



GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title: Outer Island Renewable Energy Project			
Country(ies):	Kingdom of Tonga	GEF Project ID: ¹	9355
GEF Agency(ies):	ADB (select) (select)	GEF Agency Project ID:	43452
Other Executing Partner(s):	Ministry of Finance and National Planning, Kingdom of Tonga	Submission Date:	2017-10-16
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of Parent Program	[if applicable]	Agency Fee (\$)	250,731

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
(select) CCM-1 Program 1 (select)	Accelerated adoption of innovative technologies and management practices for GHG emission reduction and carbon sequestration	GEFTF	2,639,269	25,070,731
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
(select) (select) (select)		(select)		
Total project costs			2,639,269	25,070,731

B. PROJECT DESCRIPTION SUMMARY

Project Objective: The project will reduce Tonga's dependence on imported fossil fuel for power generation and provide increased consumer access to electricity generated by solar power at lower cost.						
Project Components/Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
1. Solar photovoltaic (PV) module procurement and solar PV power system development and grid stability	Inv	On-grid and off-grid generation systems are optimized and provide increased consumer access to electricity generated by solar power at a reduced cost.	Construction and installation of approximately 1.32MWp solar capacity on up to 9 outer islands including storage with a preliminary capacity of 2.90 MWh and mini-grid systems	GEFTF	2,639,269	6,340,731
2. Institutional strengthening and	TA	Operation and maintenance (O&M)	O&M trainings including a program	GEFTF		1,400,000

¹ Project ID number remains the same as the assigned PIF number.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF and CBIT programming directions](#).

³ Financing type can be either investment or technical assistance.

project management support		knowledge transferred through training	manual for O&M of solar generation and distribution systems to the implementing agencies for up to 5 years after plant commissioning			
3. Goods, works, and services (power distribution network)	Inv	Allow Tonga to reduce power distribution losses and fuel consumption while delivering the same amount of electricity to consumers	Rehabilitation of the existing grid network on Vava'u and 'Eua.	GEFTF		16,050,000
4.Contingencies	Inv			(select)		1,280,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					2,639,269	25,070,731
Project Management Cost (PMC) ⁴				(select)		
Total project costs					2,639,269	25,070,731

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount (\$)
GEF Agency	Asian Development Bank	Grants	13,940,731
Recipient Government	Kingdom of Tonga	In-kind	1,570,000
Others	Government of Australia	Grants	5,240,000
Others	European Union	Grants	3,570,000
Others	Second Danish Cooperation Fund for Renewable Energy and Energy Efficiency for Rural Areas	Grants	750,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing			25,070,731

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b) ²	Total (c)=a+b
ADB	GEF TF	Kingdom of	Climate Change	(select as applicable)	2,639,269	250,731	2,890,000

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

		Tonga					
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total Grant Resources					2,639,269	250,731	2,890,000

a) Refer to the Fee Policy for GEF Partner Agencies

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>144582(Direct + Indirect[Bottom-Up Approach]) metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? (Select)

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF⁶

⁵ Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

A.1. *Project Description*. Elaborate on: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁷ strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed:

Tonga is a kingdom of 177 islands divided into five island groups—'Eua, Ha'apai, Niua, Tongatapu and Vava'u. Its 103,000 people inhabit about 36 of these islands. About 75% of its population live on Tongatapu, the main island and location of the capital, Nuku'alofa. About 89% of all households have access to electricity—out of them 97% in urban areas and 86% in the rural parts of the islands.

Like many other island countries in the Pacific, the country faces dire and immediate consequences from climate change impacts—from sea level rise and more frequent and stronger storms to the changing distribution of disease vectors—that are markedly disproportionate to its contribution to global greenhouse gas (GHG) emissions. Climate change can compromise Tonga's prosperity, stability, and security and economic development potential. The impacts on food production, land and marine resources use, as well as damage to infrastructure, water resources, and human health will result in economic losses that might cause large-scale migration, both internally and externally.

Although their footprint to the global climate change impact is fairly marginal, the power sector of the country almost entirely relies on imported fossil fuels, particularly diesel. Petroleum dependency makes Tonga highly vulnerable to oil price changes and shocks, which in turn affect the affordability of food, goods, electricity, and transport. Tonga has a large potential for renewable energy, notably from solar, wind and biomass. However, financial, technical and other barriers have constrained the development of renewable energies. Changing diesel-based power generation to the one based on renewable energy sources is expected to reduce diesel consumption for power generation, and will contribute to sustainable social and economic development. Lowering Tonga's reliance on fossil fuels will also help free up government funds for other needs while improving national energy security and sustainability and potentially affordability.

Like many other small island nations in the Pacific, the power generation from renewable energy resources has only recently become a feasible solution because the up-front capital costs were previously very high and there were high perceived and real technical risks. In addition, the cost of electricity storage technologies (e.g. battery, etc.) that are of the essence for grid stability was too high. For the past few years, some renewable energy technologies, especially wind power and solar PV, have become cost-effective compared to power generation using fossil fuels, particularly for increasing the modern electricity access in the isolated small islands. Moreover, the poor who live in the outer-islands can access the modern electricity for a longer period per day instead of the limited energy access generated from individual solar home systems (SHSs)

Increasing the modern electricity access and transitioning to clean and sustainable energy systems is a key priority of the Government of Tonga (government), demonstrated by the adoption of 50% renewable energy targets in the power sector in 2010 and the willingness to use the entire, flexible GEF-6 STAR allocation toward enhancing the Outer Island Renewable Energy Project (OIREP) currently being funded by the Government of Tonga, the Asian Development Bank (ADB), the Australian Department of Foreign Affairs and Trade (DFAT), and the European Union (EU) (see Section C above).

