



GEF-6 PROJECT INFORMATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Accelerating Renewable Energy and Energy Efficiency Applications in Niue (AREAN)		
Country(ies):	Niue	GEF Project ID:	9752
GEF Agency(ies):	UNDP	GEF Agency Project ID:	6037
Other Executing Partner(s):	Department of Utilities, Ministry of Infrastructure	Submission Date:	20 Feb 2017
		Resubmission Date:	22 Mar 2017
GEF Focal Area(s):	Climate Change	Project Duration (Mos)	48
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:	N/A	Agency Fee (US\$)	315,548

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES:

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	GEF Project Financing, US\$	Co-financing, US\$
CC-1; Program 1: Promote timely development, demonstration and financing of low carbon technologies and mitigation options	GEFTF	3,321,563	16,400,000
Total Project Cost	GEFTF	3,321,563	16,400,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Enabling the achievement of the energy access, sustainable energy, and green growth targets of Niue						
Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Project Financing US\$	Co-Financing US\$
1. Improvements in Energy Integrated Development Policy and Planning	TA	Improved policy and regulatory frameworks in the application of energy efficiency and renewable energy technologies in the energy end-use sectors	<ul style="list-style-type: none"> • Comprehensive policy research, impact analyses and assessment reports on sustainable energy and low carbon (LC) development policies and regulations. • Formulated/revised, approved and enforced policies, implementing rules and regulations (IRRs) and standards. • Completed and fully evaluated pilot applications of selected sustainable low carbon standards, policies, and IRRs • Approved follow-up plan for the enhancement of sustainable energy and low carbon development plans and policies. 	GEFTF	188,710	1,122,300
2. Institutional Capacity Building on Low Carbon Development	TA	Effective enforcement of plans, policies, regulations, and implementation of programs/projects, on the application of	<ul style="list-style-type: none"> • Comprehensive report on the assessment of current institutional arrangements for implementation of energy and infrastructure plans and programs • Formulated and recommended institutional framework that supports the implementation of LC development policies and regulations • Adopted and enforced suitable institutional mechanisms that integrate LC development 	GEFTF	125,800	754,800

		climate resilient and low carbon technologies in the end-use sectors.	with the socio-economic, climate change, infrastructure and disaster management objectives of the country <ul style="list-style-type: none"> • Performance evaluation report on the adopted institutional framework and mechanisms. 			
3. Improvements in the Financing of Low Carbon Development Initiatives	TA	Increased availability of, and access to, financing for sustainable energy, energy access and low carbon development initiatives in the energy supply and demand sectors	<ul style="list-style-type: none"> • Designed and implemented financing instruments for the Niue Development Bank for financing EE and RE technology application initiatives. • Completed small-scale EE projects and RE technology projects financed either through the established financing scheme; or by private sector investments • Evaluation report on the performance of the established financing scheme • Completed suggested enhanced financing policies for supporting initiatives on LC development. 	GEFTF	110,583	3,301,800
4. Climate Resilient and Low Carbon Technologies Applications	TA	Climate resilient and low carbon techniques and practices adopted and implemented in the energy end use sectors.	<ul style="list-style-type: none"> • Comprehensive assessments of other applicable LC technologies that can be feasibly implemented in the generation and energy end-use sectors to support the timely achievement of the NiSERM target • Completed design, engineering, financial and implementation plans for the most feasible grid stability scheme that will be implemented • Completed design and implementation plans for the replication and/or scale up of demonstrated EE sustainable energy and low carbon energy project • Fully evaluated portfolio of follow-up sustainable energy and LC technology (EE and RE) application projects in other villages. 	GEFTF	338,300	825,200
	Inv	Enhanced confidence in the viability of climate resilient and low carbon technology applications in the energy supply and demand sectors.	<ul style="list-style-type: none"> • Completed designs and implementation plans of LC technology application demonstrations¹. • Successfully installed and operational systems of the implemented demonstrations of sustainable energy and LC technology (EE and RE) applications. • Completed and evaluated pilots on the implementation of the energy monitoring and reporting system 	GEFTF	1,900,000	7,924,000
5. Enhancement of Awareness on Low Carbon	TA	Enhanced levels of awareness and attitude towards	<ul style="list-style-type: none"> • Established and operational energy audit system covering government and commercial buildings and facilities, as well 	GEFTF	500,000	1,839,600

¹ This may include the following demos: (1) solar PV-based distributed generation facilities; and, (2) solar PV water supply systems; (3) water system loss management schemes; (4) energy efficient solid waste management schemes; (5) feasible RE-based energy systems (e.g., solar water heating, biogas generation and utilization); (6) application of EE street lighting technologies; and, (7) application of pre-paid electric meters, in selected villages, as well as application of demand side management schemes in selected government and commercial buildings.

Development		climate resilient and low carbon development in the energy end use sectors.	as industrial companies <ul style="list-style-type: none"> Established and operational energy (all energy forms) supply and consumption monitoring and reporting and database system. Established and operational energy technology database, which will be the official repository of data and information on planned and implemented low carbon (RE and EE) technology applications in the country². Established and operational information exchange network for the promotion and dissemination of knowledge on sustainable energy and LC development. 			
Sub-Total				GEFTF	3,163,393	15,767,700
Project Management Cost				GEFTF	158,170	632,300
Total Project Cost				GEFTF	3,321,563	16,400,000

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount US(\$)
National Government	Department of Utilities - Ministry of Infrastructure (DOU-MOI)	Grant	15,485,000
	Department of Environment – Ministry of Natural Resources (DOE-MNR)	In-kind	815,000
Private Sector		Grant	TBD
GEF Agency	United Nations Development Programme (UNDP)	Grant	100,000
Total Co-financing			16,400,000

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

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b)	Total (c)=a+b
UNDP	GEFTF	Niue	Climate Change	N.A.	1,726,484	164,016	1,890,500
UNDP	GEFTF	Niue	Land Degradation	N.A.	1,138,458	108,153	1,246,611
UNDP	GEFTF	Niue	Biodiversity	N.A.	456,621	43,379	500,000

E. PROJECT PREPARATION GRANT (PPG)³

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

² This database will include information about the: (a) results and analysis of the energy performance and impact assessment of implemented demos and pilots; and, (b) results and outputs of the capacity development activities, as well as the results and outputs of the other major project activities.

³ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$1 mil; \$100k for PF up to \$3 mil; \$150k for PF up to \$6 mil; \$200k for PF up to \$10 mil; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

GEF Agency	Trust Fund	Country/ Regional/Global ^{a/}	Programming of Funds	(in \$)		
				PPG (a)	Agency Fee ⁴ (b)	Total c = a + b
UNDP	GEFTF	Niue	Climate Change	100,000	9,500	109,500
UNDP	GEFTF	Niue	Land Degradation	50,000	4,750	54,750
UNDP	GEFTF	Niue	Biodiversity	0	0	0
Total PPG Amount				150,000	14,250	164,250

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Corporate Results	Replenishment Targets	Project Targets
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (<i>direct & indirect</i>)	110,200 tons CO ₂ reduced (<i>potential direct & consequential</i>)

PART II: PROJECT JUSTIFICATION

1. Project Description.

1.1. Global environmental problems, root causes and barriers that need to be addressed

Niue is an island country in the South Pacific Ocean, 2,400 kms northeast of New Zealand, and east of Tonga, south of Samoa and west of the Cook Islands. Its land area is 260 km² and its population, predominantly Polynesian, is around 1,600 as of November 2016. Niue is one of the world's largest coral islands. The terrain consists of steep limestone cliffs along the coast with a central plateau rising to about 60 m above sea level. The island has a tropical climate, with most rainfall occurring between November and April.

The Niuean economy is small and relies heavily on financial assistance from other nations, especially New Zealand. Key areas of the Niuean economy include agriculture, tourism and fisheries. The country's National Strategic Plan's objective is the building of a sustainable future that meets the country's economic and social needs while preserving environmental integrity, social stability, and the Niuean culture. Most of the focus is on devising and implementing plans to build climate resilience and enhance the country's disaster preparedness.

Electricity is accessible to all households island-wide since the mid-1970s and is predominantly generated through diesel fuel powered generators. This is now complemented by solar PV-generated electricity. The total installed power generation is 2.084 MW, and about half of this capacity is utilized. The installed solar PV system capacity is 343 kWp, with 150 kW battery capacity. This installed grid-connected RE-based power generation capacity accounts for 14% of the installed power generation capacity of the NPC. However, only around 80 kWp of the installed solar PV is feeding electricity to the grid due to grid instability problems when the other solar PV systems come on line. Hence, the remaining available 263 kWp of solar PV capacity is currently offline. At present, the electricity generation from the grid connected 80 kWp solar PV system is only 2% of the overall electricity generation. The country's target is to achieve 80% RE electricity generation by 2025. On a typical day, one diesel genset operates in the early morning hours (1:00 AM. to 5:00 AM), when the maximum load is at the lowest (347 kW ave.). Two gensets are in operation by 6:00 AM to meet the daily demand until 12:00 noon when the loads starts to recede. The peak load gradually increases from 5:00 PM and reaches the highest demand (507 kW

⁴ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁵ 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.

ave.) between 8:00 PM. and 9:00 PM. This load pattern would have been adequately served with one diesel genset if the maximum capacity of the installed solar PV/battery systems is fully available.

Fuel is imported on a monthly basis in the form of gasoline, aviation fuel, LPG and diesel for use in power generation and in other energy end use sectors of the country. In 2014, the total imported petroleum fuel is about 2.745 million liters (102.7 TJ), and bulk of this is of diesel fuel oil (48%). The rest are gasoline (29%), aviation fuel (21%) and LPG (2%). Two-thirds of the diesel imports is used for power generation, the rest for transport. About 45% of the petroleum fuel is used for transport, and about 68% of that is used for land transport. In regards final energy consumption, bulk of the energy consumption in the country is in transport (71%), followed by the residential sector (11%), commercial sector (10%), government sector (7%), and agro-forestry and fishing (1%).

The Niue Strategic Energy Road Map 2015–2025 (NiSERM) builds on the 2005 Niue National Energy Policy and the Niue National Strategic Plan (NNSP) 2014–2019, and is aligned to current national, regional and international emerging issues relating to the energy sector. The NiSERM outlines Niue's aspiration to meet 80% of its electricity needs from renewable energy sources by 2025, which would in turn reduce the country's high reliance on imported fossil fuel. Part of this goal can be achieved through natural resources and identified assistance, but achieving such high levels of electricity from renewable energy resources (from around 2% today) is very ambitious and will need considerable contributions of financial and capacity support from the country's development partners.

However, achieving the country's energy goals, in general, and the NiSERM target, in particular, would mean removing some barriers that have been hindering Niue to achieve widespread application of its renewable energy resources for energy production. Actions to address the current instability problems on the country's utility grid with the integration of RE-based power generation units is a serious hindrance to achieving the NiSERM target. Also, the achievement of the energy goals of the country will depend on not only establishing clear roles for the pertinent entities in the country, but also enabling and capacitating them to carry out their roles and responsibilities in the implementation of the NiSERM. This will also require effective coordination with development partners. The barriers that have to be overcome to enable the achievement of the energy goals of the country are the following:

Policy and Regulatory Barriers:

The main barrier under this barrier category is the lack of policies for enabling actions that would motivate interest in developing and sustaining the country's energy sector. Among these are: (a) Very general policies on renewable energy and energy efficiency; (b) Lack of policies regarding financial/fiscal incentives that would encourage private sector (local and/or foreign) capital in sustainable energy projects in the country; (c) Inadequate enforcement of existing energy policies and strategies, inclusive of the supporting rules/guidance and legislations/regulations; and, (4) lack of specific policies and regulations about the energy utilization in major end-use sectors, e.g., buildings sector (i.e., no specific aspects of EE and RE applications in the national building code; and, in the transport sector. Apart from the policy/regulatory related barriers, there is the absence of energy integrated development planning for the different sectors of the national economy that consider the energy and environmental impacts of development policies, decisions and programs implemented.

Institutional Barriers:

Presently, the coordination of the national energy objectives and strategies to the policies, strategies and work programs of other relevant government entities is inadequate. Because of this, there is inadequate coordination of the national energy objectives and strategies to the policies, strategies and work programs of other relevant GoN entities. With the current status of the NPC as a state-owned enterprise, it is not

very clear how it coordinate its work with the responsible GoN entity in electricity generation and distribution. This problem of weak institutions that are inadequate to provide sustainable operations of energy systems is exacerbated by the fact that NPC needs capacity building in this area. Also among the causes of the weak institutional capacity is the lack of government energy planners and energy specialists on RE, non-RE and EE technologies that can ensure donor funded energy projects are in fact appropriate for the country.

