2: Conduct of capacity needs assessment in RE/EE technology applications for key stakeholder groups	Finalized	100
1.3 Completed design and implementation	1.3.1: Design, organization and conduct of suitable capacity development program on the provision of energy services for RE/EE systems.	Ongoing	
of suitable EE/RE capacity development programs for key stakeholder groups	1.3.2 Design, organization and conduct of suitable capacity development program for the public particularly starting with secondary students taking up appropriate RE/EE and climate change subjects in school curricula.	Ongoing	75
1.4 Comprehensive evaluation report on implemented capacity building programs	1.4.1 Evaluation of implemented capacity building programs establishing the resulting level of decision-making capability within the government and stakeholders on RE/EE	Not started	0
1.5 Published and disseminated information on: (a) Sustainable EE & RE	1.5.1: Development and implementation of a communication plan and coordination mechanism on RE/EE application	Not started	
technology applications in island communities; (b) Results project activities particularly from the EE/RE technology and commercial application pilots and	1.5.2: Updating of information on EE & RE technology applications in island communities and results of project activities particularly from the EE/RE technology and commercial application pilots and demonstrations and of information on household survey on usage of EE appliances and devices	Not started	
demonstrations; (c) Formulated and approved policies and regulatory frame- works in support of EE/RE applications, low carbon devel.; (d) Mechanics of the established financing schemes.	1.5.3: Documentation, publication and dissemination of information on: (a) Sustainable EE & RE technology applications in island communities; (b) Results of project activities particularly from the EE/RE technology and commercial application pilots and demonstrations; (c) Formulated and approved policies and regulatory frameworks in support of EE/RE applications and low carbon development; and, (d) Mechanics of the established financing schemes	Not started	0
	1.5.4: Conduct of public awareness workshops and radio programs on RE/EE	Ongoing	
1.6 Established and operational information exchange network and website for the promotion and dissemination of knowledge on low carbon development	1.6: Establishment and operationalization of an information exchange network and website on RE/EE within and outside Tuvalu	Website update pending	90
1.7 Established and operationalized energy supply and consumption monitoring and reporting and data banking system	1.7: Design, establishment and operationalization of an energy supply and consumption monitoring, reporting and data banking system in Tuvalu	Training and data pending	90

Outcome 2. Coherent and integrated implementation of enhanced policies, regulations and projects on energy development and utilization with the country's energy act in support of national economic development (average progress 20%)

Under outcome 2, there has been good progress on policy research, analysis and assessment on low carbon development. The project has been doing advocacy in favour of a planned Energy Act/Bill, but this has still not been approved. Many project outputs and the national development of RE/EE should be building of this bill, and it is extremely important, including for Tuvalu's compliance with its INDCs. Several of the project activities that have been postponed for 2021 or 2022 could however be initiated even if the bill is not yet approved. The project should avoid postponing activities until the last period of implementation, which could lead to a complete failure in case of new unforeseen circumstances (e.g. political changes or the development of COVID-19 on national level).

Outputs	Target	Result	% progress
2.1 Completed policy research, analysis and assessment on low carbon community development, as well as institutional mechanisms compatible to the Tuvaluan context	2.1.1: Conduct of policy research, analysis and assessment on low carbon community development, as well as institutional mechanisms applicable to Tuvalu considering experiences in successful implementation and lessons learned in other similar small island developing states (SIDS) and their impacts (social, economic and environmental)	Ongoing	90
2.2 Recommended standards, policies and implementing rules and regulations (IRRs) on the promotion and application of EE/RE technologies, and financing schemes for	2.2.1: Development and enactment of the Energy Act	Ongoing	
EE/RE applications embodied in an energy bill based on completed researches as well as results of implemented low carbon (EE/RE) technology application demonstrations in Tuvalu and other similar SIDS	2.2.2: Conduct of advocacy work and lobbying for the deliberation and enactment of the energy bill	Ongoing	50

Table 7. Project outputs for Outcome 2.

2.3 Formulated and enforced policies by well- informed legislators and administrators on the provision of energy services, including the publication and dissemination of guides and reference documents for the integrated energy planning and low carbon development in the context of Tuvalu	 2.3.1: Development and dissemination of implementing rules and regulations and organizational requirements for all RE resources applicable to Tuvalu and for application of EE technologies and efficient appliances according to approved standards of operation and safety 2.3.2: Launching and dissemination of relevant information on policy and management of the RE/EE program at the institutional level towards awareness of all sectors regarding the Energy Act and its implementing rules and guidelines 2.3.3: Capacity building of key officials and staff in the energy organization authorized by the Energy Act and acquisition of necessary tools such as integrated energy planning software, linking with data bases, and other related requirements 2.3.4: Preparation, facilitation of the approval and implementation of the Tuvalu National Integrated Energy Plan 	Draft energy bill is being prepared	0
2.4 Enforcement of the institutional	2.4.1: Conduct of studies and recommendations on the improvement of the institutional working arrangements and implementing guidelines for NEAC.	Planned for 2021	
framework and guidelines that support the implementation of low carbon development policies, and IRRs	2.4.2: Coordination and establishment of technical working groups (TWGs) comprised of the relevant government agencies, local leaders, financial sector and support industry to remove related barriers such as land use, resource mobilization, community-based development for the replication of RE/EE projects of government, community and private entrepreneurs	Planned for 2022	0
2.5 Adopted and enforced: (a) sustainable low carbon standards, policies, and IRRs; and (b) suitable institutional mechanisms that integrate low carbon development with the socio-economic, climate change and disaster management objectives of the country	2.5.1: Formulation and implementation of applicable policies, standards, institutional mechanisms and incentives in the promotion and application of RE/EE technologies	Planned for 2022	0
2.6: Performance evaluation report on the adopted institutional framework and mechanisms	2.6.1: Development and operationalization of a monitoring, reporting, evaluation and enhancement system for sustainable, reliable and self- reliant energy supply based on RE and EE applications consistent with Tuvalu 100% RE goal	Planned for 2022	0
2.7 Approved follow-up and sustainability plan for the enforcement of consistent government development plans, policies and institutional framework and mechanisms on RE/EE	2.7.1: Development and approval of follow-up and sustainability plan for the monitoring, evaluation and enhancement of low carbon development plans and policies, as well as enhancements of the institutional framework and mechanisms for sustainably enforcing consistent government policies on RE/EE to support national development	Planned for 2022	0

Outcome 3 (average progress 9.4%)

3.1: Enhanced energy utilization efficiency and development and application of feasible renewable energy resources in support of national economic development

3.2: Increased application of viable climate resilient renewable energy and energy efficiency technology applications in the country

Under Outcome 3, only the evaluation of applicable low-carbon development technologies has been completed. Some other activities have started but most activities is planned only for 2021 or 2022. The advice from the MTR Team is the same as for outcome 2, to avoid postponing so many activities to the end of the implementation period.

ruble of roject outputs for outcome b	Table 8.	Project	outputs	for (Outcome	3.
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Outputs	Target	Result	% progress
3.1.1 Completed evaluation report on applicable LC development technologies including	3.1.1.1 Comprehensive evaluation of applicable low-carbon development technologies that can be feasibly applied in the small island environment in Tuvalu as experienced in other SIDS	Completed	
applicable RE sources and EE technologies that can be feasibly applied in the small island environment in Tuvalu	3.1.1.2: Conduct feasibility studies and disseminate recommendations on application of proven low-carbon development technologies using RE resources (solar, wind, biomass, etc.), energy efficient (EE) techniques and other potential matured RE technologies	Ongoing	50
3.1.2 Completed designs, plans of demonstrations of approved RE and EE technologies that promote and support LC development in the country	3.1.2.1: Preparation of designs and implementation plans for the pilot demonstration and replication of alternative RE energy projects and EE techniques	Procurement in process	0
3.1.3 Successful demonstration of approved EE and RE technologies that promote and support LC development in the country and comparative	3.1.3.1: Development and establishment of a computer-based M&E system for performance, maintenance and energy contributions of RE/EE project demonstrations and other existing RE/EE installations	Planned for 2021	0
evaluation report from monitoring of other existing RE/EE installations	3.1.3.2: Evaluation of the design and operating performance and experiences in all demonstration and other existing RE/EE installations	Planned for 2022	0
3.1.4 Published energy performance and impact reports on implemented LC projects; including action plan for community-supported LC energy initiatives in island communities	3.1.4: Documentation and dissemination of results and impacts of the RE/EE project demonstrations and the recommended action plan in promoting and replicating RE/EE projects for community-supported LC initiatives in island communities	Planned for 2022	0
3.1.5 Completed technical information packages and guidelines based on RE/EE project implementation experience for use in the capacity development program	3.1.5: Development and production of technical information packages and guidelines as inputs to the implementation of training workshops on strategic planning and execution of plans In Component 2 for national government authorities and local leaders	Planned for 2021	0

3.1.6 Completed design/implementation plans	3.1.6.1: Development of standard design for replication of RE/EE applications in other areas of the country	Planned for 2022	0
for replication of demonstrated successful LC energy projects	3.1.6.2: Development of technical inputs to the establishment and enforcement of basic design and operating guidance manuals for the RE/EE replication program and policy to be developed in Component 2.	Planned for 2022	0
3.2.1 Completed and operational LC development technology application demonstrations in accordance to established quality standards in pilot tropical coastal communities enhancing market opportunities for RE/EE applications	3.2.1: Implementation of the approved RE/EE demonstration projects to promote LC development in the country	Planned for 2022	0
	3.2.2.1: Formulation and implementation of a technology development and application program for RE/EE in government, community-based and private business projects including technical support services, spare part management/supply, and grid connection, if necessary	To finalize 2022	
3.2.2 Implemented LC projects in selected communities	3.2.2.2: Development and implementation of a technical assistance scheme for individual RE and EE projects through the existing Demo EE House near TEC headquarters which will serve as a one-stop-shop for the project development, registration, application and processing, barrier removal and implementation of investment proposals for such RE/EE projects and the necessary coordination and compliance with existing TEC rules and regulations in case of RE-based power generation	To finalize 2022	25

Outcome 4 (average progress 13.3%)

4.1: Improved availability of, and access to, financing for climate resilient renewable energy and energy efficiency

4.2: Government of Tuvalu, the financial sector and donor agencies providing accessible financing for climate resilient renewable energy and energy efficiency projects

Under Outcome 4, some activities recently initiated (fourth quarter 2020), such as the design of financing models and a capacity building program for banks. All activities under the component have however had very little or no progress, and the activities are expected to be done during 2021 or 2022. The MTR team is giving the same advice as for the other Outcomes – to avoid postponing activities towards the end of the project period.

Outputs	Target	Result	% progress
4.1.1 Completed design and development of feasible inclusive financing models and schemes to facilitate financing of EE and RE projects	4.1.1: Preparation of design and development of feasible inclusive financing models and schemes to facilitate financing of EE and RE projects	Initiated Q4- 2020	50
4.1.2 Completed capacity building to increase confidence of the existing banks (including the Development Bank of Tuvalu) and private sector on technical and financial viability of residential/ commercial climate-resilient EE and RE projects	4.1.2: Design and conduct of capacity building program for the existing banks (including DBT) on financing residential/commercial EE and RE projects.	Initiated Q4- 2020	30
4.2.1 Established and operational low carbon technology application support program	4.2.1.1: Establishment and operationalization of a program for providing financial incentives for low carbon (EE and RE) projects.	Planned for 2021	0
4.2.2 Developed and recommended financing schemes for implementation and capitalization by the GoT and/or private sector financial institutions	4.2.2.1: Conduct of technical and management advisory services to the Development Bank of Tuvalu and other financial institutions in the establishment and operationalization of the financing scheme(s).	To complete 2021	25
4.2.3 Completed RE and EE technologies application projects financed either through the established financing scheme or by private sector investments	4.2.3: Implementation of EE and RE technologies application projects financed either through the established financing scheme; or by private sector investments	To complete 2021	20
4.2.4 Completed evaluation and continuing enhancement of suggested financing policies and schemes for supporting initiatives on low carbon development	4.2.4: Comprehensive evaluation of suggested enhanced financing policies for supporting initiatives on low carbon development	Planned for 2022	0

Table 9. Project outputs for Outcome 4.

Conclusion on effectiveness of outputs and outcomes achievement: In line with the general analysis in this document, the very low progress towards the project targets when the project end date is approaching shows that the national capacity is too low to carry out what the project was expected to do. The project was approved by GEF for implementation on June 19th 2017, with expected end date in November 2021. Even though the GEF often gives a 1-year no cost extension, this is no guarantee, and UNDP should be able to present valid arguments for finalizing the project within a possible extension period. Based on the progress so far, this would not be easy.

On the other hand, a Mid-term Review is an opportunity to make changes, and the review team will in the rest of this chapter present recommendations for some major changes.

4.2.2. Remaining barriers to achieving the project objective

The project barriers mentioned in 3.2.3 have been there since the design phase and are all still valid. The MTR Team would like to confirm that the barriers (i) Insufficient awareness; (ii) Policies and regulations; (iii) Institutional structure; (iv) Technical barriers; and (v) Financial barriers, are still valid, and most of them would probably exist beyond the project period. The project could however do its share to reduce their importance, e.g. through strengthened awareness building.

It should however be recognized that the Project alone has its strong limitations in the ability to reduce national barriers to the renewable energy sub-sector. The STAP review of the Project document mentioned that the claimed 273.3 kt CO₂ reductions is hard to justify for this project, given all the other initiatives that support displacing diesel power generation by renewables. Around 40% of total cumulative emissions reduction by 2020 is attributed to the financing initiatives from the project and a lifetime avoidance of 109.3 kt CO₂. STAP considered it difficult to accept that by creating greater awareness, such a large increase in emission reductions will result, except by better informing residents on the outlying islands.

4.3. Project implementation and adaptive management

4.3.1. Management arrangements

(i) Current situation

The MTR Team found that there are serious issues in relation to reporting lines that negatively affects project management efficiency and the possibility of timely decisions. It seems to be unclear under the current arrangement regarding which authority is able to make major decisions regarding the project. The ProDoc does not specify the roles of the CEO Energy Department and the Minister. In addition, it is lack of coordination between the Energy Department and the PMU, and lack of efficiency on both parts.

The start up of project implementation was delayed due to the lack of capacity of the PMU, and training was conducted to address this issue. However the MTR Team considers that the PMU still has a serious weakness that goes beyond capacity and experience, because it is a lack of initiative to carry out the project timely and according to the targets. This is reflected in the fact that most decisions and activities are done when a UNDP staff member or consultant is present. UNDP consultants have done an important job, remotely and on the spot, to support the project management. An international consultant was hired for ten months but had to work remotely until Oct 2020 due to COVID-19 travel restrictions and was only three months in Tuvalu. He is now back in Fiji waiting for a new contract period (probably from March 2021). Several UNDP staff and consultants mention that it is necessary to "hold them by the hand", but if UNDP is doing most of the work and the outputs are presented in PMU's name, with little involvement from the government, it is in fact not a real NIM.

The PMU is currently staffed by two women, so with only two people no gender balance should be enforced. No steps have been undertaken to ensure gender balance in the project in general or in the national executing agency.

(ii) Recommended structure: The following structure is in line with UNDP standard requirements.