2) the baseline scenario or any associated baseline projects:

⁶ For questions A.1 –A.7 in Part II, if there are no changes since PIF, no need to respond, please enter “NA” after the respective question.

⁷ For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving..

Tonga Power Limited (TPL) is solely responsible for providing grid-connected electricity services in Tonga. It has concessions to operate four independent grids—the largest, which is on the main island of Tongatapu, and three smaller grids on the main islands of the ‘Eua, Ha’apai, and Vava’u island groups. Peak demand on the four TPL grids in 2016 was about 11 megawatts (MW), and demand for the year totalled about 55 gigawatt-hours. More than 95% of its overall grid-connected electricity demand is supplied by generators fuelled by imported diesel at a cost equivalent to about 10% of total gross domestic product and 15% of the value of total imports. It is expected that the peak capacity demand will increase to 17.2 MW by 2020 and that annual consumption will rise to 66 GWh.

In particular, the Niuaus—the northernmost group of islands—consists of three islands (Niuafu’ou, Niuatoputapu and Tafahi). There is no grid-connected electricity supply in these islands. The local school and a church have their own diesel generator sets, and a few households have individual solar home systems.

The government has been trying to reduce the high cost of electricity and Tonga’s extreme economic vulnerability to oil price increases, a great part of which is due to the electricity sector’s high dependence on imported diesel. Power tariffs are inherently high in Tonga because of the high costs of transporting imported diesel to the remote Pacific nation and between its scattered islands and the reasonably small storage capacity on land.

In 2008, the government approved the Renewable Energy Act, a regulatory instrument to promote the use of renewable energy technologies. Under its 2009 National Strategic Planning Framework, it also created the 2010–2020 Tonga Energy Road Map (TERM) for the general development, reform, and improvement for the energy sector. TERM aims to generate 50% of Tonga’s grid-based electricity from renewable energy resources by 2020 and consequently to reduce the country’s diesel consumption and environmental impact.

To meet the target of renewable energy penetration under the TERM, the government has decided to develop the OIREP, which will construct and install solar power systems with a preliminary capacity of 1.32 megawatt-peak (MWp) on nine outer islands in Tonga. This capacity will be provided as follows: (i) a total of 0.75 MWp on ‘Eua and Ha’apai, including a repair program on Vava’u; (ii) a total of 0.39 MWp on the four Ha’apai outer islands of ‘Uiha, Nomuka, Ha’ano, and Ha’afeva; and (iii) 0.18 MWp of the solar home systems (SHS) on Niuafu’ou and Niuatoputapu.

In addition, the project (OIREP) updates the existing electricity distribution network near the solar power generation system on ‘Eua and Vava’u. The standard losses in rural power distribution networks are generally about 5%, and yet the rate is more than twice as high in Tonga (around 13%). Greater losses mean that more fuel is consumed in power generation, which makes improving the efficiency of the country’s power system a matter of interest for both TPL and Tonga’s consumers. This component aims to reduce technical power distribution losses on the network and, consequently, the consumption of the diesel to generate the lost electricity.

The project has hired project management consultants (PMC) to (i) draft the final designs of equipment, (ii) support the bidding process, (iii) conduct training on the O&M of solar equipment, and (iv) provide efficient project implementation and management services for at least 5 years after the plants are commissioned.

The current OIREP is estimated to cost \$18.83 million. It comprises (i) \$8.44 million from ADB’s Special Funds resources, (ii) AU\$4.50 million from the Government of Australia, (iii) €3.00 million from the European Union, and (iv) \$0.75 million from the Second Danish Cooperation Fund for Renewable Energy and Energy Efficiency for Rural Areas, administered by ADB to help finance the project. The government and TPL will provide the equivalent of \$1.57 million as an in-kind contribution toward land-related and administrative costs.

The impact of the OIREP will be the reduction of Tonga’s dependence on imported fossil fuel for power generation. The outcome of the OIREP will be an optimization of on-grid and off-grid generation systems to provide an increase in consumer access to electricity generated by solar power at reduced cost.

Tonga's dependence on fossil fuels will be reduced under the OIREP as it is expected to generate about 2.86 GWh of clean electricity using solar power coupled with battery system. This will result in annual direct reduction of about 2,310 tons of carbon dioxide emission; the estimated lifetime of the project is 25 years.

3) the proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project:

Additional grant funding of (i) \$2.64 million from GEF; (ii) \$5.50 million from ADB; and (iii) \$0.74 million (AU\$1.0 million) from the Government of Australia will increase the overall project investment to about \$27.71 million from the current \$18.83 million.

