Country: Federated States of Micronesia
PROJECT DOCUMENT
United Nations Development Programme
Financed by the GEF/LDCF/SCCF Trust Funds

Project Title: Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project		
Country: Federated States of Micronesia (FSM)	**Implementing Partner:** Division of Energy, Department of Resources and Development (DE/DRD)	**Management Arrangements:** National Implementation Modality (NIM)
UNDAF/Country Programme Outcome: UN Pacific Strategy 2018-2022: Outcome 1 – Climate Change, Disaster Resilience and Environmental Protection. UNDP Sub-Regional Programme Document 2018-2022: Outcome 1 – By year 2022, people and ecosystems in the Pacific are more resilient to the impacts of climate change, climate variability and disasters; and environmental protection is strengthened. . .		
UNDP Strategic Plan Output: 1.5.1 Solutions adopted to achieve universal access to clean, affordable and sustainable energy.		
UNDP Social and Environmental Screening Category: Low	**UNDP Gender Marker:** Gen1	
Atlas Project ID/Award ID number: 00112839	**Atlas Output ID/Project ID number:** 00111186	
UNDP-GEF PIMS ID number: 5997	**GEF ID number:** [1] 9863	
Planned start date: 5 October 2020	**Planned end date:** 5 October 2023	
LPAC date: 14 April 2020		
Brief project description: MPSBEE is a UNDP climate change mitigation project, with the project implementing partner being the Energy Division (ED) of the Department of Resources and Development (DRD) of the national government of the Federated States of Micronesia (FSM). The objective of the MPSBEE project is the improved application of energy conserving and energy efficient (EC&EE) techniques and practices in the design, retrofit, and ongoing O&M of public sector buildings in FSM. The MPSBEE project specific activities include: evaluate the current energy performance and energy use baseline situation in FSM public sector buildings; identify and quantify energy savings from available Energy Savings Measures (ESMs) and their inter-dependencies; identify and quantify ESM investment needs, energy savings paybacks and improvements in environmental conditions; and design, specify, implement, monitor and evaluate, document, and publicise reductions in public sector energy (electricity use), esp. in cooling, lighting and hot water supply. By demonstrating, replicating, monitoring and publicizing the targeted 50% reductions in public sector buildings' energy use, the MPSBEE project will contribute towards the realisation of FSM's national target of a 50% improvement in EE by 2020. As electricity is unavoidable expensive[2] in the FSM (2018 tariffs are 39 – 77 US cents/kWh[3]), it will also be cost effective for the private sector to learn from and		

[1]The project ID number will be assigned by GEFSEC and to be entered by UNDP in subsequent document submissions.
[2] Electricity is generated by diesel generators, some wind (Yap) and PV, and standalone solar PV systems in most occupied outer islands. A greater use of PV, battery storage and applicable wind power will reduce GHG emissions and will help make current, not yet fully cost reflective, tariffs more sustainable in future, as detailed in the new FSM 2018 Energy Master Plans.
[3] For public sector buildings, in 2018 tariffs range from (below cost) lows of 39 – 41 - 44 cents/kWh in Pohnpei - Chuuk –

replicate the best commercially available ESMs (esp. for ventilation, cooling, lighting and hot water supply) that will be demonstrated, replicated, monitored, documented and publicised by MPSBEE for FSM's public sector buildings. There is strong support from the FSM national and state governments to the MPSBEE project as a contribution to the FSM 50% EE target, and as FSM prepares for the 2023 end of US Compact II funding support.

FINANCING PLAN	
GEF Trust Fund	USD 1,776,484
Cash co-financing to be administered by UNDP	-
(1) Total Budget administered by UNDP	**USD** 1, 776,484
PARALLEL CO-FINANCING (*all other co-financing that is not cash co-financing administered by UNDP)*	
Department of Resources and Development	USD 3,450,000
UNDP	USD 50,000
(2) Total confirmed co-financing	**USD 3,500,000**
(3) Grand-Total Project Financing (1) + (2)	**USD 5,276,484**

SIGNATURES		
Signature: print name below Elina Akinaga	**Agreed by Implementing Partner**	**Date/Month/Year:** 14-Dec-2020
Signature: print name below Levan Bouadze	**Agreed by UNDP**	**Date/Month/Year:** 07-Dec-2020

Kosrae to a (cross subsidizing residential users, but overall realistic) high tariff of 77 cents/kWh in Yap.

List of Abbreviations & Acronyms

Abbreviation	Meaning
APR	Annual Project Report
APRC	Asia-Pacific Regional Centre [UNDP]
CPC	Chuuk Public Utility Corporation [FSM]
CROP	Council of Regional Organizations in the Pacific
DE	Department of Energy (of DRD)
DRD	Department of Resources & Development
EE	Energy Efficiency
EU	European Union
FSM	Federated States of Micronesia
FSMDB	FSM Development Bank
GEF	Global Environment Facility
GHG	Greenhouse Gas
GWh	Gigawatt-hour
JPO	Joint Presence Office [UNDP]
KUA	Kosrae Utility Authority
kWh	Kilowatt-hour
Lit	Liter
MCO	Multi-Country Office
M&E	Monitoring and Evaluation
MPR	Multi-Partite Review
MRV	Monitoring, Verification and Reporting
NIM	National Implementation
PICs	Pacific Island Countries
PIGGAREP	Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (UNDP-GEF)
PIR	Project Implementation Review
PMO	Project Management Office
PPM	Project Planning Matrix (Log Frame)
PUC	Pohnpei Utility Corporation
PV	Photovoltaic
RE	Renewable Energy
RET	Renewable Energy Technology
SIDS	Small Island Developing States
UNDP	United Nations Development Programme
UNDP-POPP	UNDP Program and Operation Policy and Procedures
USD	United States Dollar
WB	World Bank
YSPAB	Yap State Public Service Corporation

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II. . . DEVELOPMENT CHALLENGE

Context and Global Environmental Significance

FSM (the Federated States of Micronesia) spreads over 2,900 kms and is located in the western Pacific Ocean just north of the equator and east of the Philippines and north of the island of New Guinea. FSM is comprised of four semi-autonomous states (Chuuk, Kosrae, Pohnpei, and Yap) and includes 607 islands (74 of which are inhabited). As of 2016, FSM had a population of 104,934 and a GDP of US$322 million, for a GDP per capita of US$3,068. Each of the 4 states has its own executive and legislative bodies and has considerable autonomy to manage its domestic affairs. Each State has its own development strategy, while the national government (based in Palikir on Pohnpei island) provides an integrated perspective and vision for the whole of the FSM.

FSM has limited natural resources, and exports are heavily concentrated on its marine resources. Most of FSM's commodities (esp. petroleum products and a very high proportion of food) are imported, and this import dependency exposes the country to global economic shocks and price spikes[4]. Like other Pacific Islands Countries (PICs) petroleum fuels are largely used for electricity generation and transportation. Transport fuel is mostly used for marine services since land transportation is modest given FSM's small landmass in each occupied island and the general lack of major commercial land-based economic based activities. Some LPG is used for cooking. Energy is one of the four main development priorities of FSM, alongside the development of marine resources, agriculture and tourism.

Electricity generation in FSM is almost completely based on fossil fuels (diesel), although there is a 925 kW grid connected wind farm (with 550 kW operational in early 2018) on the main island of Yap State. There is also increasing amounts of grid connected PV, and a steady growth in the use of off-grid PV systems in isolated main island areas, and in inhabited outer islands.

The 2012 FSM National and State Energy Policy, and the 2012 FSM National and State Energy Action Plans, include a target of a 50% improvement in EE by 2020. With donor support, energy audits have been carried out for buildings in Pohnpei and in Yap, and energy audits are underway in 2018 in Kosrae. However, due to the past and current energy audits' incomplete coverage of major energy uses, their lack of EE ambition, and implementation resource constraints and other barriers, comprehensive EE investments and renovations to achieve the 50% EE improvements level in the FSM buildings sector have not yet been identified or demonstrated in FSM in a systematic way, nor is this likely in the absence of the project.

Most people, businesses and government buildings in FSM operate under a default general build-operate-replace approach that does not include much if any emphasis on maintenance. Old or failed lights are generally not replaced, and vehicles are often left to rot where and when they stop working. So, any EE renovations either must be maintenance- free over their intended life or a maintenance component needs to be explicitly added and separately and explicitly funded.

[4] In April 2008, the international oil price increase to US$110/bbl caused a full-blown utility/consumer fuel/electricity affordability crisis in the summer of 2008 in the FSM. Even in 2009, when the price of oil had nearly halved from its 2008 peak, around US$40 million, which was comparable to over 50% of the national budget, was spent on the import of fossil fuel. As at May - July 2018, international oil prices were above $70-80/bbl range.

The 2012 FSM National and State Energy Policy, and the 2012 FSM National and State Energy Action Plans, include a target of a 50% improvement in energy efficiency (EE) by 2020. With donor support, building energy audits have been carried out in Pohnpei and in Yap, and building energy audits are underway in 2018 in Kosrae. However, the energy audits have had incomplete coverage of major energy uses, a low level of EE ambition, and have faced implementation resource constraints and other barriers. Comprehensive EE investments and renovations to achieve the 50% EE improvements have therefore not yet been identified or demonstrated in FSM in a systematic way.

The Energy Master Plans for FSM (for each of the four FSM states and for the entire nation) that were finalised in early 2018 have a focus on: the provision of 100% electricity access for all FSM inhabitants within 20 years; FSM's greater use of renewable energy (RE); diesel use reduction, and; GHG emissions reductions. A total of around $300 million of electricity supply-side investments would be required to meet the objectives detailed in the 2018 Energy Master Plans. The newly completed (2018) supply-side focused Energy Master Plans now need to be supplemented with specific and actionable EE plans, programs, budgets and proposed implementation responsibilities, including for public sector buildings as a starting point for wider FSM EE actions over time.

FSM is benefitting from considerable multi donor support in the energy sector. However, the donor support is primarily supply side focused, and lacks an allied detailed demand-side energy efficiency focus. FSM has significant energy efficiency opportunities that are currently not being addressed. Donor funding is available from multiple sources to help identify, plan, design and implement suitable EE plans, programs and specific activities in FSM. One reason that demand side energy efficiency has not been accorded sufficient priority in FSM is a lack of the necessary high-level policy and program development, technical knowledge, and focus

A major strategic issue facing FSM is the scheduled 2023 end of the 2nd phase of the Compact of Free Association (Compact II) Agreement with the USA. Since 1986 the Compact has provided large external financial transfers to support the operations of the Government of the FSM and has funded substantial public sector investment at the State level[5]. Since the 2003 start of the Compact II agreement, it has also supported the building up of a trust fund to provide ongoing support once Compact II direct annual support ends in 2023, although this Trust fund looks like having a significant gap from 2023. Hence the FSM national government and the four state governments are highly motivated to support the MPSBEE project, both as a contribution to the FSM 50% EE target, and more specifically as FSM's national government and the four state governments prepare for the 2023 end of Compact II funding support from the USA.

In 2011, the total electricity generation in FSM (all 4 state utilities) was 75 GWh.[6] That year, CO_2 emissions from power generation was about 64 kilotons, which is around 46% of the total CO_2 emissions from the combustion of liquid petroleum fuels (esp., diesel fuel oil) in FSM. During the period 2002-2013, the average annual CO_2 emissions from liquid petroleum fuel usage were about 138.1 kilotons[7]. The average annual power generation in FSM is about 80.8 GWh.

FSM electricity use is approximately as follows: 47% residential, 32% commercial, 2% industrial, and 19% others (including government). The single largest electricity use is for air conditioning, followed by lighting for buildings and security/street lighting. Some electricity is used for water heating, with

[5] At the start of Independence in 1987, the FSM economy depended strongly on Compact flows, representing 88 percent of the country's gross domestic product (GDP).

[6] Source: NREL, USDOE, Energy Transition Initiative, Energy Snapshot, Federated States of Micronesia.

[7] World Bank: http://data.worldbank.org/country/micronesia-fed-sts?view=chart

only a few solar water heaters being used and no active marketing. The typical electricity use distribution in the office and government buildings sectors in FSM is as follows:

Building Type	% Distribution of Electricity Usage			
	Cooling	Lighting	Appliances	Hot Water
Office	73	17	10	
School	64	31	5	
Hospital	47	45	8	
Hotel	61	7	2	29

To contribute to global efforts to reduce GHG emission, FSM intends to improve EE and increase the use of RE. FSM's Intended Nationally-Determined Contribution (INDC) commits the country to unconditionally reduce its GHG emissions by 28 percent by 2025, compared to 2000. FSM also has a conditional target to reduce emissions by up to 35 percent in 2025, compared to 2000, subject to additional international financial, technical, and capacity building support.

Barrier Analysis

The FSM National and State Energy Policy and Action Plans (2012) have a target of a 50% improvement in EE by 2020. There are significant inter-linked barriers that must be overcome to enable FSM to achieve its 50% EE target in public sector buildings. The key barriers/issues include:

Policy/Regulatory/Institutional Barriers

FSM lacks the necessary National and State level mandatory building codes for key requirements such as sanitation, fire safety and egress, weather tightness, durability, and cyclone resistance. There is also a lack of the necessary institutional structures and capacity to enforce any building codes. While EE is viewed as important by the national and state governments, there is a general lack of focus on EE in FSM. Most major energy consuming FSM public sector buildings (particularly hospitals) already exist and as existing buildings they would not be covered by any EE provisions in any building code anyway. Where new major public sector buildings are being constructed (e.g. the new state government building in Chuuk) the buildings are generally built to the specification of the applicable bilateral donor, in practice such donor-funded buildings would not be designed and/or constructed in accordance with any FSM building code requirements or any FSM GHG mitigation aspirations.

There is no system in place, nor any realistic prospect for, regulating or labelling the EE levels of key building energy use related equipment in FSM such as ACs, lighting and hot water systems. The FSM National and State Energy Policy and Action Plans (2012) and the FSM Energy Master Plans (2018) lack the necessary policy/regulatory and institutional tools to achieve the FSM aspirational target of a 50% improvement in EE by 2020. The FSM national and state level energy agencies in FSM also currently lack the necessary personnel complement and lack the knowledge to develop and/or enforce suitable mandatory of voluntary EE policies and guidelines for the FSM public sector buildings.

Energy Monitoring and Reporting (Information) Barriers

FSM lacks the human resources, capacity, resources and mandate to initiate, or operate in a sustainable way, any Energy Monitoring and Reporting system (EMRS) for public sector buildings at a national, state or public sector building organisation level. The FSM national government has only one person to deal with all energy: supply-side; demand-side EE, donor coordination issues, and coordination between the national government and the four highly autonomous states of FSM. The four FSM state governments and the four FSM state utilities currently lack any people with a significant

focus on energy demand-side issues. There is also a lack of private sector capacity on demand-side EE, as the market is too small for local architect-engineering firms or equipment suppliers to obtain the necessary scale to support ongoing demand-side EE expertise and EE equipment importation and marketing efforts. There is currently no systematic collection of energy use and cost data at the organisation, state, or national government levels in FSM. Past energy audits were of variable but generally low coverage and quality, without even energy balances showing where all the energy use in the relevant public sector buildings went, and with superficial and unambitious EE recommendations that did not recognise the applicable very high electricity tariffs in the FSM, the energy audits did not look for high EE options, and the energy audits did not recognise that a planned preventative maintenance mentality was mostly not applicable in the FSM, including but not limited to public sector buildings. . . In the absence of appropriate local demonstration projects, specifiers and end users focus on lowest first cost and brand awareness and reputation, and not on marketing and advising their customers on spending more upfront for higher EE levels to save energy costs later. General information dissemination and awareness raising campaigns, such as those carried out as part of donor-funded projects (e.g., EU-REP5 and North REP, SIDS DOCK) and by the state utilities on EC&EE therefore make little practical impact on the uptake of actual EC&EE measures in FSM.

Technical Barriers

In the FSM, like in other PICs, the primary energy sector technical capacity is within the state power utilities. However, the FSM state power utilities are small organisations with constrained financial means (most tariffs are below the full cost recovery levels needed for long term utility financial viability) and the power utilities inevitably have a foremost focus on keeping the lights on. The technical capacities of the state power utilities do not include designing and implementing demand-side customer focused EC&EE.

FSM is also too small a building EE market to support the necessary high level EE technical expertise amongst A&E (architectural and engineering) professionals. Bringing in outside EE technical expertise has not been very successful to date, with energy audits that do not fully cover all energy uses, recommendations that are very timid and that do not reflect the cost-effectiveness of the very high EE level commercially available equipment that would be appropriate for FSMs high energy costs.

Local equipment suppliers also do not bring in the highest commercially available EE level equipment, as they lack the necessary knowledge to identify, source and import such high EE equipment, and their customers lack the necessary tangible successful case studies and knowledge to motivate them to purchase such higher cost high EE equipment even if it was available.

Capacity Development and Financial Barriers

The FSM national and state level entities that own and operate public sector buildings have generally adequate access to Compact funds for EE investments and renovations, but they lack the internal capacity to initiate a focus on EE, and appropriate local advisors and consultants are also not readily available to advise on the appropriate EE&EC measures to implement. Equally, although some residents and private sector entities have the necessary financial resources to implement EC&EE measures in their households or companies, they also lack the capacity to know what to do. For the general public, the widespread application of EC&EE techniques and practices is hampered by their limited interest and capacity in financing their own EC&EE projects, including the lack of understanding on how such projects would be designed and implemented, and whether they will be cost effective. The banking and financial sector also shy away from EC&EE initiatives, as they are wary of venturing into perceived risky investments.

The abovementioned barriers, if not properly and adequately addressed will continue to prevent the timely and complete achievement of the country's 50% EE target by 2020 and the realisation of its NDC. Particularly, the public sector buildings will not achieve its EE (and GHG mitigation) potential and will not give the demonstration of real EE results that the private sector needs to also adopt the necessary EE measures.

Baseline Scenario

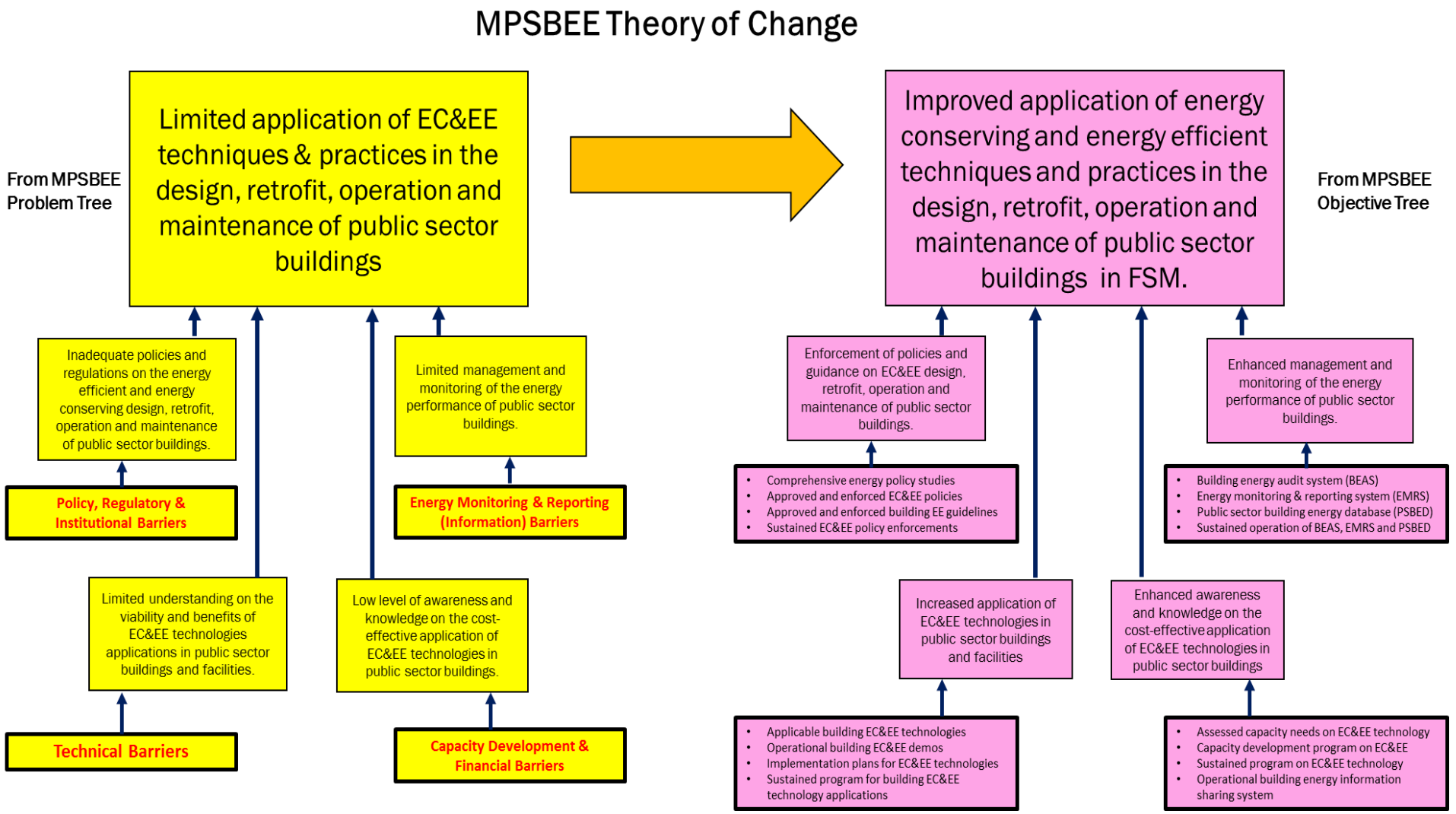
In the short and medium-term in the FSM buildings sector, particularly in public sector buildings, the baseline scenario is that some uncoordinated donor EE interventions and some FSM national government interventions in public sector buildings will continue, but that these interventions will continue to be based on further not very comprehensive energy audits that continue to not include major energy end uses or even a 100% of metered energy supply energy balance[8]. Moreover, it is expected that any EE efforts in the sector would continue to be based on not very aggressive EE level equipment and other changes. The current absence of systematic addressing by the building management of the critical short life and lack of maintenance of installed energy consuming equipment and devices in these buildings[9] is also expected to continue. In the baseline, the FSM lacks the capacity of building practitioners who should be able to provide the necessary technical knowledge and skills to assist the buildings sector (especially the public sector buildings) in the energy conserving and efficient design, construction, operation and maintenance of buildings and building services. . . The identified policy, institutional, financial and information awareness barriers will also substantially remain unchanged in the baseline scenario.

Therefore, in the baseline scenario, energy demand (and hence GHG emissions) in the FSM public sector buildings and in the wider buildings sectors will essentially remain similar to current levels. In the public sector buildings, any EE measures identified will be not very ambitious nor comprehensive. Any EE measure implemented will have a steep drop off in EE levels in the equipment or appliances that will be used. This will continue to last for 4-7 years before the installed equipment or appliance fails and is then replaced by whatever lowest cost replacement is most easy to purchase. In the baseline scenario, any modest EE gains that are achieved will be countered by an increase in building floor areas for some donor provided new buildings (e.g., the large new state government administration building on Weno in Chuuk state), and the deterioration of the EE levels in existing buildings and equipment replacements with lowest cost and modest EE levels, e.g. LED tube lights replacing fluorescent tubes with only slightly lower lumens per watt in the same energy efficient fluorescent fittings (as is being done in the EE upgrade of the buildings in the FSM National Capital Complex that is currently underway).

[8] For example, the most recent Pohnpei hospital energy audit does not even mention its large packaged AC units, and the energy audits of the buildings at the FSM National Capital Complex only accounted for around 60% of the metered and invoiced energy use that are mentioned in the same energy audit. Air conditioners of SEER 11 to SEER 15 were recommended in the building energy audits that were conducted in the National Capital Complex, but not to the double the EE level SEER 30-38 ACs that are available.

[9] This often leads to busted lamps after 4-7 years not being replaced and drawing power for ballasts whose tubes have long ago failed, or to AC units with minimal warranties being selected, and receiving no maintenance, so rapidly becoming less EE and then failing after 4-7 years and being replaced by whatever lowest cost EE is then available.

Fig. 1: MPSBEE Project Theory of Change



Applied Project Strategy

The improved application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation and maintenance of public sector buildings in FSM is the objective of the MPSBEE Project. In the design of this project, the project proponents and stakeholders endeavour to address the barriers that would prevent the achievement of such objective. The removal of the barriers will facilitate the changes that will enable the achievement of the project objective, which in effect the main change that is aspired for. Hence, in the project's theory of change, the removal of the immediate causes of the core problem of limited application of EC&EE techniques & practices in the design, retrofit, operation and maintenance of public sector buildings, will lead to the transitioning of FSM into a situation in which there will be improved application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation and maintenance of public sector buildings in FSM. Fig. 1 shows the linkages between the development challenge (core problem) and its immediate causes. It also shows that addressing these immediate causes lead to a change in situation in which there will be improved application of EC&EE technologies techniques and practices in the design, retrofit, operation and maintenance of public sector buildings in the country. The MPSBEE Project is designed to address each major barrier type in separate project components. Since some of the barriers are interlinked, the relevant component activities are carried out in an integrated manner.

The barrier removal approach will involve the implementation of interventions that are designed to the elimination of the identified barriers to the effective and extensive application of EC&EE technologies, measures and practices. The enabling conditions that will be created through the barrier removal activities of the proposed GEF project will facilitate the achievement of the required outcomes that will contribute in the achievement of the project objective. Specific interventions that will remove barriers to EC&EE and LC initiatives that bring about reduction of CO2 emissions from the operation of energy consuming equipment/appliances and service facilities in public sector buildings will be carried out. The baseline activities of the country are expected to enable the achievement of only a portion of the target 50% improvement in energy efficiency by 2020, at around 30%. Incremental activities must be carried out to reach the target. The combination of the baseline and incremental activities will bring about the realization of the alternative scenario which features the realization of the 2020 energy efficiency target. The proposed project will bring about this alternative scenario.

The focus is on the optimal and efficient utilization of energy in the public sector buildings in FSM and will cover the following;

1. Facilitation of the enforcement of the supporting policy/regulatory frameworks and institutional mechanisms for EC&EE initiatives in the public sector buildings;
2. Development and implementation of improved energy management and monitoring of public sector buildings;
3. Demonstration of EC&EE technologies applications in public sector buildings and facilities; and,
4. Promotion and capacity development on the cost-effective application of EC&EE technologies in public sector buildings.

This strategy also calls for continuous facilitation of the effectiveness of the established enabling conditions through their institutionalization. As part of the project activities, a suitable follow-up action plan will be developed, and that comprises appropriate actions that will ensure sustainability

of whatever policies, regulations, and institutional frameworks that will be established and enforced and implemented in the public sector buildings in FSM.

Approach to Full Project Design

The design of this medium-sized project is based on a logical framework analysis approach. The project stakeholders identified the barriers/problems that hinders the application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation and maintenance of public sector buildings in FSM. A problem analysis was conducted to establish their cause-and-effect relationships, which was graphically presented as a "Problem Tree". Each problem in the "Problem Tree" were converted into desirable objectives that could realistically be achieved if the respective problems are solved. This exercise produced an "Objectives Tree", which was used in identifying the project goal, objective, outcomes, and outputs. This resulted in the development of the project planning matrix (PPM) or logical framework (log frame)[10]. Based on the log frame, activities were designed to achieve each of the targeted outputs. Such activities are also based on the various objective statements in the objective tree that represent as means for realizing the project outputs. Details on targeted outcomes and outputs, as well as planned activities are given in Section III of this document.

The project design has particularly focused on establishing and working with how public sector buildings can realistically be designed, funded, constructed, and operated and maintained in FSM. A building code or other regulatory approach to public sector building EE in FSM would be highly desirable for EE purposes, the project will facilitate the development and enforcement of appropriate regulatory requirements apart from those related to safety, security, fire control and fire egress. Currently, each state in the FSM has no established building code, let alone a national building code that could apply to all states. Such building code covering all the types of buildings in FSM can help guide the management/administration of public sector buildings in whatever EE improvement endeavors they may want to implement. Considering the fact that there are currently no existing building regulatory approaches to EE in the country, the GOFSM view that EE as important in meeting the country's vision of improved life of all FSM citizens with sustainable energy. The country's objective in regards EE is to become less dependent on imported energy through increased share of renewable energy, energy conservation and efficiency improvement. Hence, in regards EE the target of the country is to conserve energy consumption and improve energy efficiency (50% efficiency improvement by 2020). Therefore, in regards the EE building regulations, a voluntary approach will initially be applied, instead of the mandatory approach as was preliminarily envisaged. The voluntary building EC&EE guidelines will be based on the results of the application of ambitious and comprehensive EE upgrades that will be showcased as part of the project. Similarly, a mandatory building operational and performance reporting system will be developed building on an existing reporting system that make use of electricity supply and consumption data from the state utilities.

Alternative Scenario

In the alternative scenario, the MPSBEE Project will ensure that: key FSM public sector buildings in each state will be properly evaluated (through appropriate ambitious and comprehensive EE improvement focussed energy audits); credible and comprehensive pre-retrofit energy and

[10] Based on the objective tree, the objective statement on GHG emission reduction was selected at the project goal, considering that such is the goal of GEF-funded climate change mitigation projects. The objective statement that refers to the direct way of achieving the GHG emission reduction goal is selected as the project objective. The objective statements that represent as the direct means of achieving the project objective are the project outcomes. Similarly, the objective statements that represent as the direct means of achieving the project outcomes are the bases for the expected project outputs.

environmental conditions baselines will be established; comprehensive public sector building EE demo renovations will be carried out in each state; and then the before and after energy use and environmental conditions of the EE demos will be monitored and publicised. Then the next wave of EE demonstrations will be carried out, and then the remaining EE replication projects will be supported under the project. The sustainability of the EE results achieved, and ongoing further EE improvements will be ensured by the ISO 50001 style public sector building management-led continuous improvement processes that will be established, the 10-12 year lifetime equipment warranty life and maintenance contracts of the key AC and lighting equipment installed, and the monitoring of ongoing energy performance by simple state utility led reporting systems established. This alternative scenario will contrast with the baseline scenario of ad-hoc and unambitious energy audits, lack of monitored and publicised EE results, limited life of any EE equipment in the absence of selecting equipment with long warranties and associated maintenance contracts, and lack of any systematic energy use reporting for FSM public sector buildings. The energy demand from the public sector buildings will be reduced by the project's barrier removal activities, there will be equally less need for diesel fired electricity generation, and GHG emissions will be reduced by a similar amount. . .

Innovativeness and Replication

The key innovations of the project are that: comprehensive and deep EE energy audits will be carried out; deep, ambitious EE measures will be implemented; the demonstration projects will be followed by the replication phase projects. These will result in all major energy using public sector buildings in FSM being covered by the project. Proper "before and after" EE monitoring and publicizing of results will be carried out; the energy performance and equipment life of ACs and lighting SWH systems will be extended to 10-12 years of high energy performance life (or even longer in practice) rather than the 4 - 7 years with sharply declining energy performance that occurs in the baseline situation. As such, this proposed project is innovative in the context of the FSM because there are no similar projects that have been done in the past, existing or planned. Past projects that involved the conduct of building energy audits just produce the energy audit reports and there are no follow-up implementations of the recommended ESOs. Apart from this, the proposed project will come up with a definitive energy audit system, as well as a system of regularly monitoring, reporting and evaluating the energy consumption of buildings, starting with the public sector buildings. In addition to the envisioned building energy audit system, there will also be capacity development in the planning and conduct of proper building energy audits, and the conduct of (preliminary and detailed) energy audits of selected public sector buildings. Results from the energy audits will be used in the design of the EC&EE technology application demo and replication projects in public sector buildings. Moreover, this project is not only to contribute to the achievement of the country's EE target but also indirectly contributes to the realization of the country's %RE electricity target. To ensure post-project end sustainability, an ISO 50001-style continuous improvement process will be embedded in major energy using public sector building owning organisations in FSM; and a low-cost and hence sustainable regular energy performance monitoring of public sector buildings will be established via the FSM energy utilities.