Project Management Unit: The PMU should be supported by implementation teams (via agreements with specific responsible parties) with strong participation of all partners (see fig. 3). The Project Manager (PM) is responsible for day-to-day project management and regular monitoring of results and risks, including social and environmental risks. The PM should ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The PM should also inform the Project Board, UNDP TM and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted. To avoid further delays it is highly important that the PM is sufficiently qualified and able to carry out the job. The issue is not resolved by adding increasingly more support staff and consultants to do the job that the PM should have done.

The PMU should develop annual work plans based on the multi-year work plan, including annual output targets to support the efficient implementation of the project. The PM should have information and

training on the UNDP and GEF requirements for M&E to fulfill them to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that monitoring of risks and plans/strategies developed support project implementation (e.g. gender strategy, KM strategy) on a regular basis.

Project Board: The Project Board should take corrective action as needed to ensure the project achieves the desired results. The Board would hold project reviews to assess performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Board should hold an end-of-project review to capture lessons learned and discuss opportunities for scaling-up and highlight project results and lessons learned with relevant audiences. This final review meeting would also discuss findings outlined in the terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including necessary results and financial data. The Implementing Partner should strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems. Based on the ProDoc, FASNETT was designed for MTET/DOE (as Implementing Partner or IP) to designate TEC as the Responsible Party (RP) which will "act on behalf of and as designated by the IP on the basis of a written agreement or contract defining specific roles, duties and responsibilities to act also as the Project Manager, purchase goods or provide services using the project budget". The ProDoc also states the TEC responsibilities as RP, including decision-making with the Project Board. It is now planned to relocate the PMU into the TEC, and in that way TEC's direct oversight to PMU's day-to-day operation would improve the capacity and capability of PMU as it coordinates directly with TEC's RE and EE Department.

UNDP: The UNDP Pacific Office in Fiji provides support to the project management, including annual supervision missions according to the schedule outlined in the annual work plan. Supervision mission reports would be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office would initiate and organize key GEF M&E activities including the annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP Office would also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the <u>UNDP POPP</u>. This includes ensuring the annual UNDP Quality Assurance Assessment during implementation; assure that annual targets at output level are developed, monitored and reported using UNDP corporate systems; regularly update the ATLAS risk log; as well as update the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) are addressed by the UNDP Country Office and the Project Manager. UNDP will retain all M&E records for the project for up to 7 years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support is provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

New proposals:

- 1) Appoint National Project Director Assistant Secretary is already active in the project as evident from the Board meetings, and she chaired the last meetings. Her role is integral in ensuring closure on communication, information exchange and systemized efforts by the PMU and Department of Energy, as well as efficient reporting to the Secretary.
- 2) Implementation Teams (via agreements with specific responsible parties) mapped according to project components. This will greatly assist in monitoring and information exchange as international experts currenty have difficulties to travel.
- 3) Additional Stakeholders to the Project Board Tuvalu Association of Non-Governmental Organization (TANGO), Tuvalu National Private Sector Organization (TNPSO), Department of Waste

Management (DWM), Department of Gender (DoG), Public Works Department (PWD). This will ensure that stakeholders are up to date with the project programs and activities.





4.3.2. Work planning

The "Activity inventory" with outputs on project level is used as a planning tool for the activities to be conducted, and summarizes those that have been done, thereby supporting the project reporting to UNDP. It was however not updated before the start of the Mid-term review, and took long time to finalize.

The PMU should have two simple alternatives for work planning: (i) to use this table as both a planningand monitoring tool (see 4.3.4), with specific targets and activities to reach them, updated at least every 6 months; or (ii) to establish a separate M&E system, and continue to use the activity inventory mostly as a reporting table. In any case, it is important to plan the specific activities that will be carried out with the complete chain of events to achieve the outputs, and the planned dates for each sub-activity. Advisory on work planning, monitoring and reporting would continue to be an important task for the UNDP consultants that support the PMU. To build national capacity it is however important that the consultants are not doing the job *for them*. Especially the consultant to be established in Tuvalu again (probably from March) should *work together* with the PMU and assure that the team members understand the process and would be able to do it on their own.

The lack of work planning and implementation capacity in the PMU is one of the most important factors leading to no results in 2017, almost one year delay in 2018 to review and adjust indicators, and major delays also in 2019 to start procurement of the floating solar panels (see 4.1.1 ii). Even though the PMU has improved, the issue of PMU weakness has not been resolved, and is reflected on several areas of the project execution. The work planning (especially with use of the "activity inventory" is theoretically results based, however, since the format is delayed (sometimes until after the activities have been

carried out), the planning instrument seems more like a reporting instrument. The only way to improve this is to improve its use for planning well in advance of all main activities (preferably for the rest of the project period) and then continuously update it when any activity or output is being delayed.

The project's results framework/logframe is not used efficiently as a management tool for the FASNETT project, mainly because the project management has very little influence on the results. The way of converting it to a real management tool would be through a broad sector engagement with participation of all main stakeholders, especially the FASNETT project partners and other projects involved in the energy sector.

4.3.3. Finance and co-finance

The financial management for the project is handled in the UNDP Pacific Office in Fiji, where the Programme Associate is handling payment request forms from the PMU and process payments. There is no project audit for the FASNETT project to-date, but one HACT micro-assessment on Department of Energy for the project was carried out by EY, in 2017 and a spot-check in 2019, and a new one is planned for 2021. The 2019 HACT spot-check found: (i) delay in submission of quarterly FACE forms; and (ii) that expenditure provided did not appropriately reflect on the FACE forms. EY did not review procedures for the bank statements or bank accounts as the project did not maintain a separate bank account for agency-granted funds. Two budget revisions were made in 2020 due to Covid-19. The UNDP Programme Associate visited Tuvalu together with the Programme Analyst in March 2020, before the lockdown. A financial management and admin training was held and pending issues were handled, but she considers that there is need for *more training* of local staff.

The following table shows the budget and expenses by component and sub-component by Dec 31st, 2020, according to the figures managed by UNDP. The table confirms what was mentioned in the review of activities and outputs, that there has been most activity on component 1, and very little activity on the other components. The cost table shows that the project has used nearly all its available budget for project management, which reflects the many support measures UNDP had to set in to make the local project management work. In line with this, under project management the project has passed its available amount on many budget lines, but most of all for individual contractual services, training/workshops/conferences, and supplies. A similar trend is found in other components, where the UNDP staff (who provided execution support as requested by the implementing partner) and consultants have used up all the available travel budget for outcomes 1 and 3. The limit for request of transfer between components is 10%, and 5% is the limit for new budget items.

No	Sub-outcomer	Budget	Expenses	Commit-	%	Balance	
NO.	Sub-outcomes			ments	used		
COMP	ONENT 1: AWARENESS RAISING ON RE & EE APPLICATIONS						
1	Improved awareness and attitude towards sustainable RE & EE technology applications in the public, commercial and energy sectors	251,400	127,486	0	50.7	123,914	
COMP	ONENT 2: ENERGY POLICY IMPROVEMENT AND INSTITUTIONAL C	APACITY BUII	LDING				
2	Coherent and integrated implementation of enhanced policies, regulations and projects on energy development and utilization with the country's energy act in support of national economic development	502,900	99,152	5,203	20.8	398,545	
COMP	COMPONENT 3: APPLICATIONS OF RE & EE TECHNOLOGIES AND TECHNIQUES						
3.1	Enhanced energy utilization efficiency and development, and application of feasible RE resources in support of national economic development	257,000	61,973	5,203	26.1	189,824	
3.2	Increased application of viable climate resilient RE and EE technology applications in the country	1,000,000	0	0	0	1,000,000	
COMP	COMPONENT 4: FINANCING RE & EE INITIATIVES						
4.1	Improved availability of and access to financing for climate resilient RE & EE	102,800	16,296	0	15.9	86,502	
4.2	GoT, the financial sector and donor agencies providing accessible financing for climate resilient renewable energy and energy efficiency projects	400,000	0	0	0	400,000	
5	PROJECT MANAGEMENT	125,625	95,878	29,026	99.4	721	
	Foreign exchange rate difference		-2,782			2,782	
	Total	2,639,725	398,003	39,432	16.6	2,202,290	

Table 10. Financial delivery by outcomes and sub-outcomes through 12/2020 (USD, rounded to closest dollar)

Budget advance from UNDP to PMU is quarterly, based on an advance request form with a costed work plan. The rule is that the PMU should have used and acquitted at least 80% of the advance to request a new advance, but sometimes the request comes earlier. A new advance of USD 120,504.79 was recently given (not mentioned in table 10). The PMU can also request direct payment to providers of goods and services outside Tuvalu.

The cost figures underlines the general conclusions in the review, that the project needs some fundamental changes if it is not going to close before the expected end time. It is necessary to transfer funds to the budget lines where money is lacking, within UNDP's financial rules, however to transfer a large amount to project management this would probably have to be covered by UNDP or co-financing funds. Any major increase in the GEF-financed budget for project management would have to be consulted with GEF, and there is no guarantee for acceptance. If UNDP is going to request GEFSEC for a no-cost extension to be able to reach the project targets, this would have to be accompanied with a budget, which normally follows what is left of the original budget. The term "no-cost extension" is used because the GEF would normally not give additional funds and the project must be finalized within the approved budget. UNDP, instead of extension, is advising to accelerate and expedite implementation of activities. The Project was advised to develop an adaptive management plan to cope with the situation and strategize how to implement the project more efficiently and effectively. The PMU and TEC acting as Responsible Party, have started to accelerate the implementation and implement activities in parallel to save time. A new challenge is the Covid-19 situation which might affect implementation in 2021.

Co-financing given has been in cash and in-kind. It is managed by the national project partner but UNDP should assure it, which is now done yearly. It could however be more often.

Sources of Co-financing	Name of co-financier	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
Recipient Govt	DOE/MPWIE ¹	Cash	6,700,000	1,675,000	25.0
Recipient Govt	DOE/MPWIE ¹	In-kind	750,000	90,000 ²	12.0*
Recipient Govt	DE/MTET ²	Cash	240,000	184,600	76.9
Recipient Govt	DE/MTET ²	In-kind	560,000	67,380	12.0
Recipient Govt	TEC	Cash	7,350,000	2,000,941	27.2
Recipient Govt	TEC	In-kind	50,000	21,951	43.9
Other projects	UNDP	Cash	250,000	134,000	53.6
		TOTAL	15,900,000	4,173,872	26.3

Table 11. Summary of co-financing

¹ MDOE was previously under MFATTEL. ²DE was previously under MPUI. ³Estimated by MTR reviewers (should be updated by real figure)

Counterpart financing so far has been in cash from **Department of Environment (DOE)** to secure land area for demonstrations sites, as well as in-kind contribution from DOE for staff salaries and awareness raising environmental campaigns (in-kind amount not yet confirmed). Cash contribution reported from the **Department of Energy (DE)** covers purchase of solar water pumps, however since these were donated by the Government of Taiwan it should in fact be considered as in-kind. Other in-kind contribution from ED covered staff salaries, Earth Hour activity and a solar-powered light vehicle. Cash financing from **Tuvalu Electricity Corporation (TEC)** covered Procurement of lots for project sites of RE/EE facilities, consisting of various amounts, and in-kind contribution from TEC covered salaries.

UNDP has also pledged US\$250,000 co-financing as cash support. Status of the UNDP co-financing: (i) UNDP Parliamentary Project US\$30K advanced for purchase of IT equipment and outreach to support virtual consultations/meetings; UNDP/GCF Tuvalu Coastal Adaptation Project (TCAP): US\$104,000 has been expended so far for a scholarship programme where 6 students are being supported 2018-21 on climate change studies with emphasis on adaptation. Of these, 4 are pursuing postgraduate (MSc) and 2 are in the BSc programme in universities in Australia and Fiji.

4.3.4. Project-level monitoring and evaluation

The monitoring tools that are currently being used are mainly: (i) the project results framework; (ii) the "activity inventory with outputs"; and (iii) the GEF tracking tool for CCM projects. They are considered to provide the necessary information if they are continuously updated, instead of doing it as a last-minute effort before a deadline (e.g. for the PIR)¹⁴. As previously mentioned, these tools were not updated before the MTR started, which gives a negative signal regarding how the monitoring has been handled from the PMU side. On the other hand, they are mostly filled in by the PMU Coordinator, who as much as possible relies on the support she can get from UNDP consultants. Other project partners such as TEC are not enough involved, which probably affects the quality of the data inputs.

The results framework is aligned with national systems in the sense that it relies on the same sources of information. The MTR team has not found any indication of alignment between the "activity inventory" and the GEF tracking tool with national systems, and they seem to be managed mostly as internal project tools based on the project's own information. The mentioned tracking systems are not efficient nor cost effective tools. This is due to: (i) baseline data that does not always correspond with the indicators (they should use the same measurements); (ii) not SMART indicators – and a minimum requirement should be quantity, quality and deadline; (iii) not being sufficiently understood by PMU; (iv) not being updated on time. All these factors make the tools not being managed efficiently. They are mostly filled in because of a requirement for reporting, and not used for planning and continuous monitoring.

The MTR team does not recommend any additional monitoring tools, but rather to improve the existent, and to give training and backstopping to the PMU to assure that monitoring is understood and used for what it is worth. To be more participatory and inclusive, the PMU should start with working more strongly with the main project partners on data collection and updating of the results framework and activity inventory table. Then, as a next step, other stakeholders should be involved, such as those recommended to be included in the project board (see page 24). This would be especially important to monitor gender participation and private sector participation in project activities and outcomes.

4.3.5. Stakeholder engagement

The Government is supportive of the project and is in charge of the main decisions, but little happens without UNDP presence. Even staff of the main project partner organizations have minimal knowledge of the project (except a few persons) and update on the project activities is not often provided. One reason for the lack of knowledge are the changes occurred in the government representatives on the Board. The project support consultant that arrived in Tuvalu in October 2020 experienced that ministry staff asked "what is the FASNETT project?" This might be the result of much turnover in the Department of Energy, and new staff that lacked the appropriate support from the DoE.

There are a lot of missed opportunities for communication with different stakeholders, partly because of lack of initiative and partly due to lack of inter-personal relationships. To mention one example: Each morning there is a meeting in the ministry called "morning devotion" where different topics are take up, and the project could be presented. The PMU very seldom participates in these meetings, and even less after it re-located to another building.

Not all relevant stakeholders were consulted during the design phase, where most notorious of those informing that they were not consulted are TANGO, TNPSO and Department of Business. The RTA however recalls visiting TANGO during the PIF development stage in 2015. Contradictory information from different sources might be due to frequent turnover of senior positions in some institutions. The fuel importers, potentially being the most affected, also inform that they were not consulted. The PMU tries to engage women and girls through the Tuvalu National Women's Council and Department of Gender. FASNETT should also acknowledge and interact with local civil society, such as the Tamanuku Youth (Nukufetau) that has proposed and got approval for installing solar panels on their island community hall. The project has however limited engagement with stakeholders on the ground, and

¹⁴ Monitoring of indicators have been tackled in the PIR usually with cut-off date June 30. The figures were updated Dec 31-2020 for MTR purposes as work in progress.

local communities are mostly not aware of the project. The majority of local stakeholder institutions on Funafuti do not have solar panels installed on their rooftops, even though many are interested.