The GEF grant would be used for enhancing the OIREP, particularly it will allow the building of a solar hybrid mini-grid system coupled with a battery energy storage system (BESS) on Niuatoputapu of the Niuva group in lieu of currently planned solar home systems. The investment costs of additional GEF grant will be used to cover solar PV system development including the mini-grid system on Niuatoputapu. The additional grant from ADB will be used to: (i) cover cost-overruns of the solar power generation systems on the four outer islands of Ha'apai; and (ii) rerehabilitation of the poor and old existing electric service lines network near the solar power generation systems on the four outer islands of Ha'apai. The additional grant from DFAT will be used to: (i) establish and finalize an O&M contracting arrangement with TPL for the growing outer island power asset base; (ii) extend project management services; (iii) recruit financial management and accounting support services; and (iv) recruit a gender specialist to promote, develop, implement, monitor and improve reporting against gender action plans (GAP).

This enhancement through the GEF funding will allow Tonga to accelerate its timeline to meet 50% renewable energy goals under the TERM. The proposed solar-based mini-grid system will allow residents on Niuatoputapu to access grid-connected electricity, which is more reliable than the currently planned solar home systems and cleaner than the electricity supply generated by diesel generators. Furthermore, Tonga will gain valuable experience that can be useful for other islands in the region that are sharing similar struggles on their trajectories to meeting renewable energy targets, especially in isolated islands without the grid-connected electricity access. Through similar efforts by ADB and development partners in the region, this project could be replicated on other islands in the Pacific facing similar challenges.

This links to the GEF6 Strategic Objective CCM-1: Promote the timely development, demonstration, and financing of low-carbon technologies and mitigation options. The additional \$2.64 million from GEF would be used to enhance the OIREP project by allowing Tonga to accelerate its timeline to meet its renewable energy goals.

4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LCDF, SCCF, and co-financing:

The originally approved loan and grants under the current OIREP will be used to (i) construct and install solar power systems with a total capacity of 1.32 MWp on 9 of Tonga's outer islands, (ii) provide O&M trainings including a program manual for O&M of solar generation and distribution systems to the implementing agencies for up to 5 years after plant commissioning, (iii) help the implementing agencies implement the project efficiently by recruiting the project management consultant, (iv) upgrade the existing power distribution grids of 'Eua and Vava'u. The additional GEF grant will be used for building a mini-grid system and the related energy management system, which will be supply electricity generated by the solar PV plant to be installed on Niuatoputapu.

The increasing frequency of strong destructive tropical cyclones has affected Tonga's development with damages on average costing 20% of GDP. Extensive coastal erosions across the country has prompted the Government of Tonga to direct over 30% of mobilized development assistance to address this issue over the past six years, and lack of climate proofing investments further risks Government's poverty alleviation commitments and national development. Therefore, the selection of equipment has been carefully analyzed based on best engineering practices. The equipment is specifically designed for hard marine environments and remote island conditions. The implementing agency

quantified the equipment necessary for the network refurbishment, assessed the grid condition, and calculated the potential reduction in grid power losses. The equipment will incorporate adequate climate-proofing measures to increase resilience to climate and disaster risks throughout the project lifecycle. The mini-grid would be buried underground to improve cyclone resilience and safety.

5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF):

The OIREP will result in annual direct reduction of about 2,310 tons of carbon dioxide emissions. The project lifespan is estimated at 25 years. The additional financing would help to ensure that GHG emissions reductions are realized throughout the lifespan of the project through climate resilience measures and contribute to an accelerated timeline in Tonga's efforts to meet its goals for decarbonization in the power sector without negatively affecting the grid stability in the future.

The direct GHG emissions reductions from the OIREP including additional financing from GEF are estimated at about 57,833 tonnes of CO₂ equivalent (CO₂e) throughout the lifespan. This project does not include activities that would result in direct post-project greenhouse gas emission reductions. Using the GEF bottom-up methodology, consequential emission reductions attributable to the project are 144,581 tonnes of CO₂e using a replication factor of 1.5.

6) and innovation, sustainability and potential for scaling-up:

Innovation- The OIREP is ADB's first intervention for expansion of renewable energy in Tonga. It allows subproject development, institutional strengthening, and capacity development to roll out various types of solar energy deployment – grid-connected, mini-grid and off-grid solar power system – coupled with the battery system with a preliminary capacity of 2.90 MWh on nine outer islands. Technically, the power outputs from the grid-connected subprojects will be synchronized and integrated into the existing electricity grid using battery storage to make up for the intermittent nature of solar energy and ensure electricity supply even during the night. This will help make the electricity system sustainable, stable, and reliable, allowing it to supply clean electricity at lower costs. Moreover, the additional grant from GEF will allow the government, the local grid-operator and communities to build capacity for the O&M of the solar powered mini-grid, especially in the most isolated island of Niua Group in Tonga. The project will facilitate the achievement of the government target to supply the country's energy with 50% renewable energy by 2020.

Sustainability – The OIREP will support the government's efforts to reduce Tonga's heavy reliance on imported fossil fuels for power generation by providing secure, sustainable, clean electricity. The project will also improve affordability of consumers by supplying electricity generated from solar PV plants at lower costs than the one from diesel generators. By optimizing TPL and MEIDECC systems, the project can exert downward pressure on tariffs for private and commercial consumers. The consultant, the project owner's engineer team, has provided project management support for both MEIDECC and TPL to help implement the OIREP. The turnkey contractor(s) of both grid-connected and mini/off-grids subprojects will provide specialized O&M knowledge transfer to ensure sustainable operation. For both mini and off-grid components, more sustainable O&M model has been proposed compared to the current situation for both systems.