IV. . . RESULTS AND PARTNERSHIPS

i. Expected Results*:*

Project Goal and Objective

Goal: Improved specific energy consumption and reduced GHG emissions in the buildings sector of the country.

Objective: Improved application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation & maintenance of public sector buildings.

Project Components, Outcomes, and Outputs

Component 1: EC&EE Policies & Regulations Improvements in Public Sector Buildings

Outcome 1: Enforcement of policies and guidance on the energy efficient and energy conserving design, retrofit, operation and maintenance of public sector buildings.

This project component will address the policy barrier of an absence of suitable specific pubic building sector EC&EE policies and guidelines, and the weak baseline enforcement of the limited existing energy policies and guidelines relevant to EC&EE, to promote and support the application of cost-effective EC&EE technologies in the FSM public sector buildings. This outcome will be developed and deployed ambitious and comprehensive EE focussed specific policies and guidance for the design, retrofit and O&M of public sector buildings in FSM. Because the public sector buildings is quite limited in number in FSM, an early start can be made on this component using the results of the PPG activities. The policies and guidelines will have a target level of 50% EE improvements, in particular in split system AC units and lighting systems in public sector buildings, along with a shift to solar water heating (SWH) to cover most of the hot water demand in hospitals. There will also be a strong focus in the policies and guidelines on the AC, lighting and hot water systems lasting at least 10-12 years, up from the 4-7 years of current practice- to lock in the energy savings achieved. These new EE policies and guidelines will be developed, documented, tested, disseminated and supported throughout the 3 years of the project's implementation, and will be designed to continue after the project's end.

The major outputs that will be delivered by the activities that will be carried out under this component will include: (a) Completed comprehensive policy research, impact analyses and assessment of applicable policies, guidelines and institutional frameworks to facilitate cost-effective applications of EC&EE technologies, techniques and practices in the buildings sector; (b) Approved and enforced policies, policy instruments, guidelines, and institutional arrangements for the promotion and application of EC&EE technologies in the public sector buildings; (c) Approved and enforced EE guidelines that incorporates specifications for EE features and EC&EE technology applications in the design, construction, retrofit and operation of new and existing public sector buildings; and, (d) Completed evaluation of enforced EC&EE policies, guidelines and adopted institutional framework; and approved follow-up plan for the enhancement of EC&EE policies and programs in the public sector buildings.

Output 1.1: Completed comprehensive policy research, impact analyses and assessment of applicable policies, guidelines and institutional frameworks to facilitate cost-effective applications of EC&EE technologies, techniques and practices in the buildings sector. This output provides the necessary data/information for the formulation of the required policies and regulations in promoting

and implementing EC&EE measures in the public sector buildings in FSM. The following are the activities that must be carried out to deliver this output.

Activity	Description
1.1.1: Gathering of data/ information about EC&EE policies and regulations for the buildings sector in developed countries and in small island developing states (SIDS).	This involves the conduct of desk researches and policy advice from experts on specific EC&EE policies and regulations in the buildings sector of selected developed and developing countries (e.g., SIDS). The data gathering work includes the survey of the effectiveness of the existing enforced policies and regulations in the buildings sector, particularly in public sector buildings. The policy advice will be on how the relevant policies and regulations are formulated, approved and enforced, as well as learning how to effectively enforce the policies and regulations.
1.1.2: Evaluation of buildings sector EC&EE policies and regulations from selected countries	This includes the analysis of the information gathered and learned from the desk researches and expert advice to determine the EC&EE policies and regulations that are applicable and appropriate for adoption in FSM's public sector buildings. Also, included is the identification of all the requirements and feasible implementation arrangements for the cost-effective application of such policies and regulations in FSM.
1.1.3: Conduct of an inventory of local (i.e., state and national) EC&EE policies and regulations for the buildings sector in FSM	This entails the conduct of a combination of desk researches and focused stakeholder consultations in the 4 state governments to determine policies and regulations that are related to EC&EE[11]. The specific data gathering work in the states includes the survey of the effectiveness of the existing enforced policies and regulations for the buildings sector in FSM, and where available, also for public sector buildings.
1.1.4: Comparative analysis of local and EC&EE policies and regulations for the buildings sector, and those public sector buildings	This entails the comparative evaluation of the domestic and foreign EC&EE policies and regulations for the buildings sector, based on the data gathered from the 4 states, and from the desk researches and policy experts. The evaluation is intended to come up with a list of local and foreign EC&EE policies and regulations that can be appropriately and cost-effectively adopted in the buildings sector in FSM, particularly in public sector buildings.
1.1.5: Formulation of recommended EC&EE policies on EC&EE practices and applications in the public sector buildings	This entails the development of proposed policies and regulations on the practice and application of EC&EE in public sector buildings based on the results of the comparative analysis (Activity 1.1.4). This also include the development of policies on the enhanced involvement of qualified women in the promotion and implementation of EC&EE technology designs and applications in public sector buildings.
1.1.6: Conduct of a workshop on the building EC&EE policies and regulations, particularly in public sector buildings	This entails the design, organization and conduct of a seminar-workshop that involves the presentation and discussion of the results of the comparative analysis (Activity 1.1.4) of local and foreign EC&EE policies, and the proposed EC&EE policies/regulations in public sector buildings, inclusive of those proposed for enhanced gender equity and women's role in the EC&EE efforts in public sector buildings. At the end of the seminar-workshop, a final list of the recommended EC&EE

[11] This also includes the evaluation of relevant policies on gender equity and women's roles in the promotion and implementation of EC&EE technology designs and applications, as well as enhancing the role and influence of women in the deployment of EC&EE technologies and other related climate change mitigation (CCM) options.

Activity	Description
	policies and regulations applicable to public sector buildings is adopted for recommendations to the DRD.
1.1.7: Publication and dissemination of the results of the EC&EE policy research work and the proposed policies and regulations on the practice and application of EC&EE for adoption in the buildings sector (particularly public sector buildings) in FSM.	This involves the publication (print and web-based) for dissemination of the information on the results of the policy research work and the agreed proposed policies and regulations, inclusive of those on the enhancement of gender equity and women's role in the design and implementation of EC&EE practices and initiatives in public sector buildings in FSM. Also included is the development of a proposed General Gender Action Plan and Policy on improved gender equity and women's roles in the promotion and implementation, and influence in the deployment of EC&EE technology designs and applications in the buildings sector.

GEF support is required for the incremental technical and financial assistance in the conduct of the data gathering and processing work, comparative analysis, presentation and discussion, as well as in the publication and dissemination of the recommended EC&EE policies and regulations.

Output 1.2: Approved and enforced policies and institutional arrangements for the promotion and application of EC&EE technologies in the buildings sector. This output comprises of policies, guidance and IRRs on the identification of EC&EE measures in public sector buildings, as well as in the design of the implementation schemes for the EC&EE measures, and in the implementation of such schemes. It also includes the suitable and pertinent institutional arrangements and mechanisms for the coordination, planning, financing and implementation of the EC&EE measures and schemes. The activities that will be carried out to deliver this output are the following:

Activity	Description
1.2.1: Formulation, approval and enforcement of regulations on EC&EE in the public sector buildings	This involves the development develop and implementation or enforcement policies and implementing rules and regulations on EC&EE in the public sector buildings. This includes the formulation of the associated set of guidance and institutional frameworks. 1.2.1a: Development of recommendations for potential policy revisions and new policies supporting the implementation of EC&EE measures in in public sector buildings. This will be based on the review of the existing energy conservation policies and regulations as applied to the implementation of EC&EE measures in buildings, particularly the results of the policy researches and expert advice (Output 1.1). 1.2.1b: Development of institutional and financial policies regarding the use of savings/revenues generated by public sector buildings[12]. This involves a comprehensive review of the existing institutional and financial policies on the use by a public sector building of savings/revenues that it generated, for continuance of the EC&EE efforts or for funding new EC&EE initiatives. A special committee will

[12] This refers to the idea of supporting the retention in the budget (on top of the annual budget) of public sector buildings the cost savings generated from EC&EE initiatives that they have carried out. Such retained earnings will be for maintaining the implemented initiatives and/or for developing and implementing new EC&EE projects. Allowing the retention of energy cost savings for use in new projects can be considered as financial incentive for public sector buildings that have performed very well in their EC&EE efforts.

Activity	Description
	be convened by DRD to discuss this specific issue. Policy research will be carried out to determine the pros & cons of the current finance policies as these apply to potential cost savings from EC&EE initiatives that public sector buildings intend to implement. Suitable policies will be developed on the use of cost savings from EC&EE initiatives in public sector buildings. 1.2.1c: The proposed General Gender Action Plan and Policy (Activity 1.1.7) on improved gender equity and women's roles in the promotion and implementation, and influence in the deployment of EC&EE technology designs and applications in the buildings sector will be further evaluated to at least come up with the specific policy and action plan on this in the public sector buildings of the country. 1.2.1d: Conduct of advocacy work with the relevant government entities and authorities to secure public approval of the policies and have these enforced.
1.2.2: Formulation and finalization of the buildings sector EC&EE policy implementing rules and regulations (IRRs).	This entails the formulation of the IRRs of the approved buildings sector EC&EE policies. It also includes the finalization of the set of sector-wide policy measures based on the approved policies and proposed IRR. The policy measures and the implementation mechanisms will be presented and promoted to DRD, state utilities, other relevant national and state governments agencies and authorities, as well as the key players in the country's buildings sector. This is to secure support and endorsement of the relevant stakeholders, particularly the DRD.
1.2.3: Development of suitable enforcement mechanisms for the approved building EC&EE policies and IRRs.	This involves the development and finalization of workable enforcement approaches for applicable policies and guidelines relevant to buildings EE in coordination with FSM national and state authorities. These will be primarily handled by the DE/DRD and the FSM-wide Energy Group and carried out at the state level with the state level Energy Groups.
1.2.4: Publication and dissemination of results of the suitable approval and enforcement approaches.	This involves the publication (print and web-based) for wide dissemination of the agreed and approved suitable approval and enforcement approaches to the policies, guidelines and institutional frameworks relevant to buildings EE. A suitable summary document will also be prepared and disseminated to the relevant entities and players within the country's buildings sector.

GEF support is required for the incremental technical and financial assistance in the formulation of the building EC&EE policies, IRRs, institutional arrangements and enforcement approaches. GEF assistance is also required for the Incremental work in the promotion for the approval and enforcement of the recommended policies and regulations.

Output 1.3: Approved and enforced building energy efficiency guidelines that incorporate specifications for EE features and EC&EE technology applications in the design, construction, retrofit and operation of new and existing buildings. This output is a set of guidelines for the application EC&EE features, as well as EE systems in public sector buildings. The following activities are intended to deliver this output:

Activity	Description
Activity 1.3.1: Assessment and setting of public sector building EC&EE guidelines.	This involves the identification and assessment of standards and best practices on the performance, design, construction and installation of energy systems within FSM and in other countries[13]. It also includes the conduct of a comparative analysis between existing domestic building design and their energy systems and any building energy performance standards that are used. The analysis will also include cost factors. Based on these analyses, a set of recommended guidance for the energy conserving and energy efficient design and retrofit and operation of public sector buildings will be prepared. Applicable tailor-made evaluation methodology for the assessment of building energy performance will be developed, documented and disseminated. This will also involve the setting up of the specifications for what is considered an energy efficient public sector building. This major activity will also include the mechanisms for determining and designating the public sector buildings that are energy efficient based on the set EE building specifications. . .
Activity 1.3.2: Approval and documentation of the public sector building EC&EE guidelines	This involves the conduct of stakeholder consultations with key players in the FSM buildings sector, particularly the public sector building owners/administrators on the setting up and application of the building EC&EE guidelines, EE building specifications, best practices and the recommended building energy performance assessment procedures[14]. The guidelines and specifications will also be based on Outputs 1.1 and 1.2 and the results of, and experience from the, energy audits and EC&EE measures applications that will be demonstrated in Component 3. This also includes work towards the registration of said design standards and practices with the relevant government institutions. Once approved, a promotional program for the adoption and widespread use of the prescribed building EC&EE guidelines, EE building specifications, and best practices will be developed and implemented. The documentation of these and their dissemination will be carried out through relevant public sector building staff, influencers, suppliers and O&M staff in meetings, seminars and workshops. . .
Activity 1.3.3: Enforcement of public sector building EC&EE guidelines	The is involves the This involves the launching and operationalization of the building EC&EE guidelines on a pilot basis covering selected public sector buildings in the national capital region and in the state capital cities.

[13]The development of the building EC&EE guidelines will also involve consulting the Global Building Performance Network, which has developed a Buildings Energy Code portal. http://www.gbpn.org/beet-3/?utm_source=newsletter&utm_medium=email&utm_campaign=Greater%20Energy%20Savings%20from%20Buildings:%20New%20Web%20Portal%20to%20Support%20International%20Collaboration%20on%20Building%20Energy%20Codes

[14] The guidance document(s) are expected to cover the range of key applicable building types and the key energy using building services, including in particular lighting, AC, ventilation, building envelope, equipment/appliances, and hot water provision. The building sector will be consulted at major steps as the guidelines are developed, and also to ascertain and encourage their support for the guidelines.

Activity	Description
	Part of this major activity is assisting public sector buildings that request assistance in applying the EC&EE guidelines in their EC&EE initiatives. The assistance could include the checking, documenting and encouraging of compliance with the guidelines , by the relevant government entity. The implementation and results of the pilot will be regularly monitored and comments/recommendations from the management of each pilot public sector building will be gathered and used for improving the system. Among the major impact that will be investigated is the share of energy efficient public sector buildings in the FSM buildings sector.

GEF support is required for the technical assistance in the development of the guidelines, and on the enforcement of the EE guidelines.

Output 1.4: Completed monitoring and evaluation of enforced EC&EE policies, guidelines and institutional frameworks; and approved follow-up plan for the enhancement of EC&EE policies, guidelines and programs in the buildings sector. This output consists of the report on the evaluation of enforced EC&EE policies, guidelines and institutional frameworks; as well as an approved follow-up plan for the enhancement of EC&EE improvement policies in public sector buildings that the state governments/state utilities can consider. The following activities are meant to deliver this output:

Activity	Description
1.4.1: Monitoring of compliance of public sector buildings to the EE policies and guidance documents	The enforcement of the approved new IRRs will be carried out using the new set of guidelines and implementation arrangements that will also be developed after the approval of the new IRRs. This activity involves the monitoring of the compliance of public sector buildings to the new EE guidance documents through project reports and feedback to the relevant government authorities, which will be checked and as necessary updated by the PMO. . . To be monitored too is the degree of gender equity and involvement of women in the EC&EE initiatives in public sector buildings. The monitoring will be supplemented by reporting back to the buildings sector to build their support for the guidelines and gathering data on the building sector's acceptance of the guidelines. . .
1.4.2: Evaluation of the results and impacts of the buildings sector EC&EE policies.	This involves the evaluation of the impacts of the buildings sector EC&EE policies and IRRs with the intention of getting comments and suggestions from the management of the national government-, and state government- administered public sector buildings. Evidences of improvements in gender equity and women's involvement in EC&EE initiatives in public sector buildings. Based on the evaluation, improvement or maintenance of the policies, policy measures and IRRs will be recommended.
1.4.3: Development of a follow-up plan for the enhancement of EC&EE policies, guidelines and programs in the buildings sector.	This entails the preparation and approval of a suitable follow-up plan for the enhancement of EC&EE policies, guidelines and programs in the buildings sector. The follow-up plan will be based on the experiences gained during the MPSBEE project implementation. This will be presented to the Energy Group, to have it approved by the end of Year 2 for implementation at the end of the MPSBEE Project.

GEF support is required for the technical and logistical assistance in the monitoring and evaluation of the compliance of public sector buildings to the EC&EE policies and guidance documents.

Component 2: Energy Performance Monitoring and Evaluation of Public Sector Buildings

Outcome 2: Enhanced management and monitoring of the energy performance of public sector buildings.

Among the major issues in the low energy utilization efficiency in public sector buildings is the dearth of data/information about the energy consumption and energy utilization performance of the relevant buildings. The enhanced management and monitoring of the energy performance of public sector buildings 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: (a) Established and operational building energy audit system, including completed capacity development in the planning and conduct of building energy audits, and completed energy audits of selected public sector buildings; (b) Established and operational buildings energy (supply and consumption) monitoring and reporting system (EMRS), including completed capacity development and pilot program on EMRS implementation; (c) Established and operational national public sector building energy use database, including capacity development in the operation, maintenance and use of the database; and, (d) Completed evaluation of the implemented building energy audit system, and EMRS pilot programs, including a proposed action plan for sustainability of these buildings' EC&EE systems.

The project will break new ground in undertaking comprehensive energy audits that determine real energy service needs, look for ambitious and comprehensive EE solutions that reflect the FSM high electricity tariffs, and establish regular reporting and energy use feedback mechanisms through a suitable EMRS.

Output 2.1: Established and operational public sector buildings energy audit system and completed ambitious and comprehensive energy audits of major public sector buildings in each FSM state. This output is comprised of two sub-outputs: (1) the system by which the planned energy audits will be carried out in public sector buildings, i.e., building energy audit system (BEAS); and, (2) the energy audits that will be conducted to determine specific energy saving measures (ESMs) that can be implemented in representative public sector buildings, as well as determine the realistically achievable energy savings from implemented ESMs. The following activities are intended to deliver these 2 outputs:

Activity	Description
2.1.1.1: Review of building energy audit practices and needs	This involves the conduct of a survey of buildings in the country that have undergone energy auditing to establish the sector's regard to energy auditing and the quality of energy audits done in and for public sector buildings. Also included is the conduct of a seminar-workshops on energy efficiency and energy audit techniques, as part of the efforts to encourage qualified men and women the practice of EC&EE and energy auditing in public sector buildings. The seminar-workshop will also serve as a forum for the discussion of current issues regarding EC&EE practices and energy auditing issues in public sector buildings (e.g., techniques, barriers/constraints, and costs), with the aim of coming up with relevant policy recommendations to the DRD concerning the practice of EC&EE and energy audits in public sector buildings. Based on the recommendations of the capacity needs

Activity	Description
	assessment, technical personnel (men and women) from DRD will be trained in all aspects of energy management and energy auditing.
2.1.1.2: Development of a public sector Building Energy Audit System (BEAS)	This involves the development of a standard energy audit procedures and tools that must be followed by entities (e.g., engineering/energy consulting firms and ESCOs) in providing energy audit services to buildings (e.g., public sector buildings)[15]. This entails the development of an energy audit program and plan for public sector buildings in the national capital complex and in the 4 states. An ambitious and comprehensive energy audit approach will be applied that reflects FSM's high electricity tariffs, real energy service needs, looks for interdependencies between EE measures and establishes models of energy use for meaningful baseline and post-renovation EE comparisons, and provides actionable energy savings measures (ESMs). The specifics of the desired energy audits will be based on ISO 50002. Training will also be provided to technical personnel (men and women) of DRD and the 4 state utilities on advanced energy auditing techniques, and the provision of energy auditing courses tailor-made for technically qualified men and women in specialty type public sector buildings.
2.1.1.3: Building Energy Audit System (BEAS) Evaluation	This involves the evaluation of the performance and impact of the BEAS through the conduct of a post energy audit survey among the public sector buildings that were audited during the project. The evaluation will determine, among others, the actual results/impacts to each public sector building of the application of the audit recommendations, the reasons behind the implementation, and non-implementation of audit recommendations, and the building management's comments about, and suggestions to improve, the system. Based on the findings and recommendations of the evaluation, improvements will be employed. It is expected that the energy audit program will be an effective tool for the public sector buildings to improve its energy performance.
2.1.1.4: Development of a sustainable follow-up plan for the BEAS.	This activity involves the development of a self-sustainable scheme that will facilitate the continuance of the energy audit program even after the MPSBEE Project. Based on the results from Activity 2.1.1.3, further capacity development will be carried out for DRD and state utilities' technical personnel (men and women) on energy auditing, and in the design and engineering of energy saving schemes/projects that are recommended for implementation in the energy audits.
2.1.2.1: Development and implementation of Public Sector Building Energy Audit Program (PSBEAP)	This involves the development of the energy audit program based on the BEAS. The program will involve annual scheduling of energy audits of public sector buildings; a set of criteria will be used for the prioritization of the public sector buildings (e.g., energy utilization performance; extent of energy saving potentials). The same criteria will be used in deciding the type of energy audit that will be carried

[15] This includes (1) specifications for each type of energy audit that can be provided by energy consultants (energy surveys, preliminary audits, detailed audits) particularly as to the objective, scope, duration, frequency, audit team composition, preparations required, audit kit, audit report contents, types of recommendations, and application of recommendations; and, (2) standardized auditing tools (e.g., checklists, calculation sheets and audit forms) for energy auditing purposes.

Activity	Description
	out in each public sector building. The programming and planning for individual energy audits shall be in consultation with the management and technical personnel (men and women) of each public sector building. All aspects of the energy audit program from the conduct of the audits, to the evaluation of audit findings, drawing of conclusions and formulating of recommendations, up to the preparation of energy audit reports, will be carried out.
2.1.2.2: Conduct of scheduled energy audits	This involves the implementation of the scheduled energy audits in selected public sector buildings, per the annual energy audit program. Depending on the agreed energy audit program, the coverage of the energy audits will be government (national and state) office buildings, hospital buildings and school buildings. • Each PEA will be completed within 1 to 2 months. PEA reports will be prepared and submitted to DRD. • For the comprehensive detailed energy audits (DEAs), the public sector building type that will be selected will be based on the results of the PEA. The main criteria for the building selection for the conduct of DEA is the magnitude of the feasible energy saving potentials as determined in the PEA. • Each DEA is expected to be completed within 3 months. DEA reports will be prepared and submitted to DRD. Data/information on the results and recommendations of the energy audits will be included in the PSBED (database).
2.1.2.3: Publication and dissemination of results of the energy audit program	This involves the preparation of annual reports on the results of the various energy audits that are implemented each year. Each energy audit report will be summarized to highlights the identified and recommended ESMs, and the implemented energy saving measures (e.g., investments made, EC&EE technologies applied, actual energy savings, and economics). These reports will be published and disseminated to the pertinent stakeholders.
2.1.2.4: Enhancement of the PSBEAP	This involves the conduct of evaluation of the energy audit program in terms of the magnitude of energy and energy cost saving potentials (and associated GHG emission reductions) and the actual energy and energy cost savings realized from implemented energy saving opportunities recommended (in PEAs) and engineered (in DEAs). This is supplemented by information from post energy audit surveys among the public sector buildings that were audited.

GEF support is required for the incremental technical assistance in the design and setting up of the appropriate energy audit system for the public sector buildings. This is also required for the incremental technical and financial assistance in the planning and conduct of programmed energy audits in selected public sector buildings including in the purchase of sets of energy audit instruments that will be used and as part of the capacity development interventions in the field of energy auditing.

Output 2.2: Established and operational public sector buildings energy monitoring and reporting system (EMRS), including completed capacity development and pilot program on EMRS implementation. This is the system by which the data/information on energy supply and demand and

energy utilization performance of the various public sector buildings, are collated, processed, analyzed, reported and stored. The following activities are intended to deliver this output:

Activity	Description
2.2.1: Design of the EMRS for public sector buildings.	This involves the design and development of the EMRS, including the standard and specific energy data/information that will be reported by the public sector buildings, and the templates/forms that will be used. This will make use of the information that will be available from Output 2.1. The system will be web-based to enable online reporting of the required data/information. The reported energy data/information as well as the results of the analyses of these data/information will be encoded into the public sector energy database that will be designed, installed, operated and maintained by technical personnel (men/women) that will be hired and preferably retained by DRD.
2.2.2: Development of the EMRS framework and mechanisms.	This involves the creation of the pertinent EMRS framework and implementation mechanisms based on the comments and recommendations from the pertinent stakeholders and the EMRS implementing entity (DRD). This will be presented and promoted to DRD, State Utilities, and relevant government agencies and authorities, as well as the key players in the FSM buildings sector through advocacy/lobbying work for its approval and enforcement.
2.2.3: Implementation of the EMRS, including provision of technical assistance to public sector buildings requesting assistance in the reporting process.	This involves the setting-up, launching and operationalization of the EMRS on a pilot basis covering selected public sector buildings in the national capital complex and in the state capital cities. Part of this major activity is assisting buildings that request assistance in complying with the reporting process. The reports will be analyzed by a team to be organized in DRD and feedbacks will be provided to the reporting public sector buildings on their energy performance and recommendations in improving or sustaining their current performance. The implementation and results of the EMRS will be regularly monitored and comments and recommendations from the management of each reporting public sector building will be gathered and used for improving the system. Among the major impact that will be investigated is the share of energy efficient public sector buildings in the country's buildings sector.
2.2.4: Preparation of annual reports on the status and trends in the energy supply, demand and consumption in the public sector buildings in FSM.	This involves the preparation of an annual report on the energy performance of the public sector buildings. From the submitted reports, feedbacks on the reports, etc., a summary report will be prepared to present the overall and sub-sectoral energy performance in the public sector buildings. Among the major information in the annual reports are the following: (a) Annual energy consumption; (b) Annual average specific energy consumption (SEC); (c) Annual % share of "EE Public sector buildings"; (d) Annual EC&EE investments in the public sector buildings (US$); and, (e) Annual energy savings in the public sector buildings. Apart from the management of each reporting public sector buildings, the report will be available to interested entities in the country's buildings sector.

Activity	Description
2.2.5: Evaluation of the results and impacts of the EMRS	This involves the conduct of an evaluation of the performance and impacts of the implemented EMRS. It also includes the organization and conduct of a workshop to discuss the findings of the evaluation, and to discuss and agree on recommendations for improving and updating the EMRS, as well as the policies and IRRs that support its implementation.

GEF support is required for the incremental technical and financial assistance in the design, development, establishment and initial operation of the EMRS, including in the purchase and set up the computer hardware/software for the operation of the system, and in the formulation of support policies and regulations.

Output 2.3: Established and operational public sector buildings energy use database, including capacity development in the operation, maintenance and use of the database. The database shall serve as the repository of all data/information about the energy supply and demand, consumption and energy utilization performance of the public sector buildings in FSM. The following activities are intended to deliver this output:

Activity	Description
2.3.1: Conduct of study on the requirements and procedures for data processing, verification, and encoding, and data updating.	This involves the identification and design of the most feasible, reliable and cost-effective means of data processing, verification, and encoding, and maintenance. This will also take into consideration similar procedures implemented in building energy data banking systems in other countries. The procedures for data sourcing, collection and categorization are defined in the EMRS design.
2.3.2: Design and development of the Public Sector Buildings Energy Database (PSBED).	This involves the design and development of the public sector buildings energy database (PSBED), which include the profiles of all public sector buildings that are covered by the EMRS. The PSBED shall be housed in the DRD, which will be responsible for its operation and upkeep. The database modules will be based on the parameters that are defined in the EMRS design. Apart from the information from the energy consumption reports of public sector buildings, results of analyses of energy data, energy audit results, and the results of energy saving measurements and verifications of selected public sector buildings, also included in the PSBED are information of up to date building EC&EE technologies development and applications in FSM and in other countries.
2.3.3: Capacity development in the use of the PSBED.	This involves the design, preparation and conduct of the following capacity development events for the DRD and state governments: (a) Workshop to review the operation, performance of the PSBED; (b) Workshop on the operationalization and maintenance of the PSBED, and how public sector buildings can make use of publicly available information in it; and, (c) Training on the utilization and maintenance of the PSBED (including reporting procedures to EMRS). These capacity development events are open to selected qualified men and women.

GEF support is required for the incremental technical and financial assistance in the design, development, establishment and initial operation of the PSBED, including in the purchase and set up the computer hardware/software for the operation of the system.

Output 2.4: Completed evaluation of the implemented public sector building energy audit system, and EMRS pilot programs, including proposed action plan for sustainability of these buildings EC&EE systems. This output (completed evaluations) is for providing the necessary information to determine and verify the effectiveness of the building energy audit system and energy monitoring and reporting system that are developed, promoted and piloted under the MPSBEE Project. The results of the evaluations will be used in the design of the follow-up plans for the continuance of the implementation of these systems even after the project. The following are the activities that must be carried out to deliver this output:

Activity	Description
2.4.1: Building Energy Audit System (BEAS) Evaluation	This involves the evaluation of the performance and impact of the BEAS through the conduct of a post energy audit survey among the public sector buildings that were audited during the project. The evaluation will determine, among others, the actual results/impacts to each public sector building of the application of the audit recommendations, the reasons behind the implementation, and non-implementation of audit recommendations, and the building management's comments about, and suggestions to improve, the system. Based on the findings and recommendations of the evaluation, improvements will be employed. It is expected that the energy audit program will be an effective tool for the public sector buildings to improve its energy performance.
2.4.2: Development of a sustainable follow-up plan for the BEAS.	This activity involves the development of a self-sustainable scheme that will facilitate the continuance of the energy audit program even after the MPSBEE Project. Based on the results from Activity 2.4.1, further capacity development will be carried out for DRD and state utilities' technical personnel on energy auditing, and in the design and engineering of energy saving schemes/projects that are recommended for implementation in the energy audits.
2.4.3: Evaluation of the results and impacts of the EMRS	This involves the conduct of an evaluation of the performance and impacts of the implemented EMRS in the pilot public sector buildings. It also includes the organization and conduct of a workshop to discuss the findings of the evaluation, and to discuss and agree on recommendations for improving and updating the EMRS, as well as the policies and IRRs that support its implementation.
2.4.4: Development of a sustainable follow-up plan for the EMRS.	This activity involves the development of sustainable follow-up plan for the expanded coverage of the EMRS even after the completion of the MPSBEE Project. Based on the results from Activity 2.4.3, further improvements will be incorporated in the system coverage (e.g., all building types) and system implementation. If necessary, further capacity development for DRD will be included in the follow-up plan, e.g., in the evaluation of submitted reports and feedback reporting to the individual buildings.

GEF support is required for the incremental technical assistance in the conduct of the assessments and in the development of the follow-up plans.

Component 3: EC&EE Improvements in Public Sector Buildings

Outcome 3: Increased Application of EC&EE technologies in public sector buildings and facilities.

This component of the project will address the technical issues that are currently hindering the successful practice of EC&EE in the FSM public sector buildings. From the technical assistance activities that will be carried out under this component the expected outcome is increased application of EC&EE technologies in public sector buildings. The major outputs that are expected to bring about this outcome are the following: (a) Completed line-up of applicable building EC&EE technologies that can be feasibly implemented in selected public sector buildings; including completed designs and implementation plans of demonstrations, which can include feasible and applicable EC&EE technologies/techniques and practices in public sector buildings; (b) Successfully installed and operational systems of the implemented demonstrations of EC&EE technology applications, including documentation of the results of regular monitoring and evaluation of operational and energy performance; (c) Completed design and implementation plans for the replication and/or scale up of demonstrated EE technology application projects; and, (d) Approved portfolio of follow-up EC&EE technology application projects within FSM. The results and impacts of the implemented EC&EE technology application demos in selected public sector buildings, will serve as the main basis for the planned follow-up projects that can make use of available financing sources in FSM.