The local project Saugavaka contacted FASNETT in 2019 for partnership but that was not accepted, which is a lost opportunity. Saugavaka is engaged with piggery relocation from the pond area where the solar panels are planned to be placed. The FASNETT project comments that it supports the idea but cannot provide needed resources for the project, however some project funds were provided for piggery relocation. More surprising is the very little relation with the UNDP-GEF R2R project, even though there are potential synergy effects. The floating solar panels would benefit from improved watershed and biodiversity management in the area. A new FAO-GEF project with opportunities for collaboration is the Integrated Agro-ecosystem Approach for Enhancing Livelihoods and Climate Resilience in Tuvalu (GEF ID 10517), which is still in the PPG phase.

Due to the context of Tuvalu, partnering and maintaining a strong network with other existing projects and national stakeholders is important to achieve synergies and strong results, as well as to systemize the efforts to improve efficiency. There is a need for the project to be more active in engaging with all main stakeholders and be inclusive in the conduction of its activities. The stakeholders should also be held well-informed about the project activities and progress.

4.3.6. Social and environmental standards

Tuvalu has no approved regulations for environmental impact assessment (EIA). There is a draft regulations document from 2017. Neither the Office of the Attorney-General nor the Department of Environment have any record of a signed EIA Regulation. Therefore, any EIA should be carried out using the draft of 2017, and could by this practical exercise notice opportunities for improvement of the document.

The project's use of safeguards are reflected in the UNDP Social and Environmental and Social and Environmental Screening Template (SESP), which was presented as an annex to the project document. The MTR team has reviewed and proposed an updated version of the SESP (annex 8), with the following changes:

- The gender survey conducted in June 2020 is expected to be the basis for incorporating gender into the Project's action plans and strategies.
- An EIA and site management plan should be prepared for the Tafua pond area, where floating solar panels are planned to be installed.
- Require proper disposal of battery waste from the project, since Tuvalu does not have a battery disposal system.
- Promote positive impacts in interaction with local stakeholders and civil society in the pond area, reducing contamination from local pig farms through re-location and RE from bio-digesters.
- The Tuvalu Electricity Corporation, which will be responsible for the installed system, must report to the environmental authorities in case that any negative environmental impact is detected.
- Change the rating for potential result in the generation of waste from 1 to 2, with significance changed from low to moderate.
- Change the potential adverse biodiversity impacts to habitats in pond areas from 1 to 2.
- Change the overall risk cathegorization to Low-moderate impact with probability 2.

UNDP Copenhagen has taken over procurement of the floating solar panels, and selection and contracting of the firm is currently in process. The TOR include the tasks of carrying out a "light" ESIA and prepare an Environmental and Social Management Plan. The UNDP staff in charge explains that a more complete study would not be done because an environmental assessment had already been carried out during the design phase. The MTR team has requested the review document from multiple sources and has not obtained anything. It therefore seems like the document UNDP Copenhagen is referring to is only the SESP.

No EIA/ESIA was done for any of the demonstration project sites during the PPG phase. Therefore, no such study was carried out for the floating solar panels, and the two alternative sites of Niutao and Nanumaga were not considered. No field scoping or assessment of the environmental management was conducted for the Tafua site. The MTR team considers that this should at least be done now, preferably in connection with the study to be contracted for the floating solar panels. If the firm is already contracted and it is difficult to make any changes to the TOR, the project should recruit an environmental specialist to add on what is lacking, and preferably work with the firm's team during their visit to the country.

It should be considered that the floating solar panels¹⁵ would use 15-18,000 m². Out of a pond that is in total 30,000 m², surrounded by mangrove trees, and with a biodiversity that is different from the rest of the island. The pond is heavily polluted from local pig farms, which could negatively affect the efficiency of the investment, and would probably require installation of a water purifier/ oxygenator. The installation of solar panels could however to certain degree have positive impact on the water, because the sun rays would penetrate less deep and thereby reduce growth of algae (see also 4.4.5).

The other two demonstration projects should also be assessed, to find out if an EIA would be required, depending both on the infrastructure itself and the site where it is planned to be installed:

- Desalination plant: The University of Technology of Sydney (UTS) <u>https://www.uts.edu.au</u> has recently been selected.
- Site management machine and demand management and response system for the electricity power house. A South Korea firm is selected and the price is under negotiation¹⁶.

Based on recent Project Board Meeting decisions in December 14, 2020, there are two other demonstrations that were approved to be subsumed in and supported by the FASNETT Project:

- Funaota Solar Home Systems Project. The contract to the successful bidder will be issued so that procurement and concrete work can start as part of the UN/India-funded Tuvalu SASH project. FASNETT will fund US\$30,000 for the added cost of the battery storage system and the remote tracking and control communication system to optimize its sustainable operation as a community-based Solar PV electrification system demonstration.
- Biogas demonstration activity. This will involve technical improvements on the present biogas systems installed in Tuvalu, including the issues caused by salt-water instrusion. A detailed study on the biogas digester in the Amatuku Biogas System in the Maritime School will be conducted to guide the improvements to be done for it to serve as a communal biogas system demonstration with the assistance of the expert from Fiji who was involved in its initial design to be supported by the FASNETT Project.

4.3.7. Reporting

The project reports on a quarterly basis to UNDP (Quarterly Progress Report), based on the activity inventory with outputs. Adaptive management has mostly happened on UNDP's initiative, especially when it was noted that additional support was needed from UNDP staff or consultants. The most notably adaptive management related with reporting was establishment of the activity inventory, which records activities and outputs on project level for each outcome. The format is used by the PMU under UNDP supervision as an activity and output monitoring tool, facilitating data preparation for the established reporting system of PIR, APR, QPR, ATLAS, etc., and providing information for scheduling of the activities to support the project's adaptive management. It is an important management tool because it documents progress during the different processes, which are shared between the PMU, UNDP and key national partners, thereby internalized by the partners.

¹⁵ The 15,000 -18,000 m² pond area suitable for floating PV installations is enough for over 2 MWe of PV, while the pilot FSPV demo is only 100 Kw. If found successful, the modular design can be expanded to e.g. 1 MW, depending on the load demand of Funafuti which at present has installed capacity of 1.8 MW (DEG) and 756 kW (solar).

¹⁶ The project is negotiating with the contractor of the ADB project for quotation on the SCADA system for solar installations on Funafuti that are not linked to the control room.

The annual and quarterly progress reports have recorded some lessons learned, e.g. that a Technical Working Group is necessary to support the demo preparation at PMU (lesson in 2020). The PIRs have not presented lessons learned, but that might be the case towards the end of the implementation period.

An issue is however that the activity inventory had not been updated for a long time until the Mid-term review. The indicators should be updated at least annually for evidence-based reporting, while risk monitoring and follow-up on plans and strategies should be on a regular basis. The PMU also prepares, together with the UNDP TM, the annual GEF PIR.

As mentioned in 4.3.1, there are serious issues in relation to reporting lines that negatively affect effectiveness and efficiency of the project. The roles of the Government authorities in relation to the project are unclear, and there is also lack of coordination between the Energy Department and the PMU. The PMU should report to the Project Board, UNDP TM and the UNDP-GEF Regional Technical Advisor (RTA), and request necessary support. The PMU should develop annual work plans based on the multi-year work plan with sufficiently concrete targets to be able to monitor the progress.

The Project Board reviews project performance and appraise the Annual Work Plan for the following year. The Board should also discuss and follow-up on the recommendations in the MTR report. The Implementing Partner is responsible for providing necessary information on results and financial data for evidence-based project reporting.

UNDP Pacific Office in Fiji provides programmatic oversight and is in daily contact with the PMU. UNDP also carries out annual supervision missions (on hold during Covid-19). The UNDP Pacific Office in Fiji assures to comply with all UNDP project-level M&E requirements, while additional M&E and quality assurance is provided by the RTA.

4.3.8. Communications and knowledge management

The project has not prepared and carried out any communications strategy, and communication with stakeholders is therefore irregular and ineffective, without frequent updates. Communication is most of all directly person-to-person (in meetings and project activities). A project Facebook page was recently developed, but has so far not been updated with new and relevant information. A more efficient way of communication would be radio, which is used regularly by the public and private stakeholders in Tuvalu. Due to poor communication and knowledge management, the project's stakeholder communication is probably not leading to awareness and investment in RE/EE, both within the project partners and for the general public. A clear example of the lost opportunities due to lack of communication with other stakeholders is in regards to the Tafua pond. The PMU was not informed about the common interest of cleaning the pond among the Environment Department, TCAP and the Centralized Piggery Project under the Department of Home Affairs.

Progress towards results on global environmental benefits: Based on the results framework approved together with the product document, there has *not been any progress towards the global environmental benefits, but rather the contrary* since the share of RE has been decreasing with 9% instead of the goal of increasing with 18%. This has several reasons, such as increased demand in all areas, mainly served by additional diesel generation, some PV installations were down in 2020 because of lack of spare parts; deterioration of batteries in the outer islands (increasing use of diesel), the planned PV pre-pay meters have not yet been installed, and expected improvements from power generation based on other projects (ADB, WB) are still no impact.

A positive trend that might give future positive global environmental benefits is a US\$ 430,000 increase in the government budget for low carbon technology-based projects, which is 7.5% above the FASNETT end of project target. It is expected that the currently negative development could change from negative to positive after approval of a new Energy Act with its rules and regulations, and improve the sustainability of national RE power generation.

As mentioned in different parts of this report, even though FASNETT is considered a facilitation project, a relatively small project like this should not be blamed for Tuvalu's failure to comply with the targets in the climate change mitigation area. On the other hand, it should also not take credit for potential success of the ADB, WB and others.

4.4. Sustainability

4.4.1. Update on risks detected in the project document

The project document identified some risks that could affect the realization of the outcomes and objective of the project, and says that the project was designed to address and mitigate these risks. In the following, the MTR Team has updated the same risks, but not included the column of Owner and Status. However, for all project risks the PMU should be the owner, with support from UNDP.

The last PIR mentions only operational risks: "There is a very serious risk of the project implementation being off-track due to the delays in the planning and execution of the planned project activities during the PIR 2020 reporting period". The PIR text goes on to explain the reasons for delays, however *a risk is an issue outside project management's direct control*, and delays experienced based on weak project management has nothing to do with risk management (except if it is due to external factors).

The PIR 2020 however also confirms a risk that had been detected during the design (see risk 3 in table), which is the potential non-availability of, or reduction in, co-financing. One new risk factor that could not have been foreseen at the moment of design is the Covid-19 pandemic. The MTR would like to highlight that even though Covid-19 so far had little impact on Tuvalu, there is a great risk that it could seriously impact the project in 2021. The same two risks (co-financing and Covid) are also mentioned in the last 2020 QPR. In the following table Covid-19 has been added, however it should be highlighted that the risk is not the existence of the virus, but the risk of strong impact in Tuvalu.

Description	Туре	Impact & probability*	Mitigation Measures
1. Inadequate local capacity to implement the project activities	Organizational	P = 5 I = 5	1. Terminate NIM modalty (if agreed with Government). 2. Fully explain the project content to all important stakeholders (government, public and private sector, civil society). 3. Strengthen PMU through new staff and training. 4. Awareness raising directed both to GoT and other stakeholders. 5. Coordination with other ongoing energy projects and UNDP-GEF projects to take advantage of potential synergies.
2. Local communities in Funafuti and in the outer islands may not support project implementation promptly and sufficiently	Operational	P = 3 I = 3	Collaborate with Government and other organiations (including local civil society) to assure efficient dialogue based on local needs and interests.
3. The committed level of co-financing for specific activities of the project may not become fully available in time.	Financial	P = 4 I = 4	1. UNDP should dialogue with Government on high level to assure compliance with commitments. 2. UNDP should assure that PMU closely monitor and report on effective co-financing from project partners and co-financers. 3. The project should explore alternative co- financing, especially from other energy projects in Tuvalu.
4. Relevant GOT agencies fail to approve and enforce formulated policies and regulations	Regulatory	P = 3 I = 4	Advocacy to gain adequate support from the Parliament or the Cabinet on the adoption of the bills, formulated policies and regulations will be carried out by the implementing partners and PMU, with assistance of UNDP if necessary.
5. The outcomes and benefits of GEF investment on the activities implemented will not be fully sustained.	Strategic	P = 5 I = 5	1. Assure sufficient training and capacity building on the project outcomes, including maintenance of the floating solar panels. 2. Extend the provider service for the floating solar panels from one to at least two years. 3. Request a 1 year no-cost extension of GEF funds and combine it with increased co-funding to increase potential for sustainability. 4. Prepare a good exit strategy, plus a plan for follow-up and maintenance of demonstration activities after the project.
6. Adverse climate-related events may hamper the implementation of hardware-related activities.	Environmental	P = 2 I = 3	1. Assure that disaster risk management is mainstreamed into project and TOR for providers. 2. Collaborate with the Disaster Department and DRM projects in Tuvalu.
7. Change in national government administration may influence government support for project	Political	P = 3 I = 3	(Changes in government staff already happened, so the rating and mitigation are for further changes). Ensure a proper ministerial briefing, fully explain the project content to new government staff members, and provide briefing if necessary.
8. Regular access to outer islands is limited and transportation costs are often prohibitive	Operational	P = 3 I = 3	(this is not really a risk but a fact – however maintained as in the original risk framework). Better planning between government departments (particularly the maritime department) and other UNDP supported projects in carrying out joint outer island missions. Better coordination in the scheduling of the outer island trips will be done taking into account the dry docking schedule of the inter-island ship for repair and maintenance.

Table 11. Updated risk management table with proposed mitigation measures.
Description	Туре	Impact & probability*	Mitigation Measures
9. Impact of Covid-19	Operational	P = 4 I = 4	1. Follow all government rules and restrictions to reduce the impact of the virus. 2. PMU work more from home (depending on strength of national infection rate). 3. NIM (if approved) would strengthen UNDP remotely support for the project.

*Highest number means highest probability/impact

4.4.2. Financial risks to sustainability

As mentioned under financial management, the project has so far only achieved 26.3% of the cofinancing that was pledged, and the funds given are mostly a way of registering financing from other donors than the GEF. All co-financing (except for a smaller amount from the UNDP) comes from the Government, and there is no co-financing from the private sector or the beneficiaries. It should however be recognized that the private sector is very weak, and that no other co-financing sources were included in the project design. The problem is what this means for financial sustainability in the future, especially for maintenance of the infrastructure investments. Other donors would often come with new investments but be reluctant to finance repairs and maintenance on infrastructure, which is considered as the country's own responsibility.

Financial assistance for the DBT LCF and EEREF schemes is highly unlikely to continue once the GEF funding cease. This is reflective from the original scope of the scheme, which was available only to income earners. This scope expanded to the private sector and households when GEF Funding through FASNETT was made available. Loss of funding would greatly affect the private sector marketing and promotion of energy efficiency appliances.

As previously mentioned, Tuvalu has a large number of development projects, covering issues as landuse, environment, climate change, energy, disaster risk management, and gender. Some of these projects have overlapping objectives with FASNETT and/or available budget resources. The PMU should make a list of all the projects that could be potential partners or co-financing sources, and start contacting those that are most relevant, starting with UN and GEF financed projects. Even though GEF funded projects cannot be used as co-financing, there are opportunities for collaboration that could reduce budget costs. Partnering up with other projects could also create synergies and improve effectiveness. Finally, some projects might be interested in building on the results from FASNETT, which would strengthen the possibility for sustainable results. The project's exit strategy should define sources of financing to assure that the project outcomes would give benefit in the future, including required training of new staff and maintenance of the infrastructure.