Financial and Market Barriers:

The lack of financing is the major financial/market barrier to the implementation of RE and EE projects in the country. This is mainly because of: (1) Dependence on donor funding for this kind of projects; (2) Inadequate government budgets for renewable energy development; (3) Fiscal policies that are biased against RE and EE (e.g., import duties levied on RE/EE systems); (4) Limited opportunities for access to funding of EE and RE projects by energy consumers, due to lack of capacity to develop and prepare bankable RE and EE project proposals; and, (5) Private sector involvement in the energy sector is limited. In addition, the cost of RE-generated electricity is often perceived to be not competitive, which is due to the fact that petroleum fuels are convenient to use and currently are relatively cheap compared to previous years. Furthermore, the rather small market size is not attractive to private enterprise interested in providing RE systems, or selling EE appliances/equipment. The market for technical skills and products is small for the profitable development of a private sector technical services or sales industry.

Technical Barriers:

The current major technical barrier is the grid instability when more RE-based systems are integrated to the existing power grid. While the limited capacity of NPC technical and operational personnel on the integration of RE-based power generation systems and on the operation and maintenance of such grid connected systems contributes to this problem, the exact reasons for such problems have not yet been determined and adequately addressed. This has resulted some of the presently installed on-grid solar PV systems not able to feed into the grid. The current low level of %RE achieved so far reflects the limited successful RET application experience, particularly RE systems for electricity generation. The lack of capacity to operate and maintain RE systems (power and non-power applications) is exacerbated by the difficult environment for installed electrical and mechanical equipment for RE-based power generation. There is also very small number of government and private sector people having technical competence applicable to energy development because of the lack of opportunities, apart from projects, for continuing education on RE and EE technologies applications, and in the operation and maintenance of systems employed in such applications.

Awareness and Capacity Barriers:

There is in general lack of confidence in RE due to previous project failures in Niue and in other PICs, and the current grid stability problem that resulted in the non-use of some of the installed grid connected solar PV systems. This make it difficult to generate enthusiasm at either the public or private level for new RE efforts. This is also due to the lack of understanding of the application of RE and EE technologies by decision makers, the general public and businesses especially on the advantages, disadvantages and costs of renewable energy and energy efficiency technologies. Because of the lack of opportunities to apply knowledge and skills learned from capacity development on RE and EE technologies applications, and in the operation and maintenance of systems in such applications, the expected impact in terms of the level of knowledge and technical skills of technical personnel in NPC and the government was not realized. The same was the result, i.e., no significant impacts in terms of the level of knowledge and attitude of the general public and the government authorities, in the previous awareness enhancement activities that were carried out in the country.

In regards knowledge and information on low carbon (RE and EE) technologies, there is lack of information about low carbon technologies, and the performance of the solar PV systems that are connected into the NPC grid. Information about the power generation performance of the utility remains very limited for NPC or government to be able to make a truly informed decision as to the proper course to take to improve the system performance reliability. Moreover, there is also low level of capacity among government institutions in data acquisition, analysis and data management, as well as on the use of existing computer models for sustainable energy and low carbon development.

The abovementioned barriers, if not properly and adequately addressed will continue to prevent the timely and complete achievement of the NiSERM target.

1.2. Baseline scenario and any associated baseline projects

The baseline projects related to RE-based power generation and energy efficiency improvements in the energy-end use sectors that are currently under implementation in the country include:

Baseline Projects/Programs	Implementer and/or Sponsor	Linkages to AREAN	Estimated Budget, US\$
Implementation of National Strategic Plan, NiSERM and MEA Compliance Activities			
Niue National Strategic Plan; National Integrated Strategic Energy Road Map (NISERM); NDC Implementation & Reporting; GCF Readiness Activities; Building Safety and Resilience in the Pacific Project	Government of Niue (GON)	Component 1: Enhancement of the national energy development planning processes; Identification and development of low carbon technology initiatives Component 2: Institutional capacity development in the implementation of the NiSERM planned programs/projects. Component 4: Development and implementation of LC technology initiatives in the energy generation and energy end use sectors to support the timely achievement of the NiSERM targets. Component 5: Capacity building on measuring, verification and reporting, including the identification and design of feasible and applicable CCM initiatives.	2,460,000
Implementation of National Infrastructure Plan Activities			
EDF11- Infrastructure Program in Energy Sector; GoN-Niue Power Generation Support; Asset Management Plan Implementation; Building Safety and Resilience in the Pacific	Government of Niue (GON); European Union; NZAid; SPC	Component 4: Development and implementation of LC technology applications in the Niue electric power system; and LC technology initiatives in the energy generation and energy end use sectors to support the timely achievement of the NiSERM targets. Component 5: Capacity building in the safe and climate resilient infrastructures."	5,610,000
Implementation of RE-based Power Generation System Projects			
Implementation of Strategic Renewable Energy Map (SREM); SPC-PALS/IUCN –Low Carbons; PEC-5 Renewable Energy; RE-Energy Generation and Energy Storage	Government of Niue (GON); Governments of Japan & New Zealand; SPC	Components 1: Comprehensive assessment of LC technologies; Review and improvement of the Niue Power laws and regulations. Component 4: Development and implementation of LC technology applications in the Niue electric power system. Development and implementation of feasible LC technology initiatives in the generation and energy end-use sectors to support the timely achievement of	4,630,000

		the NiSERM targets.	
Implementation of National Water Management Strategic Plan Activities			
Water Strategic and Implementation Plan; IWRM Plan; GEZ-EU ACSE Project	Government of Niue (GON); European Union/GIZ	Components 1: Comprehensive assessment of LC technologies applicable in the water sector Component 2: Institutional capacity development in the implementation of the NiSERM planned programs/projects in the water sector. Component 4: Development and implementation of LC technology initiatives in the water sector to support the timely achievement of the NiSERM targets. Component 5: Enhancement of the capacity building program to include EC&EE in the water sector.	1,980,000
Implementation of National Waste Management Strategic Plan Activities			
Waste Management Action Plan; Programs on Solid Waste, POPS and Composting; Waste Recycling Centre	Government of Niue (GON); AusAid, SPREP	Same as above, except waste sector.	910,000
Implementation of Climate Change Mitigation Capacity Development Activities			
SPC-Global Climate Change Alliance (GCCA) for Pacific Small Island States (PSIS); GCCA PACTEVT –USP/SPC-2nd Phase.	European Union, USP, SPC, IUCN, UNEP	Component 5: Enhancement of the capacity building program to include EC&EE and LC technologies in addressing CCM issues of Niue.	710,000

1.3. Proposed alternative scenario

The ongoing baseline projects/activities that are relevant to, or contributing to the achievement of the energy goals of the country are focused on both the energy supply and demand sectors. The country has also identified several climate change mitigation actions that form part of its Nationally Determined Contributions (NDCs)⁶. However, with the current condition of the electricity sector, wherein increased integration of RE-based energy systems is affecting the grid performance, the current level of awareness raising and information dissemination about cost-effective EE and RE technology applications not only for electrical energy purposes, and current level of efforts on conserving energy and using energy efficiency, will continue as in the past if the barriers will not be removed. These barriers may even persist for a much longer period of time if the current strategy would remain as the primary feature of promoting and implementing actions that are geared towards the enhanced energy access, sustainable energy and low carbon development, notwithstanding the barriers that have hindered the country from achieving its energy (RE and EE) objectives. The opportunities for Niue to achieve its national energy objectives, as stated in the NiSERM, and reduce GHG emissions while improving the living conditions of its citizens will just be lost if only these baseline projects/activities will be implemented. The realization of significant GHG emission reduction through the facilitation of the enabling environment that will be conducive to the realization of the NiSERM targets and in support of the socio-economic development of the country will not be realized if an alternative development path will not be taken and facilitated.