Output 3.1: Completed line-up of applicable building EC&EE technologies that can be feasibly implemented in selected public sector buildings; including completed designs and implementation plans of demonstrations of the feasible and applicable EC&EE technologies/techniques and practices in public sector buildings. This output consists of 2 sub-outputs: (1) the agreed line-up of demo public sector building EC&EE technology application projects that will be demonstrated in the MPSBEE Project; and, (2) the completed design and implementation plans of the demos. The following activities are intended to deliver this output:

Activity	Description
3.1.1.1: Identification of potential demo projects.	This involves the evaluation the results of the energy audits that will be conducted in Component 2 (Output 2.2) to identify the potential EC&EE projects that will be demonstrated. The information from the PSBED about potential EC&EE projects stated by public sector buildings in their energy reports to EMRS can also be used to determine the potential EC&EE technology application projects that can be considered for the demonstrations.
3.1.1.2: Review of the feasibility assessments done in the energy audits of the potential EC&EE projects.	This entails the review of the financial and technical viability of the recommended potential EC&EE projects in the detailed energy audits, including the magnitude of potential energy savings and GHG emission reductions that can be realized. The assessments will also determine potential public sector buildings that will be interested in implementing such projects and determine the levels of commitment of the potential owners/implementers to be the demo/pilot host[16].

[16] Based on the findings during the project preparation stage, hospital buildings are the key defining building in each state, in regards energy consumption. These buildings use the highest commercially available overall EE systems (as measured by the SEER rating, and the longest available warranty split system ACs, along with the use of long life and high lighting efficacy LED lighting panels) that are directly relevant to the majority of energy use in all FSM public sector buildings. Hence an EE demonstration in the local state hospital will have the greatest credibility for EE replication to other public sector buildings in each state in FSM.

	The review also involves the evaluation of data/information that are lacking or need updating, as well as verify the project implementation requirements.
3.1.1.3: Conduct of preliminary discussions for financing of demo projects.	This entails discussions and agreements between the public sector buildings that will host the demo projects with the relevant entity or entities that will be fully or partly responsible for the financing of the demo projects.
3.1.1.4: Finalization of the line-up of confirmed EC&EE demos.	Based on the stakeholder discussions during the PPG phase, it was agreed that overall, there will be 10 demonstrations. For the EC&EE technology application demonstrations in public sector buildings, the breakdown of demos will be implemented – State Government buildings: 4 hospital buildings; National Government buildings: 1 office building; 5 school buildings.
3.1.2.1: Conduct of comprehensive feasibility analyses.	This involves the conduct of more detailed analyses of the feasibility of each demo project. The detailed feasibility assessments will be conducted together with the demonstration hosts. More data and information will be gathered, also as part of the due diligence that maybe required by the government or private sector entity/entities that will provide financing to any of the demos.
3.1.2.2: Design of the EC&EE technology application demonstrations.	This will involve carrying forward the existing feasibility studies for the identified demo projects to detailed technical design and engineering, budget cost calculation, design of ownership and management models, cost-benefit analysis, design of operation and maintenance concept, and assessment of financing aspects. It will also include the establishment of baseline data for each demo project for each EC&EE technology application that will be demonstrated. The operating performance targets for each demo will also be established. This activity can also be carried out in conjunction with the review/conduct of the feasibility analyses. The line-up of EC&EE demonstrations is presented in Annex K.
3.1.2.3: Promotion of the demonstrations.	This involves the preparation and conduct of a seminar-workshop to promote the demonstration. This activity will be for purposes of informing the stakeholders in the public sector buildings, the financial sector, and buildings sector in FSM what these are all about, the objectives, and the expected results and impacts.
3.1.2.4: Finalization of the design of demo projects and possibly replication projects.	This involves the comprehensive engineering design of the demo projects. Assistance will also be provided (if requested) by the demo hosts in the design and engineering of the demo project. Assistance (if requested) will also be provided to buildings that intend to replicate the demo projects in the project design/engineering, and where possible in the processing of financing applications of the demo hosts for the financing of the operation and maintenance of their respective replication project.

GEF support is required for the incremental technical assistance in the in the comprehensive feasibility analyses of the demonstrations, as well as in the engineering design of these showcase projects, and in the promotion of these demonstrations.

Output 3.2: Successfully installed and operational systems for the implemented demonstrations of EC&EE technology applications, including documentation of the results of regular monitoring and evaluation of their operational and energy performance. This is the complete set of building EC&EE

technology application demo projects that will be partly financially supported by the MPSBEE and identified co-financers, including the demo hosts. These demo projects are presented in Annex K. The following activities are intended to deliver this output[17]:

Activity	Description
3.2.1: Implementation of the building EC&EE demonstrations.	This involves the actual engineering, installation, operation and maintenance of the systems involved in the building EC&EE technology application demonstration. The implementation of the demo project will be carried out by the demo host with the support of the MPSBEE project team to ensure that all requirements for the successful implementation of the demo are in place. Each demo project will be regularly monitored by the host and the MPSBEE project personnel using a common M&E system that will be designed and employed for this purpose.
3.2.2: Preparation of the demo project profiles (as case studies).	This involves the documentation of the results of the implemented building EC&EE technology application demos. An inventory of the demo project results (e.g., energy use, operational performance, economic performance) will be prepared. The results will be compared to the results of similar building EC&EE technology application projects that were implemented in other countries. Each project report will be summarized into project profiles (or case studies) following an agreed presentation format. These project profiles will be inputted into the PSBED (database). The project profiles will be stored in a specific module of the PSBED.
3.2.3: Conduct of an overall performance evaluation of the demo projects.	This involve a comprehensive analysis of the results from each demonstration. The analysis will be on the energy performance, as well as the economic feasibility performance of each demo. The degree of improvement in gender balance and women's role in the design and implementation of the demo projects will also be evaluated. The results of the analysis and pertinent conclusions and recommendations will be publicized, including the demo project results and recommendations. Technical guidance materials (web-based and printed media) on specific EC&EE technology applications in public sector buildings (apart from the demos) will also be prepared and disseminated. The results of the demonstrations will all be inputted in the PSBED.

GEF support is required for the incremental cost of the demonstration projects' EC&EE equipment and operational changes, and the technical assistance in design, developing specifications, contracting, commissioning, monitoring, evaluation and documentation of the results achieved.

Output 3.3: Completed design and implementation plans for the replication and scale up of demonstrated EE technology application projects. This output comprises of the completed design and implementation plans outline how the positive impacts of the demonstration interventions will

[17] As in typical engineering projects, the PMO will be doing the preparation and floating of tenders, evaluate bids, and establish contracts with successful bidders based on Output 3.1. The applicable RFQs for supply, installation, and maintenance of the selected EC&EE equipment shall be prepared, including establishment of suitable procurement, installation, warranties and maintenance contracts. Depending on what would be deemed appropriate and cost-effective, the PMO shall facilitate the supervision of the installation and commissioning by the suppliers/contractors of the EC&EE technology applications to be demonstrated and seeing to it that the specified equipment is delivered and installed and commissioned by the suppliers/contractors as specified and that related operational system changes are made. . .

be scaled-up or replicated, and how the demonstration program will be adjusted accordingly to address any negative result and impact. The following activities are intended to deliver this output:

Activity	Description
3.3.1: Identification of potential replication projects[18].	This involves determining and assisting potential replication or scale-up projects. These replication projects can be identified from the energy audits that will be conducted in Component 2 (Output 2.1). The other source of information on this is the PSBED, which include the energy reports of public sector buildings to EMRS.
3.3.2: Evaluation of the techno-economic feasibility of potential replication projects.	This involves assisting the owners/developers of potential replication projects in the feasibility analyses of their projects. The detailed feasibility assessments will be conducted together with them including in the due diligence work that maybe required by the government or private sector entity/entities that will provide financing their replication or scale-up projects.
3.3.3: Design of the replication EC&EE technology application projects.	This involves assisting the owners/developers of potential replication projects in the engineering design, including where necessary on budget cost calculation, design of operation and maintenance concept, etc. This also include establishment of baseline data for each EC&EE technology application demo that will be replicated. The operating performance targets for each replication will also be established.
3.3.4: Finalization of the design of replication projects.	This involves the confirmation of the final line-up of replication projects that will be assisted under the MPSBEE. It will also entail assisting the project owners/developers in securing all the necessary requirements for the project implementation. Assistance will also be provided (if requested) in the processing of financing applications of the project owner/developer for the financing of the operation and maintenance of their replication project.
3.3.5: Implementation of the replication building EC&EE projects.	This involves the actual engineering, installation, operation and maintenance of the systems involved in the replication EC&EE projects. The implementation of these replication projects will be carried out by the project owner/proponent with the support of the PSBEE project team. Each replication project will be regularly monitored by the owner/proponent and the MPSBEE project personnel using a common M&E system that will be designed and employed for this purpose.
3.3.6: Preparation of the replication project profiles (as case studies).	This involves the documentation of the results of the implemented replication EC&EE technology application projects. The replication project results (e.g., energy use, operational performance, economic performance) will be evaluated and documented as well as the degree of improvement in gender balance and women's role in the design and implementation of the demo projects. Each replication project report will be summarized into project profiles (or case studies) following an agreed presentation format. These project profiles will be inputted into a specific module in the PSBED along with those of the demo projects.
3.3.7: Evaluation of additional capacity	This involves the assessment of other capacity development requirements of the buildings sector, particularly the public sector

[18] These are projects that either replicate or scale-up a demo project. The owner or implementer of these projects will be assisted (if requested) either in the design, engineering, planning and operation of the required systems to be sized, purchased, installed and operated. These are projects that may be implemented during the implementation period, or after completion, of the MPSBEE Project. . .

development needs on building EC&EE technologies.	buildings) on the application of building EC&EE technologies considering the results and recommendations of the demos that were conducted.
3.3.8: Design of the follow-up plan to promote and implement the replication of the successful EC&EE technology application projects (demos and replications).	This involves the action planning for the continuous application of proven EC&EE technologies in public sector buildings in other urban areas in FSM or in other building types. Based on the results of Activity 3.3.7, a sustainable follow-up program will be designed and developed for financially supporting the application of EC&EE technologies in other types of buildings in FSM and other public sector buildings in the other cities/towns in the country. This will require support from national and state government agencies, and potentially private sector entities for the implementation of feasible design and application building EC&EE systems design and operation. This also includes the formulation of recommendations and feasible strategies and incentives for providing motivation to implement EC&EE technologies in public sector buildings.
3.3.9: Promotion of the sustainable follow-up program.	This involves the organization and conduct of a seminar-workshop to: (a) Present and solicit support from the government (DRD and state utilities), financial institutions and the buildings sector in the approval and implementation of the developed sustainable follow-up program; (b) Introduce new innovative ways of planning, financing and implementing EC&EE technology applications in buildings; and, (3) Recommend potential enhancements in gender balance and women's involvement in EC&EE technologies design, engineering and implementation in the wider buildings sector.

GEF support is required for the incremental technical and financial assistance in the design, development and implementation of replication and scale up building EC&EE technology application projects, monitoring, evaluation and documentation of the results achieved. This will also be required in the evaluation of the capacity development needs and the development of the sustainable follow-up plans for demo project replications.

Output 3.4: Fully evaluated portfolio of follow-up EC&EE technology application projects in FSM states. This output consists of: (1) a vetted portfolio of EC&EE technology applications that can be implemented by other public sector buildings in FSM; and, (2) a convenient information resource on the technology suppliers, including technical specifications and prices of the required hardware and software involved. The following activities are intended to deliver this output:

Activity	Description
3.4.1: Conduct of analyses of EC&EE technologies that are feasible and applicable in public sector buildings in FSM.	This involves the conduct of research and techno-economic feasibility analyses of various EC&EE technologies applied in buildings. The technologies that are found to be applicable, feasible and replicable in public sector buildings in FSM will be identified. The evaluation also involves the determination of the suppliers and installer of the systems that comprise each technology.
3.4.2: Review the scope for EC&EE technology applications in remaining FSM public sector buildings	This involves the compilation of a list of remaining FSM public sector buildings where the implementation of other applicable building EC&EE technologies can be carried out. This include the review of the buildings and the data in the EMRS to establish the match of EC&EE potential measures with the buildings in terms of their energy use and their likely EE potentials, and costs and benefits.

3.4.3: Develop a prioritized portfolio of EC&EE measures in the remaining FSM public sector buildings.	This entails the review of the technical and economic viability of the identified potential EC&EE projects that can be implemented in the remaining FSM public sector buildings. These projects will be ranked based on a set of criteria that will be developed. The ranked projects will comprise a structured portfolio for follow up EC&EE technology application projects that can be funded by the GOFSM budget and Compact Funds.
3.4.4: Development of a roster/directory of EC&EE technology suppliers.	Based on the results from Activity 3.4.1, a directory of EC&EE technology developers and suppliers will be developed. The directory will include the profiles of the technology developers and suppliers including their contact details, as well as the technical specifications and prices of the required hardware and software for each technology application. The DRD will be responsible for sharing the information in the directory to the public.

GEF support is required for technical assistance in reviewing the scope of EC&EE applications in the remaining FSM pubic buildings and in developing a prioritized portfolio of EC&EE measures.

Component 4: EC&EE Capacity Building in Public Sector Buildings

Outcome 4: Enhanced awareness and knowledge on the cost-effective application of EC&EE technologies in public sector buildings.

This project component will address the barriers related to the low level of technical capacity and awareness within the public sector buildings in the application and practice of EC&EE technologies and techniques. The achievement of enhanced awareness and knowledge on the cost-effective application of EC&EE technologies in public sector buildings is the outcome from the outputs that will be delivered under this project component. The major outputs are the following: (a) Completed capacity needs assessment in the areas of sustainable energy and EC&EE of the public sector buildings, as well as the results of the evaluation of impacts of previous and ongoing capacity development activities on these subjects; (b) Completed designs of appropriate capacity development programs and associated documentation for key stakeholder groups in the public sector buildings; (c) Conducted, evaluated (impacts and recommendations) and documented capacity development programs for the key stakeholder groups; and, (d) Operational project website for the promotion and dissemination of knowledge within the country and to other PICs/SIDS on the successful design and implementation of the applications of EC&EE technologies and techniques in public sector buildings in FSM.

Output 4.1: Completed capacity needs assessment in the areas of sustainable energy and EC&EE of the FSM buildings sector. This is the documented completed evaluation of the capacity development needs of the stakeholders in the FSM buildings sector, particularly in the public sector buildings. The following activities are intended to deliver this output:

Activity	Description
4.1.1: Setting the baseline level of knowledge of the various stakeholders in the FSM buildings sector.	This involves the assessment of the key buildings sector related stakeholder groups of their: (a) baseline level of knowledge of sustainable energy and EC&EE; and, (B) interest in enhanced capacity on these fields. The assessment will be done in plenary through stakeholder consultation workshops.

4.1.2: Conduct of capacity needs assessment.	This involves a detailed evaluation of the current levels of understanding and knowledge about EC&EE of men and women in the public sector buildings in FSM. The evaluation will cover both national and state-owned and operated public sector buildings. People in the local buildings industry will be consulted to ascertain the level of knowledge of the public sector buildings about the EC&EE technologies that are available, a for the public sector buildings sector and the buildings industry's level of knowledge and expertise (or level of service provision) about such technologies. The financial sector will also be consulted to determine their level of understanding and interest in the benefits of EC&EE initiatives for the public sector buildings and the buildings sector. The findings/results and recommendations of the capacity needs assessment will be documented and will be used in the development of the relevant capacity building program.

GEF support is required for technical assistance in assessing capacity needs of the stakeholders in the buildings sector, particularly in the public sector buildings.

Output 4.2: Completed designs of appropriate capacity development programs and associated training materials for key stakeholder groups. This is the designed program, consisting of training courses, workshops, study visits, etc. that will be implemented, for improving the capacity of stakeholders in the buildings sector, particularly those in public sector buildings. The following activities are intended to deliver this output:

Activity	Description
4.2.1: Design of capacity development program for the FSM buildings sector.	This involves the design of a capacity development program for technical people (men and women) in FSM that is based on the recommendations of the capacity needs assessment (Output 4.1). It will comprise of training courses for DRD and state government/utility officials and technical personnel in the various aspects of EC&EE program design, development, planning, financing, implementation, monitoring and evaluation. The number and types of training courses that will be designed will depend on the results and recommendations of the capacity needs assessment. The capacity development program will also include 2 study tours[19] in other countries where there are ongoing successful EC&EE programs for public sector buildings.
4.2.2: Design and preparation of training materials.	Based on the designed capacity development program, the required training materials will be prepared. The training materials will be designed specifically for the targeted beneficiary stakeholders.

GEF support is required for technical assistance in designing of capacity development program. . . the design and production training materials.

Output 4.3: Conducted, evaluated (impacts and recommendations) and documented capacity development programs for the key stakeholder groups. These are the completed capacity

[19] One study tour (5 days) for DE/DRD and state utilities (5 pax); and another study tour (5 days) for selected public sector building technical personnel (5 pax). For both study tours, qualified men and women will be selected to participate.

development activities for the DRD, state utility and public sector building personnel to enhance their capabilities in the promotion and implementation of EC&EE initiatives. The following activities are intended to deliver this output:

Activity	Description
4.3.1: Conduct of the planned training courses.	This involves the implementation of the planned EC&EE training program as per the designed capacity development program (Output 4.2). . . The in-country training program (for men and women) will consist of classroom instructions, and on-the-job training. For the in-country training, the trainees will be given assignments after each session, which they will complete after returning home and bring to the subsequent session. In the end, there will be assessments to determine whether they have completed the training courses satisfactorily.
4.3.2: Post-Evaluation of the capacity development program.	This involves the design of a specially designed post-training survey to be conducted a year after the completion of the capacity development program. This is also for determining the impacts of the training courses and for designing follow-up training programs that will be carried out regularly by DRD and the state governments after the MPSBEE Project.

GEF support is required for the incremental technical and financial assistance in the design and conduct of the capacity development programs, as well as their evaluation.

Output 4.4: Operational project website for the promotion and dissemination of knowledge within FSM and to other PICs/SIDS on building energy efficiency, and successful design, implementation and cost-effectiveness of the applications of EC&EE technologies and techniques in public sector buildings. This is the platform for the sharing of information on building EC&EE technology applications within and outside the country. The following activities are intended to deliver this output:

Activity	Description
4.4.1: Conduct of capacity and information needs assessments of the FSM buildings sector.	This involves the evaluation of the current stock of information (i.e., type, quality and quantity) about building EC&EE technologies available in the buildings sector of FSM, including in the state utilities. A comprehensive report about the results and recommendations of the assessments will be prepared for purposes of identifying the sort of technical and information support that each state governments should be provided.
4.4.2: Development, establishment and operationalization of a MSPBEE website for buildings energy technology information sharing.	This involves the design and development of a system, basically a MPSBEE project website for building EC&EE technology information sharing, including the management and operational arrangements for the system. This system will enable sharing of latest EC&EE technology and market development information among public sector building managers/administrators, building practitioners in FSM and building materials and building energy technology developers and suppliers in other countries.
4.4.3: Sustaining and strengthening the MPSBEE information sharing service.	This involves the organization and conduct of workshops to strengthen technical and information sharing among the public sector building managers and administrators, building practitioners in the buildings sector in FSM and in other countries. These will be on the: (a) Review of the operation, performance and impacts of the

	MPSBEE information sharing service to identify potential improvements; and, (b) Sustenance and improvement of the utilization and maintenance of the MPSBEE information sharing service.

GEF support is required for the incremental technical and financial assistance in the design, development, establishment and initial operation of the MPSBEE information sharing service, including in the purchase and set up the computer hardware/software for the operation of the system.

ii. Partnerships:

The key partners for the proposed project and how the proposed MPSBEE project will work in coordination and in partnership with them are described below.

Department of Resources and Development (DRD) - This GOFSM department is the designated UNDP implementing partner (development and implementation) for this project. It will coordinate and liaise with all other pertinent national and state government agencies that will be involved in all aspects of the barrier removal activities of the project such as in policy formulation and enforcement. The DRD will also be responsible in facilitating and coordinating the design and implementation of the demo EE technology applications in selected public sector buildings. It will also be responsible in the regular monitoring of the progress of the project activities (in terms of delivery of outputs and utilization of budget funds) to manage the whole project implementation.

State Utilities – These are responsible for coordinating and co-funding the design and implementation of the demo EE technology applications in selected public sector buildings in each state. It will also be responsible in the regular monitoring of the progress of the project activities under its purview. It will coordinate and liaise with all other relevant provincial government agencies that will be involved in specific aspects of the barrier removal activities of the project such as in policy formulation and enforcement. It will also be responsible for facilitating the co-funding of specific activities of the project that will be carried out in selected public sector buildings in each state. The four state utilities have State Energy Action Plans that are now being completed. The state utilities will be key partners in each state to assist in pubic building energy data gathering and reporting, and in providing technical support to the MPSBEE project in each state.

World Bank - The WB Energy Sector Development Project (ESDP) has been implemented since 2014 and has a planned July 2019 closing date. It's primary focus is on enhanced electricity supply and enhanced power sector planning in the four state power utilities in FSM. The MPSBEE project team will coordinate and work in synergy with the ESDP project team in several technical activities on the planning and implementation of EC&EE measures, as well as in the EC&EE capacity development and awareness raising activities. The same will also be done with a new WB funded project - FSM Sustainable Energy Sector Development & Access Project (SEDAP), that is being developed with a focus to improve the energy sector's performance and access rate.

European Union - The ongoing EU- ACSE project administered by SPC also involve the promotion and application of EE appliance and equipment in buildings in the national capital complex in Pohnpei. Included in this project is the conduct of energy audits and EE upgrades for some schools. The MPSBEE project team will coordinate with project in the implementation of similar EE upgrade activities in buildings. The project team will also collaborate with the EU EDF-11 project team in the implementation of EE Awareness activities.

The establishment of the coordination and reporting arrangements with the relevant agencies and ongoing projects/programs will be carried out during the project to help in identifying the relevant activities that will build on their respective achievements. The UNDP Pacific Office 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.

iii. Stakeholder engagement*:*

The main stakeholder of this project is the Division of Energy–Department of Resources and Development (DE/DRD). The list of key project stakeholders is shown below.

Stakeholder	Roles and Responsibilities in Project Implementation
Department of Resources and Development (DRD)	Responsible for communication and coordination with the OEEM (GEF OFP) and UNDP on the project's development, design, operation, reporting, liaison for other government agencies, liaison with public sector buildings, providing the MPSBEE project with its NPD, providing suitable office space and support services for the PMO, and providing the part time office administration and finance functions.
National and State Level GOFSM Departments (in particular, Health, Education)	Owners and operators of public sector buildings for EC&EE technology demonstrations in hospitals and school buildings. Provision of assistance in the co-funding and implementation and management of demonstrations for the promotion of EC&EE technology applications in hospital and school buildings.
State Power Utilities (CPUC, KUA, PUC and YSPAB)	Provision of advice and assistance in the identification and design of demonstrations for building EC&EE technology applications.
FSM Energy Group	Provision of inputs and advice on the: (1) evaluation of proposed EC&EE policies; (2) design and implementation plans of the EC&EE demos; and (3) capacity development needs in the energy sector on EC&EE and low carbon development in the buildings sector in FSM.
Private Sector Entities (esp. hardware suppliers, commercial buildings, engineering firms)	Provision of assistance in the identification and analysis of barriers to the application of EC&EE technologies (RE/EE) in buildings, particularly public sector buildings. Provision of equipment and related warranties and operate service contracts for equipment maintenance.
Management/Administration of designated pilot public sector buildings.	Provision of advice and co-funding in design and implementation of the technical assistance and capacity development activities of the project.

iv. Mainstreaming gender:

As in other UNDP-GEF projects, gender equality is one of the important aspects of this proposed project, particularly in the context of capacity development, and professional enhancement in EC&EE technology applications. The detailed design of this proposed project, starting with the logical framework analysis (LFA) covered all relevant issues that pose as barriers to improved energy utilization efficiency and energy conservation in public sector buildings in FSM.

There were no significant specific gender-related issues identified by the project proponents and stakeholders during the project design stage. The project beneficiaries are expected to be more than

half women as state hospital and public administration professional and support staff in FSM are at least half women. Based on experience in the implementation of public sector EE/RE projects in other countries in the Pacific region, other aspects where women are key beneficiaries will also be identified as the project is implemented. The following gender-related consultations and assessments on the: (1) promotion and implementation of EC&EE technology designs and applications in buildings; (2) opportunities to enhance the role and influence of women in the deployment of EC&EE technologies; and, (3) the development of gender-sensitive policies in the buildings sector in FSM, will be considered during the project inception phase. Nonetheless, considering the past experiences and lessons learned from RE/EE projects in the region, each project component includes activities that are meant to improve gender balance and women's role in the design and implementation of EC&EE measures, and deployment of EC&EE technologies in the public sector buildings in the country. The important contributions of professional and technically-capable women in the management and implementation of such measures was taken account of in the project's design. The implementation of the project activities will also consider the potentials for the involvement of women working in both management and technical departments of the relevant national and state agencies/institutions who can play important roles in the design, development and implementation of this GEF project.

v. South-South and Triangular Cooperation (SSTrC):

Continuing the excellent experience and approach being carried out in the Pacific region on south-south exchanges, the project activities' rationale is built on the premise of information sharing in the region and peer to peer exchanges and mentoring. For example, south-south activities in building EC&EE development in recent years have included south-south exchanges, in order to create a two-way learning process.

The MPSBEE Project provides an opportunity for both partners to pursue and promote sharing of knowledge among developing countries, particularly SIDS. The SSTrC features of the project shall include exchange and sharing of information between FSM and other SIDS on policies and strategies, regulations, institutional arrangements, financing, and sourcing for the application of EC&EE technologies in public sector buildings. The project will promote FSM's sharing of its experience and knowledge base that will be further developed through the MPSBEE Project with other SIDS, particularly in the Pacific region. The best practices and lessons learned from the project will be shared with other countries through the building energy information sharing system that will be developed under the project.

V. FEASIBILITY

Cost Efficiency & Effectiveness

Cost efficiency and effectiveness in the project's management will be achieved through adherence to the UNDP Programme and Operations Policies and Procedures (POPP) and reviewed regularly through the governance mechanism of the United Nations Development Assistance Framework (UNDAF) in the Pacific Annual Review and the Project Board. In addition, there are specific measures for ensuring cost-efficient use of resources through using a portfolio management approach. This approach by the UNDP Pacific Office in Fiji leverages activities and partnerships among a number initiatives and projects in the region.

As with UNDP's other work on EC&EE in the region, the project is designed to deliver maximum project results with the available resources through ensuring the design is based on good practices and lessons learned, that activities are specific and clearly linked to the expected outputs, and that there is a sound

results management and monitoring framework in place with indicators linked to the Theory of Change. The project aims to balance cost efficient implementation and best value for money with quality delivery and effectiveness of activities. For its capacity building activities, the project will utilize outside experts as well as in-house experts from within UNDP and UN sister organizations, and in-kind contributions from stakeholders.

Risk Management*:*

During the project implementation, the risks that might prevent the project objectives from being achieved are listed as follows (as updated from the PIF):

Project Risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
1. Approval and enforcement of recommended policies and guidelines are delayed by relevant agencies.	Organisational	I – Low P- Low	To minimize this risk, the project has consulted widely in the design phase and taken on board the feedback that an EE building code would face major constraints, so a lower risk and just as effective in practice buildings EE guidelines approach is being used instead. The impact of any delays will be low as few buildings are scheduled to be built that could be affected by the EE guidelines. The project will work very closely with relevant GOFSM authorities on the adoption of the recommended policies and guidelines. UNDP will assist as necessary. In case of significant delays, a consensus will be taken among the project stakeholders about the action steps to be taken to expedite the approval and enforcement of the recommended policies and guidelines. The designated implementing partner (DE/DRD) will facilitate this through the twice-yearly Project Advisory Board (PAB) meetings, or special PAB meetings if required.	Project Team	TBC once project starts
2. Established building energy management systems (including building EE guidelines) are not supported by public sector buildings	Organisational	I – Medium P- Medium	To minimize this risk, promotional / advocacy work and provision of technical assistance in regards to the building energy monitoring and reporting system, and building energy audit system will be carried out with the DE/DRD, and possibly with the DTCI. In case public sector buildings become slow in their submission of periodic energy consumption reports) during the project implementation, follow-up discussions between DE/DRD, relevant state government agencies and the building administrators will be carried out to resolve the issues.	Project Team	TBC once project starts
3. Not fully implemented project activities due to lack of local capacity.	Organisational	I – Medium P- Medium	To minimize this risk, adequate project design technical support and capacity development will be provided by the EEA/CTA to DE/DRD and the relevant partner agencies in each state to support the efficient design and implementation of the project components	Project Team	TBC once project starts

			and to ensure that sustainable systems are established for the operation and maintenance of the EE technologies provided under the project. Additional capacity development activities for DE/DRD and others will be provided as required. In case the local capacity remains inadequate, with the agreement of the DE/DRD, The UNDP Pacific Office (Fiji) 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 as required.		
4. Selected energy audited public sector buildings are not able to implement recommended EC&EE projects		I – Medium P- Medium	To minimize this risk, vetting of the recommended EC&EE projects in selected public sector buildings was done in the project design stage. The detailed design of the EE demo projects shall be very carefully done to facilitate sustainable schemes to be showcased. In case, during the design of selected demos, there are indications that the selection may not be optimal (e.g., significant equipment price increases, initial design assumptions no longer apply, etc.), alternative schemes will be recommended for consideration, and appropriate adjustments will be done considering the factors that made the initial selections no longer viable.	Project Team	TBC once project starts
5. Committed co-financing is not available at the scheduled time.	Financi al	I – Low P- Low	To avert this, the GOFSM through DE/DRD has accepted full responsibility for mobilizing the co-funding which has been confirmed and secured. The project team will closely monitor and ensure the timely availability of co-financing from project partners and FSM co- financers during project implementation. Reallocation of budgets will be done in case there are co-financing delays or shortfalls. This is to support the implementation of activities affected by any delays in the availability of co-financing. Potential modifications of activities will be done to allow delivery of alternative outputs that still contribute to the achievement of the relevant outcomes, in the case of committed co-financing not being forthcoming. Follow-up meetings with co-financer agencies will be conducted by the DE/DRD, or alternatively finding and negotiating with other potential co- financers will be done.	Project Team	TBC once project starts
6. Reduced support to the project from national and/or state governments.		I – Low P- Low	The necessary support of both national and state government agencies (in particular DE/DRD, and state hospitals and utilities) will be assessed during PAB meetings, and as needed appropriate actions will be taken to ensure ongoing national and state	Project Team	TBC once project starts

			government ownership and support of the project. UNDP executive management intervention may be required, if necessary. PAB meetings and special meetings with the DE/DRD and OEEM will be conducted in case this is happening. These meetings will be to discuss appropriate courses of action to take to sustain the national and state governments' support to the project and carry out such plans accordingly.		
7. Reduced interest to carry out EC&EE in the buildings sector due to relatively low petroleum fuel prices.		I – Low P- Low	The project's awareness raising interventions will sustain the overall interest of the country to achieve energy efficiency in the energy end- use sectors even if petroleum fuel prices are relatively low. In case petroleum fuel prices go down significantly, the project will emphasize the need to take advantage of the energy, environment and economic benefits of EC&EE, and the country's obligation towards the realization of its climate change.	Project Team	TBC once project starts

Social and environmental safeguards*:*

The MPSBEE project is expected to have positive short and long term benefits for the country's overall development and growth by improving the efficiency of energy use in FSM public sector buildings. The project is not expected to have any requirement for land, lead to any involuntary resettlement, have any negative gender issues or any other aspect that may trigger a social safeguard concern. The MPSBEE project will provide environmental benefits through improvements in energy efficiency.