Scaling up – To address dual challenges of climate change and energy security, Tonga introduced a new paradigm by setting ambitious targets under its NDC; 50% and 70% of electricity generation from renewable sources by 2020 and 2030. The OIREP has been designed to achieve this paradigm shift in Tonga, to help rapidly move Tonga from its current energy pathway that is almost entirely dependent on imported fossil fuels, to a pathway that is low-carbon, climate resilient and provides greatly increased levels of access to marginalized populations in outer islands where this is currently low.

In addition, the poor on many outer islands rely on outdated SHS or small portable generators that are managed at the household level. This limits access to electricity, is unreliable and leads to very high access costs. The OIREP will allow outer islanders of Tonga to enjoy the greater access to the modern AC electricity for a longer period per day.

As a result, GOT will feel more empowered to use public funds to replicate and upscale. In turn, the private sector will face less risk and uncertainty, and private investments should be more forthcoming. This will also be facilitated by capacity building and barrier removal. Finally, the installation of energy storage will lead to a more favorable working climate for investing in renewable electricity generation. Increased battery storage is considered a necessary precondition to facilitate the paradigm shift towards more private sector investment in renewable energy. Together, the resulting upscaling should lead to Tonga meeting and even surpassing its aim (as stated in the NDC) of having 70% of electricity generated from renewables by 2030.

The approach of using renewable energy technologies to create modern power sectors in remote island areas is of interest across the Pacific, to SIDS across the world, and even to remote island communities in medium and high development countries. Any gained knowledge from OIREP can be shared with other SIDSs and OIREP can be replicated on other SIDSs facing similar challenges.

With the GEF-6-STAR allocation funding, activities at the mini/off-grids component can be enhanced through improved renewable energy generation and storage (if possible) as well as improved climate-resilience measures. Allowing for innovative technical and operational combinations, such as improved management, multiple storage technologies and PV generation, provides Tonga with the means to meet its goals of 50% renewable energy in a timely manner and also without affecting the grid stability. Under the project scopes, the feasible renewable technology options to achieve the national goals of 50% renewable energy will be assessed, particularly the role of solar PV and batteries.

Likewise, many small islands in the Pacific are facing similar technical questions related to the transition from fossil fuels to renewables. In addition, the GEF funding may allow testing to find the most suitable and cost-effective options for the country and other similarly placed countries in the Pacific.

A.2. Child Project? If this is a child project under a program, describe how the components contribute to the overall program impact.

Not Applicable

A.3. Stakeholders. Identify key stakeholders and elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project. Do they include civil society organizations (yes /no)? and indigenous peoples (yes /no)? ⁸

The Government of Tonga will be the grant beneficiary. The executing agency of OIREP, including the additional GEF financing, will be the Ministry of Finance and National Planning. TPL and MEIDECC will be the implementing agencies.

The social survey conducted during the project preparatory technical assistance in 2012 and 2017 showed that communities in the outer islands identify lack of employment and other income-earning opportunities as the main cause of hardship. Other causes cited included too many dependents, landlessness, the burden of family, community obligations, poor health, and poor family budgeting. The groups most vulnerable to hardship include children, youth, women, the disabled, and the elderly. The project will address hardship by reducing the monthly expenses for electricity services. In addition, in the case of Ha'apai outer islands and Niuaus, the project could contribute to promote development of local craft manufacturing and sustainable tourism, which will benefit the poor.

The project is not expected to impact any distinct and vulnerable group of indigenous peoples, as defined under ADB's Safeguard Policy Statement. The beneficiaries in the project sites are part of mainstream Polynesian society and are not considered to be distinct from the mainstream society. They are not discriminated against due to their language, skin color, or education level and do not require protection or special attention from the project. All project outputs will be

⁸ As per the GEF-6 Corporate Results Framework in the GEF Programming Directions and GEF-6 Gender Core Indicators in the Gender Equality Action Plan, provide information on these specific indicators on stakeholders (including civil society organization and indigenous peoples) and gender.

delivered in a culturally appropriate, participatory manner. The project team will consider engaging with a Civil Society Organization, if necessary, in the further project design making process.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men. In addition, 1) did the project conduct a gender analysis during project preparation (yes /no)?; 2) did the project incorporate a gender responsive project results framework, including sex-disaggregated indicators (yes /no)?; and 3) what is the share of women and men direct beneficiaries (women 50%, men 50%)? ⁹

The project is classified as effective gender mainstreaming, with the majority of project outputs having specific gender design features to ensure that women participate in the project and have access to project benefits. The survey showed that the significant concerns of women include (i) affordability of urban services, (ii) improving power usage (conservation), (iii) improving the health and well-being of households and the community, (iv) having greater access to information on urban services and urban planning, (v) having greater involvement in developing solutions for communities through women's committee support, and (vi) being involved in consultation and decision making.

The project gender action plan will address these concerns and ensure that any potential harmful effects on women are avoided. The gender action plan includes specific actions that will benefit women. Key gender aspects have been assessed through gender analysis and community consultations. It was found that the project will not have any negative impact on women. The project will include the engagement of women in consultation activities; provision of gender awareness to target groups, including participation in income-generating activities; encourage women to participate in project-related contracts; and collection of gender-related data for monitoring purposes.