4.4.3. Socio-economic risks to sustainability

There seems to have been a non-inclusive approach in the project from inception phase when many important stakeholders were left out (see 4.3.4). It is also poor knowledge about the FASNETT project and its wider scope, but among the stakeholders that are informed it is support for the outcomes such as renewable energy and energy efficiency appliances. This will support the country to be climate resilient, reduce waste production and reduce the burden on families to pay electricity bills. An enabling legal framework including the Energy Act is needed to formulate and ensure that necessary mechanisms for accountability, transparency, and technical knowledge transfer are in place.

The socio-economic risks to sustainability can be summarized quite simple: If the project is successful in reaching its goal, including reaching out to local stakeholders on the outer islands, the socio-economic risks are minimal. However, if the project fails it could come very justified claims from the private sector and civil society about both impact and sustainability.

Some lessons learned are being documented by the project team in the QPR (see 4.3.7), but not on a continual basis. The MTR team found no evidence that such lessons are being shared/transferred to appropriate parties who could learn from the project and potentially replicate and or scale them up in the future. According to the stakeholders interviewed, they do not often receive updates on the project. However according to the PMU, stakeholders are invited to meetings but usually do not attend.

The project therefore needs to solidify its relationship both with the key stakeholders in the public and private sector and civil society/communities. Awareness raising should be intensified on all levels –

from Board members to local community level in the outer islands. The project should be more inclusive in the conduct of its activities, with consideration for all stakeholders and potential new partners. The stakeholders should be kept well-informed of the project activities and progress. Due to the context of Tuvalu, partnering or establishing a close network with other existing projects to systemize efforts would strengthen impact and improve sustainability.

4.4.4. Institutional framework and governance risks to sustainability

As mentioned earlier, the project design did not consider well enough the institutional weaknesses of Tuvalu. The institutional set-up of the project also did not recognize strong enough that the small but existing capacity in the energy sector is found in the Tuvalu Electricity Corporation (TEC), not in the ministry, which led to TEC not being selected as the lead executing agency. This is a serious risk both to the effectiveness of project implementation and to the sustainability of project outcomes. If the project results should have the possibility of future sustainability (e.g. for generation of power from the floating solar panels), it would be under the direct management of the TEC, and it would therefore be important for the project to give TEC a more leading role already now.

UNDP's different initiatives to strengthen national capacity has so far not given much fruits. A study tour to Singapore in 2019 for the Project Manager, Deputy Secretary of MTET, etc. was not followed up with any concrete actions on their return. An Action Plan from early 2020 was not followed up due to Covid-19, but even though UNDP staff was not able to travel to Tuvalu, PMU could have done it.

The risks are not up-to-date to include pipeline developments. It is important that the reality of a small sized country is acknowledged. Its communities are burdened with interventions from community to institutional levels to regional projects. The buy-in of communal support to activities is therefore very important, especially in changing mindsets from using any available electricity source to one which is efficient for a successful long-term run of the project.

The current institutional set-up is not sustainable. There were changes in the Director role over the early years of the project. Currently the ministry counterpart team is temporary staff, and the Director is on study leave. This makes it inefficient today, and the government would also most probably not be able to take advantage of the project's outcomes in the future.

4.4.5. Environmental risks to sustainability

This sub-chapter builds on information in 4.3.4 and 4.3.5. Even though the project has environmental sustainability as one of its main goals, focused on climate change mitigation, this does not assure other aspects of environmental sustainability. The project document only mention as an environmental risk to sustainability the concern of corrosion and rust, possibly augmented by the adverse environmental conditions in Tuvalu, whose air is particularly rich in salt. As a GEF funded project, environmental sustainability should however be mainstreamed in all areas of the project's work. It means more than reducing the environment's impact on the project and avoid the project's adverse impacts – it is taking advantage of the opportunities to promote positive sustainable impacts.

The MTR team considers that the project has failed in this aspect. It is too inward-looking, which eliminates opportunities for fruitful environmental management with participation of multiple stakeholders, including civil society. The most notorious example is the Tafua pond, where the project Saugavaka reached out to FASNETT already in 2019 proposing collaboration, since their project is promoting relocation of the pig farms from the pond area. The sewage form the piggeries are causing strong environmental damage to the water and bad smell that gives a negative impact on tourism since the pond is close to the Funafuti airport. The pollution and low oxygen content of the pond caused a few years ago a lot of fish dying. There is also very limited relation with the UNDP-GEF Ridge-to-Reef project that is working to improve land- and watershed management, including biodiversity.

The MTR team proposes that the project should enter into a formalized collaboration with all projects and relevant stakeholders that are interested in the Tafua pond area, with the goal of creating a win-win situation. Since the floating solar panels would cover approximately half of the pond, there are opportunities for other activities, both in the water and the surrounding area. The collaboration should include both joint and complementary activities (avoiding duplication of efforts) and co-financing or parallel financing. The first joint task would be to develop a site management plan, to include land, water and the biodiversity. The plan should define which projects and stakeholders are in charge of developing the different parts of the plan, and a list of targets with deadlines. Since it would be a participatory approach with local ownership, it would be up to the participants to design it, however a FASNETT project consultant could advice and facilitate the process.

It is expected that the plan could include e.g. the following: (i) Relocation of piggeries to other site, in connection with production of organic fertilizer; (ii) Production of biogas with biodigestors from the pig farms that are still left; (iii) eliminate all other sources of efluents of water contamination to the pond; (iv) improve water quality with oxygenator(s); (v) carry out a study on local biodiversity (flora and fauna) in and around the pond, and take measures to protect endangered species; (vi) initiate ecotourism activities such as bird-watching (after the other measures have given some impact).

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The main findings and conclusions of the MTR can be summarized in the following way:

- The main strength of the FASNETT project is that it is well aligned with Government priorities, including the INDC goal to reach 100% power generation from renewable energy by 2025. This target was however quite optimistic at the moment of project design and even more optimistic today.
- The executing partner is the Department of Energy (DoE) in the Ministry of Transport, Energy & Tourism (MTET), while another important partner is Tuvalu Electricity Corporation (TEC), which seems to have more technical competence on RE/EE than the ministry. Another government partner is the Department of Environment, part of the Ministry of Public Works, Infrastructure and Environment (DOE/MPWIE). The Department of Environment has provided co-financing to FASNETT, but has a low profile in the project.
- The project design has some clear weaknesses, especially related to institutional capacity, awareness and stakeholder participation. Some issues could have been dealt with in major detail during the PPG phase, such as the capacities, roles and responsibilities of the national project partner and other stakeholders. Despite having carried out a capacity assessment of the project implementing partner during the PPG phase, which detected low institutional capacity, UNDP still agreed with the Government to go for the Nationally Implemented Modality (NIM) with DoE as executing agency.
- The project's results framework register results on overall national targets for the energy sector (included in the project document), and the socalled "activity inventory" which register the project's own activities and outputs. The results framework shows a compliance of 60.7% of the targets at mid-term, while the activity inventory table shows low project level progress: Outputs under outcome 1 have 65% progress while the average progress for outputs under outcomes 2-4 is only 14.2%.
- According to interviews carried out, the project management and reporting structure does not seem to be completely clear for the PMU nor for the Government staff. It should not be expected to improve project effectiveness and efficiency without first clarifying the structure and then assure to comply with it. This has to do with institutional weaknesses, but also with the existence of a lot of international projects that lay a heavy burden on a small government structure.
- The PMU is small and weak, which is the main factor resulting in that the project has experienced serious delays. The PMU staff has insufficient project management experience in the administrative, financial and technical areas. More important is however the lack of initiative, no sense of urgency, and insufficient interaction with many relevant stakeholders. Thanks to an international support consultant who arrived in Tuvalu in October 2020, the situation has lately improved.
- > The project is little known, both within the partner agencies and other relevant stakeholders in the public and private sector. There are many opportunities for synergies with other projects, including

GEF funded projects such as the UNDP-GEF Ridge-to-Reef project. The PMU has however interacted very little with these projects and not taken advantage of the opportunities when some projects have reached out for collaboration.

- There are many project barriers, where additional to those mentioned above include financial barriers for local stakeholder participation, especially poor families. The project focuses however on institutional stakeholders and communities, not the individual families. The private sector's demand for different financial schemes and RE/EE products is not well known. The project is not interacting with most of those engaged in the energy sector to confront the barriers. There are many lost opportunities for collaboration with the private sector, educational institutions, NGOs and civil society, where many of them already have established relations with local communities.
- The Tafua mangrove pond where the floating solar panels are planned to be established is heavily polluted, due to many pig farms around the pond. Water from the piggeries drain directly into the pond. No ESIA has been carried out for establishment of the solar panels, and no proper assessment has been done to determine biodiversity and other aspects of the site. A light environmental assessment is planned as part of the TOR for the firm that will provide the solar panels.
- Most of the buildings of institutions and schools in Funafuti don't have solar panels on their rooftops. This seems contradictory to the analysis done during the project design phase (PPG), that the floating solar panels were proposed partly because there were no other sites available.
- Based on the results of the Mid-term Review, the FASNETT has so far very few concrete results, and low possibility of impact and sustainability. The situation could however still change after installation of the floating solar panels, assuring that TEC take the leadership on national level, strengthened focus on awareness and capacity building, and especially collaboration with other projects and local stakeholders.

5.2. Recommendations

- 1) *Terminate the National Implemented Modality (NIM)* The project's limited results have shown that Tuvalu does not have the required capacity to carry out this type of project within the expected implementation period. UNDP and the Government should therefore have a dialogue about the recommended termination of the NIM. This should however not reduce the GoT participation in the project, since both UNDP and GoT should have the interest of a strong national participation.
- 2) *Improve project management* The project structure should be reorganized in accordance with the MTR report par. 4.3.1. The PMU should be strengthened to improve project effectiveness and efficiency. This could be done through training, advisory from specialized consultants, and changes in the staff set-up, which are issues the Government and UNDP should have a dialogue about to reach the best decisions. In the case that the Government and UNDP decide not to terminate the NIM, the second best option would be to transfer the executing agency responsibility to TEC. MoU's with important project partners and other stakeholders could also improve project delivery, as long as the documents are concrete enough to be able to monitor their compliance.
- 3) *Visibility* Many government officials in the energy sector and other relevant areas know only remotely about the FASNETT project. It is crucial that the project improves its visibility, to raise interest in collaboration and coordination, and to be able to disseminate best practices later on during implementation. This could be done through media (Internet, radio, etc.), printed material, and most of all the project's presence in multi-stakeholder events, in collaboration with public and private stakeholders and other projects.
- 4) *Enhance Technical Capacity* Mainstream into staff appraisal criterions of knowledge towards renewable energy or conduct quarterly trainings. Most importantly, international technical assistance is needed to assist the Department of Energy.
- 5) *Partnership and stakeholder engagement*: Improved and active stakeholder engagement is demanded at all stages of the project, and is urgent right now. This should result in well-coordinated activities and flow of information.

- 6) *Develop and implement an integrated management plan for the Tafua Pond:* The mangrove pond site for the floating solar panels is heavily polluted, and a multi-stakeholder approach could create a win-win situation. For the reasons explained above, the project should partner with the following stakeholders who have a common objective to clean and improve the biodiversity of the pond: Department of Environment, the NGO Tuvalu Climate Action Network, Department of Agriculture, UNDP-GEF R2R project, and the Saugavaka local project.
- 7) *Build education system capacity:* Explore with existing educational institutions in Tuvalu how to design and deliver energy courses or certificates at the different levels, streaming from primary to tertiary education locally and offer tuition scholarships.
- 8) *Intensify focus on removing financial Barriers* A distinguished scheme should be designed for lowincome earners and those living in poverty. A possibility could e.g. be 50% subsidy on paid appliances, or to exchange appliances that are causing hardship through expensive electricity bills.
- 9) *Explore applicable and effective business models for the private sector* The private sector development to engage heavily in the EE appliances trade has been overlooked throughout the project implementation process. It would be instrumental to map out demand for different types of financing by company scale (for micro, small, and medium sized enterprises), and determine financing schemes that could be offered to develop suitable models for EE appliance trading in Tuvalu.
- 10)*Focus on Beneficiaries* The project focuses mainly on institutions and communities as its beneficiaries. It would probably be effective in a small sized country to also focus on individuals as primary beneficiaries. This follows the need and project demand to change attitude and behavior towards using energy efficiency appliances. House orientation is of vital priority to installation of solar panels and purchasing of EE appliances. However, it is the decision of the individual that would cause a potential huge transformation to occur.
- 11)*Installation of solar PV on institutions and school buildings* The majority of institutions and school buildings on Fongafale (main island of Funafuti with highest demand of consumption) do not have solar PV installed. These include the Right Honourable Dr. Sir Tomasi Puapua Convention Centre, Local Government of Funafuti, the Government hall Tulaakiga, Nauti Primary School, and all the island communities halls. Despite the investment in floating solar panels, project funding (including government counterpart financing) should be able to cover this.
- 12)*Prepare project extension request and exit strategy* The project would not be able to finish all the targets on time, and UNDP should as soon as possible prepare a justified request to GEF for a one year no-cost extension. The project should also prepare an exit strategy with focus on the sustainability of project outcomes, in accordance with the Mid-term review.

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ANNEX 1. TERMS OF REFERENCE

Ref: PN/FJ/100/20

Consultancy Title	Mid Term Review Tuvalu FASNETT	
Location	Home based	
Application deadline	8 th October 2020	
Type of Contract	Individual Contractor	
Post Level	International Consultant	
Languages required:	English	
Duration of Initial	25 days starting 10 th October 5 th Dec 2020	
Contract:	55 days -starting 19 th October - 5 th Dec 2020	
Project Name	Tuvalu FASNETT	

NOTE:

- 1. Daily rate to be inclusive of Medical insurance cost for the duration of the contract
- 2. Selected Candidate will be required to submit a proof of medical insurance prior to issuance of contract
- 3. If the selected/successful Candidate is over 65 years of age and required to travel outside his home country; He/She will be required provide a full medical report at their expense prior to issuance to contract. Contract will only be issued when Proposed candidate is deemed medically fit to undertake the assignment.

1. INTRODUCTION

This is the Terms of Reference (ToR) for -the Midterm Review (MTR) of the *full*-sized UNDP-supported GEFfinanced project titled Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu (FASNETT) (PIMS 5613), also referred herein as the Project, implemented through the Energy Department, Ministry of Transport, Energy & Tourism (ED-MTET), which is to be undertaken on *19th October 2020*. The project started on the *13th February 2018* and is in its *second* year of implementation. This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document *Guidance For Conducting Midterm Reviews of UNDP-Supported*, *GEF-Financed Projects* ((<u>http://web.undp.org/evaluation/documents/guidance/GEF/mid-</u> term/Guidance_Midterm%20Review%20_EN_2014.pdf).)

2. PROJECT BACKGROUND INFORMATION

The FASNETT project was designed to achieve the following objectives through the realization of the following key outcomes:

Objectives and Key Outcomes

FASNETT has the objective of facilitation of the development and utilization of feasible renewable energy resources and application of energy efficiency technologies in Tuvalu for achieving realistic energy targets in Tuvalu. The objective indicators are as follows:

- % share of RE in the national power generation mix. The targets (%) are from 26% to 44% at project mid-term, to 67% by end of project.
- Cumulative GHG (CO₂) emission reduction from power generation. The targets (tons CO₂) are from 0 to 5,000 at project mid-term, to 15,000 by end of project.

• No. of women actively involved in the planning and implementation of energy services provision in the outer islands. The targets are from 0 to 5 at project mid-term and 10 by end of project.