Sustainability and Scaling Up:

Sustainability: The project includes the establishment of the required enabling conditions that will make possible supportive actions for the promotion and application of EC&EE technologies in the buildings sector, particularly the public sector buildings. Such conditions will facilitate the sustainability of the policy instruments, guidelines, and institutional mechanisms to make possible increased investments in EC&EE technologies and contribute to the achievement of the country's EE target. Since the project is linked and is complementing and supplementing the existing national energy policy and state energy action plans, the sustainability of project outputs will be sustained. The state energy plans are implemented by the state governments and state utilities. The plans are reviewed and adjusted every year. Project outputs like the building energy standards and guidelines will be institutionalized and used as basis for the EC&EE projects of the states. Outputs like the established energy monitoring and reporting system (EMRS) and the building energy audit system will be operationalized during and beyond the project end.

Potential for Scaling-up: The rather energy inefficient operation of buildings in FSM, particularly in public sector buildings, presents the best opportunity to scale up and replicate the EC&EE technologies and techniques that will be demonstrated under this project. These demonstrations will be replicated and scaled-up to achieve the envisioned magnitude of GHG reductions from the MPSBEE project. There is a significant potential for energy savings in public sector buildings, and whatever is successfully demonstrated in a national or state government building can then be replicated in remaining public sector buildings as well as in private sector buildings. Under Component 3 of the project, an approved portfolio of follow-up EC&EE projects in the buildings sector will be produced, and this would most likely include those that are scale-up and replications 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 facilitating the scaling up of the project interventions in other PICs.

VI. PROJECT RESULTS FRAMEWORK

MPSBEE Project Planning Matrix

This project will contribute to the following Sustainable Development Goal (s): SDG7 - Ensure access to affordable, reliable, sustainable and modern energy for all.
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: UN Pacific Strategy 2018-2022: Outcome 1 – Climate Change, Disaster Resilience and Environmental Protection. UNDP Sub-Regional Programme Document 2018-2022: Outcome 1 – By year 2022, people and ecosystems in the Pacific are more resilient to the impacts of climate change, climate variability and disasters; and environmental protection is strengthened. . .
This project will be linked to the following output of the UNDP Strategic Plan: *1.5.1 Solutions adopted to achieve universal access to clean, affordable and sustainable energy.*

Project Strategy	Objectively Verifiable Indicators				Means of Gauging Success	Critical Assumptions
	Indicator	Baseline	Mid-term Target	End-of-Project Target		
GOAL: Improved specific energy consumption and reduced GHG emissions in the buildings sector of the country.	* Specific energy consumption in the buildings sector, kWh/m2/yr. * Cumulative incremental GHG emission reduction from the buildings sector, tons CO_2e	• 150 • 0	• 145 • 2,160	• 140 • 3,974	* Annual energy supply reports submitted by the State Utilities and ED/DRD * Project M&E reports	Continuous commitment, support and active participation of the national and state governments in the EC&EE efforts in the buildings sector.
OBJECTIVE: Improved application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation & maintenance of public sector buildings.	* Cumulative incremental fossil fuel savings due to sustainable energy efficiency and low carbon interventions implemented, toe diesel * No. of new jobs created in the application of EC&EE	• 0 • 0	• 5,664 • 4	• 1,042.1 • 4	* Annual energy supply and consumption reports submitted by the State Utilities and ED/DRD * Project M&E reports	Full and continuous commitment and support of the state governments in the implementation of EC&EE policies in the buildings sector.

	technologies and techniques in the country's building sector					
Component 1. EC&EE Policies & Regulations Improvements in Public Sector Buildings						
Outcome 1: Enforcement of policies and guidance on the energy efficient and energy conserving design, retrofit, operation and maintenance of public sector buildings.	* No. of approved and followed building EC&EE policies, and associated guidance and implementing rules and regulations. * No. of public sector buildings that are compliant to energy standards stipulated in building EC&EE policies, and associated guidance and implementing rules and regulations.	• 0 • 0	• 3 • 4	• 3 • 14	* Documents on building EC&EE policies, appropriate EE technologies and approaches, and implementation and O&M guidance documents. * Project M&E and activity reports * Annual reports from ED/DRD and state utilities	Full and continuous commitment and support of the state governments in the implementation of EC&EE policies in the buildings sector.
Component 2. Energy Performance Monitoring and Evaluation of Public Sector Buildings						
Outcome 2: Enhanced management and monitoring of the energy performance of public sector buildings.	* No. of buildings reviewed under established and operational energy audit system for comprehensive best commercially available EE equipment EE demos and replication renovations * No. of state/national level quarterly reports on public sector buildings energy use from state power utilities and consumption reports as per the EMRS. *No of building/sectoral level ISO50001 style annual reports	• 0 • 0 • 0	• 12 • 4 • 8	• 30 • 4 • 14	* Completed reports on comprehensive best commercially available equipment EE renovations * Annual Reports on the EMRS * Evaluation reports on energy efficiency performance of public sector buildings * Project M&E and activity reports	Continuous commitment and support by public sector buildings with the building EC&EE system even after the MPSBEE project completion.

	submitted to the FSM Energy Group[20]					
Component 3. EC&EE Improvements in Public Sector Buildings						
Outcome 3: Increased understanding of the viability and benefits of EC&EE technologies applications in public sector buildings and facilities.	* No. of public sector building EE technology application projects designed and financed for implementation as demonstrations. * No. of EC&EE projects implemented in public sector buildings influenced by the results and outcomes of the implemented technology application demonstrations.	• 0 • 0	• 8 • 4	• 14 • 16	* Building EC&EE demo project profiles * Project documents of replication EC&EE projects * Performance and evaluation reports of the building EC&EE demo projects * Project M&E and activity reports	As per schedule implementation and completion of demo projects State government and private sector fully support and commit to the replication of successful results of the demo projects.
Component 4. EC&EE Capacity Building in Public Sector Buildings						
Outcome 4: Enhanced awareness and knowledge on the cost-effective application of EC&EE technologies in public sector buildings.	* No. of trained public sector building personnel that can ably manage the design, implement and evaluate of building EC&EE application projects. * No. of public sector buildings with established energy management programs with implemented EC&EE projects.	• 0 • 0	• 6 • 8	• 10 • 32	* Certifications of public sector building personnel for completion of training courses * Reports on energy management programs and the planned and implemented EC&EE projects of public sector buildings * Project M&E and activity reports	Continuous commitment and support on building EC&EE applications by the national and state governments.

[20] On annual energy supply and consumption, EE measures implemented and planned EE measures for the next year

VII. . . MONITORING AND EVALUATION (M&E) PLAN

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. The project monitoring and evaluation plan will also facilitate learning and ensure knowledge is shared and widely disseminated to support the scaling up and replication of project results.

Project-level monitoring and evaluation will be carried out in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be carried out in accordance with the GEF M&E policy and other relevant GEF policies[21].

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.[22]

M&E Oversight and monitoring responsibilities:

Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Advisory Board (the Project Board), the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Manager will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc.) occur on a regular basis.

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

[21] See https://www.thegef.org/gef/policies_guidelines
[22] See https://www.thegef.org/gef/gef_agencies

Project Implementing Partner: The Implementing Partner is responsible for providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is carried out by national institutes and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place per the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and PAB within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is carried out annually; that annual targets at the output level are developed and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure to support ex-post evaluations carried out by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

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

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst other matters:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;
f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and

g) Plan and schedule PAB meetings and finalize the first-year annual work plan.

The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser and will be approved by the PAB.

GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

The PIR submitted to the GEF will be shared with the PAB. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The GEF Tracking Tool(s) as per Annex D (provided separately) will be used to monitor global environmental benefit results. The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted as Annex D to this project document – will be updated by the Project Manager/Team (not the evaluation consultants hired to undertake the *MTR* or the TE) and shared with *the mid-term review consultants* and terminal evaluation consultants before the required *review/*evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed *Mid-term Review report* and Terminal Evaluation report.

Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser and approved by the PAB.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project

team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser and will be approved by the PAB. The TE report will be publicly available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the PAB during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up. . .

Mandatory GEF M&E Requirements and M&E Budget:

GEF M&E requirements	Primary responsibility	Indicative charged to the Project Budget[23] (US$)		Time frame
		GEF grant	Co-financing	
Inception Meeting/Workshop	UNDP Country Office	5,000	10,000[24]	2 months from project signature
Inception Report	Project Manager	0	5,000	3 months from project signature
Standard UNDP monitoring and reporting as outlined in the UNDP POPP	UNDP CO	0	0	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager	0	16,000	Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP CO and UNDP-GEF team	0	0	Annually
NIM Audit as per UNDP audit policies	UNDP CO	6,000	16,000	Annually

[23] Excluding project team staff time and UNDP staff time and travel expenses.
[24] With assistance of co-funded EE/CTA

GEF M&E requirements	Primary responsibility	Indicative charged to the Project Budget[23] (US$)		Time frame
		GEF grant	Co-financing	
Lessons learned and knowledge generation	Project Manager; relevant contractors and consultants	0	15,000[25]	Annually
Monitoring of environmental and social risks, and corresponding management plans	Project Manager UNDP CO	3,000	20,000	Annually
Addressing environmental and social grievances	Project Manager UNDP CO, UNDP BPPS as needed	0	5,000	As required
Project Advisory Board (PAB) meetings	PAB UNDP CO Project Manager	0	15,000	Twice yearly
Supervision missions	UNDP CO	0[26]	10,000	Annually
Oversight missions	UNDP-GEF team	0	10,000	Annually
Knowledge management	Project Manager	0	10,000	Ongoing
GEF Secretariat learning missions/site visits	UNDP CO, Project Manager and UNDP-GEF team	0	10,000	As required
Mid-term GEF Tracking Tool	Project Manager, MTR consultants	1,000	3,000	Project mid-term
Independent Mid-term Review (MTR) and management response	UNDP CO, PMO, and UNDP-GEF team	19,500	4,875	18 months from Inception Workshop
Terminal GEF Tracking Tool	Project Manager, TE consultants	1,000	3,000	33 months from Inception Workshop
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP CO, PMO, and UNDP-GEF team	19,500	4,875	33 months from Inception Workshop
Translation of MTR and TE reports into English	UNDP Country Office	N/A	N/A	
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		**55,000** *(3% of GEF budget)*	**157,750**	

[25] To be carried out by co-funded EEA/CTA

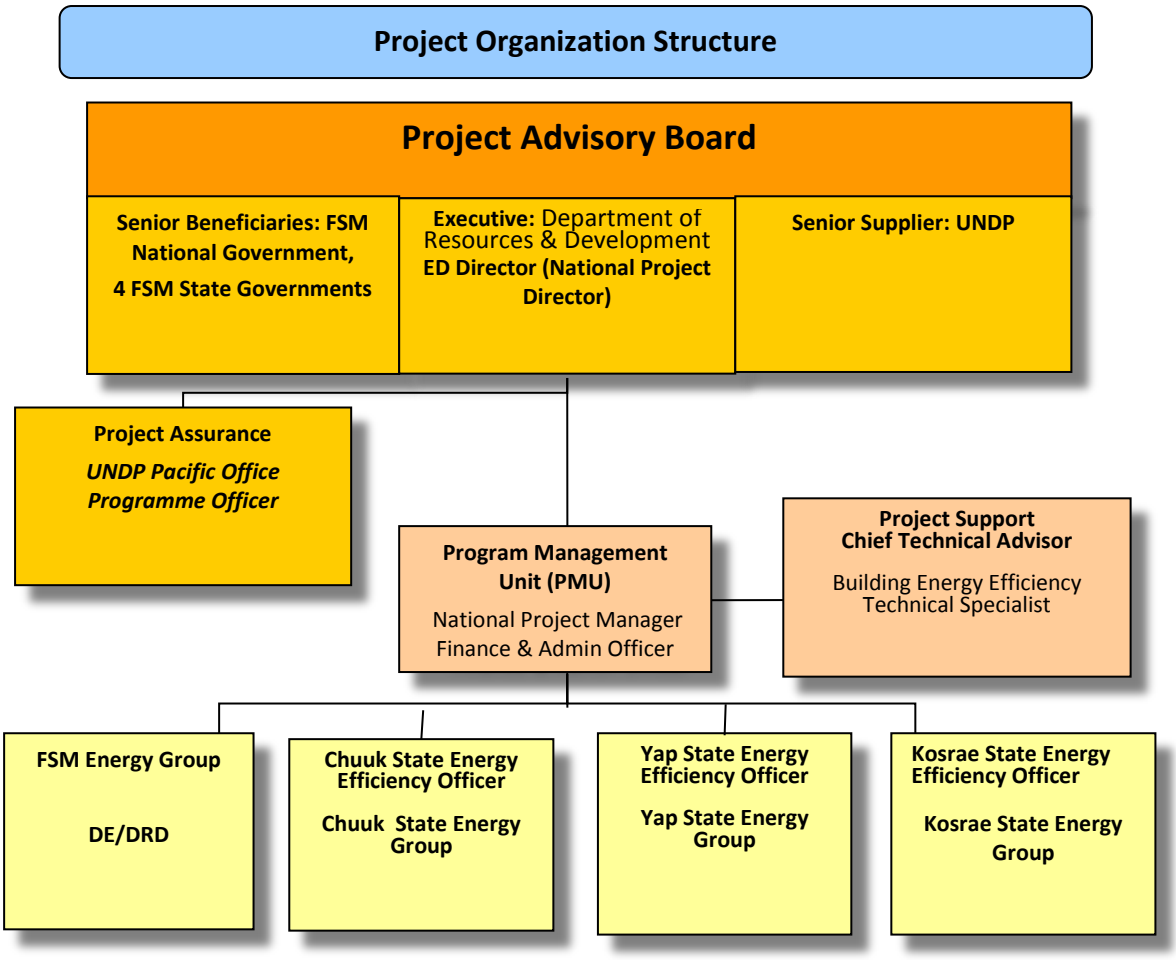
[26] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism: As practiced in all UNDP/GEF-supported projects, UNDP always endeavours to seek adaptive management approaches in the implementation of projects. Based on the partnerships defined and firmed up during the project development, the management arrangements have always been anchored on co-operation and mutual sharing of benefits where accountability and responsibility for implementing the project and achieving the project outputs.

The project will be implemented following UNDP's national implementation modality, per the Standard Basis Assistance Agreement between UNDP and the Government of FSM, and the Country Programme.

- The **Implementing Partner** for this project is the FSM Department of Resources & Development (Energy Division). The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.
- The project organization structure is as follows:



At the strategic level, a Project Advisory Board (PAB) will provide strategic guidance and oversee operational aspects for the project. The Project Management Unit (PMU) will constitute the core team for the project's implementation. The PMU will supervise, co-ordinate and provide the integrated coherence of all project activities. At the state level, there will be a part-time Energy Efficiency Officers

to co-ordinate and report on activities. More detailed descriptions follow in subsequent sections. A brief description of the different levels of project implementation is given below.

Project Advisory Board (PAB): The PAB is an oversight and governance focused high-level group that will be constituted by organisations that are core supporters and/or significant co-financiers of the project. The National Project Director will chair the PAB meetings. The Board will meet at least once a year for a two-to-four hour duration review meeting focusing on the Annual Project Report/Project Implementation Report (APR/PIR) for the last year, and the review and formal endorsement of the Annual Work Plan (AWP) for the upcoming year of project operations.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Advisory Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Review combined delivery reports prior to certification by the implementing partner;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

Project Management Unit (PMU): The PMU is the core team for managing the operations of the project. The PMU will be headed by a high-level part-time primarily oversight focused National Project Director (NPD). The PMU will also comprise a full-time operational level National Project Manager (NPM), and a Chief Technical Advisor. The PMU will hire technical experts for inputs on particular

technical interventions and sectors as required. In particular, a Building Energy Efficiency Technical Specialist will be recruited for the project to work on a part time basis. The PMU will also be supported by three part time State Energy Efficiency Officers.

FSM Energy Group – This oversees and coordinates activities in the energy sector in FSM. This is comprised of members of key departments in the GOFSM[27] and interacts closely with the GOFSM, the Regional Energy Committee (REC), Association of Micronesian Utilities (AMU), and the four State Energy Groups.

Project Assurance: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of project execution.

Project extensions: The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

MONITORING FRAMEWORK AND EVALUATION

The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Project Start:

A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first-year annual work plan.

The Inception Workshop should address several key issues including:

1. Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures,

[27] This includes Department of Resources & Development (DRD), Office Environment and Emergency Management (OEEM), FSM Office of Statistics, Budget & Economic Management, Overseas Development Assistance and Compact Management (SBOC), Department of Transportation, Communication and Infrastructure, State Representative from each State Energy Group, Representative from the Association of Micronesian Utilities (AMU), Representative from the College of Micronesia (COM-FSM), and the Government Energy Advisor(s).

including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.

2. Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
3. Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
4. Discuss financial reporting procedures and obligations, and arrangements for annual audit.
5. Plan and schedule PAB meetings. Roles and responsibilities of all project organization structures should be clarified, and meetings planned. The first PAB meeting should be held within the first 12 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly:

The following are monitoring and reporting activities that must be carried out every quarter:

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical based on their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually:

Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PAB may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and PAB members.

Mid-term of project cycle:

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (May-July 2020). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course corrections if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

End of Project:

An independent Final Evaluation will take place three months prior to the final PAB meeting and will be carried out in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Communications and visibility requirements:

Full compliance is required with UNDP's Branding Guidelines. These can be accessed at http://intra.undp.org/coa/branding.shtml, and specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects need to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: http://www.thegef.org/gef/GEF logo. The UNDP logo can be accessed at http://intra.undp.org/coa/branding.shtml.

Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08 Branding the GEF%20final 0.pdf. Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

IX. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is USD 5,276,484. This is financed through a GEF grant of USD 1,776,484, and USD 3,500,000 in co-financing. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

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

Co-financing source	Co-financing type	Co-financing amount, US$	Planned Activities/Outputs	Risks	Risk Mitigation Measures
FSM National Government - Energy Division - Department of Resources and Development (DE/DRD)	In-Kind Cash	200,000 450,000	Hosting PMU; hosting EEA/CTA, NPM, and BEES; providing part-time PMU staff, hosting PAB meetings.	DE/DRD personnel changes or changing of DE/DRD priorities	UNDP to work closely with wider GOFSM through GEF OFP to ensure ongoing government support
DRD (Energy Sector Development Project)	Cash	600,000	Fund part-time Energy Efficiency Advisor (EEA), who will serve as MPSBEE CTA	EEA/CTA chosen with skills/expertise not suitably aligned to project	UNDP to work closely with DE/DRD re EEA/CTA role
DRD (EU ACSE Project)	Cash	300,000	Support for energy audits	Lack of action by project implementer	DE/DRD to monitor and take corrective action as required
DRD (EU EDF-11 EE Awareness Campaign)	Cash	100,000	Support for demo and replication project results' monitoring, analysis, documentation and dissemination	Lack of coordination of funds expended for other purposes	DE/DRD to monitor and take corrective action as required
4 State Governments and Utilities (Chuuk, Kosrae, Pohnpei and Yap)	Cash In-Kind	600,000 200,000	Provide energy data, provide technicians to assist in energy audit electrical and energy end-use monitoring, provide PMO space and part-time State EE Officers	State Gov'ts/ Utilities do not fully support the project	DE/DRD and UNDP closely follow project progress and take remedial action as required through FSM Energy Group
4 State Hospitals	Cash	1,000,000[28]	Financing of EE upgrades in hospitals	Hospitals lack funds or do not give EE priority	DE/DRD to monitor and take corrective action as required
UNDP	Cash	50,000	Project management	NA	NA
TOTAL		3,500,000			

[28] This is part of the collective state governments' cash (grant) co-financing to the MPSBEE Project.

UNDP Direct Project Services as requested by Government (if any): The UNDP, as GEF Agency for this project, will provide project management cycle services for the project as defined by the GEF Council. In addition, the Government of Federated States of Micronesia may request UNDP direct services for specific projects, according to its policies and convenience. The UNDP and Government of Federated States of Micronesia acknowledge and agree that those services are not mandatory, and will be provided only upon Government request. If requested, the services would follow the UNDP policies on the recovery of direct costs. These services (and their costs) are specified in the Letter of Agreement (Annex J). As is determined by the GEF Council requirements, these service costs will be assigned as Project Management Cost, duly identified in the project budget as Direct Project Costs. Eligible Direct Project Costs should not be charged as a flat percentage. They should be calculated on the basis of estimated actual or transaction-based costs and should be charged to the direct project costs account codes: "64397- Services to projects – CO staff" and "74596 – Services to projects – GOE for CO".

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board.

Should the following deviations occur, the Project Manager/CTA and UNDP Country Office will seek the approval of the BPPS/GEF team to ensure accurate reporting to the GEF:
a) Budget re-allocations among components in the project budget with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Audit: The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop. If the Implementing Partner is an UN Agency, the project will be audited according to that Agencies applicable audit policies.

Project Closure: Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. All costs incurred to close the project must be included in the project closure budget and reported as final project commitments presented to the Project Board during the final project review. The only costs a project may incur following the final project review are those included in the project closure budget.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. **Operational closure must happen with 3 months after posting the TE report to the UNDP ERC**. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Transfer or disposal of assets: In consultation with the Implementing Partner and other parties of the project, UNDP is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities

managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file[29]. The transfer should be done before Project Management Unit complete their assignments.

Financial completion (closure): The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed **within 6 months of operational closure or after the date of cancellation.** Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the BPPS/GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

Refund to GEF: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the BPPS/GEF Directorate in New York. No action is required by the UNDP Country Office on the actual refund from UNDP project to the GEF Trustee.

[29] See https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

X. TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan			
Atlas[30] Proposal or Award ID:	00112839	Atlas Primary Output Project ID:	00111186
Atlas Proposal or Award Title:	FSM Public Sector Building Energy Efficiency (MPSBEE)		
Atlas Business Unit	FIJ10		
Atlas Primary Output Project Title	FSM MPSBEE		
UNDP-GEF PIMS No.	5997		
Implementing Partner	*In FSM: Division of Energy – Department of Resources and Development*		

GEF Component / Atlas Activity	Responsible Agency	Source of Fund	Budget Code	Description	Annual Expenses				Budget Notes
					Year 1	Year 2	Year 3	Total	
Component 1: EC&EE Policies & Regulations Improvements in Public Sector Buildings									
Outcome 1: Enforcement of policies and guidance on the energy efficient and energy conserving design, retrofit, operation and maintenance of public sector buildings.	DE/DRD	GEF	71200	International Consultants	11,200	15,400	9,400	36,000	1
	DE/DRD	GEF	71300	National Consultants	7,800	8,100	6,100	22,000	2
	DE/DRD	GEF	71600	Travel	2,700	5,100	4,300	12,100	3
	DE/DRD	GEF	75700	Training/Workshop/Meetings	800	2,200	1,900	4,900	4
Component Total					**22,500**	**30,800**	**21,700**	**75,000**	
Component 2: Energy Performance Monitoring and Evaluation of Public Sector Buildings									
Outcome 2: Enhanced management and monitoring of the energy performance of public sector buildings.	DE/DRD	GEF	71200	International Consultants	23,000	34,800	17,200	75,000	5
	DE/DRD	GEF	71300	National Consultants	22,500	25,600	19,900	68,000	6
	DE/DRD	GEF	71600	Travel	3,300	4,000	2,300	9,600	7
	DE/DRD	GEF	72200	Equipment & Furniture	-	35,000	-	35,000	8
	DE/DRD	GEF	75700	Training/Workshop/Meetings	1,400	3,900	2,100	7,400	9
Component Total					**50,200**	**103,300**	**41,500**	**195,000**	
Component 3: EC&EE Improvements in Public Sector Buildings									
	DE/DRD	GEF	71200	International Consultants	9,400	33,500	32,100	75,000	10

[30] See separate guidance on how to enter the TBWP into Atlas

GEF Component / Atlas Activity	Responsible Agency	Source of Fund	Budget Code	Description	Annual Expenses				Budget Notes
					Year 1	Year 2	Year 3	Total	
Outcome 3: Increased Application of EC&EE technologies in public sector buildings and facilities.	DE/DRD	GEF	71300	National Consultants	5,000	50,000	50,000	105,000	11
	DE/DRD	GEF	71600	Travel	5,900	28,000	26,100	60,000	12
	DE/DRD	GEF	72200	Equipment & Furniture	-	603,000	201,000	804,000	13
	DE/DRD	GEF	74200	Printing & Reproduction Cost	2,800	6,100	11,100	20,000	14
	DE/DRD	GEF	72100	Sub-contract Services (Comp.)	20,000	40,000	40,000	100,000	15
	DE/DRD	GEF	75700	Training/Workshop/Meetings	4,900	10,300	14,800	30,000	16
	DE/DRD	GEF	72500	Office Supplies Cost	500	1,200	1,300	3,000	17
	DE/DRD	GEF	72400	Communications Cost	500	1,200	1,300	3,000	18
Component Total					**49,000**	**773,300**	**377,700**	**1,200,000**	
Component 4: EC&EE Capacity Building in Public Sector Buildings									
Outcome 4: Enhanced awareness and knowledge on the cost-effective application of EC&EE technologies in public sector buildings.	DE/DRD	GEF	71200	International Consultants	3,600	9,000	9,900	22,500	19
	DE/DRD	GEF	71300	National Consultants	2,750	10,500	13,000	26,250	20
	DE/DRD	GEF	71600	Travel	1,800	5,300	8,300	15,400	21
	DE/DRD	GEF	72200	Equipment & Furniture	-	7,600	2,400	10,000	22
	DE/DRD	GEF	74500	Miscellaneous Cost	335	-		335	23
	DE/DRD	GEF	75700	Training/Workshop/Meetings	1,100	29,200	40,200	70,500	24
Component Total					**9,585**	**61,600**	**73,800**	**144,985**	
ALL Components Total					**131,285**	**969,000**	**514,700**	**1,614,985**	
Project Management									
	DE/DRD	GEF	71200	International Consultants	-	19,500	19,500	39,000	25
	DE/DRD	GEF	71300	National Consultants	2,050	5,700	2,000	9,750	26
	DE/DRD	GEF	71400	Contractual Services (Individual)	26,400	26,400	26,400	79,200	27
	DE/DRD	GEF	71600	Travel	1,300	3,000	1,300	5,600	28
	DE/DRD	GEF	74200	Printing & Reproduction Cost	400	600	500	1,500	29
	DE/DRD	GEF	74100	Professional Services (Audit)	2,000	2,000	2,000	6,000	30
	DE/DRD	GEF	75700	Training/Workshop/Meetings	1,800	2,200	1,449	5,449	31
	PMO	GEF	74500	Direct Project Cost	5,000	5,000	5,000	15,000	32

GEF Component / Atlas Activity	Responsible Agency	Source of Fund	Budget Code	Description	Annual Expenses				Budget Notes
					Year 1	Year 2	Year 3	Total	
Project Management Total					**38,950**	**64,400**	**58,149**	**161,499**	
Overall GEF Budget					**170,235**	**1,033,400**	**572,849**	**1,776,484**	

Summary of Funds[31]

Fund Source	Project Cost			
	Year 1	Year 2	Year 3	Total
Global Environment Facility	170,235	1,033,400	572,849	1,776,484
United Nations Development Programme	15,000	15,000	20,000	50,000
FSM Department of Resources & Development	1,035,000	1,450,000	965,000	3,450,000
TOTAL	**1,220,235**	**2,498,400**	**1,557,849**	**5,276,484**

[31] Summary table should include all financing of all kinds: GEF financing, co-financing, cash, in-kind, etc.

Budget Notes:

No.	Explanation
1	IC Rate = US$ 750/day; 48 person-days
2	LC Rate = US$ 150/day; about 147 person-days (inclusive of 10 person-days for policy research abroad)
3	2 international round trips @ US$ 2000/round trip; Local Perdiem Rate = US$ 100/day; 20 days; US$ 800/domestic trip; 4 pax; Research abroad (1 pax) @ US$ 250/day per diem (abroad)
4	Total 2 workshop/training events @ US$2,500 per W/T
5	IC Rate = US$ 750/day; 100 person-days
6	LC Rate = US$ 150/day; about 453 person-days
7	1 international round trip @ US$ 2000/round trip; Local Perdiem Rate = US$ 100/day; 30 days; US$ 800/domestic trip; 2 pax
8	1 set of energy audit instruments/equipment @ US$ 25,000/set; 1 set of required hardware and software package for the EMRS & PSBED @ US$ 10,000/set
9	Total 3 workshop/training events @ US$2,500 per W/T
10	IC Rate = US$ 750/day; 100 person-days @ 10 days/demo
11	LC Rate = US$ 150/day; 700 person-days
12	3 international round trips @ US$ 2000/round trip; Local Perdiem Rate = US$ 100/day; 100 days; US$ 800/domestic trip; 5 pax
13	Allocated budget for incremental hardware for 10 EC&EE technology application demonstrations @ US$ 765k (demos), US$ 39k (replications)
14	US$ 100/print unit; 200 units (10/demo, 10/replication)
15	Sub-contract components: (1) Review of potential demo and replication EC&EE projects in FSM in buildings sector; (2) Conduct of pre-feasibility and comprehensive feasibility studies of demo projects; and, (3) Design and promotion of the EC&EE demo projects.
16	Total 12 workshop/training events @ US$2,500 per W/T
17	Estimated cost for office supplies related to work on financial barrier removal activities in Component 3.
18	Estimated communications cost for work on financial barrier removal activities in Component 3.
19	IC Rate = US$ 750/day; 30 person-days
20	LC Rate = US$ 150/day; 175 person-days
21	2 international round trips @ US$ 2000/round trip; Local Perdiem Rate = US$ 100/day; 30 days; US$ 800/domestic trip; 3 pax
22	Cost of the purchase and installation of required package of hardware and software for the Building Energy Information Sharing website @ US$10,000
23	Estimated sundries, extraordinary expenses particularly for the study tours and set-up of the EC&EE/LC management cum training centers.
24	Total 4 workshop/training events @ US$2,500 per W/T. Special study tours abroad for: (1) DE/DRD and state utilities (5 pax); and, (technical personnel from selected public sector buildings (5 pax). Cost includes learning institution fee; travel and DSA of trainees; and study tour organizer fees. Training @ 6 days; travel and DSA (US$ 250/day) @ 5 days; US$ 2,000/pax round trip air fare; Learning institution fee @ US$ 2,000/day. Study tour fee @ 15% total cost.
25	IC Rate = US$ 750/day; 52 person-days
26	LC Rate = US$ 150/day; 65 person-days
27	Finance/Admin Staff @ US$ 100/day (22 days/mo, 12 mos/yr, for 3 years)
28	1 international round trip @ US$ 2000/round trip; Local Perdiem Rate = US$ 100/day; 10 days; US$ 800/domestic trip; 2 pax

No.	Explanation
29	US$ 100/print unit; 15 units
30	Financial audit @ US$2,000/yr; 3 years
31	PMO led meetings
32	Agreed UNDP-Pacific Office and GOFSM (DE/DRD) direct project cost. See Annex J

XI. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Federated States of Micronesia and UNDP, signed on 2nd day of December 2008. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by Division of Energy, Department of Resources and Development (DE/DRD) ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XII. RISK MANAGEMENT

1. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:
   a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
   b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan.

2. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document.

3. The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

4. The Implementing Partner acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the Implementing Partner, and each of its responsible parties, their respective sub-recipients and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

(a) In the implementation of the activities under this Project Document, the Implementing Partner, and each of its sub-parties referred to above, shall comply with the standards of conduct set forth in the Secretary General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").

(b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, the Implementing Partner, and each of its sub-parties referred to above, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.