Under the on-going OIREP, TPL has successfully brought to the project sites, 8 women out of 15 trained workers. Four of these women previously completed the same tasks on Ha'apai under other project funded by ADB. TPL's effort may create a long-term employment opportunity for these female workers.

A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Risks identified in the early stages of the project included: (i) Policy actions and development partner support are inadequate to implement the TERM; (ii) Implementation can be delayed due to delays in land acquisition, and procurement; and (iii) Support, performance, and coordination at MEIDECC and TPL are weak/inadequate. Moreover, extreme weather events are an on-going and increasing risk for islands in the Pacific.

Mitigation actions include: (i) Engagement of the project management consultants; and (ii) Establishment of a project steering committee consisting of relevant Ministries, MEIDECC and TPL representatives and establishment within MEIDECC of a project management unit to handle the day-to-day running of each subproject. Moreover, the project will ensure that infrastructure investments meet standards for cyclone and earthquake resilience.

The GEF funding will help to de-risk the entire project by furthering country goals and financing incremental costs on the way to meeting Tonga's renewable energy goals.

A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The project is coordinated with other relevant initiatives (including those funded by ADB and other development partners) through the Pacific Region Infrastructure Facility (PRIF) and Pacific Power Association (PPA). These also include International Renewable Energy Agency (IRENA) activities in the region and the following GEF Phase 4 Projects:

UNDP's Marshall Islands - Action for the Development of Marshall Islands Renewable Energies (ADMIRE);

⁹ Same as footnote 8 above.

World Bank's Kiribati - PAS: Grid-connected Solar PV Central Station Project;
World Bank's Papua New Guinea- PAS: PNG Energy Sector Development Project;
World Bank - Solomon Islands Development of Community-based Renewable Energy Mini-grids.

As a member of PRIF, ADB participated in the PRIF meeting to discuss the project mentioned above in each quarter and the annual PPA conference.

Furthermore, the Asian Development Bank (ADB) provided project preparatory technical assistance to ensure the success of this project. ADB 2012. Technical Assistance to Tonga for Preparing the Outer Island Renewable Energy Development Project. Manila (TA 7940- TON, \$500,000 approved on 2 December 2011, financed by the Japan Fund for Poverty Reduction). The lessons learned from this GEF 6-funded project and the similar project underway in the Cook Islands will hopefully inform future activities in the Pacific and in small island nations.

Additional Information not well elaborated at PIF Stage:

A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The project will improve access to more affordable power supply, and will also widen access to better social services and income-generating opportunities. The project will result in annual direct reduction of 2,310 tons of carbon dioxide emission, for greater energy security and sustainability in Tonga.

The benefits of the proposed alternative scenario to be financed by the GEF grant will include:

- Clean electricity supply of approximately 2.86 GWh per annum
- Carbon dioxide reductions of approximately 144,581 (Direct + In-Direct [bottom-up]) tonnes throughout the lifespan
- Improved reliability, and more flexibility to address reliability issues, relative to the base case
- Surety for local businesses and employers providing renewable energy supply and installation
- Confidence for a range of stakeholders in the viability of Tonga renewable energy policy, by avoiding disruption.
- Demonstration of the renewable energy based hybrid system coupled with BESS to be connected to mini-grid system; providing a model, and capacity building, for future such installations on outer islands in Tonga.
- Improved access to and reliability of power supply will help local businesses;
- Reduced expenditure on fuel imports will reduce pressure on the national budget, releasing funds for other economic investments;
- Increased national energy security creates a better environment for business development;
- Less damage from the misuse of batteries. In the past, many of the small islands have faced environment degradation due to mishandling of old and damaged lead acid batteries used with outdated SHSs. In some places, this is becoming a serious issue. The proposed project will remove these batteries from these islands and replaced the existing fragmented solar home systems with clean solar PV mini-grid. Batteries will be centralized and properly managed;
- Introduction of systematic use of environmental safeguard policies will have a positive influence on development on the islands

- Improved affordability of power supply will reduce household expenditure on energy, releasing income for other essentials such as education and food;
- Notably, on outer islands, increased access to electricity will result in significant social benefits: including improved education, income generation at household levels, reduced household expenditure on kerosene, lowered fire risk from kerosene lighting, and reduced fuel wood consumption;
- Improved lighting means more time for community meetings, meaning improved conflict resolution. It is observed that afternoon/night time meetings tend to involve majority of the community members to discuss issues and come to a consensus.
- Improved community lighting leads to increase safety, and notably women are more confident to attend social gatherings;and
- Improved household access to electricity disproportionately benefits women.

The project including the proposed renewable energy based mini-grid hybrid system (coupled with BESS) to be funded by the GEF grant will provide the useful lesson learnt to Tonga and other small island countries whose economies heavily rely on imported fuels by demonstrating the feasibility and role of the mini-grid hybrid system (coupled with BESS) for those countries to move towards the low-carbon economy and address the global climate change threat.