The overarching objective will be achieved through six interrelated outcomes of FASNETT:

- **Outcome 1**. Improved awareness and attitude towards sustainable Renewable Energy (RE) and Energy Efficient (EE) technology applications in the public, commercial and energy sectors.
- **Outcome 2**. Coherent and integrated implementation of enhanced policies, regulations and projects on energy development and utilization with the country's Energy Act in support of national economic development.
- **Outcome 3.1**. Enhanced energy utilization efficiency and development and application of feasible renewable energy resources in support of national economic development.
- **Outcome 3.2.** Increased application of viable climate resilient renewable energy and energy efficiency technology applications in the country.
- **Outcome 4.1.** Improved availability of, and access to, financing for climate resilient renewable energy and energy efficiency.
- **Outcome 4.2.** Government of Tuvalu, the financial sector and donor agencies providing accessible financing for climate resilient renewable energy and energy efficiency projects.

NOTE, per the Project Implementation Review (PIR) Report: There is a very serious risk of the project implementation being off-track due to the delays in the planning and execution of the planned project activities. The planned actions for the implementation of the demonstrations starting January 2020 were not carried out as planned due to decision-making delays and further exacerbated by the COVID-19 issues. There is still the risk of some of the co-financed activities not being implemented in time with the planned demonstration activities. There is also the risk of not achieving the target GHG emission reductions of the project if not all demonstration activities will be implemented. Presently, only two demonstration activities have been planned. There is still the potential of non-availability of, or reduction in, co-financing because of re-scheduling of project activities. The MTR should comprehensively assess the current implementation status and come up with much needed adjustments in the project implementation strategy and plan.

Location and Justification

Tuvalu is a small island nation located in the Pacific Ocean and is the third-least populous sovereign state in the world (about 10,000 as of end 2014). In terms of physical land size, at just 26 km², it is the fourth smallest country in the world. The country belongs to the category of Least Developed Countries and is one of the most environmentally fragile states in the Pacific region due to its low-lying land (the highest elevation at 5 meters above sea level); its geographical isolation, lack of fertile land and inability to reap economies of scale also affects provision of goods and services. Like most of the Pacific Island Countries (PICs), Tuvalu has many constraints to development and among these is the high dependency on imported energy resources (primarily petroleum products), and it too has to hurdle and eliminate barriers to the optimal utilization of its limited indigenous energy resources. Tuvalu has no conventional energy resources and is heavily reliant on imported oil fuels for transport, electricity generation and household use. High fuel prices and fluctuations have a destabilizing effect on businesses and households, limiting growth and reducing food security, especially in the most isolated outer islands.

Renewable energy (RE) resources such as solar, wind, biomass and ocean energy are recognized as potential energy alternatives in the country. In response to such situation in the world oil market and ensure the country's energy security, and in line with its commitment to contribute to the global effort to reduce greenhouse gas (GHG) emissions, the Government of Tuvalu (GOT) committed to get 100% of its electricity from renewable energy sources by 2020 as declared in the 2009 Tuvalu National Energy Policy (TNEP). The Energy Strategic Action Plan defined and directed current and future energy developments so that Tuvalu can achieve the ambitious target of 100% RE for power generation by 2020. The initial efforts towards this were

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supported by the e8, a group of 10 electric utilities from developed countries, i.e., G8 countries¹⁷. This commitment to implement power generation at 100% RE between 2013 and 2020 would be through Solar PV (95% of demand) and biodiesel (5% of demand). But other feasible RE resources in the country such as biomass (biofuels and biogas) and wind were also to be tapped.

In November 2015, the Government of Tuvalu submitted its Intended Nationally Determined Contributions (INDC) to UNFCCC, in updating the goal set in the country's 2009 TNEP, has now sets out the objective to reduce emissions of greenhouse gases from the electricity generation (power) sector, by 100%, i.e. almost zero emissions by 2025 through the use renewable energy sources and energy efficient technologies. With the current economic development situation in the country and the actions that are ongoing and are being planned towards the achievement of this target, there is a need to re-evaluate the target to either confirm or reset it to a more realistic level and lay down the detailed plan that can be achieved by 2020, and beyond up to 2025, in line with the INDC commitments. Furthermore, once this goal is reaffirmed, there is a need to facilitate the achievement of target through the removal of barriers and filling in of the gaps that would bridge the achievement of said RE target initially in what could be realizable in four to five years up to 2020 and then lay the next five year program up to 2025 to finally reach the end goal. The renewable energy and energy efficiency technology applications are expected to support the economic development of the country while minimizing GHG emissions.

Total Budget and Planned Co-financing

The total cost of the project is US\$18,539,725. This is financed through a GEF grant of US\$2,639,725 and US\$15,900,000 in parallel co-financing. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

<u>Parallel co-financing</u>: The actual realization of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Co-financing source	Co- financing type	Co- financing amount (USD)	Planned Activities and Outputs	Risks	Risk Mitigation Measures
Government of Tuvalu		8,250,000			
GoT/MFATTEL	Cash	6,700,000	Procurement of the location sites for RE/EE project pilot demonstrations and RE/EE equipment for their own energy supply in support of their programs	Project may not proceed or get delayed because of land acquisition problems and lack of budget	Facilitate through government acquisition procedures as national priority and government procurement system
	In-kind	750,000	Allocated salaries of	Change of priorities in	Include in regular official

¹⁷ The Group consists of the following countries: Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States of America.

			personnel, Cost of services, Office space, and Existing equipment and facilities	direction and assignment of personnel	programming and budgeting
	Total	7.450.000			
ED/MTET	Cash	240,000	Procurement of the location sites for RE/EE project pilot demonstrations and RE/EE equipment for their own energy supply in support of their programs	Project may not proceed or get delayed because of land acquisition problems and lack of budget	Facilitate through government acquisition procedures as national priority and government procurement systems
	In-kind	560,000	Allocated salaries of personnel, Cost of services, Office space, and Existing equipment and facilities	Change of priorities in direction and assignment of personnel	Include in regular official programming and budgeting and provide for transitions in case of personnel movements
	Total	800,000			
	Cash	7,350,000	Procurement of the location sites for the solar PV and wind turbine under the World Bank TESDP project	Project may not proceed or get delayed because of land acquisition problems	Facilitate through government acquisition procedures as national priority
Tuvalu Electricity Corporation	In-kind	50,000	Allocated salaries for project management by designated TEC officials, e.g., GM and Renewable Energy Manager	Change of priorities or personnel movements (e.g. for project coordinators, GM, and REM)	Include in regular official programming and budgeting and provide for transitions in case of personnel movements
	Total	7,400,000			
UNDP	Cash	250,000	Project management and M&E	None	
TOTAL		15,900,000			

Institutional Arrangements

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The Project is implemented following UNDP's national implementation modality (NIM), per the Standard Basic Assistance Agreement between UNDP and the Government of Tuvalu, and the Country Programme. The **Implementing Partner** for this project is implemented through the Energy Department, Ministry of Transport, Energy & Tourism (ED-MTET). 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 project organization structure is shown below.



The **Project Board** consisting of designated representatives of UNDP/GEF, UNDP Pacific Office, UN Joint Presence Office in Tuvalu and the ED-MTET and the Tuvalu Electricity Corporation (TEC), is the decision-making authority of the project at the policy level and is responsible for reviewing the project implementation, endorsing the annual work plans (AWPs), deciding on major and significant changes of the project (such as changes in outputs, activities, baselines, indicators, and targets) including the governance and management arrangements.

The Senior Beneficiary, the ED-MTET, TEC and Outer Islands will be representing the interests of those who will ultimately benefit from the project. Their primary function within the Board is to ensure the realization of project results. The Project Board is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP Pacific Office approval of project plans and revisions. In order to ensure UNDP Pacific Office's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency, and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Pacific Office Resident Representative.

The **National Project Director** (NPD) representing the Implementing Partner, will be in charge of overall responsibilities, including planning, coordination, administration, and financial management of the project with support by UNDP-Pacific Center. The NPD will be responsible for the achievement of the project objectives, for all projects' reporting, including the submission of Annual Work Plans (AWP) and financial reports. The NPD will ensure the delivery of the project outputs and the judicious use of the project resources. This will ensure that expected outputs are delivered using the most efficient and cost-effective implementation strategies and procedures. The NPD will be also a member of the PSC.

The Steering Committee (i.e. the existing Committee on Sustainable Energy in Tuvalu) is to support the work of the Project Board and aimed to steer direction of the program implementation at the operational level. It will include the UNDP Pacific Office Energy Specialist, and senior technical officers from within MTET and TEC with the primary function of providing guidance regarding the technical feasibility and sustainability of outcomes of the Project.

The Project Steering Committee is comprised of the following individuals:

Chairman: Director of Energy Department, MTET

Members: Senior Officer, Energy Department Manager, Tuvalu Electricity Corporation Director, Department of Environment Director, Planning Bureau Director, Department of Home Affairs

The Project Steering Committee will meet at least quarterly or more frequently when necessary. The first Steering Committee meeting will convene following the approval of the Project Document in order to discuss the following matters:

- How to ensure successful implementation in line with the country's energy self-sufficiency goals with the cooperation among all parties involved
- Strategic planning especially in the RE/EE advocacy and support for the needed energy act with its necessary policies, regulations, and institutional framework
- Identifying other agencies or units to participate in Project Steering Committee meetings as resource persons on areas relevant to the meeting agenda.
- Maintain knowledge of project status to apply technical applications on the direction of the project
- How to ensure sustainability of the project and to monitor project risks and agree on next steps and followup activities.

The **Project Manager** will run the project on a day-to-day basis on behalf of Implementing Partner and/or the Responsible Party and will be appointed by and perform operational functions within the constraints laid down by the Board. The Project Manager function will end when the final project terminal evaluation report, and other documentation required by the GEF and UNDP, has been completed and submitted to UNDP (including operational closure of the project). The Project Manager will coordinate the Project Management Unit (PMU) which will be established by the ED/MPUI and the UNDP Pacific Office in Funafuti, Tuvalu which oversees all UNDP funded and/or managed projects in Tuvalu.

The **Project Assurance** role will be provided by the UNDP Pacific Office specifically to support the Project Board by carrying out objective and independent project oversight and monitoring functions. This role also ensures

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that appropriate project management milestones are properly managed and completed. Additional quality assurance will be provided by the UNDP Senior Technical Advisor in Bangkok Regional Hub as needed.

Partners and Stakeholders

Project partners, their current and planned activities, and how FASNETT will work with them are described below:

FASNETT will develop partnerships with all GEF and non-GEF funded projects of various stakeholders that are related to the development and utilization of feasible renewable energy resources and application of energy efficiency technologies for achieving the RE/EE targets in Tuvalu. This arrangement will harness potential synergies, complementarities and building on best practices and lessons learned and sharing of logistics costs while covering also for the country's outer islands. These projects include ongoing and planned baseline RE and EE projects of ED-MTET and TEC.

The establishment and realization of working mechanisms that are mutually agreed upon and co-financing arrangements among the implementing partners will build on their respective achievements and provide for consultation, planning and decision making through coordination mechanisms, stakeholder meetings and technical workshops towards achieving RE/EE energy savings and GHG reduction goals during and beyond the project implementation.

The Project will follow a participative approach and inclusive strategy for engagement of all stakeholders not only in achieving the energy but also the social and environmental impacts of the Project consistent with Tuvalu's development objectives.

The main stakeholders of this project are the Energy Department - Ministry of Transport, Energy & Tourism (ED-MTET), the Department of Environment and the Tuvalu Electricity Corporation (TEC), which together are acting in behalf of and fully designated by the Government of Tuvalu (GOT) in GOT's overall role as the Implementing Partner (IP) in the National Implementation Modality (NIM). The other stakeholders are those involved in public works and infrastructures, water and sanitation, and the banks/financial institutions.

Stakeholder	Roles and Responsibilities in Project Implementation
	Lead agency for the implementation of RE/EE projects in the
Energy Department - Ministry	government, islands, and private sector and the overall
	implementation and management of the project including
Tourism (ED MTET)	communication and coordination with MOF and UNDP, providing staff
	and administrative support, liaison with local governments, project
	management and monitoring and project financial management.
Department of Environment –	Provision of technical support and assistance in the implementation
Ministry of Foreign Affairs,	of demonstrations for the promotion of the application of RE/EE
Trade,	technologies and provision of data inputs on plans and programs of
Tourism, Environment and	the country concerning donor funded sustainable and environment-
Labor (DOE/MFATTEL)	friendly energy projects.
	This is the state-owned (100% GoT-owned) national power utility. It
	will assist the ED/MPUI in the management and implementation of
	the project. Considering its primary role in the country's electricity
Tuvalu Electricity Corporation	sector, specifically, it will take charge of the implementation of
(TEC)	project activities involving the demonstrations of EE and RE
	technology applications in electricity generation systems, and in the
	promotion of measures for the efficient and conserving use of
	electricity in households and businesses.

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Stakeholder	Roles and Responsibilities in Project Implementation
	Coordination, communication, and provision of data for the
Department of Bural	implementation of project activities in selected islands, liaison with
Department of Kurai	island Kaupules (councils) and Falekaupule in the design and
Development	implementation arrangements for the demonstration activities on
	islands, sustainable livelihood, and community mobilization
	Implementation of existing financing models and recommendations in
Dovelopment Bank of Tuvalu	the enhancement and capacity building and act as the project's fund
Development Bank of Tuvalu	manager to promote and implement the approved financing/grant
	schemes, policies, and other operating guidelines
	Provision of assistance in the identification and analysis of barriers to
NGO, Social community, and	the application of RE/EE in village development. Provision of advice in
the other social/civic groups	the implementation of the barrier removal activities of the project
	and participation of socio-civic groups in project activities.
	Provision of assistance in the identification and analysis of barriers to
Island communities and	the application of RE/EE in village development and engagement of
households	community leaders. Provision of advice in the implementation of the
	barrier removal activities of the project
	Assistance in the implementation of the relevant activities in the
Kaupules (outer islands local	project demonstration, replication activities, operation and
councils)	maintenance, resource mobilization and engagement of local
	government.
	Provision of advice on the gender-sensitive implementation of
Department of Gender,	capacity development activities of the project, including the
Tuvalu National Council of	involvement of women in the implementation of demonstration
Women	activities and sustainable RE-based livelihood and energy
	conservation.

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 in line with the Energy COVID-19 Offer. For example, including aspects of improving household health and safety in cooking/heating, including EE cook stoves among the items that can be funded from the DBT loan scheme, including EE in healthcare facilities in the planned DSM demonstration activity, as well as energy access for health facilities in the biogas demonstration activity. The CDI demonstration activity already includes the Funafuti Hospital, and their involvement can be enhanced with possible operation of the CDI demonstration activity to provide safe water supply to the hospital. The capacity building activities can also be supplemented with training on the applications of RE-based electricity 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. Such changes can be discussed during the next Project Board meeting, scheduled for November 2020.

Depending on Government's approach, qualified local technicians and labourers on Funafuti, Tuvalu 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 conduct 'household energy surveys' that are planned as part of Outcome 1

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

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 FASNETT 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.

The MTR team is expected to follow a collaborative and participatory approach¹⁸ 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.