5. a) In the performance of the activities under this Project Document, the Implementing Partner shall (with respect to its own activities), and shall require from its sub-parties referred to in paragraph 4 (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, the Implementing Partner will and will require that such sub-parties will take all appropriate measures to:

   i. Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;

   ii. Offer employees and associated personnel training on prevention and response to SH and SEA, where the Implementing Partner and its sub-parties referred to in paragraph 4 have not put in place its own training regarding the prevention of SH and SEA, the Implementing Partner and its sub-parties may use the training material available at UNDP;

   iii. Report and monitor allegations of SH and SEA of which the Implementing Partner and its sub-parties referred to in paragraph 4 have been informed or have otherwise become aware, and status thereof;

   iv. Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and

   v. Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. The Implementing Partner shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties referred to in paragraph 4 with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the Implementing Partner shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

   b) The Implementing Partner shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the Implementing Partner, and each of its sub-parties

referred to in paragraph 4, to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

6. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

7. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

8. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

9. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

10. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

11. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes in accordance with UNDP's regulations, rules, policies and procedures. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

12. The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

13. UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail the Implementing Partner's obligations under this Project Document.

    Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

    Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

14. Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

15. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

16. The Implementing Partner shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled "Risk Management Standard Clauses" are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

XIII. MANDATORY ANNEXES

Annex A. Multiyear Work Plan

Annex B. Monitoring Plan

Annex C. Evaluation Plan

Annex D: GEF CCM Tracking Tool (Separate File)

Annex E. Terms of Reference

Annex F. UNDP Social and Environmental and Social Screening Template (SESP)

Annex G. UNDP Project Quality Assurance Report

Annex H. UNDP Risk Log

Annex I. Results of the capacity assessment

Annex J. Additional agreements (Co-financing letters and LOA)

Annex K. Description of EC&EE and LC Demonstrations

Annex L. GHG Emission Reduction Estimates

Annex M. Annual Targets

Annex N. Gender Analysis

Annex O. Knowledge Management Strategy

Annex A. Multi Year Work Plan

Task	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
COMPONENT 1: EC&EE Policies & Regulations Improvements in Public Sector Buildings												
Output 1.1: Completed comprehensive policy research, impact analyses and assessment of applicable policies, guidelines and institutional frameworks to facilitate cost-effective applications of EC&EE technologies, techniques												
Output 1.2: Approved and enforced policies and institutional arrangements for the promotion and application of EC&EE technologies in the buildings sector.												
Output 1.3: Approved and enforced building energy efficiency guidelines that incorporate specifications for EE features and EC&EE technology applications in the design, construction, retrofit and operation of new and existing buildings.												
Output 1.4: Completed monitoring and evaluation of enforced EC&EE policies, guidelines and institutional frameworks; and approved follow-up plan for the enhancement of EC&EE policies, guidelines and programs in the buildings sector.												
COMPONENT 2: Energy Performance Monitoring and Evaluation of Public Sector Buildings												
Output 2.1: Established and operational public sector buildings energy audit system and completed ambitious and comprehensive energy audits of major public sector buildings in each FSM state.												
Output 2.2: Established and operational public sector buildings energy monitoring and reporting system (EMRS), including completed capacity development and pilot program on EMRS implementation.												
Output 2.3: Established and operational public sector buildings energy use database, including capacity development in the operation, maintenance and use of the database.												
Output 2.4: Completed evaluation of the implemented public sector building energy audit system, and EMRS pilot programs, including proposed action plan for sustainability of these buildings EC&EE systems												
COMPONENT 3. EC&EE Improvements in Public Sector Buildings												

Task	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 3.1: Completed line-up of applicable building EC&EE technologies that can be feasibly implemented in selected public sector buildings; including completed designs and implementation plans of demonstrations, including feasible and applicable EC&EE technologies/techniques and practices in public sector buildings												
Output 3.2: Successfully installed and operational systems for the implemented demonstrations of EC&EE technology applications, including documentation of the results of regular monitoring and evaluation of their operational and energy performance.												
Output 3.3: Completed design and implementation plans for the replication and scale up of demonstrated EE technology application projects.												
Output 3.4: Fully evaluated portfolio of follow-up EC&EE technology application projects in FSM states.												
COMPONENT 4: EC&EE Capacity Building in Public Sector Buildings												
Output 4.1: Completed capacity needs assessment in the areas of sustainable energy and EC&EE of the public sector buildings energy end-use sector.												
Output 4.2: Completed designs of appropriate capacity development programs and associated training materials for key stakeholder groups												
Output 4.3: Conducted, evaluated (impacts and recommendations) and documented capacity development programs for the key stakeholder groups												
Output 4.4: Operational project website for the promotion and dissemination of knowledge within FSM and to other PICs/SIDS on building energy efficiency, and successful design, implementation and cost-effectiveness of the applications of EC&EE technologies and techniques in public sector buildings.												

Annex B. Monitoring Plan:

The Project Manager will guide the collection of results data per the following monitoring plan:

Monitoring	Indicators	Description	Data Source or Data Collection Methods	Frequency	Responsible for data collection	Means of Verification	Assumptions
Project Objective:	Cumulative fossil fuel savings due to sustainable energy efficiency and low carbon interventions implemented, toe diesel	Total energy savings achieved from demo and replication projects by EOP	Energy supply and consumption reports submitted by the State Utilities and ED/DRD	Annual	PMO	Utility invoices	Full/continuous commitment & state governments' support in building sector EC&EE policy implementation.
	No. of new jobs created in the application of EC&EE technologies and techniques in the country's building sector	No. of new jobs created by EOP	Project M&E reports	Annual	PMO	Interviews with building sector stakeholders.	Full/continuous commitment & state governments' support in building sector EC&EE policy implementation.
Outcome 1:	No. of approved and followed building EC&EE policies, and associated guidance and implementing rules and regulations.	No of EC&EE policies & guidance notes by EOP.	Documents on building EC&EE policies, appropriate EE technologies and approaches, and implementation and O&M guidance documents.	Quarterly		Copies of policies. Interviews with building sector stakeholders.	Full/continuous commitment & state governments' support in building sector EC&EE policy implementation.
	No. of public sector buildings that are	No of buildings following	Project M&E and activity reports	Annual	PMO	Interviews with building	Full/continuous commitment & state

Monitoring	Indicators	Description	Data Source or Data Collection Methods	Frequency	Responsible for data collection	Means of Verification	Assumptions
	compliant to energy standards stipulated in building EC&EE policies, and associated guidance and implementing rules and regulations.	energy standards by EOP.	Annual reports from ED/DRD and state utilities			sector stakeholders.	governments' support in building sector EC&EE policy implementation.
Outcome 2:	No. of buildings reviewed under established and operational energy audit system for comprehensive best commercially available EE equipment EE demos and replication renovations	No of buildings energy audited by EOP.	Completed reports on comprehensive best commercially available equipment EE renovations	Quarterly	PMO	Energy audit reports.	Continuous commitment and support by public sector buildings with the building EC&EE system even after the MPSBEE project completion.
	No. of state/national level quarterly reports on public sector buildings energy use from state power utilities and consumption reports as per the EMRS.	No of state/national buildings energy use reports as per EMRS by EOP.	Annual Reports on the EMRS	Quarterly	PMO	EMRS reports.	
	No of building/sectoral level ISO50001 style annual reports submitted to	No of building/sectoral continuous	* Evaluation reports on energy efficiency performance of public sector buildings	Annually	PMO	Building/sectoral reports.	

Monitoring	Indicators	Description	Data Source or Data Collection Methods	Frequency	Responsible for data collection	Means of Verification	Assumptions
	the FSM Energy Group[32]	improvement reports by EOP.	* Project M&E and activity reports				
Outcome 3:	No. of public sector building EE technology application projects designed and financed for implementation as demonstrations.	No of demo projects designed and financed by EOP.	Building EC&EE demo project profiles Performance and evaluation reports of the building EC&EE demo projects Project M&E and activity reports	Quarterly	PMO	Demo reports. Interviews with building sector stakeholders.	As per schedule implementation and completion of demo projects State government and private sector fully support and commit to the replication of successful results of the demo projects.
	No. of EC&EE projects implemented in public sector buildings influenced by the results and outcomes of the implemented technology application demonstrations.	No of demo projects implemented by EOP.	Project documents of replication EC&EE projects Project M&E and activity reports	Quarterly	PMO	Replication project reports. Interviews with building sector stakeholders.	As per schedule implementation and completion of demo projects State government and private sector fully support and commit to the replication of successful results of the demo projects.
Outcome 4:	No. of trained public sector building personnel that can ably manage the	No of trained personnel by EOP.	Certifications of public sector building personnel for	Annually	PMO	Project reports.	Full/continuous commitment & state governments' support in building sector

[32] On annual energy supply and consumption, EE measures implemented and planned EE measures for the next year

Monitoring	Indicators	Description	Data Source or Data Collection Methods	Frequency	Responsible for data collection	Means of Verification	Assumptions
	design, implement and evaluate of building EC&EE application projects.		completion of training courses			Interviews with building sector stakeholders.	EC&EE policy implementation.
	No. of public sector buildings with established energy management programs with implemented EC&EE projects.	No of active energy management programs in public sector buildings by EOP.	* Reports on energy management programs and the planned and implemented EC&EE projects of public sector buildings * Project M&E and activity reports	Annually	PMO	Project reports.	
Mid-term GEF Tracking Tool	Lifetime direct GHG emissions avoided in CO2e. Public/Private & Domestic /External Investment mobilised and leveraged (co-financing and additional financing. Degree of support for low GHG development	kWh saved in demos and replication projects * emissions factor. Non-GEF investment in project activities ($). Extent of support of	UNDP to supply project reports to consultants. PMO to supply data as requested, to extent it exists or can be compiled. Consultants to gather data in field mission.	Once at project mid-term.	UNDP, PMO, and evaluation consultants.	Project reports. Evaluation consultants mission interviews and data gathering	Necessary project reports will exist and be made available to consultants. Mid-term evaluation will be commissioned at or near project mid-term. Mid-term evaluation will occur at or near project mid-term.

Monitoring	Indicators	Description	Data Source or Data Collection Methods	Frequency	Responsible for data collection	Means of Verification	Assumptions
	in policy, planning & regulations – nationally and by sector. Degree of strength of financial & market mechanisms for low GHG development	EC&EE policies, plans & regulations. Non-project investment in EC&EE					Mid-term evaluation will generate useful results.
Terminal GEF Tracking Tool	As per mid-term above						
Mid-term Review	All indicators as above.						
Project Terminal Evaluation	All indicators as above.						
Environmental and Social Risk Management Plans	N/A						

Annex C. Evaluation Plan

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants[33]	Other budget (i.e., travel, site visits, etc.)[34]	Budget for translation
Mid-Term Review	*May 2020*	*July 2020*		*19,500*	*4,875*	*N/A*
Terminal Evaluation	*August 2021*	*November 2021*		*19,500*	*4,875*	*N/A*
			Total evaluation budget	48,750		

[33] The evaluation budget is for one international consultant per evaluation. No local consultants will be required as relevant people will all speak English and a project staff member will accompany the international consultant to arrange meetings and logistics. The total working days for the international consultant, not including travel from their home base, is budgeted for 25 working days. A remuneration of $600 for each working days (including mission per diems).

[34] A minimum two weeks of in-country evaluation mission will be required to travel to all 4 states of FSM, noting that only 2-3 flights per week go from some states to other states, airfares are expensive both within FSM and from other countries to FSM as there is limited competition between carriers, and there is a significant risk of flight delays that then affect subsequent flights between states or back to the consultant's home base. Travel within each state will however be minimal as demo sites will all be in the main town in each state.

Annex D. GEF Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, item E to the extent applicable to your proposed project. Progress in programming against these targets for the project will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator 6	**Greenhouse gas emission mitigated**					***(Tons)***
			Tons (6.1+6.2)			
			Entered		Entered	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)		78,080	95,370		
	Expected CO2e (indirect)		222,220	286,109		
Indicator 6.1	Carbon sequestered, or emissions avoided in the AFOLU sector					
			Tons			
			Entered		Entered	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)		0	0		
	Expected CO2e (indirect)		0	0		
	Anticipated Year		*NA*	*NA*		
Indicator 6.2	Emissions avoided					
			Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	Expected CO2e (direct)		78,080	95,370		
	Expected CO2e (indirect)		222,220	286,109		
	Anticipated Year		2030	*2032*		
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			330,278	403,415		
			939,991	1,210,241		
Indicator 6.4	Increase in installed renewable energy capacity per technology					
		Technology	Capacity (MW)			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Solar Thermal		0.05		
		(select)				
Core Indicator 11	**Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**					***(Number)***
			Expected		Achieved	
					MTR	TE
		Female		1,300		
		Male		1,200		
		Total		*2,500*		

ANNEX E. TERMS OF REFERENCE

This section presents the terms of reference (TORs) for the key personnel positions for the management of the project implementation. These are the TORs for: (1) the Project Advisory Board (PAB); (2) the National Project Director (NPD); (3) the Project Management Office (PMO) personnel comprising the international Chief Technical Advisor (CTA), the National Project Manager (NPM), the State Project Officers, and the Project Administration and Finance Officer; and the international Building Energy Efficiency Technical Specialist (BEETS).

During the inception phase of the project, the PMO along with the CTA will prepare the TORs for any additional key personnel requirements for the implementation of the activities and components of the MPSBEE Project.

Project Advisory Board (PAB)

The Project Advisory Board (PAB) will comprise the members of the FSM National Energy Group (The Energy Group). The PAB will be convened and chaired by the National Project Director (NPD). The PAB secretariat functions, comprising setting meeting dates, developing agendas, preparing papers, reports, and meeting minutes, etc., will be carried out by the National Project Manager (NPM), with the assistance of the Chief Technical Advisor (CTA). The PAB members of the FSM national energy group will comprise the NPD (DE/DRD), and state level energy representatives. The PAB will provide overall management guidance, project assurance and oversight for the implementation of the project. Day-to-day coordination of the project will be carried out by the NPM, with close assistance of the CTA, and under the direction of the NPD. PAB meetings shall be held back-to-back with regular Energy Group meetings, so no costs will be charged to the MPSBEE project for MPSBEE PAB meeting. No PAB membership fees will be paid by the MPSBEE project.
The PAB will meet semi-annually, or more often if required, to review progress of the project, to review and approve Annual Project Implementation Reports (APRs), and to review and approve Annual Work Plans (AWPs).

Responsibilities: The PAB will be responsible for the following:

- Provide overall guidance and direction to the project;
- Agree on the Project Manager's tolerances in the achievement of Outputs and Activities;
- Review and approve the end of project report, including any recommendations for follow-on actions;
- Provide ad-hoc direction and advice for exceptional situations when the project management's tolerances are exceeded;
- Assess and decide on any project changes;
- Assure that all planned deliverables are delivered satisfactorily.
- Monitor project implementation in terms of effectiveness and timeliness of inputs and in terms of the success of project activities;
- Oversee and provide guidance to project activities and ensure that such activities address national priorities;

    1. Monitor project implementation to ensure that it remains in-line with the approved project documents, financial rules and regulations of UNDP, and requirements of any other donors providing co-funding;
    2. Provide a forum for ensuring an integrated approach to project activities and serve as a forum for stakeholder input and discussion;

- Resolve any conflicts or disagreements that arises with respect to project activities that cannot be resolved by the project team;
- Facilitate implementation of project activities in their respective FSM states;
- Review Annual Project Reports (APRs), Annual Work Plans (AWPs) and budgets for project activities and consider any proposed changes;
- Participate in Tripartite Reviews;
- Consider and approve any needed strategic changes of the project documentation.

For the process of closing the project:

- Assure that all products and deliverables are delivered satisfactorily;
- Review independent project evaluation and approve the end project report;
- Make recommendations for follow-on actions and post project review plans;
- Notify project closure to the relevant authorities.

National Project Director

The National Project Director (NPD) will be the Energy Division Director of the Department of Resources and Energy (ED/DRD) of the FSM national government. The NPD will be responsible for effective coordination and communications within the FSM national government and other relevant national stakeholders/actors, with FSM states and state level stakeholders/actors, and for monitoring the progress towards expected outputs and strategic results under the project. The NPD role will be funded by the national government of the FSM as an in-kind MPSBEE contribution.

Responsibilities: The NPD's major responsibilities are to:

- Coordinate and advocate for the project at the policy level with national and state governments, other public departments and agencies, civil society, the private sector and the donor community, to ensure national and state level commitment and contributions to the project objectives;
- Provide policy guidance to the PMO with respect to national policies, including for the selection of local equipment suppliers, consultancy inputs, training and other specialist services;
- In consultation with the Ministry of Finance (MF), ensure that requisite financial allocations are contained in the national budget and state budgets, in accordance with the in-kind, cash or cost-sharing budgets, and the established schedules of payment;
- Ensure that the project document revisions requiring Government's approval are processed through the MF (as the Government's Coordinating Authority), in accordance with established procedures;
- Participate in the finalization, and approve the Project Annual and Quarterly Work Plans and budgets, in close discussion with the UNDP, to maximize the leverage of the project resources to achieve the desired overall state of development and objectives as set out in the project documentation;
- Approve individual payments on a day-to-day basis;
- Supervise and approve any project budget revisions;
- Review jointly with the PMO success indicators and progress benchmarks against expected project outputs so that progress can be assessed, and review and clear Annual Project Progress and Terminal Reports;
- Conduct regular monitoring sessions with UNDP and the PMO, including Project Appraisal Committee (PAC) Meetings, and Annual and Terminal Tripartite Review Meetings, to measure progress made or achieved towards the project objectives, and comment on Project Review and Evaluation Reports;

- Report regularly to the PAB on the project's progress, in conjunction with PMO staff;
- Assess, on a regular basis, the staff work performance in the PMO, including that of the (international) Chief Technical advisor, the (international) Building Energy Efficiency Technical Specialist, the National Project Manager, the Administration and Finance Officer, and other staff;
- Establish close linkages with other relevant UN agencies supported, as well as other donors and nationally funded projects/programs.

Project Management Office (PMO)

The PMO will be hosted at the Energy Division of the Department or Resources and Development (ED/DRD) of the FSM national government, based at the FSM national capital at Palikir, Pohnpei. The provision of PMO office space will be funded by the national government of the FSM as an in-kind MPSBEE contribution.

National Project Manager (NPM)

The National Project Manager / Energy Efficiency Officer ((NPM)/EEO) will report to the National Project Director (NPD), who will be the Energy Division Director of the Department or Resources and Energy (ED/DRD) of the FSM national government. The NPM, under the supervision of the NPD, will be responsible for achieving the outputs, and hence the objectives of the project. The work of the NPM will also be guided by the international Energy Efficiency Advisor /Chief Technical Advisor (EEA/CTA). The NPM role will be funded by GEF.

Responsibilities

- Oversee the day-to-day planning, implementation and monitoring of project activities;
- Assist the NPD in the strategic management and overarching implementation of the project and achievement of its goals;
- Coordinate and manage the project's Inception Workshop and preparation of the Inception Report;
- Prepare progress reports (quarterly and annual), annual work plans and budgets, facilitate audits, and prepare any other necessary documentation required by UNDP and the PAB;
- Support timely progress of activities and project implementation as per the ProDoc or agreed changes to the ProDoc;
- Support the elaboration of monitoring & evaluation reports (midterm, terminal etc.) to the FSM national and state governments and to UNDP/GEF;
- Prepare Terms of Reference for consultants and subcontracts and for equipment procurement;
- Manage disbursement of funds, maintenance of accounts as per requirements of UNDP, and provide inputs to internal and external audits (for ultimate consideration and authorization by the NPD);
- Liaise with counterparts and main stakeholders to ensure their roles are appropriately integrated into the project

Required Qualifications, Skills and Experience

1. Appropriate degree in Business Management/Administration, or engineering, or relevant technical area, preferably at the post-graduate level;
2. At least 3 to 5 years work experience in a relevant area (ideally in energy and/or environment);
3. Demonstrated management experience and organizational capacity;
4. Previous experience/familiarity with UNDP (or other donors) would be an asset;

5. Previous experience/familiarity with energy efficiency would be an asset;
6. Good analytical skills, good interpersonal and communication skills, good computer skills;
7. Fluent in English, fluency in one or more FSM major languages would be an asset.

Project Administration and Finance Officer

The Project Administration and Finance Officer (PAFO) will be provided by ED/DRD as part of the government of FSM in-kind contribution, this role will not be paid by GEF funds. This will be a part-time role, as the position will be shared with other donor-funded projects being managed by DRD. The NPM contribution to the MPSBEE project will be funded by the FSM government as part of their in-kind contribution to the MPSBEE project.

Responsibilities

- Be responsible for project administrative and secretarial matters.
- Arrange logistics, including travel and organization of meetings/workshops etc.
- Assist in the processing and reporting of all project co-financing and expenditures.
- Develop and maintain appropriate financial records and administrative systems.
- Prepare quarterly expenditure reports and ensure their timely submission to UNDP.
- Conduct an annual financial audit of all aspects of the project, produce the required financial statements as needed, keep sound checks and balances in place to ensure proper use of finances under appropriate headings, and report on financial expenditure and commitments.

State Energy Efficiency Officers

Three part-time FSM state (Yap, Chuuk and Kosrae) based Energy Efficiency Officers (EEOs) will be recruited to provide local project support, given the distances from Pohnpei and the infrequent and costly air travel links to the other three states of FSM from the project base in Pohnpei. The state based EEOs will be shared with other energy related projects under development in FSM, particularly the implementation of the (2018) Energy Master Plans. The EEO roles will be partly funded by GEF.

Responsibilities

- Be responsible for overseeing local project EE upgrades to ensure that they meet specifications and that any matters arising are quickly and suitably addressed;
- Be responsible for local project administrative and secretarial matters;
- Arrange local logistics, including travel and organization of meetings/workshops etc.;
- Assist in the processing and reporting of local project co-financing and expenditures;
- Develop and maintain appropriate local financial records and administrative systems;
- Prepare quarterly expenditure reports and pass these on to the PMO;
- Assist in the annual financial audit of all aspects of the project.

Required Qualifications, Skills and Experience

1. Appropriate qualifications and/or experience is Business Management/Administration, or engineering, or relevant technical area;
2. At least 2 years work experience in a relevant area (ideally in energy and/or environment);
3. Demonstrated management experience and organizational capacity;
4. Previous experience/familiarity with UNDP (or other donors) would be an asset;
5. Previous experience/familiarity with energy efficiency would be an asset;

6. Good analytical skills, good interpersonal and communication skills, good computer skills;
7. Fluent in English, fluency in local FSM major language.

International Energy Efficiency Advisor (EEA) / Chief Technical Advisor (CTA)

FSM is benefitting from considerable multi donor support in the energy sector. However, the donor support is primarily supply side focused, and lacks an allied detailed demand-side energy efficiency focus. FSM has significant energy efficiency opportunities that are currently not being addressed. Donor funding is available from multiple sources to help identify, plan, design and implement suitable EE plans, programs and specific activities in FSM. One reason that demand side energy efficiency has not been accorded sufficient priority in FSM is a lack of the necessary high-level policy and program development, technical knowledge, and focus. Accordingly, FSM now wishes to recruit a part-time international Energy Efficiency Advisor (EEA) to assist the FSM government in identifying and achieving significant energy efficiency gains over time.

The role of the EEA will also include working as the Chief Technical Advisor to the Micronesia Public Sector Building Energy Efficiency Project (MPSBEE) project that is being implemented by the Energy Division (ED) of the Department of Resources and Development (DRD) of the national government of the Federated States of Micronesia (FSM) with $1.8 million grant funding from UNDP-GEF. MPSBEE approval is anticipated in late 2018 from GEF (the Global Environment Facility) via UNDP. The provision of a suitable and separately funded EEA to also cover the CTA role for MPSBEE will be included as part of the co-funding from other donors mobilized by FSM to the MPSBEE project.

The international Energy Efficiency Advisor (EEA) will be recruited as an individual consultant for an initial one-year contract. The contract will be extendable to cover the full MPSBEE project duration of three years, depending on performance and results during the first-year contract, and depending on any other issues, priorities etc. that may arise. The EEA role may also continue after the end of the MPSBEE project. The EEA role is envisaged to require 3 - 4 months of inputs[35] per year on an intermittent basis per year, with around four missions to FSM per year, and with inputs also being provided remotely.

The Chief Technical Adviser (CTA) role (as part of the Energy Efficiency Advisor's wider role) will have overall responsibility for the overall and detailed technical design, delivery, and monitoring of results of the EE activities of the MPSBEE Project. The CTA will also provide advice to the MPSBEE National Project Director and the National Project Manager on all issues related to project execution, including participatory design, regulatory frameworks, policy development, technical and institutional implementation, work plans, TORs, equipment specifications and procurement, equipment installation and commissioning, project reporting, monitoring and evaluation, capacity development, and replication and mainstreaming.

RESPONSIBLITIES

- Provide strategic policy advice in the areas of EE programming, technical, personnel, consultants, and financial planning and management;
- Identify barriers and constraints in EE project implementation and recommend effective courses of action;

[35] It is estimated that four (4) months of inputs will be required in the first year due to the time inputs needed in the inception phase and as the BEES work commences and initial demonstration projects are developed and implemented.

- Identify, assess and provide recommendations on how to integrate other international programs/projects on EC&EE to FSM energy projects;
- Identify, assess and recommend strategic partnerships with financing institutions, including bilateral and multilateral institutions, as well as centres of excellence in both developing and developed countries that bridge the public and private sectors, to better mobilise and leverage resources;
- Review activities, reports and outputs of national and international consultants;
- Find and incorporate lessons learned from other relevant EC&EE projects, monitoring and evaluation of project success indicators, adaptive management, leveraging of resources for sustainable EC&EE programs, and project risk management;
- Support institutional learning, promoting the systematization of lessons learned, results and knowledge because of the impact of EE projects;
- Promote the dissemination of knowledge and lessons learned at appropriate national and international events.
- Take overall responsibility for the overall and detailed technical design, delivery, monitoring, and documentation of demonstration-replication projects and other results of the EE activities of the MPSBEE Project;
- Finalize job description for MPSBEE PMO staff, national and international consultants as well as subcontractors;
- Assist MPSBEE PMO staff in the recruitment of suitable national and international consultants;
- Appraise and develop efforts to mainstream MPSBEE project activities with other energy efficiency activities in the FSM public and private sectors;
- Assist the MPSBEE NPD/PMO to prepare annual work plans and detailed TOR for all MPSBEE activities;
- Finalise and present reports to the MPSBEE PAB and Tripartite review, and work plan consideration and approval meetings;
- Assist the MPSBEE PMO to prepare all reports for MPSBEE project Monitoring and Evaluation;
- Review MPSBEE quarterly and annual technical, administrative and financial reports, and update reports as required;
- Review MPSBEE progress and recommend strategies to continuously improve the project's implementation.

Qualification, Experience and Skills

1. Master's Degree in engineering (or equivalent technical tertiary qualification) with a focus on energy and particularly on energy end uses and EE/RE;
2. At least 10 years of experience in the field of energy efficiency, previous work as a high level EEA and/or CTA would be a bonus;
3. Significant demonstrated experience in: energy end use analysis and energy efficiency; EE policy development; translating demonstrations into replications and then translating replications into mainstreamed EE actions; user-led continuous EE improvement programs via ISO 50001 or equivalent; EE program design; optimizing the impact of results-oriented energy audit processes; EE program/project design and evaluation; and in EE institutional capacity building;
4. Excellent communication skills;
5. Strong interpersonal and communication skills;
6. Excellent networking skills;
7. Full proficiency in English, both written and verbal;
8. Skilled presenter of ideas in one-on-one situations and in group meetings and symposia;
9. Significant experience in wider EE project development, implementation, monitoring and evaluation;

10. Proven experience in resource mobilization from governments, non-government organizations and the private sector;
11. Multidisciplinary professional experience; and
12. Good appreciation of, and strong links with, relevant international organizations.

International Building Energy Efficiency Specialist (BEES)

A Building Energy Efficiency Specialist (BEES) will be recruited to: establish energy use and environmental condition baselines; identify, quantify and specify appropriate ESMs; and monitor actual energy and environmental improvements against pre-ESM implementation baselines.

The Building Energy Efficiency Specialist (BEES) will be responsible for providing all necessary energy and related monitoring equipment, particularly in providing at least four data loggers (one each for a one-week duration monitoring of the incoming electrical feeder and any central AC system(s) in major buildings, and two data loggers for daily monitoring of other major building energy loads, plus a blower door for measuring infiltration and ventilation rates. The BEES will be responsible for providing (their own in-house or rented) data loggers, temperature and humidity monitoring equipment, lighting and noise level monitoring equipment, and any other required monitoring equipment. The Building Energy Efficiency Specialist (BEES) will be recruited as an individual consultant.

Relevant FSM government entities, and/or the MPSBEE project, will provide 1 - 2 technicians to assist the BEES in undertaking building monitoring. The relevant building, or relevant state entities, will also endeavour to supply at least one, and ideally three, years of utility billing data for the respective buildings prior to any BEES field mission(s).

The work of the BEES for the respective buildings in each task will be to: (a) undertake baseline environmental conditions and actual energy use/load monitoring, conduct energy audits, and develop an energy and existing environmental conditions baseline/model; (b) develop specific, actionable and quantified Energy Savings Measures (ESMs) recommendations for deep and comprehensive EE retrofits, including any inter-dependencies; and (c) assist in the development of EE equipment purchase and retrofit specifications, monitor and quantify post-retrofit energy and environmental condition results.

The work by the BEES is envisaged to take place in multiple stages as below, with further work also being possible. Each stage of work will be separately contracted, and each stage may be rebid through a new BEES recruitment process.

The 1st task will ideally take place before the formal MPSBEE project start if funding can be found from non-GEF sources, with subsequent reimbursement from GEF funds if this is possible.

SPECIFIC TASKS

1. The 1st task will cover: (i) the Pohnpei state hospital; (ii) one building (probably the Ministry of Finance) building at the FSM national capital in Palikir on Pohnpei; and (iii) reviewing the renovation design and making enhanced EE recommendations for the Kosrae hospital renovation design that is currently underway by existing design consultants. These initial buildings have been chosen based on the MPSBEE design stage level of interest shown in EE renovations and in indications of co-funding.
   The assigned total level of effort (LOE) for the 1st stage task is twelve (12) person-weeks. Three person-weeks will be spent in the field, eight person-weeks is allocated for analysis and report

writing, and one person-week for reporting back in person and then making any final report adjustments as required.

2 The 2nd task for the BEETS will cover other key public sector buildings in FSM, depending on the level of interest shown in EE renovations and likely levels of co-funding from the relevant building entities. The second stage buildings could include the Yap State Hospital, the Yap state fisheries shore facility, the Yap state airport, the Chuuk State hospital and other buildings in Chuuk[36]; and the government administration building in Pohnpei
The estimated level of effort (LOE), and mission numbers and duration, for the 2nd task will be refined following the experience gained in the 1st stage task but is expected to be like the LOE for the 1st stage task.

3 It is expected that a 3rd Demonstration Phase task will be carried out in one or more of the four FSM states. The estimated level of effort (LOE), and mission numbers and duration, for the 3rd task will be refined following the experience gained in the 1st and 2nd stage tasks but is possible to be like the LOE for the 1st and 2nd stage tasks.

4 It is expected that a 4th Replication phase task will be carried out for the remaining significant energy using public sector buildings in FSM. This 4th task is expected to involve a similar LOE to the 1st/2nd/3rd Tasks, as the buildings will be less complex and easier to monitor, evaluate and develop detailed recommendations for compared to the buildings in the earlier tasks.

5 A Monitoring, Evaluation and Reporting phase (5th) task will be carried out for the post EE-renovated demonstration and replication phase buildings covered in Phases 1 – 4 as above. This 4th phase task is expected to involve a similar LOE to the 1st/2nd/3rd/4th Tasks.