The facilitation of the achievement of the energy goals of the country would not only help the country in its low carbon development path, but also enables the country to have the energy security that it wants for

⁶ Niue submitted its Intended Nationally Determined Contributions (INDC) to the UNFCCC on 28 October 2016, which is also the same date the country ratified the Paris Agreement. Its INDC is now referred to as its NDC.

ensuring its citizens' access to reliable and safe energy services. It also enables the realization of Niue's contribution to the global effort to mitigate climate change. With the assistance of the GEF, the proposed project will facilitate the application of appropriate policy, institutional, financial, technological and information-oriented options that would enable the removal of the current gaps in the widespread application of EE and RE technologies in the energy sector in Niue that will ultimately also realize the timely achievement of the NiSERM target. Achieving the %RE electricity target is currently hampered by the grid instability problems when more RE-based power generation units are integrated into the country's utility grid. While actions to address this typical problem in island grids with connected RE-based power generation units are currently being studied and planned, other feasible options such as solar home systems (SHS) for individual houses or decentralized solar PV systems in each village will be explored and implemented. Moreover, addressing the barriers that are hindering the achievement of increased efficiency of utilizing energy in specific end use sectors such as the buildings (government, residential and commercial) and water and waste sectors will result in lower energy (especially electricity) demand. The reduction of energy demand will also contribute to the achievement of the %RE electricity target.

The project focus is on the enhanced application of low carbon technologies, techniques and practices to support Niue's sustainable development, in general, and achieve the country's energy road map target, in particular. The project will comprise of components that will specifically address each major type of barrier to the improved efficiency of energy utilization and renewable energy applications to support climate resilient and low carbon development of Niuean communities. Specifically, these components will comprise of interventions to enable energy efficiency applications to reduce energy demand in the major end use sectors, and the facilitation of increased installation of feasible RE-based power generation systems in the country for supporting low carbon development. The expected outcomes from each project component are summarized in Part I, Sec. B. Each outcome will in general be realized through the implementation of the following major strategies:

1. Formulation, approval and enforcement of appropriate policy and regulatory frameworks in the application of energy efficiency and renewable energy technologies in the major energy end-use sectors
2. Development and implementation of a suitable institutional framework for the effective enforcement of plans, policies, regulations, and implementation of programs/projects, on the application of climate resilient and low carbon technologies in the energy end-use sectors.
3. Facilitation of enabling actions that will lead to increased availability of, and access to, financing for sustainable energy, energy access and low carbon development initiatives in the energy end-use sectors
4. Development and implementation of cost-effective demonstrations of the application of climate resilient and low carbon technologies, techniques and practices that can be adopted and implemented in the energy end use sectors.
5. Organization and conduct of promotional campaigns and public information, communication and education activities to improve levels of awareness and attitude of the end use sectors towards climate resilient and low carbon development.

Component 1: Improvements in Energy Integrated Development Policy and Planning – This project component will address the current lack of policies and regulations, as well as energy-integrated development plans for supporting sustainable energy and low carbon development. The expected outcome of the major outputs that will be delivered by the activities that will be carried out under this component is the improved policy and regulatory frameworks in the application of energy efficiency and renewable energy technologies in the energy end-use sectors of the country. The required outputs include: (1) Reports on the comprehensive policy research, impact analyses and assessments on sustainable energy and low carbon (LC) development policies and regulations, which will serve as bases and references for

new policies and regulations that will be developed and recommended, and eventually enforced as facilitated by this proposed GEF project; (2) Formulated/revised, approved and enforced policies, implementing rules and regulations (IRRs) and standards, which will be on the: (a) Promotion and application of LC technologies (EE & RE); (b) national building code that incorporates specifications for EE features and RE technology applications; and, (c) application of energy-integrated development planning that will be delivered; (3) Completed and fully evaluated pilot applications of selected sustainable low carbon standards, policies, and IRRs, which will then be used for the endorsement (for enforcement) of the appropriate policies and regulations; and, (4) Approved follow-up plan for the enhancement of sustainable energy and low carbon development plans and policies, that will be prepared and proposed for approval and budget allocation towards the end of the project. Note that the effective implementation/enforcement of the policies & IRRs requires an effective institutional arrangement. In this regard, the implementation of Component 1 activities will be coordinated with specific activities in Component 2.

Component 2: Institutional Capacity Building on Low Carbon Development – The issues concerning the institutional framework that is currently not conducive to promoting and enforcing sustainable energy and low carbon development in the country will be addressed in this project component. The effective enforcement of plans, policies, regulations, and implementation of programs/projects, on the application of climate resilient and low carbon technologies in the end-use sectors is the expected outcome from the collective outputs that will be delivered by the various project activities that will be implemented under this project component. These outputs include: (1) Comprehensive report on the assessment of current institutional arrangements for the implementation energy and infrastructure plans and programs, to better understand the extent and nature of the prevailing issues and limitations; (2) Formulated and recommended institutional framework that supports the implementation of LC development policies and regulations, including the pertinent capacity building for all parties involved on the effective implementation of the new institutional mechanisms; (3) Adopted and enforced suitable institutional mechanisms that integrate LC development with the socio-economic, climate change, infrastructure and disaster management objectives of the country; and, (4) Performance evaluation report on the adopted institutional framework and mechanisms, for the purpose of further sustaining or improving these. Together with Component 1 activities, the above activities are for addressing two inter-related barriers (policy/regulatory and institutional). The implementation of the relevant activities of Components 1 and 2 will have to be carried out in parallel to ensure a well-coordinated and integrated tackling of the policy and regulatory barriers, and to come up with the appropriate institutional arrangements to implement and enforce the policies and regulations.