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 Energy Department in Funafuti)*, including the following project sites:

- Tafua Pond, Fogafale, Funafuti this is the proposed site for demonstration activity on the 100kW Floating Solar Photo-Voltaic (FSPV);
- Public Works Department (PWD), Fogafale, Funafuti this is the proposed site for the standalone solarpowered Capacitive De-Ionization (CDI) water treatment technology for purifying drinking water that are carted and sold to households on Funafuti;
- Tuvalu Electricity Corporation (TEC), Fongafale, Funafuti this is to identify the site for the demonstration activity on Demand Management/Response System, which may potentially involve the high-electricity consuming refrigeration storage containers (called Reefers); and
- Development Bank of Tuvalu (DBT), Fongafale, Funafuti the DBT has an existing financial scheme for RE and EE, which FASNETT is complementing.
- Potential sites for the demonstration activity on Biogas Energy Generation and Utilization on either Fongafale or Amatuku Islet. In October 2019, it was agreed in Funafuti that this will be a new demonstration activity that will be an alternative to an earlier similar demonstration activity to be carried out as part of a centralized piggery waste management system. The potential outer island is supposed to be identified by or before mid-2020 and the biogas generation, recovery and utilization scheme will be finalized. The MTR should also check the status of the planning/preparation for this demonstration activity (assuming that this is still in the project implementation plan) and register this

¹⁸ For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see <u>UNDP Discussion Paper</u>: <u>Innovations in Monitoring & Evaluating Results</u>, 05 Nov 2013.

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post-Prodoc decision of the Project Board and state the relevance of this project design adjustment and intended benefits for the communities.

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. Hence, the bidders for this MTR consultancy assignment must be 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 22nd March 2020 and travel within the country is 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 as long as 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, taken into account 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/Logframe:

- Undertake a critical analysis of the project's logframe 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 catalyze 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 logframe 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*; color 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 ¹⁹	Baseline Level ²⁰	Level in 1 st PIR (self- reported)	Midterm Target ²¹	End-of- project Target	Midterm Level & Assessment 22	Achieveme nt Rating ²³	Justificatio n for Rating
Objective:	Indicator (if							
	applicable):							
Outcome	Indicator 1:							
1:	Indicator 2:							
Outcome	Indicator 3:							
2:	Indicator 4:							
	Etc.							
Etc.								

Indicator Assessment Key

Green= Achieved Yellow= On target to be achieved Red= Not on target to be achieved

In addition to the progress towards outcomes analysis:

- Compare and analyze the GEF Tracking Tool/Core Indicators at the Baseline with the one completed right before the Midterm Review. [NOTE: Considering the Project Implementation Review (PIR) 2020 Report, where it is stated that the %RE target achievement is digressing, not improving, the MTR Team should evaluate the reasons for this, and recommend actions to facilitate the reversing of this downward trend.]
- 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 Tuvalu, but barriers to the implementation of the FASNETT 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.

¹⁹ Populate with data from the Logframe and scorecards

²⁰ Populate with data from the Project Document

²¹ If available

²² Color code this column only

²³ Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

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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 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/ logframe 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 as a result 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 in order 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

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		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.
 - \circ The identified types of risks²⁴ (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.

²⁴ 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.

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:

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, in light of 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 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.

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	Objective	
Towards Results	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.	

Table, MTR Ratings &	Achievement Summary	v Table for Tuv	alu FASNETT
		,	

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Project	(rate 6 pt. scale)	
Implementation		
& Adaptive		
Management		
Sustainability	(rate 4 pt. scale)	

6. TIMEFRAME

The total duration of the MTR will be approximately 35 working days over a time 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	COMPLETION
	WORKING DAYS	DATE
Document review and preparing MTR Inception Report	3 days	19 - 21 October
(MTR Inception Report due no later than 2 weeks before	(recommended: 2-4	2020
the MTR mission)	days)	
MTR mission: stakeholder meetings, interviews, field visits	15 days	22 October – 11
	(recommended: 7-15	November 2020
	days)	
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	15 days	12 November 2020
mission)	(recommended: 5-10	
	days)	
Finalization of MTR report/ Incorporating audit trail from	4 days	4 December 2020
feedback on draft report (due within 1 week of receiving	(recommended: 3-4	
UNDP comments on the draft)	days)	

Options for site visits should be provided in the Inception Report.

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	MTR Inception	MTR team clarifies	No later than 2	MTR team submits to the
	Report	objectives and methods of	weeks before the	Commissioning Unit and
		Midterm Review	MTR mission	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	Within 3 weeks of	Sent to the
		guidelines on content	the MTR mission	Commissioning Unit,
		outlined in Annex B) with		reviewed by RTA, Project
		annexes		Coordinating Unit, GEF
				OFP
4	Final Report*	Revised report with audit	Within 1 week of	Sent to the
		trail detailing how all	receiving UNDP	Commissioning Unit
		received comments have	comments on draft	

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(and have not) been	
addressed in the final MTR	
report	

*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 Tuvalu 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.

9. TEAM COMPOSITION

A team of two independent consultants will conduct the MTR - one team leader (with experience and exposure to projects and evaluations in other regions globally) and one team expert, usually from the country of the project. The team leader will provide overall guidance of the MTR and be responsible for the overall design and writing of the MTR report, etc. The team expert will liaise with local partners and stakeholders, assess emerging trends with respect to regulatory frameworks, budget allocations, capacity building, work with the Project Team in developing the MTR itinerary, etc.

The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

REQUIRED SKILLS AND EXPERIENCE

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas: <u>Education</u>

• A Master's degree in climate change mitigation and/or renewable energy, or other closely related field. (5%).

Experience

- Relevant experience with result-based management evaluation methodologies (8%);
- Experience applying SMART indicators and reconstructing or validating baseline scenarios (8%);
- Competence in adaptive management, as applied to climate change mitigation (renewable energy and energy efficiency) (8%);
- Experience in evaluating projects (8%);
- Experience working in Tuvalu, the Pacific region, and/or Small Islands Developing States (SIDS) (8%);
- Experience in renewable energy and energy efficiency for at least 10 years (4%);
- Demonstrated understanding of issues related to gender and climate change mitigation; experience in gender sensitive evaluation and analysis (8%).
- Excellent communication skills (2.5%);
- Demonstrable analytical skills (2.5%);

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• Project evaluation/review experiences within United Nations system, and conducting evaluations remotely, will be considered an asset (8%).

Language

• Fluency in written and spoken English.

10. Duty Station

The International Consultant will work with a National Consultant and operate remotely from his/her home country.

Travel:

- This section is only applicable if travel restrictions are lifted and international travel is required to Tuvalu during the MTR mission;
- The BSAFE training course <u>must</u> be successfully completed <u>prior</u> to commencement of travel; Herewith
 is the link to access this training: <u>https://training.dss.un.org/courses/login/index.php</u>. These training
 modules at this secure internet site is accessible to Consultants, which allows for registration with
 private email.
- Individual Consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director.
- Consultants are required to comply with the UN security directives set forth under https://dss.un.org/dssweb/.
- All related travel expenses will be covered and will be reimbursed as per UNDP rules and regulations upon submission of an F-10 claim form and supporting documents.

11. ETHICS

The MTR team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This MTR will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The MTR team must safeguard the rights and confidentiality of information providers, interviewees, and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The MTR team must also ensure security of collected information before and after the MTR and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information, knowledge and data gathered in the MTR process must also be solely used for the MTR and not for other uses without the express authorization of UNDP and partners.

12. PAYMENT SCHEDULE

- 20% payment upon satisfactory delivery of the final MTR Inception Report and approval by the Commissioning Unit
- 40% payment upon satisfactory delivery of the draft MTR report to the Commissioning Unit
- 40% payment upon satisfactory delivery of the final MTR report and approval by the Commissioning Unit and RTA (via signatures on the TE Report Clearance Form) and delivery of completed TE Audit Trail.

Criteria for issuing the final payment of 40%²⁵:

²⁵ The Commissioning Unit is obligated to issue payments to the MTR team as soon as the terms under the ToR are fulfilled. If there is an ongoing discussion regarding the quality and completeness of the final deliverables that cannot be resolved between the Commissioning Unit and the MTR team, the Regional M&E Advisor and Vertical Fund Directorate will be consulted. If needed, the

- The final MTR report includes all requirements outlined in the MTR TOR and is in accordance with the MTR guidance.
- The final MTR report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other MTR reports).
- The Audit Trail includes responses to and justification for each comment listed.

In line with the UNDP's financial regulations, when determined by the Commissioning Unit and/or the consultant that a deliverable or service cannot be satisfactorily completed due to the impact of COVID-19 and limitations to the MTR, that deliverable or service will not be paid.

Due to the current COVID-19 situation and its implications, a partial payment may be considered if the consultant invested time towards the deliverable but was unable to complete to circumstances beyond his/her control.

13. APPLICATION PROCESS²⁶

Proposal Submission

Offerors must send the following documents:

- CV including names/contacts of at least 3 referees;
- A cover letter indicating why the candidate considers himself/herself suitable for the required consultancy.
- Completed template for confirmation of Interest and Submission of Financial Proposal.

Note: Successful individual will be required to provide proof of medical insurance coverage before commencement of contract for the duration of the assignment.

Incomplete and joint proposals may not be considered. Consultants with whom there is further interest will be contacted.

Individuals applying for this consultancy will be reviewed based on their own individual capacity. The successful individual may sign an Individual Contract with UNDP or request his/her employer to sign a Reimbursable Loan Agreement (RLA) on their behalf by indicating this in the Offerors letter to Confirming Interest and Availability.

Consultant must send a financial proposal based on **a Lump Sum Amount**. The total amount quoted shall be all-inclusive and include all costs components required to perform the deliverables identified in the TOR, including professional fee(Daily fees to include IC's medical insurance costs), travel costs, living allowance (if any work is to be done outside the IC's duty station) and any other applicable cost to be incurred by the IC in

Commissioning Unit's senior management, Procurement Services Unit and Legal Support Office will be notified as well so that a decision can be made about whether or not to withhold payment of any amounts that may be due to the evaluator(s), suspend or terminate the contract and/or remove the individual contractor from any applicable rosters. See the UNDP Individual Contract Policy for further details:

https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Individual%20Contract_Individual%20Contract%20Policy.docx&action=default

²⁶ Engagement of the consultants should be done in line with guidelines for hiring consultants in the POPP: <u>https://popp.undp.org/SitePages/POPPRoot.aspx</u>

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completing the assignment. The contract price will be fixed output-based price regardless of extension of the herein specified duration. Payments will be done upon completion of the deliverables/outputs.

In general, UNDP shall not accept travel costs exceeding those of an economy class ticket. Should the IC wish to travel on a higher class he/she should do so using their own resources

In the event of unforeseeable travel not anticipated in this TOR, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between the respective business unit and the Individual Consultant, prior to travel and will be reimbursed.

For any clarification regarding this assignment please write to procurement.fj@undp.org.

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ANNEX 2. MTR EVALUATIVE MATRIX

Evaluative Questions	Indicators	Sources	Methodology	
Project Strategy: To what	extent is the project strate	egy relevant to country prio	rities, country	
ownership, and the best r	ownership, and the best route towards expected results?			
Are the objectives and outcomes of the project consistent with the policies and priorities of the country?	Consistency of project objectives with policies based and priorities of the country	 Project Document Logical Framework Review of project design Baseline data Country data (Internet) Signed agreements with GEF and partners PIRs and progress reports Interviews with Government and other public officials 	 Review of background documents (ProDoc, Logical Framework etc.) Analysis of baseline data, report data, matrixes, etc. Remote interviews with international and national stakeholders Face-to-face interviews with national and local stakeholders Participatory work with project consultants Triangulation of information to achieve correct information Team discussions Synthesis and report writing 	
Have the Government and other relevant national stakeholders ownership to the project and its outcomes?	Ownership to the project by the Government and other national stakeholders	 Project Document Logical Framework Review of project design Baseline data Country data (Internet) PIRs and progress reports Interviews with Government and other public officials 	Same as above	
Are the objectives and outcomes of the project consistent with partners' and beneficiaries' priorities?	Consistency of project objectives and outcomes with partners' and beneficiaries' priorities	 Project Document Logical Framework Review of project design Baseline data PIRs and progress reports Signed agreements with partners Interviews with PMU, partners and other stakeholder Interviews with Government and other public officials Interviews with local stakeholders 	Same as above	
Is the project strategy the best route towards expected results?	Review of project strategy compared with alternative routes	 Project Document Logical Framework Review of project design Baseline data PIRs and progress reports Signed agreements with partners Interviews with PMU, partners and other stakeholder Interviews with Government and other public officials Interviews with local stakeholders 	Same as above	
progress Towards Results	: To what extent have the	expected outcomes and obj	ectives of the project	
Are the project's outcomes and outputs being achieved?	 % of outcomes and outputs being achieved until the moment of MTR compared with % expected to be achieved at this moment 	 Logical Framework Review of project design Work plans and budgets M&E system and tracking tools 	Same as above	

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		Interviews with UNDP	
		TM, staff and consultants	
		 Interviews with rational 	
		and international	
		partners	
		Workshops and interviews with local	
		stakeholders	
Are the project outputs of the	Review of quality of	Work plans and budgets	Same as above
required quality, considering	outputs, and consultation on	Individual consulting	
with products and services?	with output quality	Project publications	
		 Training materials and 	
		tools	
		Project FB page	
		staff and consultants	
		• Interviews with PMU	
		Interviews with other	
		international, national	
Project Implementation a	nd Adantive Management	Has the project been imple	emented efficiently
cost offectively and hear	able to adapt to any chan	ring conditions thus for? To	what ovtont are
resident level monitoring	able to adapt to any chang	sing conditions thus fail: To	what extent are
the project level monitoring a	tion 2 To what owtent has n	sorting, and project commu	mications supporting
the project's implementa	tion? To what extent has p	rogress been made in the in	nplementation of social
and environmental mana	gement measures? Have the	Free been changes to the o	verall project risk rating
and/or the identified type	es of risks as outlined at the	e CEO Endorsement stage?	Course of the second
implemented efficiently and	Review of the project's efficiency and cost-	 Project Document with hudget 	Same as above
cost-effectively?	effectiveness	 Any adjusted global 	
		budgets	
		Results Framework (and	
		 M&E system and tracking 	
		tools	
		Review of project design	
		Work plans and budgets Einangial statements and	
		audits	
		• PIRs and progress reports	
		Interviews with UNDP	
		 Interview with UNDP 	
		financial manager	
		Interviews with PMU	
Are the project's M&E systems,	 Support from M&E, 	Project document with Deculta Free events and	Same as above
supporting project	communication to project	milestones	
implementation?	implementation	• Any updated versions of	
		the Results Frameworks	
		M&E system and tracking tools	
		Review of project design	
		Work plans	
		PIRs and progress reports	
		 Interviews with UNDP TM, staff and consultants 	
		Interviews with PMU	
		• Interviews with	
Is there compliance with	• Compliance with	Government and partners	Same as above
safeguards and progress on	 compnance with social and environmental safeguards. 	 Project document with risk matrix and annexes 	Same as above
social and environmental	and related management	• SESP	
management?	measures	Review of project design	
		Work plans DIPs and progress reports	
		 Interviews with UNDP 	
		TM, staff and consultants	
		Interviews with PMU	