Recruitment and contracting for later tasks will be based on the performance and results of previous phase work. It is not guaranteed that the person who works on any task will be recruited for subsequent work.

Responsibilities

- Reviewing applicable FSM public sector buildings' cooling, infiltration, ventilation, lighting, hot water and other key energy using equipment energy requirements to obtain a robust energy balance that accords with historical and current electricity utility billing data;
- Reviewing the current key thermal, infiltration, ventilation, lighting, hot water, and energy using equipment installed loads, their performance, and their operations and maintenance status;
- Determining current energy use, EE status, temperatures, humidity, fresh air supply, lighting levels and other lighting system attributes, hot water provision and usage, and health impacts of existing cooling, ventilation, hot water, natural and artificial lighting etc., systems;
- Modelling building energy use to align it with actual utility billing data as part of building baseline energy use analysis and the allocation of energy (electricity) use to energy end uses;
- Identifying options (e.g. adding external shading, reducing uncontrolled ventilation from existing louver windows and poorly sealed doors etc., adding insulation, turning off lights in unoccupied and/or adequately daylit spaces, etc.), reducing cooling requirements from reducing over-cooling and excessive ventilation loads, reducing condensation and mould growth effects, improving indoor air quality, reducing the need for artificial lighting, introducing systematic improved operations and maintenance practices, etc.;
- Identifying and prioritizing EE equipment modification/replacement options - such as replacing old low SEER/EER unit ACs with suitable and long-life high SEER/EER replacements, modifying central AC systems to increase their EE, replacing fluorescent tubes and compact lamps with either

[36] Whose separate $150,000 funding for EE retrofits must be spent by June 2019

LED drop-in light sources or replacing with all-new fixtures with integrated high efficiency and long life LEDs, etc.;
- Quantifying the costs and savings of the proposed EE measures;
- Development of specifications for EE renovation/demonstration/replication EE measures and equipment;
- Evaluating the post-installation and post-commissioning performance of key energy using EE renovations/demonstrations/replications;
- Providing inputs to reports and communications regarding the proposed EE measures, and to their subsequent achieved results.

Qualification and Experience

- A Master's Degree in energy engineering, building physics, building services, HVAC and lighting related topics. A relevant PhD would be an advantage;
- At least 10 years (more experience would be a bonus) of relevant experience in the field of building energy efficiency including: previous work in building thermal, ventilation and lighting modelling and/or simulation and/or model calibration and verification; demonstrated experience in energy audits and retrofit EE/Green designs and renovations in buildings; establishment of energy/performance baselines in buildings; building EE thermal and equipment retrofits; the monitoring of actual results versus baselines and modelled predictions; EE policy development; translating demonstrations into replications and then into mainstreamed projects; the introduction of continuous improvement programs via ISO 50001 or equivalent energy management programs; energy audit processes and program design and optimization for implemented results; and in institutional capacity building;
- Excellent communication skills, full proficiency in both written and verbal English;
- Skilled presenter of ideas in one-on-one situations and in group meetings and symposia.

Annex F: UNDP Social and Environmental and Social Screening Template (SESP)

Project Information

Project Information	
1. Project Title	**Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project**
2. Project Number	**PIMS 5597**
3. Location (Global/Region/Country)	**Federated States of Micronesia**

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

QUESTION 1: How Does the Project Integrate the Overarching Principles to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
There are no specific activities in this proposed project that specifically focus on human rights promotion since this is a project on sustainable energy utilization. Nonetheless, human-rights principles were considered, and integrated into the project during its design. Prior informed consent of all beneficiaries will also be facilitated during the project design. In that regard, the target beneficiaries, e.g., the public sector buildings occupants/tenants, private sector, and state institutions will be properly consulted through stakeholder consultation processes that promote gender inclusive participatory approaches involving men, women, and youth. During the design phase, the project development team met with public sector building managers and building practitioners in the 4 states, and the state utilities to discuss potential EC&EE demonstrations. In their respective, State Energy Action Plan, each state utility plans and implements projects in both supply and demand side management. The project includes an assessment of the interest of these stakeholders in such initiatives emphasizing the importance of each key players in the successful promotion of the widespread application of EC&EE technologies in buildings. A follow-up feasibility study and detailed energy audit for each of the host demonstration buildings will also consider any pertinent socio-cultural aspects that need to be considered. This will inform implementation of project activities and where any appropriate fine-tuning of plans that would be necessary. Doing these will in the end contribute to human social and environmental well-being in the public sector buildings in FSM.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
It is anticipated that the proposed UNDP-GEF project will impact gender equality and women's empowerment in a positive way. It presents opportunities for the involvement of women working in management and technical units of government (national and state) institutions. During the project design, the principles of gender equality and women's empowerment were considered. Where feasible opportunities are present, the project implementation will involve the deployment of professional and technically qualified women working in public and private establishments in the national capital region, as well as those in the different states. It is important to ensure that benefits from the enabling conditions that facilitate EC&EE initiatives are enjoyed by both women and men. The project activities will be implemented considering the opportunity for the country to further enhance the role of women in deployment of EC&EE technologies and techniques and come up with gender-sensitive policies in the public sector buildings, recognizing the possible contributions of women in the management and implementation of climate change mitigation measures. High rates of women participation will be targeted in the implementation of the project's capacity development activities.
Briefly describe in the space below how the Project mainstreams environmental sustainability
The proposed project is expected to stimulate actions in the buildings sector that will lead to GHG emission reductions and therefore contribute not only to the achievement of FSM's climate change mitigation targets as spelled out in the country's NDC. The project is expected to bring about local benefits mainly through contributions to the improvement of the specific energy consumption of public sector buildings, and indirectly also contribute to the protection of the natural environment. The anticipated reduction in energy demands (due to more energy efficient operation of public sector buildings) will result in lesser diesel fuel used in power generation, and in that regard, reduced GHG emissions from the state utilities. The global environmental benefits from the project will mainly come from such GHG

emission reductions. These will be facilitated by the barrier removal approach that this project will employ. Environmental sustainability will also be assured through the synergistic aspect of the integrated way the key stakeholders will be working together, and the higher chances of scaling-up/replication of the EC&EE technologies and techniques/practices that will be introduced, demonstrated, and promoted under the project.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
EE retrofits that will be done in the demos may result in negative impacts if the disposal or the management of the handling of replaced EE and non-EE items are done improperly.	I = 3 P = 2	Moderate	There will be EC&EE technology demonstration activities in this project. These demos will be designed in line with the relevant building best practices (construction and operation) and environmental requirements.	The environmental and social concerns that may arise from the project are manageable and easily controlled during the project implementation. Most of the demos will be carried out indoors and will be carried out in compliance with best practice occupational safety, health, and environment (OSHE) requirements. Based on the Environmental and Social Management Plan (ESMP) that will be prepared during the project inception phase, these demos will be designed not only to ensure that the intended positive impacts (energy savings) are realized but also in such a way that the emergence of potential negative impacts are brought to the minimum, if not completely avoided. The potential downstream impacts will also be assessed as to the likelihood of these happening and determining the factors that would contribute to them from happening. The project design (particularly during the logical framework analysis) considered such factors and where possible and applicable came up with the relevant activities that will adequately address them.
Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials.	I = 3 P = 2	Moderate	The demos will involve the replacement of existing building materials, appliances and devices used in the demo buildings. The design of the demos shall include	To prevent potential downstream impacts, possible issues concerning the proper disposal or recycling of existing building materials and devices/appliances will be addressed. • Old and busted CFLs and FLs that are replaced by LED lamps – in regard to proper handling and recycling of Hg

			facilitating the best practice recycling or disposal of such waste items.	• Old and energy inefficient AC and refrigerator units – in regards proper handling and disposal of refrigerants (including foam/insulation) will be undertaken. • Waste building materials – in regards health issues concerning dusts and particulate matter Based on the ESMP that will be prepared during the project inception phase, the capacity building on the application of new EC&EE techniques and practices in public sector buildings shall be designed to also include the proper (i.e., safe, and environment-friendly) handling and disposal of waste and recyclable materials. The demonstrations that will be featured in this project shall be designed and implemented taking into consideration the need to reduce environmental impacts in the application of EC&EE technologies in public sector buildings.
Potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or trans-boundary impacts.	I = 3 P = 2	Moderate	The design of the demos shall include facilitating the proper disposal of replaced non-EE materials in public buildings as required by law.	Guided by the ESMP that will be prepared during the project inception phase, the EC&EE capacity development activities of the project shall include the proper handling and disposal of waste. The demos that will be featured in this project shall be designed and implemented taking into consideration the need to reduce environmental impacts in the application of EC&EE technologies in public sector buildings.
Potentially result in the generation of waste (both hazardous and non-hazardous)	I = 3 P = 2	Moderate	The EE retrofit activities may include replacement of existing building materials, appliances and devices used in the demo buildings. The EE retrofit designs shall include facilitating the best practice disposal of such waste items.	Per the ESMP that will be prepared during the project inception phase, the design and implementation of the EE retrofits will consider possible issues on the disposal or recycling of existing building materials and devices/appliances such as old and busted CFLs and FLs that are replaced by LED lamps (Hg issue); old and energy inefficient AC and refrigerator units (banned refrigerants issue); and, building debris (dust and PM issue). The facilitation of the proper disposal of waste materials from building retrofits will be part and parcel of the EE retrofit demos, and in the EC&EE technology application guidelines that will be developed and recommended to public sector building managers/administrators.
Potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials.	I = 3 P = 2	Moderate	The design of the EE retrofit activities will consider the proper handling of replaced old AC and refrigeration units that may still use already banned refrigerants.	The proper disposal of the replaced old RAC units will be observed. The ESMP will include recommended actions to carry this out in an objective and scientific manner. The potential illegal reuse of old RAC units will be reported to the proper authorities.
Potential discriminations against women based on gender, especially regarding	I = 3 P = 2	Moderate	Although the project design has considered gender	A gender analysis was conducted during the PPG, and a Gender Action Plan prepared.

participation in the implementation of the project activities.			sensitivity, the IP may be remiss in ensuring that this be followed in the selection of people who will be working in the implementation of the project activities.	
Project demo activities may potentially affect the interests (including sentiments and practices) of some indigenous peoples (i.e., people of FSM).	I = 4 P = 1	Moderate	Most of the FSM population are indigenous Micronesians. The project will involve the installation in existing public buildings of modern, improved and EE lighting and air conditioning systems that may have potential concerns with some building occupants who are used to, or already satisfied with, the existing traditional and energy inefficient building systems.	The specific nature of the potential impacts (positive and/or negative) will be further assessed during the project inception phase as part of the assessments for preparation of the ESMP; the applicability of SES requirements under Standard 6 (e.g. an Indigneous Peoples Plan; Free Prior and Informed Consent) will be confirmed at that stage. All confirmed requirements will be captured in the ESMP and/or in an updated Stakeholder Engagement Plan.
The implementation of the project activities may be affected if the Covid-19 pandemic persists, due to mitigating measures that will be carried out to prevent potential increased health risks in the project sites.	I = 3 P = 1	Low	In the event the Covid epidemic will persist until the time the project is implemented, the proven effective measures and approaches that were carried out in project implementation during the pandemic in the other PICs will be adopted.	
Extreme climate events brought about or exacerbated by climate change may affect the implementation of the project.	I = 2 P = 1	Low	The project will address the low, indirect risk of project activities implementation delays due to extreme climate events in accordance with established government safety and emergency procedures.	
	QUESTION 4: What is the overall Project risk categorization?			
	Select one (see SESP for guidance)			**Comments**

	Low Risk	☐	
	Moderate Risk	√	
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	√	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	☐	
	3. Community Health, Safety and Working Conditions	√	Some indirect negative impacts that can be avoided with proper regulatory compliance, or addressed with proper application of standard best practices
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	√	
	7. Pollution Prevention and Resource Efficiency	√	Same as in Item 3 above.

Final Sign Off

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

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	**Answer (Yes/No)**
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social, or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [37]	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 Would Project activities pose risks to endangered species?	No
1.5 Would the Project pose a risk of introducing invasive alien species?	No
1.6 Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7 Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8 Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9 Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10 Would the Project generate potential adverse trans-boundary or global environmental concerns?	No
1.11 Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area?	No

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

	For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.	
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[38] greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	Yes
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	Yes
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, and erosion, flooding, or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	Yes
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional, or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect, and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[39]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	Yes
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)?	No

[38] In regard to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

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

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

Annex G: UNDP Project Quality Assurance Report

PROJECT QA ASSESSMENT: DESIGN AND APPRAISAL (FSM MPSBEE PROJECT)				
OVERALL PROJECT				
EXEMPLARY (5) ◎◎◎◎◎	**HIGHLY SATISFACTORY (4)** ◎◎◎◎○	**SATISFACTORY (3)** ◎◎◎○○	**NEEDS IMPROVEMENT (2)** ◎◎○○○	**INADEQUATE (1)** ◎○○○○
At least four criteria are rated Exemplary, and all criteria are rated High or Exemplary.	All criteria are rated Satisfactory or higher, and at least four criteria are rated High or Exemplary.	At least six criteria are rated Satisfactory or higher, and only one may be rated Needs Improvement. The SES criterion must be rated Satisfactory or above. . .	At least three criteria are rated Satisfactory or higher, and only four criteria may be rated Needs Improvement.	One or more criteria are rated Inadequate, or five or more criteria are rated Needs Improvement.

DECISION

- **APPROVE** – the project is of sufficient quality to continue as planned**.** Any management actions must be addressed in a timely manner.
- **APPROVE WITH QUALIFICATIONS** – the project has issues that must be addressed before the project document can be approved. . . Any management actions must be addressed in a timely manner.
- **DISAPPROVE** – the project has significant issues that should prevent the project from being approved as drafted.

RATING CRITERIA

STRATEGIC		
1. Does the project's Theory of Change specify how it will contribute to higher level change? (Select the option from 1-3 that best reflects the project): • **3:** The project has a theory of change with explicit assumptions and clear change pathway describing how the project will contribute to outcome level change as specified in the programme/CPD, backed by credible evidence of what works effectively in this context. The project document clearly describes why the project's strategy is the best approach at this point in time. • **2:** The project has a theory of change. It has an explicit change pathway that explains how the project intends to contribute to outcome-level change and why the project strategy is the best approach at this point in time but is backed by limited evidence. • **1:** The project does not have a theory of change, but the project document may describe in generic terms how the project will contribute to development results, without specifying the key assumptions. It does not make an explicit link to the programme/CPD's theory of change. *Note: Management Action or strong management justification must be given for a score of 1	3 2 1	**Evidence** LFA Workshop Report
2. Is the project aligned with the thematic focus of the UNDP Strategic Plan? (select the option from 1-3 that best reflects the project): • **3:** The project responds to one of the three areas of development work[40] as specified in the Strategic Plan; it addresses at least one of the proposed new and emerging areas[41]; an issues-based analysis has been incorporated into the project design; and the project's RRF includes all the relevant SP output indicators. *(all must be true to select this option)* • **2:** The project responds to one of the three areas of development work[1] as specified in the Strategic Plan. The project's RRF includes at least one SP output indicator, if relevant. *(both must be true to select this option)*	3 2 1	**Evidence** Aligned to Outcome 1, output indicator 1.4

[40] 1. Sustainable development pathways; 2. Inclusive and effective democratic governance; 3. Resilience building

[41] sustainable production technologies, access to modern energy services and energy efficiency, natural resources management, extractive industries, urbanization, citizen security, social protection, and risk management for resilience

• **1:** While the project may respond to one of the three areas of development work[1] as specified in the Strategic Plan, it is based on a sectoral approach without addressing the complexity of the development issue. None of the relevant SP indicators are included in the RRF. This answer is also selected if the project does not respond to any of the three areas of development work in the Strategic Plan. Note: To be aligned to Outcome 1, output indicator 1.4 (Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented).	
RELEVANT	
3. Does the project have strategies to effectively identify, engage and ensure the meaningful participation of targeted groups/geographic areas with a priority focus on the excluded and marginalized? (select the option from 1-3 that best reflects this project): • **3:** The target groups/geographic areas are appropriately specified, prioritizing the excluded and/or marginalized. . . Beneficiaries will be identified through a rigorous process based on evidence (if applicable.) The project has an explicit strategy to identify, engage and ensure the meaningful participation of specified target groups/geographic areas throughout the project, including through monitoring and decision-making (such as representation on the project board) *(all must be true to select this option)* • **2:** The target groups/geographic areas are appropriately specified, prioritizing the excluded and/or marginalized. The project document states how beneficiaries will be identified, engaged and how meaningful participation will be ensured throughout the project. *(both must be true to select this option)* • **1:** The target groups/geographic areas are not specified, or do not prioritize excluded and/or marginalized populations. The project does not have a written strategy to identify or engage or ensure the meaningful participation of the target groups/geographic areas throughout the project. *Note: Management Action must be taken for a score of 1 or select not applicable. Notes: Annex K provides a description of demonstration projects in selected public buildings in the 4 states of FSM i.e.: 4 hospital buildings, 3 office buildings, 1 public transport terminal building (airport), 1 industrial building; and, 1 school building. The scope of demonstration projects is distributed to all 4 states of FSM and targets the general public.	3 | 2 1 *Select (all) targeted groups: (drop-down)* **Evidence** Refer to notes
4. Have knowledge, good practices, and past lessons learned of UNDP and others informed the project design? (select the option from 1-3 that best reflects this project): • **3:** Knowledge and lessons learned (gained e.g. through peer assist sessions) backed by credible evidence from evaluation, corporate policies/strategies, and monitoring have been explicitly used, with appropriate referencing, to develop the project's theory of change and justify the approach used by the project over alternatives. • **2:** The project design mentions knowledge and lessons learned backed by evidence/sources, which inform the project's theory of change but have not been used/are not sufficient to justify the approach selected over alternatives. • **1:** There is only scant, or no mention of knowledge and lessons learned informing the project design. Any references that are made are not backed by evidence. *Note: Management Action or strong management justification must be given for a score of 1 Evidence The project design has referenced the 2012 FSM National and State Energy Policy, and the 2012 FSM National and State Energy Action Plans, which include a target of a 50% improvement in Energy Efficiency (EE) by 2020. The following are extracted from section II of the project document: • The 2012 FSM National and State Energy Policy, and the 2012 FSM National and State Energy Action Plans, include a target of a 50% improvement in EE by 2020. With donor support, energy audits have been carried out for buildings in Pohnpei and in Yap, and energy audits are underway in 2018 in Kosrae. However, due to the energy audits' incomplete coverage of major energy uses, their lack of EE ambition,	3 | 2 1 **Evidence** See notes

and implementation resource constraints and other barriers, comprehensive EE investments and renovations to achieve the 50% EE improvements level in the FSM buildings sector have not yet been identified or demonstrated in FSM in a systematic way. Three key constraints on building EE are (1) the lack of any national or state building code, (2) a lack of the means of enforcement of any building code, and (3) a general build-operate-replace approach that does not include much if any emphasis on maintenance. Old or failed lights are not replaced, and vehicles are often left to rot when they stop working. So, any EE renovations either must be maintenance-free over their intended life or a maintenance component needs to be explicitly added and separately and explicitly funded.

- The Energy Master Plans for FSM (for each of the four FSM states and for the nation as a whole) that were finalized in early 2018 have a focus on: the provision of 100% electricity access for all FSM inhabitants within 20 years; FSM's greater use of renewable energy (RE); diesel use reduction, and; GHG emissions reductions. A total of around $300 million of electricity supply-side investments would be required to meet the objectives detailed in the 2018 Energy Master Plans. The newly completed (2018) supply-side focused Energy Master Plans now need to be supplemented with specific and actionable EE plans, programs, budgets and proposed implementation responsibilities, including for public sector buildings as a starting point for wider FSM EE actions over time.
- FSM is benefitting from considerable multi donor support in the energy sector. However, the donor support is primarily supply side focused, and lacks an allied detailed demand-side energy efficiency focus. FSM has significant energy efficiency opportunities that are currently not being addressed. Donor funding is available from multiple sources to help identify, plan, design and implement suitable EE plans, programs and specific activities in FSM. One reason that demand side energy efficiency has not been accorded sufficient priority in FSM is a lack of the necessary high-level policy and program development, technical knowledge, and focus.
- A major strategic issue facing FSM is the scheduled 2023 end of the 2nd phase of the Compact of Free Association (Compact II) Agreement with the USA. Since 1986, the Compact has provided large external financial transfers to support the operations of the Government of the FSM and has funded substantial public-sector investment at the State level. Since the 2003 start of the Compact II agreement, it has also supported the building up of a trust fund to provide ongoing support once Compact II direct annual support ends in 2023, although this Trust fund looks like having a significant gap from 2023. Hence the FSM national government and the four state governments are highly motivated to support the MPSBEE project, both as a contribution to the FSM 50% EE target, and more specifically as FSM's national government and the four state governments prepare for the 2023 end of Compact II funding support from the USA.

5. Does the project use gender analysis in the project design and does the project respond to this gender analysis with concrete measures to address gender inequities and empower women? (select the option from 1-3 that best reflects this project):

- **3:** A participatory gender analysis on the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men, and it is fully integrated into the project document. The project establishes concrete priorities to address gender inequalities in its strategy. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. *(all must be true to select this option)*
- **2:** A gender analysis on the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men. Gender concerns are integrated in the development challenge and strategy sections of the project document. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. *(all must be true to select this option)*
- **1:** The project design may or may not mention information and/or data on the differential impact of the project's development situation on gender relations, women and men, but the constraints have not been clearly identified and interventions have not been considered.

*Note: Management Action or strong management justification must be given for a score of 1

Evidence

A gender survey is planned to be conducted during second half of 2018. The LFA workshop results suggest no gender-related issues. Based on experience in the implementation of EE/RE projects in other countries in the Pacific region, such issues usually only become manifested during the project implementation. Considering

3	2
1	

Evidence
See notes

such experiences, the following gender-related consultations and assessments on the: (1) promotion and implementation of EC&EE technology designs and applications in buildings; (2) opportunities to enhance the role and influence of women in the deployment of EC&EE technologies; and, (3) the development of gender-sensitive policies in the buildings sector in FSM, are suggested during the project inception phase. Nonetheless, each project component includes activities that are meant to improve gender balance and women's role in the design and implementation of EC&EE measures, and deployment of EC&EE technologies in the public sector buildings in the country.	
6. Does UNDP have a clear advantage to engage in the role envisioned by the project vis-à-vis national partners, other development partners, and other actors? (select from options 1-3 that best reflects this project): • **3:** An analysis has been conducted on the role of other partners in the area where the project intends to work, and credible evidence supports the proposed engagement of UNDP and partners through the project. It is clear how results achieved by relevant partners will contribute to outcome level change complementing the project's intended results. If relevant, options for south-south and triangular cooperation have been considered, as appropriate. *(all must be true to select this option)* • **2:** Some analysis has been conducted on the role of other partners where the project intends to work, and relatively limited evidence supports the proposed engagement of and division of labor between UNDP and partners through the project. Options for south-south and triangular cooperation may not have not been fully developed during project design, even if relevant opportunities have been identified. • **1:** No clear analysis has been conducted on the role of other partners in the area that the project intends to work, and relatively limited evidence supports the proposed engagement of UNDP and partners through the project. There is risk that the project overlaps and/or does not coordinate with partners' interventions in this area. Options for south-south and triangular cooperation have not been considered, despite its potential relevance. *Note: Management Action or strong management justification must be given for a score of 1 Evidence: UNDP has worked with the DRD in the past on the development and implementation of climate change enabling activities (national communications) and the SIDS DOCK-funded EE project in 2014-2016. For this project, consultation meetings were carried out during the PPG stage with other development partners working on EC&EE in the FSM. Hence, the securing of the co-financing for this project, in the form of parallel activities that are subsumed into this project. The delineation of the roles of the various project partners/stakeholders in the implementation of the project are presented in the project document. . .	3 | 2 1 **Evidence** None (Refer to Note)
SOCIAL & ENVIRONMENTAL STANDARDS	
7. Does the project seek to further the realization of human rights using a human rights-based approach? (select from options 1-3 that best reflects this project): • **3:** Credible evidence that the project aims to further the realization of human rights, upholding the relevant international and national laws and standards in the area of the project. Any potential adverse impacts on enjoyment of human rights were rigorously identified and assessed as relevant, with appropriate mitigation and management measures incorporated into project design and budget. *(all must be true to select this option)* • **2:** Some evidence that the project aims to further the realization of human rights. Potential adverse impacts on enjoyment of human rights were identified and assessed as relevant, and appropriate mitigation and management measures incorporated into the project design and budget. • **1:** No evidence that the project aims to further the realization of human rights. Limited or no evidence that potential adverse impacts on enjoyment of human rights were considered. *Note: Management action or strong management justification must be given for a score of 1 Evidence: The project activities are designed in a way that duty bearers and rights holders will be supported by the project to ensure access to clean energy through energy efficiency and energy conservation. There are no specific activities in this proposed project that specifically focus on human rights promotion, since this is a project on sustainable energy utilization. Nonetheless, human-rights principles were considered, and integrated into the project during its design. The updated Social and Environmental and Social Screening (SESP) is in Annex F.	3 | 2 1 **Evidence** Refer to notes

8. . . Did the project consider potential environmental opportunities and adverse impacts, applying a precautionary approach? (select from options 1-3 that best reflects this project): • **3:** Credible evidence that opportunities to enhance environmental sustainability and integrate poverty-environment linkages were fully considered as relevant and integrated in project strategy and design. Credible evidence that potential adverse environmental impacts have been identified and rigorously assessed with appropriate management and mitigation measures incorporated into project design and budget. *(all must be true to select this option)*. • **2:** No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Credible evidence that potential adverse environmental impacts have been identified and assessed, if relevant, and appropriate management and mitigation measures incorporated into project design and budget. • **1:** No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. . . Limited or no evidence that potential adverse environmental impacts were adequately considered. . . *Note: Management action or strong management justification must be given for a score of 1 Evidence (as described in the project document): The objective of the MPSBEE project is the improved application of energy conserving and energy efficient (EC&EE) techniques and practices in the design, retrofit, and ongoing operation and maintenance (O&M) of public sector buildings in FSM. The project document describes that the MPSBEE project specific activities include: evaluate the current energy performance and energy use baseline situation in FSM public sector buildings; identify and quantify energy savings from available Energy Savings Measures (ESMs) and their inter-dependencies; identify and quantify ESM investment needs, energy savings paybacks and improvements in environmental conditions; and design, specify, implement, monitor and evaluate, document, and publicize reductions in public sector energy (electricity use), especially in cooling, lighting and hot water supply. By demonstrating, replicating, monitoring and publicizing the targeted 50% reductions in public sector buildings' energy use, the MPSBEE project will contribute towards the realization of FSM's national target of a 50% improvement in EE by 2020. As electricity is unavoidably expensive in the FSM (2018 tariffs are 39 – 77 US cents/kWh), it will also be cost effective for the private sector to learn from and replicate the best commercially available ESMs (especially for ventilation, cooling, lighting and hot water supply) that will be demonstrated, replicated, monitored, documented and publicized by MPSBEE for FSM's public-sector buildings. There is strong support from the FSM national and state governments to the MPSBEE project as a contribution to the FSM 50% EE target, and as FSM prepares for the 2023 end of US Compact II funding support. To contribute to global efforts to reduce GHG emission, FSM intends to improve EE and increase the use of RE. FSM's Intended Nationally-Determined Contribution (INDC) commits the country to unconditionally reduce its GHG emissions by 28 percent by 2025, compared to 2000. FSM also has a conditional target to reduce emissions by up to 35 percent in 2025, compared to 2000, subject to additional international financial, technical, and capacity building support.	3	2
	1	
	Evidence See notes	
9. Has the Social and Environmental Screening Procedure (SESP) been conducted to identify potential social and environmental impacts and risks? The SESP is not required for projects in which UNDP is Administrative Agent only and/or projects comprised solely of reports, coordination of events, trainings, workshops, meetings, conferences and/or communication materials and information dissemination. [if yes, upload the completed checklist. If SESP is not required, provide the reason for the exemption in the evidence section.]	Yes	No
MANAGEMENT & MONITORING		
10. Does the project have a strong results framework? (select from options 1-3 that best reflects this project): • **3:** The project's selection of outputs and activities are at an appropriate level and relate in a clear way to the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators that measure all of the key expected changes identified in the theory of change, each with credible data sources, and populated baselines and targets, including gender sensitive, sex-disaggregated indicators where appropriate. *(all must be true to select this option)* • **2:** The project's selection of outputs and activities are at an appropriate level but may not cover all aspects of the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators, but baselines, targets and data sources may not yet be fully specified. Some use of gender sensitive, sex-disaggregated indicators, as appropriate. *(all must be true to select this option)*	3	2
	1	
	Evidence See notes	

• **1:** The results framework does not meet all of the conditions specified in selection "2" above. This includes: the project's selection of outputs and activities are not at an appropriate level and do not relate in a clear way to the project's theory of change; outputs are not accompanied by SMART, results-oriented indicators that measure the expected change, and have not been populated with baselines and targets; data sources are not specified, and/or no gender sensitive, sex-disaggregation of indicators. *Note: Management Action or strong management justification must be given for a score of 1 Evidence: The project document contains a comprehensive project results framework as per the standard UNDP-GEF format. For the project goal, objective and outcomes, each of these have their corresponding indicators, baselines and targets, means of verification and critical assumptions. The project results framework does not include any gender sensitive, sex-disaggregated indicators.		
11. Is there a comprehensive and costed M&E plan in place with specified data collection sources and methods to support evidence-based management, monitoring and evaluation of the project? Evidence: The project document contains a costed M&E plan and a Monitoring Plan as per the standard UNDP-GEF format.	Yes (3)	No (1)
12. Is the project's governance mechanism clearly defined in the project document, including planned composition of the project board? (select from options 1-3 that best reflects this project): • **3:** The project's governance mechanism is fully defined in the project composition. Individuals have been specified for each position in the governance mechanism (especially all members of the project board.) Project Board members have agreed on their roles and responsibilities as specified in the terms of reference. The ToR of the project board has been attached to the project document. *(all must be true to select this option)*. • **2:** The project's governance mechanism is defined in the project document; specific institutions are noted as holding key governance roles, but individuals may not have been specified yet. The ProDoc lists the most important responsibilities of the project board, project director/manager and quality assurance roles. *(all must be true to select this option)* • **1:** The project's governance mechanism is loosely defined in the project document, only mentioning key roles that will need to be filled at a later date. No information on the responsibilities of key positions in the governance mechanism is provided. *Note: Management Action or strong management justification must be given for a score of 1 Evidence: The project document contains a defined governance mechanism that clearly outlines the roles and responsibilities of entities involved.	3	2
	1	
	Evidence See notes	
13. Have the project risks been identified with clear plans stated to manage and mitigate each risks? (select from options 1-3 that best reflects this project): • **3:** Project risks related to the achievement of results are fully described in the project risk log, based on comprehensive analysis drawing on the theory of change, Social and Environmental Standards and screening, situation analysis, capacity assessments and other analysis. Clear and complete plan in place to manage and mitigate each risk. *(both must be true to select this option)* • **2:** Project risks related to the achievement of results identified in the initial project risk log with mitigation measures identified for each risk. • **1:** Some risks may be identified in the initial project risk log, but no evidence of analysis and no clear risk mitigation measures identified. This option is also selected if risks are not clearly identified and no initial risk log is included with the project document. *Note: Management Action must be taken for a score of 1 Evidence: The project document contains a risk log, as part of the annexes. The identified risks are related to the achievement of results but need to be fully described based on comprehensive analysis conducted during the PPG.	3	2
	1	
	Evidence See notes	
EFFICIENT		
14. Have specific measures for ensuring cost-efficient use of resources been explicitly mentioned as part of the project design? This can include: i) using the theory of change analysis to explore different options of	Yes (3)	No (1)

achieving the maximum results with the resources available; ii) using a portfolio management approach to improve cost effectiveness through synergies with other interventions; iii) through joint operations (e.g., monitoring or procurement) with other partners. Evidence: LFA Workshop Report that details the problem tree, objective tree, and project definition showing the project goal, objectives, outcomes, outputs, and the various objective statements that will guide the project proponents in identifying the relevant project activities. The Theory of Change diagram based on the LFA is included in the Strategy section of the Project Document.		
15. Are explicit plans in place to ensure the project links up with other relevant on-going projects and initiatives, whether led by UNDP, national or other partners, to achieve more efficient results (including, for example, through sharing resources or coordinating delivery?) Evidence: The project is directly linked (through subsuming of relevant EC&EE activities) with ongoing and planned sustainable energy development projects of the World Bank, and the ongoing EU-funded development projects of the EU that include components on EC&EE.	Yes (3)	No (1)
16. Is the budget justified and supported with valid estimates? • **3:** The project's budget is at the activity level with funding sources and is specified for the duration of the project period in a multi-year budget. Costs are supported with valid estimates using benchmarks from similar projects or activities. Cost implications from inflation and foreign exchange exposure have been estimated and incorporated in the budget. • **2:** The project's budget is at the activity level with funding sources, when possible, and is specified for the duration of the project in a multi-year budget. Costs are supported with valid estimates based on prevailing rates. • **1:** The project's budget is not specified at the activity level, and/or may not be captured in a multi-year budget. Evidence: The project document does contain a total budget and work plan with clearly identified funding sources for each outcome (equivalent to ATLAS activity). . .	3 1 **Evidence** See notes	2
17. Is the Country Office fully recovering the costs involved with project implementation? • **3:** The budget fully covers all project costs that are attributable to the project, including programme management and development effectiveness services related to strategic country programme planning, quality assurance, pipeline development, policy advocacy services, finance, procurement, human resources, administration, issuance of contracts, security, travel, assets, general services, information and communications based on full costing in accordance with prevailing UNDP policies (i.e., UPL, LPL.) • **2:** The budget covers significant project costs that are attributable to the project based on prevailing UNDP policies (i.e., UPL, LPL) as relevant. • **1:** The budget does not adequately cover project costs that are attributable to the project, and UNDP is cross-subsidizing the project. *Note: Management Action must be given for a score of 1. The budget must be revised to fully reflect the costs of implementation before the project commences. Evidence: The budget fully covers all project costs that are attributable to the project. The role of UNDP in providing implementation support has been predicted and budgeted for. The commitment that will operationalize this is the *Letter of Agreement (LoA)* between UNDP and Government of FSM for the provision of support services. The LoA template is also contained in the project document.	3 1 **Evidence** See notes	2
EFFECTIVE		
18. Is the chosen implementation modality most appropriate? (select from options 1-3 that best reflects this project): • **3:** The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted, and there is evidence that options for implementation modalities have been thoroughly considered. There is a strong justification for choosing the selected modality, based on the development context. *(both must be true to select this option)*	3 1 **Evidence** This is being planned for	2