A.8 Knowledge Management. Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

This project can serve as a model and lessons can be disseminated through networks such as the Small Islands Developing States (SIDS Dock) and the Alliance of Small Island States (AOSIS). As demonstrated in the preparation of a similar project in the Cook Islands, much of the knowledge sharing happens peer-to-peer. The GEF Secretariat and other international organizations, such as the International Renewable Energy Agency, have activities targeted at the Pacific Islands. ADB may share results through knowledge products and Forums such as the Asia Clean Energy Forum.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

Government of Tonga 2010. Tonga Energy Road Map, 2010–2020. Nuku'alofa. Government of Tonga 2008. Renewable Energy Act. Nuku'alofa.

Tonga Strategic Development Framework (2015 – 2025)

Tonga National Infrastructure Investment Plan (2) 2015 - 2025

The project is in line with the objectives of ADB's 2009 Energy Policy to promote energy efficiency and renewable energy; provide access to energy for all; and support reform, capacity building, and improved governance in the energy sector. It is included in ADB's country operations business plan for Tonga for 2017–2019, which makes energy a priority area of support. A primary goal of the plan is to reduce the country's dependence on imported fossil fuels through energy efficiency and conservation operations, including support for power generation from renewable energy sources.

C. DESCRIBE THE BUDGETED M & E PLAN:

Project performance monitoring- ADB, working with the project executing agency, will prepare an Annual GEF Project Implementation Report following ADB and GEF requirements. The project mid-term review will integrate requirements

from the GEF Monitoring and Evaluation Policy and associated guidelines, including update of the GEF Climate Change Tracking Tool. The project completion report will integrate GEF Requirements for Terminal Evaluation Reports, consistent with GEF Monitoring and Evaluation Policy and associated guidelines, as well as ADB's guidelines for the completion of project completion reports for GEF co-financed projects. The PMU is responsible for monitoring/reporting. The PMU submits a quarterly progress report and a semi-annual report, including safeguards monitoring report, to facilitate the monitoring of the physical progress of OIREP. Most monitoring activities take place at the subproject level, as follows:

- A detailed Project Administration Manual has been prepared setting out the reporting, monitoring and evaluation activities, responsibilities and budget.

- ADB undertakes 2 project reviews per year to assess progress of project implementation activities, compliance with covenants and project agreements, and to monitor progress to achieving project outputs and agree on any required modifications.

- ADB undertakes a mid-term review within 3 years of the project being effective or at any time that ADB and the Government of Tonga consider it necessary. The midterm review mission will (i) review institutional, administrative, organizational, technical, environmental, social, economic, and financial aspects of the project based on the assumptions and risks included in the design and monitoring framework and updated project performance rating; (ii) review covenants to assess whether they are still relevant or need to be changed, or waived due to changing circumstances; (iii) assess the need to restructure or reformulate the project and the effects of this on the immediate objectives (purpose) and long-term goals of the project; and (iv) update the project's design and monitoring framework if restructuring or reformulation is necessary or its immediate objectives will change.

- Within 6 months of physical completion of the project, the national executing will submit a project completion report to ADB.

Compliance monitoring - In addition to the standard assurances, compliance with the specific assurances will be monitored. Implementation of covenants will be (i) summarized in the EA's quarterly progress reports, (ii) discussed during PSC meetings, and (iii) reviewed during biannual project review missions.

Safeguards - The areas to be affected by activities under the project are classified as category B for the environment. Initial environmental examinations were prepared in accordance with ADB's Safeguard Policy Statement (2009). No significant environmental impacts will result from the implementation of the project. The proposed project is category C for involuntary resettlement and indigenous peoples per ADB's Safeguard Policy Statement (2009). The due diligence report confirmed that it will not require any land acquisition, displace people, and impact on any assets and livelihood. No distinct and vulnerable indigenous peoples will be affected. All the activities in the overall project will be implemented in a culturally appropriate and participatory manner.

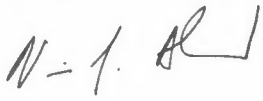
Safeguards monitoring (Resettlement) - MFNP, MEIDECC and TPL with support from the PMU manager and PMC, will monitor all activities associated with land acquisition and resettlement. The monitoring will include reporting on progress of activities in the implementation of the RP with particular focus on public consultations, land acquisition, payment of compensation, and level of satisfaction among affected persons. PMU, in cooperation with MEIDECC and TPL, will prepare and submit semi-annual monitoring reports to ADB. The resettlement framework and resettlement plan provide detailed arrangements for monitoring and reporting. The PMU manager and the safeguard specialists of the PMC will assist MFNP, MEIDECC and TPL in monitoring safeguard activities and preparation, and review and disclosure of safeguard monitoring reports. The checklist for safeguard supervision and the outline of safeguard monitoring report on resettlement for ADB missions, and MFNP, MEIDECC and TPL, respectively, are provided below.

The budgets of US\$0.65 million and US\$1.05 million have been allocated for the PMU manager and POE.

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

A. GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies¹⁰ and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Nessim J. Ahmad Deputy Director General, SDCC concurrently Chief Compliance Officer and GEF Executive Coordinator, Sustainable Development and Climate Change Department, Asian Development Bank		10/16/2017	Woo Yul Lee, Energy Specialist	+632 683 1803	wylee@adb.org

¹⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT
GEF6 CEO Endorsement /Approval Template-August2016

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).
Please see the attached

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

See Attachment STAP Comments and ADB Response

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹¹

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: NOT APPLICABLE			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF/CBIT Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
No PPG Grant was requested			
Total	0	0	0

¹¹ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.
 GEF6 CEO Endorsement /Approval Template-August2016

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

The GEF fund will be used as a grant and there will not be reflows GEF.