Component 3: Improvements in the Financing of Low Carbon Development Initiatives – The removal of market and financial barriers regarding the implementation and commercialization of the low carbon development initiatives that are in line with the NISERM and NDC of Niue will be addressed in this project component. The expected outcome from the activities that will be carried out under this project component is the increased availability of, and access to, financing for sustainable energy, energy access and low carbon development initiatives in the energy supply and demand sectors. The expected major outputs are: (1) Designed and implemented financing instrument for the Niue Development Bank (NDB) for financing EE and RE technology application initiatives, which will be based on the experiences and lessons learned from the NDB's current lending schemes for businesses and private individuals and from the Treasury Department's low carbon fund (LCF) for promoting RE and EE. The developed financing schemes for NDB will also be based on the results of the evaluation of applicable financing schemes for EE and RE technology projects of the energy end-use sectors, and for financing of small-scale RE and EE projects; (2) Completed small-scale EE projects and RE technology projects that are financed either through the established financing scheme or by private sector investments, and assisted in the design and implementation under the GEF project; (3) Evaluation report on the performance of the established financing scheme, to determine the impacts, lessons learned, and to come

up with potential improvements or coverage expansion (e.g., inclusion of more types of EE appliances, retrofit of houses to make them more energy efficient as per the revised building code or incorporate RE systems), and small-scale RE-based energy projects (e.g., solar water heaters, solar home systems); and, (4) Completed suggested enhanced financing policies for supporting initiatives on LC development, which will be incorporated and facilitated in the sustainable follow-up plan that will be delivered in Component 1. It is envisioned that the private sector involvement in achieving the expected outcome is through entrepreneurial activities and businesses that local business people will develop and establish for example in the supply/sales of EE appliances and RE technology equipment including EE building materials, and EE transport vehicles; and provision of technical services in the operation and maintenance of these appliances/equipment. The nascent public-private partnerships (PPP) that the GON has initiated can be enhanced further to enable the provision of outsourced services from the private sector to the GON in the operation, repair and maintenance installed RE-based energy systems, as well as EE infrastructures.

Component 4: Climate Resilient and Low Carbon Technologies Applications – The technical issues that are currently hindering investments on sustainable energy and low carbon technology projects in the energy generation and energy end-use sectors in Niue will be addressed under this project component. From the technical assistance and investment related activities that will be carried out under this component the expected outcomes are: (i) Climate resilient and low carbon techniques and practices adopted and implemented in the energy end use sectors; and, (ii) Enhanced confidence in the viability of climate resilient and low carbon technology applications in the energy supply and demand sectors. The major outputs that are expected to bring about the first outcome are the following: (1) Comprehensive assessments of other applicable LC technologies that can be feasibly implemented in the generation and energy end-use sectors to support the timely achievement of the NiSERM target – these includes the results of the: (a) evaluation of other applicable low carbon technologies that can be feasibly implemented in Niue; (b) feasibility assessment of waste-to-energy applications; and (c) comprehensive assessment of the causes and solutions for the current grid instability problems when more solar PV power generation are integrated into the grid; (2) Completed design, engineering, financial and implementation plans for the most feasible grid stability scheme that will be implemented; (3) Completed design and implementation plans for the replication and/or scale up of demonstrated EE sustainable energy and low carbon energy project; and (4) Fully evaluated portfolio of follow-up sustainable energy and LC technology (EE and RE) application projects in other villages.

The following are the expected major outputs to realize the second outcome: (1) Completed designs and implementation plans of the selected and agreed LC technology application demonstrations; (2) Successfully installed and operational systems of the implemented demonstrations of sustainable energy and LC technology (EE and RE) applications, with the associated operations reports; and, (3) Completed and evaluated pilots on the implementation of the energy monitoring and reporting system that will produce on a regular basis the relevant data/information to be used in coming up with the national energy balance, and for national energy planning. The results and impacts of the implemented sustainable energy and low carbon technology application demos in selected villages, will serve as main bases for the planned follow-up projects that can make use of currently available financing sources such as the private sector, but also the Green Climate Fund (GCF).

Component 5: Enhancement of Awareness on Low Carbon Development – This project component will showcase solutions that will address the information and capacity issues that are currently hindering investments on sustainable energy and low carbon technology projects in the energy generation and energy end-use sectors in Niue. The expected outcome from the various deliverables that will come from the activities that are planned under this project component is enhanced levels of awareness and attitude towards climate resilient and low carbon development in the energy end use sectors. The expected major outputs are the following: (a) Established and operational energy audit system covering government and commercial buildings and facilities, as well as industrial companies – these will be utilized by the relevant

government agencies, as well as private sector entities that will be accredited by the government; (2) Established and operational energy (all energy forms) supply and consumption monitoring and reporting and database system, to produce on a regular basis the relevant data/information that will be used in coming up with the national energy balance, and for national energy planning; (3) Established and operational energy technology database, which will be the official repository of data and information on low carbon (RE and EE) technology applications in the country including the information from the: (a) *energy performance and impact assessment reports of implemented demonstrations and pilots*; and (b) *results and outputs of the capacity development activities and other components of the GEF project*; and, (4) Established and operational information exchange network for the promotion and dissemination of knowledge on sustainable energy and LC development, for the purpose of knowledge sharing, not only within the country but also with other Pacific Island Countries and other SIDS.

Each project component (with their respective specific outcome, outputs and indicative activities) is intended to bridge the current gaps (due to barriers) in achieving the NISERM and NDC targets. The proposed GEF project will also facilitate the achievement of the new green growth (low carbon development) objectives of the country as stated in the updated NISERM (2013-2030), particularly on the formulation of appropriate LCD policies; development and showcasing of applicable LCD technologies and measures in the end-use sectors; assisting end-users in the financing of their feasible LCD (RE/EE) projects; and facilitating productive applications of RE (for power and non-power purposes).

1.4. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

The UNDP-GEF AREAN Project will build on the ongoing and planned projects and activities of the GON towards the realization of the sustainable energy, energy access and green growth NISERM targets by 2025. These baseline projects/programs are the rather limited efforts of the country to achieve these committed targets. With just these, the full potential for the use of the country's indigenous RE resources, potential for energy and energy cost savings, clean energy and low carbon technology applications, and associated local benefits (e.g., improved energy services, increased income generation activities, etc.), and GHG emission reductions from the major energy end use sectors will not be realized.