• **2:** The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted and the implementation modality chosen is consistent with the results of the assessments. • **1:** The required assessments have not been conducted, but there may be evidence that options for implementation modalities have been considered. *Note: Management Action or strong management justification must be given for a score of 1	second half of 2018.	
19. Have targeted groups, prioritizing marginalized and excluded populations that will be affected by the project, been engaged in the design of the project in a way that addresses any underlying causes of exclusion and discrimination? • 3: Credible evidence that all targeted groups, prioritizing marginalized and excluded populations that will be involved in or affected by the project, have been actively engaged in the design of the project. Their views, rights and any constraints have been analyzed and incorporated into the root cause analysis of the theory of change which seeks to address any underlying causes of exclusion and discrimination and the selection of project interventions. • 2: Some evidence that key targeted groups, prioritizing marginalized and excluded populations that will be involved in the project, have been engaged in the design of the project. Some evidence that their views, rights and any constraints have been analyzed and incorporated into the root cause analysis of the theory of change and the selection of project interventions. • 1: No evidence of engagement with marginalized and excluded populations that will be involved in the project during project design. No evidence that the views, rights and constraints of populations have been incorporated into the project. Evidence: Annex K provides a description of demonstration projects in selected public buildings in the 4 states of FSM i.e.: 4 hospital buildings, 3 office buildings, 1 public transport terminal building (airport), 1 industrial building; and, 1 school building. The scope of demonstrations covers all 4 states of FSM and targets the general public.	3 / 2 / 1 **Evidence** Refer to Note	
20. Does the project conduct regular monitoring activities, have explicit plans for evaluation, and include other lesson learning (e.g. through After Action Reviews or Lessons Learned Workshops), timed to inform course corrections if needed during project implementation? Evidence: The project team will conduct annual monitoring of the indicators in the Project Results Framework. The project will also have a mid-term review and terminal evaluation, as well as mid-term and end-of-project updates of the CCM tracking tool. There will be special activities to carry out more in-depth monitoring and reporting on the project demos. The project's building energy information system will provide access to project documents and project learnings via its website.	Yes (3)	No (1)
21. The gender marker for all project outputs are scored at GEN2 or GEN3, indicating that gender has been fully mainstreamed into all project outputs at a minimum. *Note: Management Action or strong management justification must be given for a score of "no" Evidence: None	Yes (3) **Evidence** None	No (1)
22. Is there a realistic multi-year work plan and budget to ensure outputs are delivered on time and within allotted resources? (select from options 1-3 that best reflects this project): • **3:** The project has a realistic work plan & budget covering the duration of the project *at the activity* level to ensure outputs are delivered on time and within the allotted resources. • **2:** The project has a work plan & budget covering the duration of the project at the output level. • **1:** The project does not yet have a work plan & budget covering the duration of the project. Evidence: The project document contains a realistic multi-year workplan (Annex A) that is set at activity level and the project document shows a budget plan that is set at the outcome level.	3 / 2 / 1 **Evidence** None	
SUSTAINABILITY & NATIONAL OWNERSHIP		
23. Have national partners led, or proactively engaged in, the design of the project? (select from options 1-3 that best reflects this project): • **3:** National partners have full ownership of the project and led the process of the development of the project jointly with UNDP. • **2:** The project has been developed by UNDP in close consultation with national partners.	3 / 2 / 1 **Evidence**	

<table>
<tr><td>

- **1:** The project has been developed by UNDP with limited or no engagement with national partners.

Evidence:
National partners were consulted during all formulation missions throughout the PPG. Although representatives from the implementing partner were consistently engaged, the process was still led by UNDP via the UNDP-consultants.

</td><td colspan="2"></td></tr>
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24. Are key institutions and systems identified, and is there a strategy for strengthening specific/ comprehensive capacities based on capacity assessments conducted? (select from options 0-4 that best reflects this project):

- **3:** The project has a comprehensive strategy for strengthening specific capacities of national institutions based on a systematic and detailed capacity assessment that has been completed. This strategy includes an approach to regularly monitor national capacities using clear indicators and rigorous methods of data collection and adjust the strategy to strengthen national capacities accordingly.
- **2.5:** A capacity assessment has been completed. The project document has identified activities that will be carried out to strengthen capacity of national institutions, but these activities are not part of a comprehensive strategy to monitor and strengthen national capacities.
- **2:** A capacity assessment is planned after the start of the project. There are plans to develop a strategy to strengthen specific capacities of national institutions based on the results of the capacity assessment.
- **1.5:** There is mention in the project document of capacities of national institutions to be strengthened through the project, but no capacity assessments or specific strategy development are planned.
- **1:** Capacity assessments have not been carried out and are not foreseen. There is no strategy for strengthening specific capacities of national institutions.

</td><td>3</td><td>2.5</td></tr>
<tr><td>2</td><td>1.5</td></tr>
<tr><td colspan="2">1</td></tr>
<tr><td colspan="2">Evidence</td></tr>
<tr><td>

25. Is there is a clear strategy embedded in the project specifying how the project will use national systems (i.e., procurement, monitoring, evaluations, etc.,) to the extent possible?

Evidence:
The FSM MPSBEE Project is national in scope and therefore includes and involves many national systems and coordination mechanisms for its activities and outputs, particularly in: awareness raising, training, policy-making and regulatory enforcement, EE equipment procurement, monitoring and evaluation (adherence to the GHG emissions reduction goal, i.e. 2,160 tons CO_2e by mid-term and 3,974 tons CO_2e), capacity development, information dissemination, and resource budgeting.

</td><td>Yes (3)</td><td>No (1)</td></tr>
<tr><td>

26. Is there a clear transition arrangement/ phase-out plan developed with key stakeholders in order to sustain or scale up results (including resource mobilization strategy)?

Evidence:
The project document has a transition arrangement/ phase-out plan as described in the project document, i.e., on the sustainability of enabling conditions that will be established through the project and scaling-up of the demonstration projects.

</td><td>Yes (3)</td><td>No (1)</td></tr>
</table>

Annex H. UNDP Risk Log

OFFLINE RISK LOG

Project Title: Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project	**Project ID:** 00112839	**Date: June 2018**

#	Description	Date identified	Type	Probability & Impact	Countermeasures / Management Response	Owner	Submitted, updated by	Last Update	Status
1	Inadequate local capacity to implement the project activities.	*June 2018*	*Organizational*	P = 2 I = 2	Coordination with other ongoing UNDP-GEF projects in the country will be carried out to take advantage of potential synergies in the management of the project implementation. This is in addition to UNDP country office support that the GoFSM can request.	*PMU, DE/DRD*	*Project Dev't Team*	*June 2018*	*Reducing (setting up of a strong PMU)*
2	Local communities where EC&EE demonstrations will be conducted[42] may not support the project implementation promptly and sufficiently.	*June 2018*	*Operational*	P = 2 I = 2	The DE/DRD will be supported by other entities in the execution of this project particularly in the coordination of the project implementation with the project partners. A capable project team comprising competent local and international experts will be established. The DE/DRD's good working relationship with local communities where the demo buildings are located will be put to good use to actively promote the implementation of this project and ensure the support of the local communities.	*PMU, DE/DRD*	*Project Dev't Team*	*June 2018 2018*	*Reducing (design of specific awareness raising activities)*
3	The committed level of co-financing for specific activities of the project	*June 2018*	*Financial*	P = 3 I = 3	During project implementation, the project team will closely monitor and ensure the timely availability of co-financing from project partners and co-financers. The project team	*PMU, DE/DRD*	*Project Dev't Team*	*June 018*	*Reducing (improved coordination between DRD, state*

[42] As per Project Document, the project will several building EC&EE projects as summarized in Annex K.

	may not become fully available in time.				shall secure government assurance of co-funding prior to project launching.				*gov'ts and UNDP)*
4	Relevant GoFSM agencies fail to approve and enforce formulated policies and regulations.	*June 2018*	*Regulatory*	P = 3 I = 3	Advocacy to gain adequate support from the parliament on the adoption of the formulated policies and regulations will be carried out by the implementing partners, with the assistance of UNDP if necessary.	*PMU, DE/DRD*	*Project Dev't Team*	*June 2018*	*Reducing (improved coordination between DRD, nat'l and state gov'ts and UNDP)*
5	The outcomes and benefits of GEF investment on the activities implemented will not be fully sustained.	*June 2018*	*Strategic*	P = 2 I = 2	The development of a sustainable follow-up plan is part of the project activities. This will be useful for the replication of the demonstrated applicable and feasible EE technologies in the other communities.	*PMU, DE/DRD*	*Project Dev't Team*	*June 2018*	*Reducing (improved coordination between DRD, nat'l and state gov'ts and UNDP)*
6	Adverse climate-related events may hamper the implementation of hardware-related activities.	*June 2018*	*Environmental*	P = 1 I = 4	Following proper engineering and construction design and construction that ensure not only structural integrity but also climate resilience will be adequately applied in the design and implementation of major EE activities that will involve procurement, design/engineering, installation and operation of EE technology system installations.	*PMU, DE/DRD*	*Project Dev't Team*	*June 2018*	*Reducing (inclusion of mitigating actions in demo project design)*
7	Change in national government administration may influence government support for project.	*June 2018*	*Political*	P = 1 I = 4	The local government, executing agency and other government departments involved in the project will monitor political dynamics and will try to resolve any misunderstanding within the project. UNDP executive management intervention may be warranted.	*PMU, DE/DRD, Local Government*	*Project Dev't Team*	*June 2018*	*No change*

8	Regular access to remaining 3 states is limited and transportation costs are often prohibitive.	*June 2018*	*Operational*	P = 1 I = 4	Better planning and coordination between government departments (particularly the maritime department) and other UNDP supported projects in carrying out joint missions to the remaining 3 states.	*PMU, DE/DRD, Local Government*	*Project Dev't Team*	*June 2018*	*Reducing (adequate training activities for state utility personnel)*

Annex I: Results of the capacity assessment

Micro HACT Assessment of the Implementing Partner: Division of Energy, Department of Resources & Development (DE/DRD)

Background

The micro assessment is part of the requirements under the Harmonized Approach to Cash Transfers (HACT) Framework. The HACT framework represents a common operational framework for UN agencies' transfer of cash to government and non-governmental implementing partners. The micro-assessment assesses the implementing partner's control framework. It results in a risk rating (low, moderate, significant or high). The overall risk rating is used by the UN agencies, along with other available information (e.g. history of engagement with the agency and previous assurance results), to determine the type and frequency of assurance activities as per each agency's guideline and can be taken into consideration when selecting the appropriate cash transfer modality for an implementing partner.

Scope

The micro-assessment for the MPSBEE Project provides an overall assessment of the DE/DRD programme, financial and operations management policies, procedures, systems and internal controls. It includes:

- A review of the DE/DRD's legal status, governance structures and financial viability, programme management, organizational structure and staffing, accounting policies and procedures, fixed assets and inventory, financial reporting and monitoring, and procurement; and
- A focus on compliance with policies, procedures, regulations and institutional arrangements that are issued both by the Government and the DE/DRD.

It considers results of any previous audits and micro assessments conducted of the DE/DRD.

Methodology

The HACT micro-assessment will be conducted by an independent audit firm. Through discussion with management, observation and walk-through tests of transactions, the assessment is made on the DE/DRD's related internal control system with emphasis on:

- The effectiveness of the systems in providing the DE/DRD's management with accurate and timely information for management of funds and assets in accordance with work plans and agreements with the United Nations agencies; and
- The general effectiveness of the internal control system in protecting the assets and resources of the DE/DRD.

The results of the micro-assessment are discussed with applicable UNDP personnel and the DE/DRD prior to finalization of the report. The assessment uses a consultative approach and includes interviews with key personnel.

Timeframe

The HACT micro-assessment of the DE/DRD, as implementing partner for the MPSBEE Project, will be carried out in August and completed by September 2018.

Summary of the Objective and Risk Rating Profile for FSM Department of Resources & Development (DRD)

HACT Micro Assessment of FSM DRD

This will be provided during the Project Inception. This is a work in progress.

Annex J. Additional Agreements

Co-Financing Letter – Department of Resources & Development

DEPARTMENT OF RESOURCES & DEVELOPMENT
Federated States of Micronesia
P.O. Box PS-12
Palikir, Pohnpei FM 96941
Phone: (691) 320-2620/2646/5133; Fax: (691) 320-5854
E-mail: fsmrd@fsmrd.fm

Mr. Bakhodir Burkhanov
Country Director,
UNDP Pacific Office in Fiji,
Level 8 Kadavu House,
414 Victoria Parade, Private Mail Bag,
Suva, FIJI

Subject: Confirmation of Co-financing for the Micronesia Public Sector Buildings Energy Efficiency Project

This is to confirm that the Department of Resources and Development, on behalf of the Government of the Federated States of Micronesia and the State Governments of Chuuk, Kosrae, Pohnpei and Yap are committing co-financing support amounting to US$ 3,450,000 to the implementation of the Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project.

Co-finance funds amounting to US$ 1,650,000 from the National Government will be used for the project implementation. From this funds, US$ 1,450,000 cash is earmarked to support the conduct of energy audits and the implementation of selected energy saving opportunities identified by the energy audits; research, design and implementation of relevant EE monitoring, reporting and database systems and EE guidelines; promotion and application of new energy-efficient building technologies and products, documentation and dissemination activities, capacity building for the public buildings sector, and for demonstration project management expenses. The rest of the funds amounting to US$ 200,000 is in-kind to support to project management, monitoring, evaluation and project coordination.

The project's partner state governments (Chuuk, Kosrae, Pohnpei and Yap) are collectively committing a total cash co-financing in the amount of US$ 1,600,000, and US$ 200,000 in-kind co-financing. These funds are for supporting logistically the conduct of the energy audits, energy end-use monitoring, reporting and database development, as well as for financing the EE system equipment that will be used in the EE technology application demonstrations in the state hospitals.

We anticipate the approval of the project by GEF and we are willing to cooperate with the project partners and utilize these funds over a period of 3 years to implement the MPSBEE Project. The support from the DRD, on behalf of the FSM Government, to the project, is described in detail in the Project Document and the associated budget. We consider that all of

Co-Financing Letter – United Nations Development Programme

United Nations Development Programme

Empowered lives.
Resilient nations.

31 July 2018

Letter No.: 435/18
Ref. No: PRO/300/Federated States of Micronesia

Dear Ms. Dinu,

Subject: Confirmation of Co-financing for the Federated States of Micronesia (FSM) Medium Size Project

This is to indicate our commitment to collaborating with the implementation of the medium-size project entitled Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project for the period 2019 to 2021.

We are pleased to confirm our commitment to provide co-financing in the amount of US$50,000 towards the realization of objectives of the project over the four-year timeframe. This amount will be in the form of cash support from the UNDP Japanese Funding – Project for Strengthening Legislators Capacity in the Pacific Island Countries.

The FSM component of the UNDP Japanese Funding – Project for Strengthening Legislators Capacity in the Pacific Island Countries will strengthen capacities to approve laws and regulations in FSM, which will directly impact Outcome 1 of MPSBEE project "Enforcement of policies and guidance on the energy efficient and energy conserving design, retrofit, operation and maintenance of public sector building". Focus will be on the: (i) approved and followed building energy conservation and energy efficiency policies, appropriate energy efficiency technologies and approaches, and implementation and operation and maintenance guidance documents; and (ii) public sector buildings that are compliant to energy standards stipulated in building energy conservation and energy efficiency policies, and associated guidance and implementing rules and regulations.

We look forward to working with the GEF, and UNDP colleagues in addressing this important portfolio.

Ms. Adriana Dinu
Executive Coordinator, UNDP-GEF
United Nations Development Programme (UNDP)
New York
United State of America

UNDP Pacific Office in Fiji | Level 8, Kadavu House, 414 Victoria Parade, Suva, Fiji
Tel: +679 3312 500 | Fax: +679 3301 718 | E-mail: registry.fj@undp.org | www.pacific.undp.org

Yours sincerely,

Bakhodir Burkhanov
Country Director, UNDP Pacific Office in Fiji
and Head of Pacific Regional Programme and Policy

UNDP Pacific Office in Fiji | Level 8, Kadavu House, 414 Victoria Parade, Suva, Fiji
Tel: +679 3312 500 | Fax: +679 3301 718 | E-mail: registry.fj@undp.org | www.pacific.undp.org

Letter of Agreement (LOA)

Letter of agreement between UNDP and Government of Federated States of Micronesia for the provision of support services

Project Title "Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project"

PIMS # 5997, Project ID: 00112839, Output ID: 00111186

Excellency,

1. Reference is made to consultations between officials of the Government of ***the Federated States of Micronesia*** (hereinafter referred to as "the Government") and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Government through its institution designated in the relevant programme support document or project document, as described below.

2. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. . . In providing such support services, the UNDP country office shall ensure that the capacity of the Government-designated institution is strengthened to enable it to carry out such activities directly. . . The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.

3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the programme/project:

(a) Identification and/or recruitment of project and programme personnel;
(b) Identification and facilitation of training activities;

4. Procurement of goods and services;

5. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. . . Support services described in paragraph 3 above shall be detailed in an annex to the programme support document or project document, in the form provided in the Attachment hereto. . . If the requirements for support services by the country office change during the life of a programme or project, the annex to the programme support document or project document is revised with the mutual agreement of the UNDP country director and the designated institution. . .

6. The relevant provisions of the Standard Basic Assistance Agreement (SBAA) between the Authorities of the Government of ***Federated States of Micronesia*** and the United Nations Development Programme (UNDP), signed by the Parties on December 2, 2008 (the "SBAA") including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed programme or project through its designated institution. . . The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the programme support document or project document.

7. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.

8. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 above shall be specified in the annex to the programme support document or project document.

9. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.

10. Any modification of the present arrangements shall be effected by mutual written agreement of the parties hereto.

11. If you are in agreement with the provisions set forth above, please sign and return to this office two signed copies of this letter. Upon your signature, this letter shall constitute an agreement between your Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,

_____

Signed on behalf of UNDP

Mr. Bakhodir Burkhanov

Country Director

Date:

_____

For the Government of *Federated States of Micronesia*

Mr. Marion Henry,

Secretary, Department of Resources and Development,

Government of Federates States of Micronesia

Date:

Attachment: Description of UNDP Country Office Support Services

1. Reference is made to consultations between the Department of Resources and Development, the institution designated by the Government of ***Federated States of Micronesia***, and officials of UNDP with respect to the provision of support services by the UNDP country office for the nationally managed programme or project "**Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project** (PIMS # 5997, Project ID: 00112839, Output ID: 00111186)
2. In accordance with the provisions of the letter of agreement signed and the programme support document (*project document*), the UNDP country office shall provide support services for the Programme as described below.
3. Support services to be provided:

Support services	Schedule for the provision of the support services	Cost to UNDP of providing such support services (where appropriate)	Amount and method of reimbursement of UNDP (where appropriate)
1. Support DRD in the identification and/or recruitment of project personnel * Project Coordinator * Finance Officer	January – March 2019	As per the UPL: US$ 893.96 per case, including recurring cost after hire (i.e. payments)	Should be approved by the Project Board; then UNDP will directly charge the project upon receipt of request of services from the Implementing Partner/Project Board
2. . . Procurement of goods: * Data show * PCs * Printers	January – March 2019	As per the UPL: US$ 706.11 for each purchasing process	As above
3. Procurement of Services Contractual services for companies	Ongoing throughout implementation when applicable	As per the UPL: US$ 327.53 each hiring	As above
4. Payment Process	Ongoing throughout implementation when applicable	As per the UPL: US$ 30.64 for each	As above
5. Staff HR & Benefits Administration & Management	Ongoing throughout implementation when applicable	N/A	N/A
6. Recurrent personnel management services: Staff Payroll & Banking Administration & Management	Ongoing throughout implementation when applicable	N/A	N/A
7. Ticket request (booking, purchase)	Ongoing throughout implementation when applicable	As per the UPL: US$ 28.91 for each	As above
8. F10 settlement	Ongoing throughout implementation when applicable	As per the UPL: US$ 29.20 for each	As above
9. Support Implementing Partner in conducting workshops and training events	Ongoing throughout implementation when applicable	As per the UPL: US$ 23.44 per day (for preparation and during workshop)	As above
		Total: up to USD 15,000 from GEF grant	

4. Description of functions and responsibilities of the parties involved:

UNDP will conduct the full process while the role of the Implementing Partner (IP) will be as follows:

- The Implementing Partner will send a timetable for services requested annually/ updated quarterly;
- The Implementing Partner will send the request to UNDP for the services enclosing the specifications or Terms of Reference required;
- For the hiring staff process: the IP representatives will be on the interview panel; and
- For Hiring: the IP representatives will be on the interview panel or participate in CV review in case an interview is not scheduled.

Annex K: Description of Demonstrations

Component 3 of the MPSBEE Project includes the design and implementation of EC&EE technology application projects in public sector buildings in FSM. Based on the stakeholder discussions during the PPG phase, 10 demonstrations will be included in the project. A preliminary line-up of these demonstrations was prepared during the PPG phase. The EC&EE technology demonstrations chosen are ambitious and comprehensive energy efficiency upgrades, with suitable monitoring and publicising for the state hospital in each of the four constituent states of FSM, and also one building of the nine similar buildings of national capital complex for the national government of FSM as a whole.

Table 1 presents the initially identified and evaluated demonstrations that will showcase the design, planning, engineering, installation and operation of EC&EE technology application projects in selected public buildings in the 4 states of FSM. These are initially planned projects by the demonstration hosts but are enhanced/modified with features that improves the energy performance and resulting GHG emission reduction. The list include four hospital buildings, three office buildings, one public transport terminal building (international airport), one industrial building; and, one school building. One would note that there are 4 hospitals in the list. These are the state hospitals (1 per state). The reasons for the selections of the four state level hospitals as the key project demo buildings is that FSM is a federation of four widely geographically separated states with considerable local autonomy and different languages – there is no FSM common language except English which is the official language. Demonstrating energy efficient buildings in one state would have little credibility on any other island/state of FSM[43]. The key EE demo elements are using the highest commercially available overall EE (as measured by the SEER rating, and the longest available warranty split system ACs, along with the use of long life and high lighting efficacy LED lighting panels – both technologies are directly relevant to the majority of energy use in all FSM pubic buildings. Hence an EE demonstration in the local state hospital will have the greatest credibility for EE replication to other public sector buildings in that particular state. The states of FSM do not have significant energy use representative office buildings that would serve as credible exemplary examples of EE. There are no major planned new buildings that the project could realistically demonstrate EE in, hence the focus on EE in existing buildings and not on new building design. Building envelope insulation improvements and reducing ventilation heat loss from uncontrolled infiltration in louvre windows and doors is included, but the major EE gains will be from demonstrating AC and lighting equipment that uses only half or less of the energy for the same cooling or lighting output. These demos are meant to showcase the design, planning, engineering, installation and operation of EC&EE technology application projects in different types of public sector buildings in FSM.

Table 1 also shows the results of the pre-feasibility analyses of these initially identified and evaluated demonstrations. The pre-feasibility analyses that were done for the abovementioned demonstrations are based on the following assumptions:

- Energy Prices: State utility 2018 tariffs that apply to public sector buildings in that state are: 39, 41, and 44 US cents/kWh in Pohnpei, Chuuk, and Kosrae, respectively. The electricity tariff in Yap state is 77 cents/kWh in Yap.
- Economics: Discount Rate @ 10.5%; Average 60% of energy cost savings from EC&EE initiatives is used for operating cost; Income Tax @ 10%; Straight line depreciation. . .

[43] So, for example, Yap is 2,800 kms and 4 flights away from Kosrae, and hence a successful demonstration on Yap will have limited credibility on Kosrae. Just like all 'politics are local', demonstrations must also be local to have the necessary credibility for local replication. The hospital is the key defining building in each state.

These demonstrations are the bases for estimating the GHG emission reductions that will be attributable to the MPSBEE Project. Please refer to Annex K.

Key EE Measures and Savings to Be Showcased in the Demos

From the site visits and analyses done during the PPG phase covering all major FSM public sector buildings, the following key EE measures and likely levels of energy savings have been identified for each of the four FSM state hospitals and for one building of the FSM national government complex:

1. *40 - 60% AC electricity savings* – will be achieved by replacing all existing split system and window ACs with the best available EE level inverter ACs, such as the SEER 38 (Seasonal Energy Efficiency Rating) 9000 BTU cooling capacity system AC model available from one of the world's largest AC manufacturers with multiple sales outlets in Pohnpei. Very high EE (e.g. SEER 30.5) level ACs are also available from six major AC manufacturers, and also in other cooling capacities. The highest EE level unit ACs currently fitted in any FSM public sector buildings are SEER 15 spilt-system inverter units, most would have SEER ratings of 11 – 13 at best.

   All existing fixed and split system ACs in public sector buildings that are used for 40 hours per week or more will be replaced by the highest available EE level (i.e. SEER 30.5 or higher) inverter ACs during the 2019 - 2021 implementation period of the MPSBEE project. Where ACs are used less (e.g. less than say 20 hours/week) in intermittent use such as in a school or similar applications, then very high EE (e.g. at least SEER 25) ACs will be used.

   The AC units' outside condensers will also be anti-corrosion treated. This will ensure that the new ACs would have an expected life of around 10 years, rather than the 5-7 years that is apparently currently the case, given the high salt marine environment in FSM. Any extra up-front cost of highest available EE levels and anti-corrosion treatment of ACs would almost certainly pay for itself from electricity cost savings and extended AC unit life.

   The big unknown is how much electricity can be saved in the current central AC system at the Pohnpei and Yap hospitals - and also in the system at the Chuuk State hospital, if or when has its ductwork completed and is operational. Order of magnitude central AC system electricity savings are 0 – 30%. Firming up these figures will require a specialized appraisal of the central AC systems, their controls, zoning, set points, optimizing part load EE, specific savings opportunities, etc.

   Additional AC running cost savings – given the dominance of ACs in building energy use, the EE gains from using best available EE level ACs will be supplemented by: (1) increasing AC set-point temperatures; (2) turning off ACs at the end of the working day and in unoccupied rooms/spaces; (3) regular cleaning of inside and outside AC filters; and (4) checking and topping up refrigerant charge levels at manufacturer recommended internals.

2. *Around 50 - 70% lighting electricity savings* - will be achieved by replacing the existing common public sector buildings' twin 4' fluorescent lamp fittings (presumably with two 32-36W lamps and 1.5 – 10 W ballasts) with new best available EE level integral LED light panels. LED light panels can be specified that have 50,000 hour rated lifetimes (20 years life at 50 hours/week usage), zero maintenance requirements over their rated lifetime, a high light efficacy of up to 140 lumens/watt that will all be usefully projected in an even lighting pattern into the workspace, high power factor, high color rendering, a wide beam angle, be dimmable, and come in a range of available color temperatures. LED light panels can give around 2-3 times the actual useful light output per watt, around 3 times the lifetime, and avoid the high percentage of failed lamps at the end of life of the

conventional fluorescent tubes in the non-reflector fittings that are currently predominantly used in FSM public sector buildings.

Replacing the existing fluorescent tube fittings with all-new suitable best available EE level LED light panels will give 1 – 3.5 W/m^2 lighting loads and 10 - 20 year no-maintenance life lighting systems. This will give major EE and O&M gains compared to the 6 – 20 W/m^2 and 2 years (for 24/7 lighting) to 6 years (for 50 hours/week lighting) with significant tube failures from the continued use of the current conventional fluorescent tube lighting systems.

Simple drop-in 16-18W LED tubular lamps could be used with the existing public sector building light fittings and would give useful EE gains, as is being done in current EE renovations in FSM. However, this is not being done in the demos, as the light loss in reused fluorescent tube fittings would be 30-50%, given that the existing fittings are non-reflector designs with high light loss egg-crate/acrylic diffusers. To maximize EE gains, all existing light fittings will therefore be replaced with best available EE level LED light panels.

Additional lighting electricity savings will be possible with improved lighting controls, and by occupants/designated people/janitors turning off lights in unoccupied or adequately day-lit spaces. Pull-cord on-off switches and cords should be installed on most lights to enable users to readily turn off lights that are not needed. Lights next to windows should be on separate circuits, so that people can turn them off when there is sufficient daylight. Photocell controls should also be used to dim and/or turn off lights in spaces with adequate daylight, especially with the use of appropriate dimmable LED light panels. People should also be encouraged to turn off lights when they leave their offices, and suitable people (and maintenance/janitor/cleaning staff) should be designated to turn off all lights (and ACs) at the end of the work and in weekends and holidays.

Existing outside security lights will be replaced with suitable photocell or time-controlled LED streetlights to give wide-area and good quality low-level lighting (akin to bright moonlight levels) around buildings, instead of there being high levels of building exterior lighting and no lighting in the open spaces between buildings as is currently the case.