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

Scientific and Technical Advisory Panel

I. PIF Information (Copied from the PIF)

FULL SIZE PROJECT	GEF TRUST FUND
GEF PROJECT ID:	9355
PROJECT DURATION:	4
COUNTRIES:	Tonga
PROJECT TITLE:	Outer Island Renewable Energy Project
GEF AGENCIES:	ADB
OTHER EXECUTING PARTNERS:	Ministry of Finance and National Planning, Kingdom of Tonga
GEF FOCAL AREA:	Climate Change

II. STAP Advisory Response (see table below for explanation)

Based on this PIF screening, STAP’s advisory response to the GEF Secretariat and GEF Agency(ies): **Concur**

III. Further guidance from STAP and the German Council Member

STAP Comments	ADB Response
<p>1. This is a well formulated project aiming to develop 1.32 MWp solar PV capacity on 9 outer islands of Tonga. It appears to be well structured with stringent plans to include capacity building (that is essential) and the social issues involved with such new technologies. Continued maintenance and supervision is essential for such projects, as evidenced by similar projects elsewhere in the South Pacific that have failed after a few years. The Project Administration Manual is a good concept to assist project development and help avoid pitfalls</p>	<p>Thank you for your positive comments. The Operation and Maintenance (O&M) Manuals for solar plants (coupled with batteries) are to be developed by turnkey contractors, and Tonga Power Limited is to be contracted as a maintenance service provider for the mini-grids in outer islands.</p>
<p>2. The total power demand consumption (55 GWh) and future projections by Tonga Power Limited (to 62 GWh by 2020) are presented, but details of current demand and projections for each of the islands under question are not given. The claim that 600,000 liters/year of diesel will be saved assumes that such calculations have been made. The resulting 2000 t CO2eq per year reduction equates to around 3.3 kg CO2eq per liter which is a little higher than expected, unless the fuel used to deliver the diesel to the islands is also included. In Table A2, the current project to generate 103 MWh / yr (not "MWp" as stated) of solar electricity is claimed to avoid 1700 t CO2eq. That equates to around 500g CO2eq /kWh</p>	<p>Please find the submitted rational including standardized text for the GHG Emission Calculation.</p>

<p>generated that is somewhat low (e.g., Sovacool, 2008 gives 778 g from a life cycle analysis https://en.wikipedia.org/wiki/Life-cycle_greenhouse-gas_emissions_of_energy_sources). The "overall project" gives an additional 381 MWh and avoids 308t CO₂eq – equating to 808 g CO₂eq /kWh. This apparent discrepancy needs to be checked. The total assessed direct avoided emissions over the 25 year project lifetime is 50,200 t CO₂ (page 7) with an additional consequential emission reduction estimated to be 75,300 t CO₂. Thus the total emission reduction for the project is 125,500t CO₂-eq as should be reported in Table F (thus replacing the 75,300 t CO₂ as at present). It would also be useful to provide the assumed capacity factor for the installed solar PV systems that could not be provided from the information provided</p>	
<p>3. The title "renewable energy project" is perhaps misleading as only one technology, solar PV, is involved. The islands no doubt have good solar insolation levels, (though this is not stated) but was any consideration given to other technologies or other renewable resources monitored? Could wind power be integrated with solar PV perhaps? Is there any micro hydro potential on any of the islands? Has biomass or biogas any merit using local waste resources and crop residues to provide heat for cooking and food processing and/or power? The case to use solar PV alone could be sound but it has not been justified. This comment is related to the proposed in the project feasibility studies of technology options to achieve the national goals of 50% of RE by 2020. STAP recommends using project GEF resources and co-financing to start developing realistic sustainability and scale-up plan and secure long-term financing to assure achievement of this ambitious target.</p>	<p>By virtue of successful progress of OIREP, the Government of Tonga has recently requested new grants from ADB, the Government of Australia and the Green Climate Fund to develop a new project, which will replicate similar technical solutions in the main island, consequently achieve the national goals of 50% of RE by 2020. Under OIREP, the four most promising electricity generation technologies – diesel, biodiesel, solar PV and wind power - were assessed. The following selection criteria were applied: (i) maturity of the technology; (ii) resource availability; (iii) contribution to energy security and independence; (iv) generation costs; (v) modularity; (vi) complexity, including for maintenance; (vii) intermittency and storage requirements; (viii) space requirements; and (ix) environmental and social aspects. The two most suitable generation technologies were found to be solar PV and wind power, in combination with BESS. However, wind power is not suitable for outer islands due to many reasons, mainly the issue of land acquisitions. The ‘modularity’ of this approach was a critical factor. This modularity means that Tonga can upscale in line with needs and resources, and it can purchase technology when required, and as prices fall and technology improves</p>
<p>4. PIF provides no information about the existing regulatory barriers for RE expansion in the country. The maturity of the regulatory frameworks is an important factor that has to be addressed and appropriate regulatory and fiscal support provided using project funds.</p>	<p>Supportive regulatory frameworks for RE take are in place. Financial barriers are most critical. The ability of Tonga to access public and private financing for such investments is limited. The available resources are insufficient to finance the structural shift from diesel generation to renewable energy.</p>
<p>5. Battery storage is a key component of the system – but what storage capacity has been</p>	<p>The following criteria were applied to come up with storage capacity: (i) demand profile; (ii) affordability to</p>