The project will endeavor to enhance the baseline initiatives of the GON by including added features that will facilitate the enhanced utilization of the country's RE resources (mainly solar and wind), as well as improved low carbon initiatives (practices, techniques and technologies). The NISERM targets by 2025 that 80% of the electricity generated in Niue is from RE-based power generation systems. To date, only 2% of the total electricity generation is from RE resources. Considering a business-as-usual scenario, the forecast %RE electricity level by 2025 will only be about 5% (compared to the NISERM target of 80%). The facilitation and enabling of the application of low carbon technologies is expected to fill the current gap in achieving the targets in 2025 and beyond. Assuming this proposed 4-year project will commence in 2018, based on the forecast national electricity generation during the period 2018-2021 in the baseline and alternative scenarios, the potential cumulative DFO savings in achieving the optimum level of RE-electricity contribution to the national power generation mix (about 38% by 2018) is about 635.2 kL DFO (equivalent to about 2,034.0 tons CO₂ avoided). If the follow-up replications will be carried out in a timely manner, by 2025 the %RE target of 80% is expected to be realized. That translates to a cumulative (2018-2025) DFO savings of about 3,070.7 kL (equivalent to about 9,832.3 tons CO₂ avoided).

The proposed approach for enabling the achievement of the %RE targets in the NISERM is barrier removal. The removal of barriers associated with the lack of supportive policies, regulations and institutional mechanisms; the limited capacity and knowledge about the application, design, financing and operation of feasible RE-based energy systems (both for power and non-power applications) by the public and private sectors of the country would form the bulk of the proposed UNDP-GEF project. Most of the

barrier removal activities make up the incremental activities that the project will carry out particularly those that the GON will not be, or presently does not have the capacity for, addressing these barriers. It is very necessary to provide the incremental support activities to facilitate the demonstration of the processes and procedures involved in integrated energy planning, application of the energy-saving techniques and technologies in the energy end use sectors (public and residential) of the country. Without the incremental barrier removal and enabling activities the achievement of the anticipated alternative scenario in the energy end use sectors in Niue will not be realized. Incremental activities to establish and enforce policy and regulatory frameworks that are supportive (through effective institutional arrangements, financial/fiscal incentives, information sharing, etc.) will be necessary to sustain the replication of low carbon technologies/techniques that will be showcased and promoted under the project. It should be emphasized that the realization of the substantial sustainable development benefits that result from the application of such initiatives is contingent to the removal of the barriers that the GEF can help eliminate.

1.5. Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Since the main essence of the proposed project is the reduction of diesel fuel oil-based power generation in the country, the global environmental benefits of the proposed GEF project would mainly come from GHG emission reductions (tons CO₂) from fossil fuel substitutions in electricity generation, and other energy end-uses particularly in using available feasible RE resources. Sustainable energy initiatives that would lead to the improvement of the specific energy consumption of energy end use sectors through improved energy utilization efficiency will also contribute to this. In summary, the GHG emissions reductions would come from: (1) Direct emission reductions from completed sustainable energy and low carbon technology application demonstrations and replications; and, (2) Indirect emission reductions from follow-up sustainable energy and low carbon (RE and EE) technology application projects in the country as influenced by this proposed GEF project. Based on available historical annual DFO-based electricity generation (2009-2014), the maximum annual electricity generation is about 3,285,200 kWh, with 2% of the total power generation accounted for by solar PV power generation systems. Assuming an average annual electricity generation of 5%, from the realization of the target %RE electricity (80%) in 2025, the estimated cumulative incremental CO₂ emissions during the project period (2018-2021) is about 2,034.0 tons, i.e., comparing the CO₂ emission reduction in the proposed alternative (GEF) scenario to that in the baseline (business-as-usual) scenario. Considering the useful lifetime (average 25 years) of the installed units (i.e., for all units installed to meet 100% RE electricity generation), the cumulative CO₂ emission reductions would be about 100,200 tons. Note that this is only from meeting the 100% RE target. Hence, this amount can also be potentially higher when the other LCD demonstrations and replications (non-power applications and energy efficiency) are considered.

Typical in Small Island Developing State (SIDS) setting, energy projects like this one proposed for Niue will also bring about local benefits. These benefits are mainly through contributions to: (1) improvement in energy supply security; (2) improvement of the air quality in areas within the vicinity of the existing power plant; (3) environment protection and preventive health; (4) reallocation of energy budget to other areas that can contribute more to the national economy; and, (5) foreign currency reserves improvement with the minimization of fossil fuel importations.

1.6. Innovativeness, sustainability and potential for scaling up.

Innovation: Bridging the gap in the achievement of the country's %RE electricity target between the current 2% level to the 80% level that has to be achieved by 2025 is the proposed approach for the project, which in the context of Niue is relatively innovative. Such approach in a country like Niue include new features in the RE development and utilization program of the country such as the promotion of community-based RE-based energy system (power and non-power applications), energy-integrated

development planning and the design and implementation of energy-related aspects of low carbon development. The inclusion of interventions to improve the energy efficiency in the energy end use sectors of the country as a means of speeding up the realization of the %RE target is also an innovation to the usual approach of PICs like Niue in RE development and utilization. Moreover, the country has a program of attracting Niueans living abroad to come back, settle down and invest in the country. As an innovation to support this program, the proposed project will enable the development and construction of more sustainable, resilient and energy efficient infrastructures as well as facilitate outside investments (mainly from Niueans in NZ) in the energy and infrastructure sectors of the country.

Sustainability: The project will involve the creation of the required enabling conditions that through the adoption of supportive policies/regulations and institutional mechanisms to facilitate the widespread application of sustainable energy and low carbon technologies in the energy generation and energy end-use sectors in Niue. This is to ensure sustainability of the systems and frameworks that will be established under the project. The development of a suitable follow-up action plan for approval and enforcement after project completion will ensure the sustainability of these established systems/frameworks. Since the project is linked and is complementing and supplementing the development and infrastructure plans of the country, e.g., Niue National Strategic Plan; National Integrated Strategic Energy Road Map (NISERM), the sustainability of project outputs will be sustained.

Potential for Scaling-up: The project is also meant to support of the current plans and programs of the country Niue towards achieving its NISERM targets. The RE-based energy system demonstrations that will be implemented in selected villages can be replicated as is, or at a scaled-up configuration in the other villages in the other states. Such demonstrations are meant to be replicated and/or scaled-up to achieve enhanced energy security and climate resilient energy supplies. The portfolio of feasible low carbon technology application projects that will be developed under the project would most likely include those that are scale-up and replication of the demo projects. Best practices and lessons learned that will come out from the project implementation will also be shared with other PICs and SIDS with similar circumstances of the country, thereby ensuring the scaling up of the project interventions beyond Niue.

2. Stakeholders: Will project design include the participation of relevant stakeholders from civil society (Yes /No) and indigenous people? (Yes /No) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation:

The main stakeholders of this project is the Department of Utilities - Ministry of Infrastructure. The tentative list of project stakeholders is shown below. This will be finalized during the project design and preparation period.