3. *50 - 75% hot water electricity savings* – will be achieved by replacing existing electric storage hot water cylinders with suitable SWHs. The SWHs will have appropriate collector sizes, hot water storage capacities, technology type and plumbing arrangements for the level of maintenance that can be expected in each application.

   For the Yap State hospital with its generally reasonable level of maintenance, lower initial cost individual direct connected thermosyphon SWHs will be a viable SWH option, either using evacuated tube collector options, or flat plate collectors. A central pumped SWH system is also a possible option, with either flat plate or evacuated tube collectors, but a central pumped system would likely have a higher first cost and higher O&M costs than the use of standard individual thermosyphon to integral hot water tank SWHs.

   For the Pohnpei and Chuuk State hospitals with their generally low observed maintenance levels (and no current hot water system at all in Chuuk), the installation of standard design, well-proven, and passive operation (direct connected thermosyphon) mains pressure thermosyphon SWH system with long warranties will be done, with the initial cost being less of an important factor than low maintenance and a credible and long warranty period.

Table 1: List of EC&EE Technology Application Demonstrations (*Description and Techno-economic Pre-Feasibility Analyses Results*)

Demonstration 1: Energy Efficiency Improvement in Public Hospital Building					
Demo Building: Pohnpei State Hospital				**Location:** Kolonia, Pohnpei	
EE Technology Application: High efficiency (SEER) air conditioning; Central AC system optimization; LED lighting; solar water heating.					
Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; (2) replacement LED lighting system; and, (3) solar water heaters. EE retrofit and optimization of existing central AC system. . .					
Investment Cost, US$	**Annual Energy Savings, MWh**	**Annual GHG Emission Reduction, tCO2**	**Annual Energy Cost Savings, US$**	**Economic Feasibility**	
				NPV, US$	**IRR, %**
570,000	**400.0**	**340.0**	**160,000**	**$116,662**	**15.0%**
Demonstration 2: Energy Efficiency Improvement in Public Hospital Building					
Demo Building: Yap State Hospital				**Location:** Colonia, Yap	
EE Technology Application: High efficiency (SEER) air conditioning; Central AC system optimization; LED lighting; solar water heating.					
Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; (2) replacement LED lighting system; and, (3) solar water heaters. EE retrofit and optimization of existing central AC system.					
Investment Cost, US$	**Annual Energy Savings, MWh**	**Annual GHG Emission Reduction, tCO2**	**Annual Energy Cost Savings, US$**	**Economic Feasibility**	
				NPV, US$	**IRR, %**
460,000	**300.0**	**255.0**	**230,000**	**$312,699**	**24.4%**
Demonstration 3: Energy Efficiency Retrofit in Public Hospital Building					
Demo Building: Kosrae State Hospital				**Location:** Tofol, Kosrae	
EE Technology Application: High efficiency (SEER) air conditioning; LED lighting; solar water heating					
Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; (2) replacement LED lighting system; and, (3) solar water heaters. No central AC system. . .					
Investment Cost, US$	**Annual Energy Savings, MWh**	**Annual GHG Emission Reduction, tCO2**	**Annual Energy Cost Savings, US$**	**Economic Feasibility**	
				NPV, US$	**IRR, %**
100,000	**100.0**	**85.0**	**50,000**	**$67,978**	**24.4%**
Demonstration 4: Energy Efficiency Improvement in Public Hospital Building					
Demo Building: Chuuk State Hospital				**Location:** Weno, Chuuk	

EE Technology Application: High efficiency (SEER) air conditioning; LED lighting; solar water heating

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; (2) replacement LED lighting system; and, (3) solar water heaters. No central AC system.

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
535,000	400.0	340.0	175,000	$163,281	17.1%

Demonstration 5: Energy Efficiency Improvement in Public Office Building

Demo Building: Building E (Kasillehei), National Capital Complex **Location:** Palikir, Pohnpei

EE Technology Application: High efficiency (SEER) air conditioning; LED lighting system

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED lighting system.

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
100,000	70.0	60.0	28,000	$20,315	15.0%

Demonstration 6: Energy Efficiency Improvement in Public Transport Terminal Building

Demo Building: Yap International Airport Terminal **Location:** Colonia, Yap

EE Technology Application: High efficiency (SEER) air conditioning; LED lighting and lighting load optimization.

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED units for optimized lighting system.

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
100,000	70.4	59.8	54,000	$76,644	26.0%

Demonstration 7: Energy Efficiency Improvement in Public Commercial Building

Demo Building: Yap Fishing Authority Ice Plant & Storage **Location:** Colonia, Yap

EE Technology Application: High efficiency ice making machines; and, improved insulation materials.

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: Installation, operation and maintenance of: (1) replacement high EE ice making machines; and, (2) high efficiency ice storage insulation and sealing system.

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
150,000	**74.3**	**63.2**	**57,000**	**$62,970**	**19.4%**

Demonstration 8: Energy Efficiency Improvement in Public Office Building

Demo Building: Other Office Buildings in National Capital Complex | **Location:** Palikir, Pohnpei

EE Technology Application: High efficiency (SEER) air conditioning; EE lighting systems

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED lighting system.

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
800,000	**750.0**	**637.5**	**300,000**	**$327,174**	**19.2%**

Demonstration 9: Energy Efficiency Improvement in Public Office Building

Demo Building: Pohnpei State Administration Building | **Location:** Kolonia, Pohnpei

EE Technology Application: High efficiency (SEER) air conditioning; Airconditioned space optimization.

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split type AC units; and, (2) efficient window sealing systems. . .

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
100,000	**90.0**	**76.5**	**36,000**	**$37,647**	**18.5%**

Demonstration 10: Energy Efficiency Improvement in Public School Building

Demo Building: Chuuk High School | **Location:** Weno, Chuuk

EE Technology Application: High efficiency (SEER) air conditioning; LED lighting

Demo Description: Conduct of comprehensive energy audit to verify preliminarily identified energy saving measures (ESMs); Development of an energy use model for before and after comparison of demo results monitoring; Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED units for optimized lighting system. . .

Investment Cost, US$	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2	Annual Energy Cost Savings, US$	Economic Feasibility	
				NPV, US$	IRR, %
100,000	82.2	69.9	36,000	$37,647	18.5%

Annex L: GHG Emission Reduction Estimates

1. Basic Assumptions

a. The direct GHG emission reductions that will be attributable to the MPSBEE Project will be derived from the EC&EE technology application demonstrations that will be carried out under the project. These will be the 10 EC&EE technology application demos that will be designed and implemented using technical and financial assistance provided under the project. These are projects that are planned to be implemented by the project partners, i.e., demonstration hosts. The incremental technical and financial assistance that will be provided is for improving the business-as-usual operation of building services/facilities and any planned EC&EE projects of the host public sector buildings.

b. The other sources of GHG emission reductions that will be attributable to the MPSBEE Project are the planned 10 building EC&EE demo replications that will be designed, financed and implemented by the building management or administration. These 10 planned replications will also form part of the demonstrations under the PSBEE Project. Incremental technical and financial assistance, if required, will also be provided for improving the originally planned replication EC&EE projects of the host buildings.

c. The 10 demonstrations are presented in Annex K. The table below describe the estimated annual and incremental direct GHG emission reductions from each project:

2. Estimated Direct Emission Reductions (DER) from the Demonstration Projects

Demo No.	Demo Building	EC&EE Technology Application	EC&EE Demo Description	Annual Energy Savings, MWh	Annual GHG Emission Reduction, tCO2
1	Pohnpei State Hospital (PSH) Bldg.	High efficiency (SEER) air conditioning; Central AC system optimization; LED lighting; solar water heating	Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; (2) replacement LED lighting system; and, (3) solar water heaters. EE retrofit and optimization of existing central AC system. . .	400.0	340.0
2	Yap State Hospital Bldg.	High efficiency (SEER) air conditioning; Central AC system optimization; LED lighting; solar water heating	Same as PSH Demo	300.0	255.0
3	Kosrae State Hospital Bldg.	High efficiency (SEER) air conditioning; LED lighting; solar water heating	Same as PSH Demo (as a EE retrofit of AC, lighting and hot water system). No central AC system.	100.0	85.0
4	Chuuk State Hospital Bldg.	High efficiency (SEER) air conditioning; LED	Same as PSH Demo (as a EE retrofit of AC and lighting	400.0	340.0

		lighting; solar water heating	and installation of hot water system). No central AC system.		
5	Building E (Kaselehlie), National Capital Complex	High efficiency (SEER) air conditioning; LED lighting	Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED lighting system. . .	70.0	60.0
6	Yap Airport Terminal Bldg.	High efficiency (SEER) air conditioning; LED lighting and lighting load optimization.	Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED units for optimized lighting system. . .	70.4	59.8
7	Yap Fishing Authority Ice Plant & Storage Bldg.	High efficiency ice making machines; improved insulation materials	Installation, operation and maintenance of: (1) replacement high EE ice making machines; and, (2) high efficiency ice storage insulation and sealing system. . .	74.3	63.2
8	NCC Office Buildings	High efficiency (SEER) air conditioning	Same as NCC Bldg. E Demo	750.0	637.5
9	Pohnpei State Administration Bldg.	High efficiency (SEER) air conditioning; Airconditioned space optimization.	Installation, operation and maintenance of: (1) replacement high SEER split type AC units; and, (2) efficient window sealing systems. . .	90.0	76.5
10	Chuuk High School	High efficiency (SEER) air conditioning; LED lighting	Installation, operation and maintenance of: (1) replacement high SEER split-type AC units; and, (2) replacement LED units for optimized lighting system. . .	82.2	69.9
TOTAL				**2,324.5**	**1,986.9**

3. CO_2 Emissions Reduction Estimates

Direct CO_2 Emission Reductions (DER)

Within the project intervention period, there will be demonstrations and replication activities for the application of EC&EE technologies in public sector buildings. The above table shows that the estimated cumulative direct emission reductions (DER_{EOP}) during the MPSBEE Project implementation is about 3,974 tons CO_2. The lifetime direct emission reductions ($DER_{LIFETIME}$) is about 23,842 tons CO_2. These are directly attributable to the MPSBEE Project.

- **DER_{EOP}** = CO_2 emission reductions due to MPSBEE Project intervention (cumulative by end-of-project) = 3,974 tons CO_2
- **$DER_{LIFETIME}$ of demos** = CO_2 emission reductions from all demo projects up to their lifetime = 23,842.5 tons CO_2

The replication of the demonstrations will be carried out during and after the MPSBEE project implementation. The replications during the MPSBEE project implementation period will be done in other public sector buildings like those that will be energy audited under Component 2 of the project. To be conservative, it is expected that the kind of energy saving measures (ESMs) and the magnitude of energy savings that will be realized will be the same as that of the demos. Since, these replications will be assisted in one way or another (e.g., design of the scheme to implement the relevant ESMs), the energy savings and corresponding GHG emission reductions can be attributed to the MPSBEE. It is estimated that there will be at least another set of projects similar to the demos will be replicated. Hence.

- **$DER_{LIFETIME}$ of replications** = CO_2 emission reductions from all replication projects (10 demo replications) up to their lifetime = 23,842.5 tons CO_2

Lifetime DER = DER_{DEMOS} + $DER_{AREPLICATION\ ASSISTED\ \&\ IMPLEMENTED\ during\ MPSBEE}$ = 23,842.5 + 28,342.5 = 47,685 tons CO_2

Direct Post-Project CO2 Emission Reductions (DPPER)

Furthermore, it is also expected that with the enabling policy/regulatory frameworks and capacity development that will be facilitated by the project, it is also expected that more replications will be carried out after the completion of the 3-year MPSBEE Project. These replication initiatives will also be assisted during the MPSBEE project implementation period (e.g., design of the projects, assistance in securing funding, etc.) but will be implemented after the MPSBEE project completion. Because of that, the energy savings and corresponding GHG emission reductions from these post-MPSBEE projects can also be attributed to the MPSBEE. It is estimated that there will be at least 2 sets of projects similar to the demos that will be replicated. Hence.

$DER_{LIFETIME}$ of replications (post-MPSBEE) = CO_2 emission reductions from all replication projects up to their lifetime = 2 * 23,842 = 47,685 tons CO_2

Lifetime DPPER = $DER_{ASSISTED\ BY\ MPSBEE\ BUT\ IMPLEMENTED\ AFTER\ MPSBEE}$ = 47,685 tons CO_2

Consequential CO_2 Emission Reductions (CER)

Bottom-up Approach (BUA)

In estimating the Lifetime Consequential Emission Reductions using the bottom-up approach (CER_{BUA}), the sum of the Lifetime DER and Lifetime DPPER is multiplied by a replication factor (RF). The replication may also include other interventions aside from EC&EE such as the application of renewable energy technologies. This will result in more GHG emission reduction especially if some of the diesel-based power generation is replaced with RE-based power generation. As a market transformation and demonstration project, the GEF prescribed RF value of 3 will be used. In this case:

CER_{BUA} = (Lifetime DER + Lifetime DPPER) x RF = (47,684 + 47,684) x 3 = 286,109 tons CO_2

Top-Down Approach (TDA)

The 10-year influence period starts from the year after the MPSBEE Project completion. In this case, it is the period from 2022 to 2032. Based on the flatline trend analysis of the historical annual energy consumption and annual national GHG emissions, the following can be deduced:

- Estimated Forecast Total Energy Savings due to EE actions (alternative scenario vs. BAU scenario) during the 10-year influence period (ES_{TDA}) = 117.4 GWh
- Estimated Forecast Total CO_2 emission reductions (ERs) due to EE actions (alternative scenario vs. BAU scenario) during the 10-year influence period (ER_{TDA}) = 99,800[44] tons CO_2

Considering the: (a) enabling environment that the MPSBEE project will create for the public sector buildings; (b) total potential emissions reduction during the 10-year influence period from EE initiatives; and, (c) the current work on energy efficiency in commercial buildings in FSM, a causality factor = 1.0 is deemed justified. Note that the savings and GHG emission reductions will be higher if renewable energy will be used both in the electricity supply and demand side.

CER_{TDA} = Lifetime Consequential CO_2Emission Reductions = ER_{TDA} * CF = 99,800 * 1 = 99,800 tons CO_2 (NOTE: This is mainly from the applications of EC&EE technologies.)

Summary of CO_2 Emission Reductions

CO_2 Emission Reduction Type	**Quantity, tCO_2**
End-of-Project Direct CO_2 Emission Reduction (DER_{EOP})	3,974
Lifetime Direct CO_2 Emission Reduction (DER_{TOTAL})	47,685
Lifetime Direct Post Project CO_2 Emission Reduction ($DPPER_{TOTAL}$)	47,685
Lifetime Consequential CO_2 Emission Reduction - BU Approach (CER_{BUA})	286,109
Lifetime Consequential CO_2 Emission Reduction - TD Approach (CER_{TDA})[45]	99,800

Range of Lifetime Consequential CO_2 Emission Reduction: CER_{BUA} & CER_{TDA}: 99,800 – 286,109 tons.

[44] Based on the PIF data of conservative (i.e. likely to be higher now) 2011 total electricity generation for all 4 state utilities of FSM of 75GWh resulting in 64 ktons of CO2 emissions

[45] As per the PIF, this is the potential from the buildings sector in FSM, which accounts for about 50% of the forecast average annual electricity consumption of the country during the project period and during the average lifetime of 20 years of EE technology application installations

Annex M: Annual Targets

Indicator	Baseline	Year 1	Year 2	Year 3
Goal				
Specific energy consumption in the buildings sector, kWh/m2/yr	150	147	145	140
Cumulative incremental GHG emission reduction from the buildings sector, tons CO_2e	0	1080	2160	3974
Objective				
Cumulative incremental fossil fuel savings due to sustainable energy efficiency and low carbon interventions implemented, toe diesel	0	283.2	566.4	1042.1
No. of new jobs created in the application of EC&EE technologies and techniques in the country's building sector	0	2	3	4
Outcome 1				
No. of approved and followed building EC&EE policies, and associated guidance and implementing rules and regulations.	0	1	2	3
No. of public sector buildings that are compliant to energy standards stipulated in building EC&EE policies, and associated guidance and implementing rules and regulations.	0	0	6	14
Outcome 2				
No. of buildings reviewed under established and operational energy audit system for comprehensive best commercially available EE equipment EE demos and replication renovations	0	5	10	30
No. of state/national level quarterly reports on public sector buildings energy use from state power utilities and consumption reports as per the EMRS.	0	0	4	4
No of building/sectoral level ISO50001 style annual reports submitted to the FSM Energy Group	0	0	6	14
Outcome 3				
No. of public sector building EE technology application projects designed and financed for implementation as demonstrations.	0	2	5	14
No. of EC&EE projects implemented in public sector buildings influenced by the results and outcomes of the implemented technology application demonstrations.	0	0	8	16
Outcome 4				
No. of trained public sector building personnel that can ably manage the design, implementation and evaluation of building EC&EE application projects.	0	0	5	10

Annex N: Gender Equality Analysis

Gender equality and women's issues will be affected with regard to the gendered division of labour, so for instance women nurses in the state hospitals and women teachers in schools and women staff in government administration buildings will be the groups who will benefit the most from the improvements[46] of lighting output, quality and life and the improvements of AC units' noise, control and life that will come from the project. These issues will be clarified by the gender survey mission that will be carried out in the second half of 2018.

A Baseline Gender Survey mission will be conducted in the second half of 2018. The survey will follow from the initial consultations held with key project stakeholders between 2015 and 2016, the log-frame analysis workshop in December 2017 post-GEF approval of the PIF on 16th August 2017; and the project design and fact-finding missions in February, March and May 2018. The Gender Survey is a UNDP corporate requirement and in accordance with the quality assurance assessment for designing and appraising development projects. The Gender Survey would set the scene for the overall gender assessment that will determine the extent to which gender needs are being addressed through the MPSBEE demonstration activities.

Energy efficiency projects such as MPSBEE are sometimes presented as strictly related to technology, equipment and scientific measurement of greenhouse gas (GHG) emission reductions. However, it should be kept in mind that ultimately the purpose of the investments and activities under such projects are to have a positive impact on people's daily lives – in this case for people working in the public sector in FSM. . . Given that the gendered division of labour and energy usage can vary significantly between men and women in any community, investigation of the gender impacts and implications of this project, can help clarify how it can best contribute to tangible improvements in the lives of the FSM men and women involved. The Gender Survey will highlight opportunities for applying energy efficiency technologies and practices that would support the daily activities of men and women at community levels.

- *Key informant interviews:* The purpose of this interview method is to deepen the grasp of context, coping strategies and issues of concern in relation to accessing energy in the context of MPSBEE. Four influential individuals will be interviewed comprising the representatives of males and females from both age categories. Key informants will be asked about the main issues that affect quality of work environment, what are the main uses of energy by men and women, what are the benefits and shortcomings of past energy projects, and how could projects be adjusted or modified to make things better.
- *Single sex focus groups:* The purpose of this interview method is to identify respective gender roles and duties of men and women, as well as to identify gender-specific coping strategies, practices and concerns in relation to accessing energy. Four groups of individuals will be interviewed comprising: young women (ages between 18 to 34), young men (ages between 18 to 34); older women (ages 35 years and over); and older men (ages 35 years and over). The groups will be asked about the following: their involvement in the energy development project in terms of decision-making, training opportunities, employment, and research; the biggest benefit to women's daily life, because of the energy project; any negative impact from the energy or any development project; level of satisfaction; and suggestions to improve the new energy project.

[46] Most existing hospital and school lights have old fluorescent tubes that are well past their design life with around 50% not working at all and the other 50% having greatly reduced light outputs) and old window ACs that have mostly failed and non-inverter ACs that are noisy and are not always replaced when they fail.

Time use surveys: The purpose of this interview method is to track the number of hours per day that men and women typically devote to various activities (productive and reproductive) in a community, and to detect gender differentiated patterns of time use.

Annex O: Knowledge Management Plan

Knowledge management and dissemination is a critical aspect of FSM MPSBEE. To be successful, the project will need to: (1) generate the knowledge that FSM needs to get to the next level in the application of EC&EE technologies; and (2) ensure that this knowledge reaches a broad range of persons and is available for them to access on an ongoing basis. Thus, within the project activities are interwoven the knowledge management plan of creating critical information, documenting this information, and ensuring both in the near term and long term that key groups in society both know about this information and can access it as needed.

Key information and knowledge products will be developed from the following project outputs:

- Reports of policy research, impact analyses and assessment of applicable policies, guidelines and institutional frameworks to facilitate cost-effective applications of EC&EE technologies, techniques and practices in the buildings sector.
- Policies, guidelines, and institutional arrangements for the promotion and application of EC&EE technologies in the buildings sector.
- Building energy efficiency guidelines that incorporate specifications for EE features and EC&EE technology applications in the design, construction, retrofit and operation of new and existing buildings.
- Monitoring and evaluation of enforced EC&EE policies, guidelines and institutional frameworks; and follow-up plan for the enhancement of EC&EE policies, guidelines and programs in the buildings sector.
- Public sector buildings energy audit system and energy audits of major public-sector buildings in each FSM state.
- Public sector buildings 'energy monitoring and reporting system (EMRS)', including capacity development and pilot program on EMRS implementation.
- Public sector buildings energy-use database, including capacity development in the operation, maintenance and use of the database.
- Evaluation of the implemented public sector building energy audit system, and EMRS pilot programs, including proposed action plan for sustainability of these buildings EC&EE systems.
- Line-up of applicable building EC&EE technologies that can be feasibly implemented in selected public-sector buildings; including designs and implementation plans of demonstrations, including feasible and applicable EC&EE technologies/techniques and practices in public sector buildings.
- Operational systems for the implemented demonstrations of EC&EE technology applications, including documentation of the results of regular monitoring and evaluation of their operational and energy performance.
- Design and implementation plans for the replication and scale-up of demonstrated EE technology application projects.
- Portfolio of follow-up EC&EE technology application projects in FSM states.
- Capacity needs assessment in the areas of sustainable energy and EC&EE of the public sector buildings energy end-use sector.
- Designs of appropriate capacity development programs and associated training materials for key stakeholder groups.
- Capacity development programs for the key stakeholder groups.
- Project website for the promotion and dissemination of knowledge within FSM and to other PICs/SIDS on building energy efficiency, and successful design, implementation and cost-effectiveness of the applications of EC&EE technologies and techniques in public sector buildings.

Annex F: UNDP Social and Environmental and Social Screening Template (SESP)

Project Information

Project Information	
1. Project Title	**Micronesia Public Sector Buildings Energy Efficiency (MPSBEE) Project**
2. Project Number	**PIMS 5597**
3. Location (Global/Region/Country)	**Federated States of Micronesia**

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

QUESTION 1: How Does the Project Integrate the Overarching Principles to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
There are no specific activities in this proposed project that specifically focus on human rights promotion since this is a project on sustainable energy utilization. Nonetheless, human-rights principles were considered, and integrated into the project during its design. Prior informed consent of all beneficiaries will also be facilitated during the project design. In that regard, the target beneficiaries, e.g., the public sector buildings occupants/tenants, private sector, and state institutions will be properly consulted through stakeholder consultation processes that promote gender inclusive participatory approaches involving men, women, and youth. During the design phase, the project development team met with public sector building managers and building practitioners in the 4 states, and the state utilities to discuss potential EC&EE demonstrations. In their respective, State Energy Action Plan, each state utility plans and implements projects in both supply and demand side management. The project includes an assessment of the interest of these stakeholders in such initiatives emphasizing the importance of each key players in the successful promotion of the widespread application of EC&EE technologies in buildings. A follow-up feasibility study and detailed energy audit for each of the host demonstration buildings will also consider any pertinent socio-cultural aspects that need to be considered. This will inform implementation of project activities and where any appropriate fine-tuning of plans that would be necessary. Doing these will in the end contribute to human social and environmental well-being in the public sector buildings in FSM.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
It is anticipated that the proposed UNDP-GEF project will impact gender equality and women's empowerment in a positive way. It presents opportunities for the involvement of women working in management and technical units of government (national and state) institutions. During the project design, the principles of gender equality and women's empowerment were considered. Where feasible opportunities are present, the project implementation will involve the deployment of professional and technically qualified women working in public and private establishments in the national capital region, as well as those in the different states. It is important to ensure that benefits from the enabling conditions that facilitate EC&EE initiatives are enjoyed by both women and men. The project activities will be implemented considering the opportunity for the country to further enhance the role of women in deployment of EC&EE technologies and techniques and come up with gender-sensitive policies in the public sector buildings, recognizing the possible contributions of women in the management and implementation of climate change mitigation measures. High rates of women participation will be targeted in the implementation of the project's capacity development activities.
Briefly describe in the space below how the Project mainstreams environmental sustainability
The proposed project is expected to stimulate actions in the buildings sector that will lead to GHG emission reductions and therefore contribute not only to the achievement of FSM's climate change mitigation targets as spelled out in the country's NDC. The project is expected to bring about local benefits mainly through contributions to the improvement of the specific energy consumption of public sector buildings, and indirectly also contribute to the protection of the natural environment. The anticipated reduction in energy demands (due to more energy efficient operation of public sector buildings) will result in lesser diesel fuel used in power generation, and in that regard, reduced GHG emissions from the state utilities. The global environmental benefits from the project will mainly come from such GHG emission reductions. These will be facilitated by the barrier removal approach that this project will employ. Environmental sustainability will also be assured through the

synergistic aspect of the integrated way the key stakeholders will be working together, and the higher chances of scaling-up/replication of the EC&EE technologies and techniques/practices that will be introduced, demonstrated, and promoted under the project.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
EE retrofits that will be done in the demos may result in negative impacts if the disposal or the management of the handling of replaced EE and non-EE items are done improperly.	I = 3 P = 2	Moderate	There will be EC&EE technology demonstration activities in this project. These demos will be designed in line with the relevant building best practices (construction and operation) and environmental requirements.	The environmental and social concerns that may arise from the project are manageable and easily controlled during the project implementation. Most of the demos will be carried out indoors and will be carried out in compliance with best practice occupational safety, health, and environment (OSHE) requirements. Based on the Environmental and Social Management Plan (ESMP) that will be prepared during the project inception phase, these demos will be designed not only to ensure that the intended positive impacts (energy savings) are realized but also in such a way that the emergence of potential negative impacts are brought to the minimum, if not completely avoided. The potential downstream impacts will also be assessed as to the likelihood of these happening and determining the factors that would contribute to them from happening. The project design (particularly during the logical framework analysis) considered such factors and where possible and applicable came up with the relevant activities that will adequately address them.
Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials.	I = 3 P = 2	Moderate	The demos will involve the replacement of existing building materials, appliances and devices used in the demo buildings. The design of the demos shall include facilitating the best practice	To prevent potential downstream impacts, possible issues concerning the proper disposal or recycling of existing building materials and devices/appliances will be addressed. • Old and busted CFLs and FLs that are replaced by LED lamps – in regard to proper handling and recycling of Hg • Old and energy inefficient AC and refrigerator units – in regards proper handling and disposal of refrigerants (including foam/insulation) will be undertaken.

			recycling or disposal of such waste items.	• Waste building materials – in regards health issues concerning dusts and particulate matter Based on the ESMP that will be prepared during the project inception phase, the capacity building on the application of new EC&EE techniques and practices in public sector buildings shall be designed to also include the proper (i.e., safe, and environment-friendly) handling and disposal of waste and recyclable materials. The demonstrations that will be featured in this project shall be designed and implemented taking into consideration the need to reduce environmental impacts in the application of EC&EE technologies in public sector buildings.
Potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or trans-boundary impacts.	I = 3 P = 2	Moderate	The design of the demos shall include facilitating the proper disposal of replaced non-EE materials in public buildings as required by law.	Guided by the ESMP that will be prepared during the project inception phase, the EC&EE capacity development activities of the project shall include the proper handling and disposal of waste. The demos that will be featured in this project shall be designed and implemented taking into consideration the need to reduce environmental impacts in the application of EC&EE technologies in public sector buildings.
Potentially result in the generation of waste (both hazardous and non-hazardous)	I = 3 P = 2	Moderate	The EE retrofit activities may include replacement of existing building materials, appliances and devices used in the demo buildings. The EE retrofit designs shall include facilitating the best practice disposal of such waste items.	Per the ESMP that will be prepared during the project inception phase, the design and implementation of the EE retrofits will consider possible issues on the disposal or recycling of existing building materials and devices/appliances such as old and busted CFLs and FLs that are replaced by LED lamps (Hg issue); old and energy inefficient AC and refrigerator units (banned refrigerants issue); and, building debris (dust and PM issue). The facilitation of the proper disposal of waste materials from building retrofits will be part and parcel of the EE retrofit demos, and in the EC&EE technology application guidelines that will be developed and recommended to public sector building managers/administrators.
Potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials.	I = 3 P = 2	Moderate	The design of the EE retrofit activities will consider the proper handling of replaced old AC and refrigeration units that may still use already banned refrigerants.	The proper disposal of the replaced old RAC units will be observed. The ESMP will include recommended actions to carry this out in an objective and scientific manner. The potential illegal reuse of old RAC units will be reported to the proper authorities.
Potential discriminations against women based on gender, especially regarding participation in the implementation of the project activities.	I = 3 P = 2	Moderate	Although the project design has considered gender sensitivity, the IP may be remiss in ensuring that this be followed in the selection of people who will be	A gender analysis was conducted during the PPG, and a Gender Action Plan prepared.

			working in the implementation of the project activities.	
Project demo activities may potentially affect the interests (including sentiments and practices) of some indigenous peoples (i.e., people of FSM).	I = 4 P = 1	Moderate	Most of the FSM population are indigenous Micronesians. The project will involve the installation in existing public buildings of modern, improved and EE lighting and air conditioning systems that may have potential concerns with some building occupants who are used to, or already satisfied with, the existing traditional and energy inefficient building systems.	The specific nature of the potential impacts (positive and/or negative) will be further assessed during the project inception phase as part of the assessments for preparation of the ESMP; the applicability of SES requirements under Standard 6 (e.g. an Indigneous Peoples Plan; Free Prior and Informed Consent) will be confirmed at that stage. All confirmed requirements will be captured in the ESMP and/or in an updated Stakeholder Engagement Plan.
The implementation of the project activities may be affected if the Covid-19 pandemic persists, due to mitigating measures that will be carried out to prevent potential increased health risks in the project sites.	I = 3 P = 1	Low	In the event the Covid epidemic will persist until the time the project is implemented, the proven effective measures and approaches that were carried out in project implementation during the pandemic in the other PICs will be adopted.	
Extreme climate events brought about or exacerbated by climate change may affect the implementation of the project.	I = 2 P = 1	Low	The project will address the low, indirect risk of project activities implementation delays due to extreme climate events in accordance with established government safety and emergency procedures.	

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		**Comments**
	Low Risk	☐	
	Moderate Risk	✓	

	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	√	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	☐	
	3. Community Health, Safety and Working Conditions	√	Some indirect negative impacts that can be avoided with proper regulatory compliance, or addressed with proper application of standard best practices
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	√	
	7. Pollution Prevention and Resource Efficiency	√	Same as in Item 3 above.

Final Sign Off

Signature	***Date***	***Description***
QA Assessor Emma Sale	11-Oct-2020	UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver	11-Oct-2020	UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair	13-Oct-2020	UNDP chair of the PAC. In some cases, PAC Chair, may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

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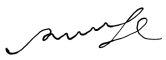
Levan Bouadze levan.bouadze@undp.org Resident Representative UNDP Headquarters Security Level: Email, Account Authentication (None)	 Signature Adoption: Drawn on Device Using IP Address: 45.112.225.147	Sent: 12/7/2020 4:57:24 PM Viewed: 12/8/2020 5:46:34 AM Signed: 12/8/2020 5:47:22 AM

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