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		• Interviews with Government, partners and	
		local stakeholders	
Have there been any changes	Comparison between	Project document with	Same as above
on risk rating since CEO	current and original risk	risk matrix	
endorsement?	rating	• Current risk matrix (if	
		different)	
		• SESP	
		Review of project design	
		Work plans	
		PIRs and progress reports	
		Interviews with UNDP	
		TM, staff and consultants	
		 Interviews with PMU 	
Sustainability: To what ex	tent are there financial, in	stitutional, socio-economic,	and/or environmental
risks to sustaining long-te	Review of project	Project document with	Same as above
sustainability?	sustainability considering	risk matrix	Same as above
sustainability.	financial risks	Current risk matrix (if	
	manetarrisks	different)	
		SFSP	
		 Beview of project design 	
		Work plans	
		PIRs and progress reports	
		 Interviews with UNDP 	
		TM. staff (incl Financial	
		Manager) and consultants	
		Interviews with PMU	
		Interviews with private	
		sector, financial	
		institutions, projects and	
		local stakeholders	
What are the institutional risks	 Review of project 	 Project document with 	Same as above
to sustainability?	sustainability, considering	risk matrix	
	institutional risks	Current risk matrix (if	
		different)	
		• SESP	
		Review of project design	
		 WORK plans DIDs and programs reports 	
		 FIRS and progress reports Interviews with UNDP 	
		TM staff and consultants	
		 Interviews with PMII 	
		Interviews with Thio	
		Government, other	
		partners and national	
		stakeholders	
What are the socio-economic	• Review of project	Project document with	Same as above
risks to sustainability?	sustainability, considering	risk matrix	
	socio-economic risks	Current risk matrix (if	
		different)	
		• SESP	
		Review of project design	
		 WORK plans DIDs and progress reports 	
		FIRS allu progress reports	
		 Interviews with UNDP TM_staff and consultants 	
		Interviews with PMII	
		Interviews with	
		Government, other	
		partners and local	
		stakeholders	
What are the environmental	Review of project	Project document with	Same as above
risks to sustainability?	sustainability. considering	risk matrix	
	environmental risks	Current risk matrix (if	
		different)	
		• SESP	
		Review of project design	
		Work plans	
		PIRs and progress reports	

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Interviews with UNDP
TM, staff and consultants
Interviews with PMU
Interviews with
Government, other
partners, national and
local stakeholders

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ANNEX 3. INTERVIEW GUIDE WITH RESULTS TABLE

General considerations

The following considerations should be applied during stakeholder interviews:

- **a) Free and open review process**, transparent and independent from Project management and policy-making, to enhance credibility;
- **b) Review ethics** that abides by relevant professional and ethical guidelines and codes of conduct, while the review is undertaken with integrity and honesty;
- **c) Partnership approach**, to build development ownership and mutual accountability for results. A participatory approach should be used on all levels (communities, institutions, partners, implementing and executing agencies);
- **d) Co-ordination and alignment**, to consider national and local reviews and help strengthen country systems, plans, activities and policies;
- **e) Capacity development of partners** by improving review knowledge and skills, stimulating demand for and use of review findings, and supporting accountability and learning.

Special considerations due to the COVID-19 pandemic

Since international travel is not included, the interviews will rely much on remote data collection techniques, such as Teams, phone, Skype, and WhatsApp, as well as e-mail communication and follow-up with stakeholders. In Tuvalu carry out interviews on national and local level as much as possible through person-to-person interviews, since Tuvalu probably still is free of COVID-19.

Pilot sites

The national consultant will interview relevant local stakeholders around the Tafua pilot sites and, on the outer islands (if boat transport can be arranged). A variable selection of field sites would be visited, both regarding ecological conditions, beneficiaries, and project activities going on, and the review team would dialogue with NFG to find the best solution. The information that is possible to extract from the pilot areas would however also depend on the number of local stakeholders that could be interviewed, time available with them, and meetings with other informants, e.g. government officials. Complementary information would be achieved from NFG, partners and other sources.

Interview procedure

An interview would typically be around one hour, but could last from half an hour up to max two hours. If more time is needed with the same person, it is better to divide it in two sessions.

The table below is based on the TOR and includes the issues that the MTR team should be able to respond, based on interviews and other sources. It should therefore not be used as a questionnaire, but rather as a guide, where the interviewer will select and frame the questions for each interview based on each individual stakeholder, and each person will only respond to a part of the questions.

The interviews should he held in an informal and relaxed way, to enter into confidence and achieve as much relevant information as possible. The questions should not be interpreted as an exam, because there are no right or wrong answers. If any interesting xxvii

topics come up, the interviewer might use extensive time to go deeper into it, including potential issues that are not mentioned in the format.

Several stakeholders should answer each of the questions. If information comes up that contradicts information from written sources or other persons interviewed, this should be confirmed through a direct question during the interview to avoid that there might be a misunderstanding. Any contradictory information should later be verified through triangulation with a third source or multiple sources.

After the interview, the interviewers should as soon as possible fill in the form with key words and the most important information, which will later facilitate report writing.

RESULTS OF INTERVIEWS (names and responses not included in this annex, since individual

No	Issues and questions	Response from persons interviewed	Person interviewed, title, institution and gender
Α	Project design		
1	Changes in the project compared with originally approved project document		
2	Effect of these changes		
3	Relevance of the project strategy and whether it provides the most effective route towards expected/intended results		
4	Lessons from other relevant projects not incorporated into the project design?		
5	Address of country priorities/ownership		
6	Did the person/institution interviewed participate in the design phase?		
7	Gender issues/participation in design?		
8	Areas of concern?		
В	Project management		
1	Have changes been made in project mgmt and are they effective?		
2	Are responsibilities and reporting lines clear? (+areas of improvement)		
3	Is decision-making transparent and timely? (+areas of improvement)		
4	Quality of execution (ED-MTET, partners) and areas for improvement?		
5	Quality of support from UNDP and areas for improvement?		
6	Capacity to benefit or involve women, and how? (ED-MTET, partners, UNDP)		
7	Gender balance of project staff and steps to assure this balance?		
8	Gender balance of Project Board and steps to assure this balance?		
9	Causes for delays and if they have been resolved		
10	0 Is the work-planning results-based, and if not, how to re-orientate it?		
11	1 Is the results framework a management tool, and was changes made in it?		
12	Quality of financial management according to UNDP and audits		
13	Any changes to fund allocations as result of budget revision (are they appropriate and relevant)?		
14	What are the financial controls, to allow decisions on budget and flow of funds?		
15	Is co-financing being used strategically for the project objectives?		
16	Is PMU meeting regularly with all co-financing partners to align financing		
10	priorities and work plans?		
С	Project level M&E and reporting		
1	Monitoring of outputs		
2	Monitoring of outcomes		
3	Monitoring of risk		
4	Monitoring of safeguards		
5	Monitoring of gender participation/impact		
6	Reports presented, types and frequency		
7	Do the monitoring tools use existing info and provide necessary information?		
8	Do the monitoring tools involve key partners, and are they aligned or mainstreamed with national systems?		
9	Are the monitoring tools efficient and cost-effective?		
10	How could the monitoring tools be more participatory and inclusive?		
11	Are new monitoring tools required?		
12	Is it M&E budget sufficient and used efficiently?		
13	Are gender issues incorporated in M&E?		
14	How can project enhance gender benefits?		
15	Were any adaptive management changes reported, and shared with Project Board?		

persons should not be identified in the report)

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16	How is PMU fulfilling GEF reporting and addressing poorly-rated PIRs?		
17	How are lessons from adaptive mgmt documented and shared with partners?		
D	Stakeholder engagement		
1	Are there good partnerships with project partners and other stakeholders?		
2	Do government stakeholders support the project objectives?		
3	Do government stakeholders have an active role in project decision-making?		
4	Has stakeholder involvement and public awareness contributed to project		
	progress?		
5	How does the project engage women and girls?		
6	Would the project have the same effects independently of gender and age?		
7	Identify legal, cultural, or religious constraints on women's participation		
E	Communication and knowledge management		
1	Is communication with stakeholders regular and effective? (any left out)?		
2	Are there feedback mechanisms for the communication?		
3	Does stakeholder communication lead to awareness and investment?		
4	is there proper communication to the public (website, outreach, campaigns?)		
5	Which knowledge activities and products were developed? (comply with ProDoc?)		
F	Effectiveness (results achievement)		1
1	Progress so far (in areas the stakeholder participates in)		
	Would progress so far lead to future beneficial effects (i.e. income generation.		
2	gender equality improved governance)?		
	Why is the %RE result digressing and not improving, and what actions could		
3	be taken to reverse this downward trend?		
4	What are the main barriers for results and how can they be best removed?		
5	5 How can the project further expand its benefits?		
6	What are the project's contributions to SDGs and global environmental		
0	benefits?		
G	Efficiency		
1	1 Are the project interventions cost-effective (figures to prove it)?		
2 Is the project's progress in line with implementation time and budget used?			
3	3 Which factors are promoting or limiting project efficiency?		
Н	Sustainability and social/environmental standards		1
1	Are the risks and ratings identified in the SESP still valid, or are revisions		
	Devicione since CEE CEO Endersement to: (i) safeguards rick setagorization		
2	(ii) types of ricks (in SESP). (iii) individual rick ratings (in SESP)		
	Which progress has been made on the social and environmental management		
3	measures outlined in the SESP/ESMP?		
	Are all risks identified in ProDoc PIRs and ATLAS appropriate and up to		
4	date?		
5	Likelihood of financial resources not being available when GEF project ends?		
6	Social or political risks to sustainability?		
7	Risk that ownership will be insufficient?		
8	Interest and awareness of stakeholders to continue the project benefits?		
9	Are lessons learned documented and shared by PMU (for replication/scale-		
7	up)?		
10	De le sel fuerre consulta de li si cal server en consulta de la terre de la terre de la terre de la terre de la		1
10	Do legal frameworks, policies, governance mean any risk to project benefits?		
10	Are systems and mechanisms for accountability/transparency in place?		

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Ra	Ratings for Progress Towards Results: (one rating for each outcome and for the objective)			
	Highly	The objective/outcome is expected to achieve or exceed all its end-of-		
6	Satisfactory (HS)	project targets, without major shortcomings. The progress towards the		
	, , ,	objective/outcome can be presented as "good practice".		
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project		
5	Satisfactory (S)	targets, with only minor shortcomings.		
л	Moderately	The objective/outcome is expected to achieve most of its end-of-project		
4	Satisfactory (MS)	targets but with significant shortcomings.		
	Moderately	The objective/outcome is expected to achieve its end-of-project targets		
3	Unsatisfactory	with major shortcomings.		
	(HU)			
n	Upsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-		
2	Unsatisfactory (U)	project targets.		
	Highly	The objective/outcome has failed to achieve its midterm targets and is		
1	Unsatisfactory	not expected to achieve any of its end-of-project targets.		
	(HU)			

ANNEX 4. RATING SCALES

Ra	Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".	
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.	
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.	
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.	
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.	
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.	

Ra	Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future	
3	Moderately Likely	Moderate risks, but expectations that at least some outcomes will be sustained	
	(ML)	due to the progress towards results on outcomes at the Midterm Review	
2	Moderately	Significant risk that key outcomes will not carry on after project closure, although	
2	Unlikely (MU)	some outputs and activities should carry on	
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained	

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ANNEX 5. MID-TERM REVIEW ITINERARY

ACTIVITY	PERIOD	
Document review and preparing MTR Inception Report	December 15 - 18 2020	
Stakeholder meetings and interviews; field visits and face-to-face interviews by national consultant	January 4 – February 5, 2021	
Preparing draft report	February 10 – 23, 2021	
UNDP and partners' review of draft MTR Report	February 24 – March 22, 2021	
MTR Team replies and update of draft MTR Report	March 23 – April 9, 2021	
Presentation and discussion of report and audit trail	April 13, 2021	
(online meeting)		
UNDP final review and final responses to audit trail	April 27, 2021	
Discussion of final report and audit trail (online	April 29, 2021	
meeting)		
Finalization of MTR report/ last updates on audit trail	April 29 -30, 2021	
Delivery of final report with all annexes	May 2, 2021	

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ANNEX 6. PERSONS INTERVIEWED
ANNEX 7.

Findings from the Gender Survey - How men and women use their time on an average day and the different uses of energy

In June 2020, FASNETT conducted a gender survey as part of the process to further assess and enhance the role of women in the deployment of low carbon technologies and mitigation options, and come up with gender-sensitive policies in the energy sector and the energy end-use sectors of Tuvalu, recognizing the possible contributions of women in the management and implementation of climate change mitigation measures. The survey is also part of the assessment that will look at the contributions, impacts, and benefits of community-based energy efficient and renewable energy technology applications, including children and indigenous people. The Gender Survey began in May 2020 and was held mainly on Fongafale in Funafuti, where the majority of the Tuvaluan population resides. The Gender Survey used three methods: (i) the time-use survey; (ii) single-sex focus group discussions; and (iii) key informant interviews. More than 200 people participated in the Gender Survey.

Results show the following:

(i) Time-Use Survey

Reproductive activities:

- Older women spend almost two times longer than younger women in caring for children, elderly or sick relatives, but spend almost the same time cooking and cleaning (older women 2.2 hours, younger women 2.6 hours), and also same sleep time (older women 8.8 hours; younger women 8.4 hours) as with the younger women;
- Older men spend slightly more time (0.5 hours) caring for children, elderly or sick relatives than younger men (0.3 hours);
- Younger men spend slightly more time cooking, cleaning or washing (0.8 hours) than older men (0.6 hours), but spend the same time tending to the family garden, poultry and animals compared to older men (older men 0.7 hours, younger men 0.8 hours); and
- The older generation (older men and women) enjoy the most leisure time compared to the younger generation (almost 5 hours for each of the older generation and remaining at 4 hours for each of the younger generations).
- Both women and men have approximately the same leisure time, on average (4.4 hours for women, and 4.5 hours for men).

Summary: reproductive activities that require the use of energy/electricity are cooking, cleaning/washing (ranging from 0.8 hours to 2.6 hours a day), and leisure (up to 4.5 hours a day). The FASNETT demonstration activities could support by enabling access to energy-efficient cookstoves and the provision of uninterrupted electricity supply for carrying out household chores such as cooking, cleaning, and washing.

Productive activities:

- Communities dedicate at most 1 hour of their time on travelling for work (0.2 1.3 hours), by motorbike (almost everyone uses motorbikes for their transport), which implies that work undertaken is within reach;
- Men undertake the fishing activities. On an average per day, men spend 0.4 hours on fishing activities;

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• On average, women and men spend the same time on other work (5 hours for women and 5.2 hours for men); Men spend more time (2.8 hours) doing office work than women (1.5 hours); Both men and women are involved in producing handicrafts or other items for sale (self-employed) or home use, and spend an average 0.3-0.4 hours a day on this activity; Younger women spend more time doing office work, and studying than older women; Only younger men undertake gleaning reef or mangroves, and travelling to studies or other work compared to older men; Younger men spend a bit more time studying but less time on fishing than older men; and younger men spend a bit more time on office work compared to older men, older and younger women.

Summary: Productive activities that require the use of electricity are office work, handicraft production (0.3-0.4 hours a day), and studying. The FASNETT demonstration activities could support by ensuring that uninterrupted electricity is supplied for office work, handicraft production, and studies.