Stakeholder	Roles and Responsibilities in Project Preparation
Department of Utilities - Ministry of Infrastructure (DOU-MOI)	Responsible for communication and coordination with office of the national GEF OFP and UNDP on the PIF development, liaison with villages, in-charge of management of project development
Ministry of Infrastructure	Provision of data inputs on plans and programs of the country concerning the energy provision in the public infrastructure, transport and communications projects of the government.
Department of Environment – Ministry of Natural Resources	Provision of assistance in the identification and analysis of impacts on the environment (negative/positive) of all energy-related projects, as well as in the utilization of natural resources (including waste). In addition to the TNDP, provide guidance on GEF requirements to comply with in the PIF development.
Project Management Coordinating	Overall coordination of the project with other related external and national

Stakeholder	Roles and Responsibilities in Project Preparation
Unit (PMCU)	projects and liaison with the Minister of Finance.
Department of External Affairs	Provision of advice on linkages of the project with requirements on multilateral environmental agreements
Niue Public Services Commission	Assistance in the proper recruitment/engagement of personnel that will work on the design and preparation of the proposed project.
Treasury Department and Planning	Provision of data inputs on plans and programs of the country concerning government and donor funded energy projects, e.g., Niue Infrastructure Strategic Plan.
Niue Power Corporation (NPC)	Provision of advice and assistance in the identification and design of demonstrations for the promotion of EE and RE technology applications in power generation, distribution and utilization.
Crown Law	Provision of legal comments on project agreements and documents for projects.
NGO, Social community and the other social/civic groups	Provision of assistance in the identification and analysis of barriers to the application of sustainable energy and low carbon measures & practices (RE/EE) in village development. Provision of advice in the design of the barrier removal activities of the project.
Private Sector Entities (commercial and industrial)	Provision of assistance in the identification and analysis of barriers to the application of low carbon technologies (RE/EE) in commercial and industrial establishments. Provision of advice in the design of the barrier removal activities.
Village/Community leaders	Responsible for the coordination, communication and provision of data for the design of project activities in selected villages, liaison with village leaders in the design and implementation arrangements for the demonstration activities.

3. Gender Equality and Women's Empowerment: *Are issues on gender equality and women's empowerment taken into account? (Yes /No). If yes, briefly describe how these will be mainstreamed into project preparation (e.g., gender analysis), taken into account the differences, needs, roles and priorities of men and women.*

As in other UNDP-GEF projects, gender equality is one of the important aspect of this proposed GEF project. During the conduct of the logical framework analysis (LFA) the various issues that are seen as to be posing barriers to the promotion and implementation of sustainable energy, energy access and low carbon technologies applications in Niue will be assessed. Among the issues that will be covered will be those that relate to gender equity and women's role, and will cover potential barriers (if any) posed by gender equity issues, and barriers to: (1) Ensuring gender equity and women empowerment in the promotion and implementation of low carbon development; (2) Enhancing opportunities to enhance the role and influence of women in the deployment of low carbon technologies and climate change mitigation options, and, (3) The development of gender-sensitive policies in the energy sector and the energy end-use sectors of the country. These project preparation activities will be done, in full recognition of the important contributions of women in the management and implementation of such measures, and also in the productive and social uses of electricity, the supply of which in villages is what this project will help facilitate. The project design and preparation will also take into account the potentials for the involvement of women working in both management and technical departments of the GON agencies/institutions who can play important roles in the design, development and implementation of this proposed UNDP-GEF project. Furthermore, the design and preparation of this project will take into account the contributions, impacts and benefits of community based sustainable energy and low carbon technology applications, including children and indigenous people.

4. Risk: Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

The risks that might prevent the project objectives from being achieved are listed as follows:

Risk	Level of Risk	Mitigation Actions
1. The project activities may not be fully implemented due to inadequate local capacity.	Medium	<p>Prevention: The GON will set up a capable project team comprised of competent local and international experts to expand the capacity of the local community people in the implementation of the relevant project activities. The proposed project will be coordinated closely with other relevant projects in the country mainly to make use of potential synergies in the management of the project implementation. This is in addition to the support from UNDP-Samoa MCO that the GON can request.</p> <p>Alleviation: UNDP-Samoa MCO, with the agreement of the implementing partner will manage and expedite the procurement process for external personnel that will work on the project activities. Potential modification of activities to allow for expeditious implementation will be done.</p>
2. The pre-identified and other anticipated co-financing for specific activities of the project may not be available on a timely manner.	Medium	<p>Prevention: The GON assurance of co-funding shall be confirmed and secured prior to project launching. The project team will closely monitor and ensure the timely availability of co-financing from project partners and co-financers during project implementation.</p> <p>Alleviation: Reallocation of budget to support the implementation of activities that will be affected by the delays in the availability of co-financing. In case co-financing will not happen, potential modifications of activities can be done to allow delivery of alternative outputs that are still contributing to the achievement of the relevant outcomes. Together, with the NPD conduct follow-up meetings with co-financer, or alternatively find and negotiate with other potential co-financers.</p>
3. The follow-up/through work needed to sustain the achieved outcomes and benefits may not happen.	Medium	<p>Prevention: As part of the project activities, the development of a sustainable follow-up plan will ensure that follow-through from the key stakeholders (e.g., GON) will happen by involving them in the planning process itself and getting their commitments when signing off on the plan implementation. The sustenance of the outcomes that are realized during the course of project implementation will form part of the follow-up plan.</p> <p>Alleviation: Agreement and regular follow up with the project partners involved in the implementation of completed activities in the sustained application of the systems/frameworks that will be established and operationalized by the project.</p>
4. RE-based energy generation (power and non-power purposes) installations can be seriously affected by adverse climate-related events.	Medium	<p>Prevention: It is already common in international design and engineering practices, as well as in the construction/installation of RE-based energy generation units to follow proper engineering and construction design and construction that ensure not only structural integrity but also climate resilience. This applies also in the procurement, design/engineering, installation and operation of the pertinent installations⁷.</p> <p>Alleviation: Depending on the extent of the impacts of the adverse climate – related events, appropriate modifications in the installations (and budget) will be done. Potential reduction in the number of installations, or replacement with alternative demos will be done while taking into account the need to ensure the resulting interventions are still contributing to the realization of the</p>

⁷ The design and construction/installation of the physical infrastructures that will be installed will be based on the technical and structural specifications that major bilateral and multi-lateral donors require for the infrastructure projects that they are funding in the Pacific region.