<p>calculated when assessing costs? There is a balance between the resource reliability, the demand profile and storage back-up. Since batteries remain costly (although now certainly cheaper per kWh stored than in recent years) was any analysis made of using existing diesel power systems as back-up on occasions to integrate into the system in order to keep battery storage size and hence investment costs down? How the project will assure that the replaced by PV diesel generators will be discontinued, particularly given the increasing energy demand? GHG calculations of project impacts should consider/estimate potential "leakage"</p>	<p>pay of consumers; (iii) minimization of diesel consumptions; (iv) duration of electricity supply generated by RE; and (v) available budget. As part of OIREP, rehabilitation of the existing grid and service lines are being undertaken to improve energy efficiency by reducing technical losses. The expected energy efficiency improvement has been factored for GHG calculations. For those outer islands, no significant increase in energy demand is foreseeable.</p>
<p>6. It is not clear how the PV capacity was calculated for each individual system. How was the power demand on each island assessed?</p>	<p>The following criteria were applied to come up with the solar PV capacity: (i) demand profile; (ii) affordability to pay of consumers; (iii) minimization of diesel consumptions; (iv) duration of electricity supply generated by RE; and (v) available budget. The consultants visited each island to conduct survey and assess the power demand.</p>
<p>Was any increased demand accounted for as more appliances are inevitably connected over time?</p>	<p>For those outer islands, no significant increase in energy demand is foreseeable.</p>
<p>Is future expansion of the planned systems an option being considered in the current designs?</p>	<p>For main islands of Ha'apai, 'Eua and Vava'u only.</p>
<p>Will small businesses, schools, health centers and etc. be able to grow their demand to utilize the power available as well as domestic connections? – Not significantly. Only domestic use and solar home systems are specifically mentioned</p>	<p>Those SHSs are only system currently available on those outer islands (outer islands of Ha'apai and Niua Group).</p>
<p>7. Are the panels to be roof-mounted or fixed on land?</p>	<p>Fixed on land</p>
<p>Can they be designed to withstand extreme cyclones that appear to be growing in strength in the region? Laying flat would result in slightly less output but reduce the risk from storm damage. The price of panels has declined recently but much of the balance-of-system has not declined to the same degree (e.g., inverters, controls, steel framing, and etc.).</p>	<p>The design will incorporate adequate climate-proofing measures to lessen the potential negative impacts of extreme weather events throughout the project life cycle.</p>
<p>8. A "repair programme" is planned on Vava'u (see Project Description of the PAM) – though elsewhere this is described as a lines upgrade ("rehabilitation of existing grid networks"). Are there any lessons to be learned from why this is necessary? For this project will the new lines infrastructure be designed to cope with increased future demand?</p>	<p>For outer islands of Ha'apai and Niua Group, new mini-grid system will be built as there is currently none. For main islands of 'Eua and Vava'u, especially the grid-rehabilitation component, will allow Tonga to reduce power distribution losses and fuel consumption while delivering the same amount of electricity to consumers; and improve the climate resilience feature of TPL's grids.</p>

<p>9. The Tongan government a few months ago, in association with the EU, was seeking inputs for a school energy project "PV powered computer suites in high schools" (but the web site seems to have been taken down http://energy.gov.to/index.php/all-category/business/186-tongan-schools-pilot-on-grid-solar-photovoltaics-systems). Is this project linked with this ADB project?</p>	<p>This project is not administered by ADB as it's EU's stand alone project.</p>
<p>10. It would be beneficial to consider building local capacity and provide training for O&M on the islands as an additional source of income and socio-economic benefit of the project.</p>	<p>Under the on-going OIREP, the project management consultant will deliver such training workshops and TPL will also provide periodic on-site trainings.</p>
<p style="text-align: center;">German Council Member Comment</p>	<p style="text-align: center;">ADB Response</p>
<p>11. Given the focus on operations and maintenance, it would be helpful to add information about where the hardware will be sourced, information about the supply chain for spare parts and how technical support could be administered in such a remote part of the world.</p>	<p>The solar-hybrid generation turnkey contract will be procured through an international competitive bidding process. As ADB is administering a co-financing grant from GEF, universal procurement will apply to all procurement packages for the project. The mini-grid system in the outer islands will be installed by TPL, direct contracting with the existing contractor will be used for the procurement of some electric equipment to ensure the standardization with existing equipment. The incorporate community societies in those islands will be responsible for operating the mini-grid system, and TPL will provide the periodic technical maintenance service and training to technician in those islands.</p>

<p><i>STAP advisory response</i></p>	<p><i>Brief explanation of advisory response and action proposed</i></p>
<p>1. Concur</p>	<p>In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple "Concur" response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.</p>
<p>2. Minor issues to be considered during project design</p>	<p>STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to:</p> <ul style="list-style-type: none"> (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review. <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>

<p>3. Major issues to be considered during project design</p>	<p>STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required.</p> <p>The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP's concerns.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p>
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