(ii)Single-sex focus group discussions:

- There were no opportunities given to all respondents from all categories (i.e. younger and older women, and younger and older men) for them to be involved in decision-making, training opportunities, education; and research.
- Internet access and electric machines used at both home and work were identified by all categories as a key benefit of previous energy projects. Younger men and older women emphasized the streetlights on the island of Fongafale, while older men said that the availability of the solar system is cheaper than the normal electricity.
- The inability of the solar-powered system to work properly during bad weather was sighted by all groups as one of the downsides that weren't fully considered in previous projects. This is followed by OHS issues around electrical wires and poor lighting; and pollution from TEC. The women group, both old and young, also highlighted the importance of maintaining the street lights to work at night, and the economic and social impact of electricity to households.
- Although concerns were raised on the negative impacts of previous projects, all age groups felt satisfied with the work that has already been implemented.
- Suggestions from all age groups to improve these projects include; increase the capacity of generators to cater to the demand, increase education and research opportunities on clean energy, increase public awareness on projects, and upgrade and maintenance of lamp posts. Both the male groups highlighted the importance of a countrywide consultation for energy projects. Younger men pointed out the importance of a "slow and steady" work so that all islands get solar system installation. A clearly outlined roadmap for these types of projects should be made accessible to the public.

(iii)Key-informant interviews

- Issues affecting people's quality of life in the community include; high unemployment among youth, lack of children supervision as adults are involved in other social activities like bingo, high cost of electricity and frequent blackouts; and geographic location of two settlements to access government services, especially after natural disasters.
- In terms of the use of energy, most of the key respondents had the observation that men use energy more than women, and that women's use of energy has made their work easier. This is by using gas stoves, washing machines, and sewing.
- Some of the most important benefits to the community include a much-improved way to conduct work with the presence of electricity, solar energy, and fuel. The concept of

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energy efficiency is something that they are hearing a lot of the time on the local radios, which helps them to use power efficiently.

• They believe that the solar system that is promoted by FASNETT will help them a lot with the decrease in the cost of electricity and fuel.

Key recommendations from the assessment include the following:

- 1) It is important to involve both men and women in the decision-making before any project is initiated;
- 2) Nation-wide consultation should be conducted before any project begins initiation;
- 3) Awareness raising workshops should be conducted to make the project's benefits and visibility known to the people;
- 4) Maintenance of public utilities should be done regularly;
- 5) Education and training opportunities should be offered to both employees of the Tuvalu Electric Corporation (TEC) and Tuvaluans who excel in energy subjects;
- 6) All the needed and required equipment for the project should be readily available at the project site;
- 7) Sustainability and benefits of the project on the large community should be made known to the people from the very beginning.

Suggestion for tweets and hashtags

#FASNETTGenderAssessment highlights the importance of involving both men and women in decision making. #FASNETT #TuvaluEnergyProject

#FASNETTGenderAssessment calls for awareness workshop to inform people of #TuvaluEnergyProject

#FASNETTGenderAssessment demands nation-wide consultation before any project begins its initiation.

ANNEX 8. PROPOSED UPDATED SESP

UNDP Social and Environmental and Social Screening Template (SESP)

Project Information

Project Information		
1.	Project Title	Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu (FASNETT)
2.	Project Number	PIMS 5613 (GEF 9220)
3.	Location (Global/Region/Country)	Tuvalu

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the Project mainstreams the human-rights based approach

The mainstreaming the human rights based approach is not specifically covered in the project, i.e., there are no specific activities on this. However, in general terms, the design and implementation of the project activities will be in line with the principles of human rights based approach.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

The proposed GEF project will involve women working in both management and technical departments of the Tuvaluan Government agencies/institutions who can play important roles in the design, development and implementation. The FASNETT project design and implementation plan considered the government-issued Tuvalu National Gender Policy which includes the Strategic Action Plan 2014-2016 policy and guiding framework for multi-sectoral engagement and partnerships towards the overarching goal of gender equality and empowerment of women, with particular contribution through application of RE/EE technologies in community-based projects. During the project implementation, a gender survey was conducted in June 2020, which is expected to be the basis for incorporating gender into the Project's action plans and strategies. The project recognizes the possible contributions of women in the management and implementation of climate change mitigation measures. Lastly, the project design considered the contributions, impacts and benefits of community based EE and RE technology applications, including children and indigenous people.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The proposed project is within the context of sustainable development in Tuvalu, and to ensure the realization of environmental sustainability the Project will take into account best applicable EE/RE policies and strategies that will conserve the natural environment and mitigate GHG effects. The project identifies environmental sustainability as an objective of the development process, while also focusing on compliance with environmental standards as the important condition to the achievement of said objectives. For example, the project requires a focus on proactive investment and demonstration of practical and sustainable RE/EE technologies under the Pacific island situation supported by policies and programs that promote integration of environmental sustainability agenda of the country. For example, the project does not include mere "add-ons" to policies or projects but views everything in the overall environmental sustainability agenda of the country. For example, the selection of RE and EE projects to be demonstrated and supported by the project should have practical applications and long-term impact along the country's target of 100% GHG reduction goal in 2025 as embodied in the INDC commitments. In addition to environmental sustainability, the project, if successful, would be in line with sustainable development aspirations that would bring about local benefits mainly through contributions to improvement of the living conditions of Tuvaluans

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particularly in the outer islands and allow them to contribute more productively to the economy; and, protection of the natural environment; diversification of the resource base of the economy. The global environmental benefits (GEBs) from this project would come from GHG emission reductions from the displacement of diesel fuel oil in electricity generation with the installation of RE-based power generation units, and from other fossil fuel substitutions using available feasible renewable energy resources. The improvement of the specific energy consumption of each energy end use sectors in Tuvalu through improved energy utilization efficiency would also contribute to that.

While the RE-based power generation is generally considered environmentally sustainable, it is acknowledged that this can also potentially generate environmental problems that need to be addressed. For example, in this project where solar PV power generation units will be further promoted and deployed, there are potential negative impacts from an improperly designed, engineered, installed and operated systems. Since the project will also be promoting energy efficiency to reduce electricity demand, there are also potential downstream impacts on the increased use of EE appliances, which will displace existing relatively energy inefficient appliances/devices that need to be disposed-off. The improper disposal of such items (e.g., CFLs with mercury, air conditioners and refrigerators that utilize ozone depleting refrigerants) can bring about the negative environmental impacts that can negate the energy and environmental benefits from the project. Such potential negative impacts have to be addressed in the design of these showcase projects to ensure that such negative impacts will be mitigated.

Another issue is the site management for the Tafua pond, where floating solar panels are planned to be installed. The pond is surrounded by mangroves, has brackish water and a different biodiversity than the rest of the island. It is however heavily polluted and a lot of fish died some years ago. An EIA and site management plan should be prepared.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.	QUESTIC significa environi Note: Respon to Question of	STION 3: What is the level of ficance of the potential social and ronmental risks? Respond to Questions 4 and 5 below before proceeding stion 6		QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?	
Risk Description	Impact and Probabilit y (1-5)	Significance (Low, Moderate, High)	Comments	Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.	
The proposed Project potentially result in the generation of waste (both hazardous and non-hazardous).	2	Moderate	The concern is the potential pollution from waste solar batteries, and also mercury from replaced fluorescent lamps/CFL, as well as fridges and air conditioners. Improper	During project formulation (PPG phase), an assessment of available energy equipment and extent of replacement was undertaken. A strategy to manage waste/obsolete energy equipment will be developed during implementation so as to avoid potential pollution from waste solar batteries, and mercury from replaced fluorescent lamps/CFL, and the proper	

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Potential adverse biodiversity impacts to habitats in pond areas to be used for floating solar PV plants	2 Low Prope operating potenti limite demo part o There from t excep time v washi panels accum surfac		disposal of these items maresult in the release of bothazardous and non-hazardows an	ay h lous d and to a he just a ients n, ie-to-	recovery of refrigerants used in old fridges and air conditioners. Tuvalu has no system for battery disposal. The project must establish a waste management plan for its own waste, to cover batteries, CFL and solar panels (when out of use in the future). During inception and planning for the floating solar PV demo plants baseline studies with an EIA will be conducted to define the starting point of M&E and recommendations should be prepared regarding prescribed design and engineering best practices. During installation of facilities, proper engineering and construction practices will be used in order to avoid negative bio-diversity impacts and promote positive impacts in interaction with local stakeholders and civil society. A win-win situation could be achieved, with reduced contamination from local pig farms through re-location and RE from bio-digesters in those that are left. Floating solar panels could reduce water contamination since less sun penetrate the water and produce algae, and at the same time the PV panels would benefit from cleaner water. The Tuvalu Electricity Corporation, which will be responsible for the installed system must report to the	
	OUESTIO	N 4: What is	s the overall Proje	ct ris	environmental authorities in case that any negative environmental impact is detected. k categorization?	
	Select one (see SESP for guidance)			Comments		
	Low Risk	iol			Low to moderate impact, probability 2 (see above)	
	Moderate Risk High Risk					
	OUESTIO	N 5: Based	on the identified ri	isks		
	and risk categorization what					
	requirements of the SES are relevant?					
	Check all that apply				Comments	
	Principle 1: Human Rights					
	Principle 2: Gender Equality and Women's				Gender should be mainstreamed in project based on	
	Empowerment			1	gender assessment report	
	1. Biodiversity Conservation and Natural Resource Management		ν	LIA and site management plan for Tafua pond area		
	2. Climate	Change Mitigati	on and Adaptation			

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3. Community Health, Safety and Working		
Conditions		
4. Cultural Heritage		
5. Displacement and Resettlement		
6. Indigenous Peoples		
7. Pollution Prevention and Resource Efficiency		Potential pollution from waste solar batteries, and also solar
	· ·	panels and mercury from replaced fluorescent lamps/CFL.

Final Sign Off

Signature	Date	Description
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme
		Officer. Final signature confirms they have "checked" to ensure that the SESP is
		adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country
		Director (CD), Deputy Resident Representative (DRR), or Resident Representative
		(RR). The QA Approver cannot also be the QA Assessor. Final signature confirms
		they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver.
		Final signature confirms that the SESP was considered as part of the project
		appraisal and considered in recommendations of the PAC.

Checklist Potential Social and Environmental <u>Risks</u>	
Principles 1: Human Rights	Answer (Yes/No)
 Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social cultural) of the affected population and particularly of marginalized groups? 	or No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? ²⁷	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	d No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
 Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits? 	g No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed	d
by the specific Standard-related questions below Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	

SESP Attachment 1. Social and Environmental Risk Screening Checklist

²⁷ Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats)	NL-28	
	and/or ecosystems and ecosystem services? For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes	INO ²⁰	
12	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive		
1.2	areas including legally protected areas (e.g. nature reserve national nark) areas proposed for protection or	No	
	recognized as such by authoritative sources and/or indigenous peoples or local communities?	110	
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats.		
	ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to	No	
	Standard 5)		
1.4	Would Project activities pose risks to endangered species?	No	
1.5	Would the Project pose a risk of introducing invasive alien species?	No	
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No	
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No	
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water?	No	
	For example, construction of dams, reservoirs, river basin developments, groundwater extraction	INU	
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial	No	
	development)	110	
1.10	Would the Project generate potential adverse trans-boundary or global environmental concerns?	No	
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse		
	social and environmental effects, or would it generate cumulative impacts with other known existing or		
	planned activities in the area?		
	For example, a new road through forested lands will generate direct environmental and social impacts (e.g.	N	
	Jelling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate	No	
	encroaciment on lanas by illegal settlers or generate unplannea commercial development along the route,		
	potentially in sensitive areas. These are indirect, secondary, or induced them pacts that need to be considered.		
	Also, if similar developments in the same forestea area are planned, then cumulative impacts of multiple		
Stor	activities (even if not part of the same Project) need to be considered.		
Stan	Will the managed Droject manifest maintifest the significant of an antipation and an antipation of the second state of the sec	Na	
2.1	Will the potential outcome of the Project he consisting on unknowledge entry exact of climate change?	INO Na	
2.2	would the potential outcomes of the Project be sensitive of vulnerable to potential impacts of climate change?	INO	
2.3	is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to		
climate change now or in the future (also known as maladaptive practices)?			
	For example, changes to tand use planning may encourage juriner development of floodplains, potentially increasing the population's subgroupility to align to change, specifically flooding.		
1	increasing the population's vulnerability to climate change, specifically flooding		

²⁸ The floating solar PV demo plant will cover only a small portion of the lagoon. Proper baseline and indicators and M&E procedure will be adopted during the inception and detailed planning stage with the purpose of creating positive environmental impact. Proper engineering and construction practices will be followed during implementation and operation. ²⁹ In regards to CO₂, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation

and Adaptation provides additional information on GHG emissions.]

Standard 3: Community Health, Safety and Working Conditions Would elements of Project construction, operation, or decommissioning pose potential safety risks to local No communities? 3.2 Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during No construction and operation)? 3.3 Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)? No Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or No infrastructure) 3.5 Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, No landslides, and erosion, flooding or extreme climatic conditions? 3.6 Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne No diseases or communicable infections such as HIV/AIDS)? Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to 3.7 physical, chemical, biological, and radiological hazards during Project construction, operation, or No decommissioning? Does the Project involve support for employment or livelihoods that may fail to comply with national and 3.8 No international labor standards (i.e. principles and standards of ILO fundamental conventions)? 3.9 Does the Project engage security personnel that may pose a potential risk to health and safety of communities No and/or individuals (e.g. due to a lack of adequate training or accountability)? Standard 4: Cultural Heritage Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or 4.1 objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. No knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts) Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other 4.2 No purposes? **Standard 5: Displacement and Resettlement** Would the Project potentially involve temporary or permanent and full or partial physical displacement? No 5.1 5.2 Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to No land acquisition or access restrictions – even in the absence of physical relocation)? Is there a risk that the Project would lead to forced evictions?³⁰ 5.3 No Would the proposed Project possibly affect land tenure arrangements and/or community based property 5.4 rights/customary rights to land, territories and/or resources? No

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³⁰ Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

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Star	ndard 6: Indigenous Peoples	
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Star	ndard 7: Pollution Prevention and Resource Efficiency	
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non- routine circumstances with the potential for adverse local, regional, and/or trans-boundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol	Yes ³¹
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

³¹ Potential pollution from waste solar batteries, and also mercury from replaced fluorescent lamps/CFL.

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ANNEX 9a. UNEG Code of Conduct for Evaluators/Midterm Review Consultants³²

Evaluators/Consultants:

- 1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
- 2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
- 3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
- 4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
- 5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
- 6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings, and recommendations.
- 7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.
- 8. Must ensure that independence of judgement is maintained, and that evaluation findings and recommendations are independently presented.
- 9. Must confirm that they have not been involved in designing, executing, or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Trond Norheim (Team Leader)

Name of Consultancy Organization (where relevant):

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Kolbotn, Norway (Place) on 30-10-2020

Iran Marin

Signature:

³² <u>http://www.unevaluation.org/document/detail/100</u>

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ANNEX 9b. UNEG Code of Conduct for Evaluators/Midterm Review Consultants³³

Evaluators/Consultants:

- 1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
- 2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
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- 7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.
- 8. Must ensure that independence of judgement is maintained, and that evaluation findings and recommendations are independently presented.
- 9. Must confirm that they have not been involved in designing, executing, or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Chrisanthy Anne Amosa-Baniani (National Consultant)

Name of Consultancy Organization (where relevant):

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Funafuti, Tuvalu (Place) on 13-11-2020

Signature:

³³ <u>http://www.unevaluation.org/document/detail/100</u>

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ANNEX 10. SIGNED MID-TERM REVIEW REPORT

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Trond Norheim Team Leader

Alten _____

Chrisanthy Anne Amosa-Baniani National Consultant