		project outcomes.
5. Villages may not support the project implementation.	Low	<p>Prevention: The coordination of the project implementation with the project partners will be the main responsibility of the DOU-MOI, and is expected to be supported by other departments of the MOI.</p> <p>The MOI's good standing and rapport will be put to good use to actively promote the implementation of this project, and ensure the support of the villages.</p> <p>Alleviation: In the first place, select villages that are willing to support the project. In case selected villages will withdraw support during the course of the project implementation, the demos will be redesigned for implementation within and in the fringes of the national capital.</p>
6. The recommended policies and regulations of the project by the pertinent GON agencies may be delayed in approval and enforcement.	Low	<p>Prevention: Advocacy campaigns will be included in the project to gain adequate support from the regulatory bodies on the adoption of the recommended policies and regulations. UNDP will assist if necessary.</p> <p>Alleviation: PSC meetings and special meetings with the pertinent GON agencies will be conducted to discuss and determine what it will take for the agencies to expedite the approval and enforcement of the recommended policies and IRRs, and come up with the appropriate actions to resolve the issues/problems. Thereafter implement the action points accordingly.</p>
7. Change in national government administration may potentially reduce government support to the project.	Low	<p>Prevention: The DOU-MOI and other GON departments involved in the project will monitor political dynamics and will try to resolve any misunderstanding within the project. If warranted, UNDP executive management intervention may be required.</p> <p>Alleviation: PSC meetings and special meetings with the IP and GEF OFP will be conducted to discuss courses of actions to take to sustain the GON's support to the project, and carry out such plans accordingly.</p>
8. Further reduction in petroleum fuel prices will reduce interest in RE-based power generation	Low	<p>Prevention: While the project has no control on the petroleum fuel prices, the project's awareness raising interventions are expected to sustain the overall interest of the country in transforming their power generation system to RE-based systems even when the petroleum fuel prices are relatively low.</p> <p>Alleviation: Although the petroleum fuel prices are currently in on an uptrend, which is good for RE promotion and application, in case prices go down, the project will emphasize the need to take advantage of the energy, environment and economic benefits of RE, and the country's obligation towards the realization of its CCM targets in its NDC to ensure that the interest of the GON in low carbon development is sustained</p>
Overall Level of Risk		Medium

5. Coordination: *Outline the coordination with other relevant GEF-financed and other initiatives:*

Clear understanding of the current and planned efforts/initiatives of the GON towards the achievement of the NiSERM target is key to the design and development of this proposed GEF project. To make use of the potential synergies with the ongoing and planned initiatives of the GON and other project partners, adequate coordination work will be carried out. It helps that most of the ongoing and planned projects that are relevant to NiSERM is with the Ministry of Infrastructure, and it is also the implementing partner (specifically the DOU) of UNDP for this project. The coordination work is also for ensuring complementarities and building on best practices and lessons learned; and for potential sharing of project resources.

- Low Carbons (Secretariat of Pacific Communities PALS/IUCN) – coordination regarding the Component 1 activities on the formulation of policies and legislation on the application of the principles of low carbon development.

- Coordination with the following ongoing and planned RE-based power generation projects in Niue to explore potential synergies and possible subsuming into the AREAN Project
 - EDF11 - Infrastructure Program in Energy Sector (European Union)
 - PEC 5- Renewable Energy (Government of Japan)
 - GoN-RE Generation Support (Government of Niue)
 - Low Carbon Demonstration (International Union for Conservation of Nature)
 - RE-Energy Generation and Energy Storage (Government of New Zealand/European Union)

The establishment of links with other implementers of related ongoing projects/programs is expected to help in identifying the relevant activities that will build on their respective achievements. The UNDP Samoa Multi-Country Office (Apia, Samoa) will be fully involved in the project development through its participation in the various stakeholder and co-financing consultation meetings and technical workshops during project development, and in the multipartite review meetings.

6. Consistency with National Priorities. *Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (Yes / No). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.*

The proposed project is for facilitating the achievement of NiSERM targets, and in that regard, it is consistent with Niue's strategic energy objectives and plans that are embodied in the NISERM. It is also in line with the country's Second National Communications to the UNFCCC. Since the NiSERM is the main basis of the country's Nationally Determined Contributions (NDC), that makes the GEF project definitely linked with, and will facilitate the efforts to achieve the targets set, and relevant sustainable energy initiatives identified and promoted, in the country's NDC.

7. Knowledge Management: *Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.*

The knowledge management system that will be employed in the proposed GEF project will consist of the conduct of training courses for pertinent personnel in the energy and utilities sector, as well as those in the village communities that will participate in the project activities. Coordination with the implementers of ongoing climate change and energy projects will be carried out to determine potential synergies in the knowledge management activities, particularly in the approach and methodologies that will be applied. Based on the preliminary assessments made during the scoping mission to develop this PIF, it is necessary to setup a capable project team comprised of competent local and international experts to expand the capacity of the local community people in the implementation of the relevant project activities. In addition, there will be special training for people who will be tasked to operate and maintain the various demo RE-based energy systems (power and non-power) that are part of the project. Among these are the operations personnel in NPC particularly in operating and maintaining on-grid solar PV power generation systems, and in addressing grid stability problems. Among the outputs of this project is an established and operational information exchange network for the promotion and dissemination of knowledge on low carbon development within and outside of the country (including other PICs and SIDS). Part of the project activities will be the establishment and operationalization of an energy supply and consumption monitoring and reporting, database to be housed in the DOU. This aspect of knowledge management, which involves the drawing on of information from a wide variety of sources, will be implemented, not only for the purpose of the country's energy planning but also to achieve an organized usage of knowledge about the energy situation in the country. This will be made possible through the information exchange network that will be established and operationalized under the project. With such network, data/information on lessons learned and best practices in the application of low carbon development techniques and practices, as well as implementation of sustainable energy and low carbon

technologies specifically in small island settings, can be obtained from other PICs and SIDS, and applied to specific situations and localities in the country. The results of the project activities will also be disseminated to other PICs and SIDS through the information exchange network.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT⁸ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

NAME	POSITION	MINISTRY	DATE
Sauni Tongatule	GEF Operational Focal Point	Ministry of Natural Resources	14 Sep 2016

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies⁹ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.					
Agency Coordinator, Agency name	Signature	Date	Project Contact Person	Telephone	Email
Adriana Dinu UNDP/GEF Executive Coordinator		March 22, 2017	Manuel L. Soriano Sr. Tech. Advisor Energy, Infrastructure, Transport & Technology	+66-2-304- 9100 Ext 2720	manuel.soriano@undp.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (Applicable Only to newly accredited GEF Project Agencies): N.A.

⁸ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

⁹ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF