PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: MEDIUM-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title:	**Promotion and up-scaling of climate-resilient, resource efficient technologies in a Tropical Island Context**		
Country(ies):	Seychelles	GEF Project ID:[1]	5316
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4913
Other Executing Partner(s):	Seychelles Energy Commission (Ministry of Environment and Energy), Development Bank of Seychelles, Public Utilities Commission, Seychelles Institute of Technology	Submission Date: Resubmission	February 21, 2013 March 19, 2013
GEF Focal Area (s):	CCM	Project Duration (Months)	4 years (48 months)
Name of parent program (if applicable): • For SFM/REDD+ ☐ • For SGP ☐		Agency Fee ($):	168,150

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK[2]:

Focal Area Objectives	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
CCM Objective 2: Promote market transformation for energy efficiency in industry and the building sector	GEF TF	1,770,000	8,775,000
Total Project Cost		1,770,000	8,775,000

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: To significantly reduce the rate of electricity consumption and water usage in Seychelles in the residential sector

Project Component	Grant Type[3]	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Cofinancing ($)
1) Improved policy, institutional, legal/regulatory and financial framework for Residential resource efficient technologies	TA	Comprehensive and strengthened policy and legal frameworks adopted to promote residential resource efficient appliances	• Developed and approved Energy Efficiency Strategy and Energy Efficiency Implementation Plan (under Energy Bill) with sub-component on residential resource efficient appliances[4] • Approved and enforced policies and regulations on importation of residential EE technologies	GEF TF	170,000	545,000

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the reference attached on the Focal Area Results Framework when completing Table A.
[3] TA includes capacity building, and research and development.
[4] In line with the directives of the Seychelles National Climate Change Strategy and Seychelles Sustainable Development Strategy 2012-2020, climate resilience and adaptation criteria will be streamlined into the EE strategy and implementation plan, as well as the MEPS legislation and policy framework in place for recycling and disposal of non-EE residential appliances.

			• Established and effectively enforced mandatory national standards and labels (MEPS) for imported residential EE technologies covered under the project • Policy framework in place for recycling and disposal of non-EE residential appliances • Legal Fiscal Framework at Central Bank in place for Credit Risk Fund scheme (see Comp. #4)			
2) Awareness-raising and educational campaign on resource efficient applications	TA	Enhanced national awareness of the benefits of resource efficient appliances and verified behavior change across targets groups regarding energy and water use	• All activities of the Seychelles Energy Education and Communication Strategy completed and evaluated with additional component developed around domestic water usage reductions • Energy label system for appliances launched and operational across Seychelles • Study completed on potential of absorption refrigerator applications in Seychelles	GEF TF	280,000	155,000
3) Vocational training scheme for local installation, operation and maintenance of residential resource efficient appliances	TA & INV	Technical capacity available within various institutions – most notably the Seychelles Institute of Technology – for training of technicians in the installation, operation and maintenance of residential resource efficient technologies	• Vocational training program (certificate course) on installation and maintenance of resource efficient appliances established at the Seychelles Institute of Technology, with appropriate curriculum approved and operational (TA) • Resource efficient demonstration units and testing facilities purchased for use by students in certificate course (INV)	GEF TF	80,000 (INV) 240,000 (TA) 320,000 (total)	80,000 (INV) 50,000 (TA) 130,000 (total)
4) Financial de-risking instrument (Credit Risk Fund – CRF or concessional loan fund) for	INV	Consumers with access to specially designated loans backed by CRF for purchase of energy	• Credit Risk Fund (partial guarantee fund) and/or concessional loan facility for uptake of EE appliances operational in	GEF TF	900,000	7,740,000

residential energy efficient (EE) appliances		efficient appliances	at least three local banks • MOU signed with Development Bank to set out the objective, funding mechanism, administration rules and confirmation of their participation in the CRF. • By end of project 11,000 households accessing loans via the loan facility or CRF mechanism for purchase of EE appliances • Direct investment in new resource efficient equipment of up to SCR[5] 225 million (17.8 million USD) repayable within 5 years from the CRF • 13,300 MWh/yr of electricity and 1,225,000 m3/yr of water saved per year by end of project from appliances purchased under financial schemes[6]			
Subtotal					1,670,000	8,570,000
Project Management Cost (PMC)[7]					100,000	205,000
Total Project Cost					**1,770,000**	**8,775,000**

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount ($)
Government	Seychelles Energy Commission, Public Utilities Commission, Ministry of Finance, Ministry of Environment and Energy, Ministry of Education, Development Bank of Seychelles[8]	Cash	500,000
Multilateral donor	European Investment Bank	Cash	7,500,000
Non-governmental organization	Clinton Climate Initiative	Cash	300,000
Multilateral donor	World Bank	Cash	250,000
Multilateral donor	International Finance Corporation	Cash	75,000
Educational institution	Seychelles Institute of Technology	In-kind and cash	100,000
GEF agency	UNDP	Cash	50,000
Total Cofinancing			**8,775,000**

[5] Seychelles Rupees = SCR. 1 USD = 12.65 SCR.

[6] Indirect emission reductions from the water saving technologies will also be calculated at the PPG phase based on reduced fossil-fuel based energy expenditures (or new investments) from operation of desalination plants that would otherwise be utilized to meet that water demand

[7] To be calculated as percent of subtotal.

[8] The contribution of local private banks in the project will be defined at PPG phase

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount ($) (a)	Agency Fee ($) (b)[2]	Total ($) c=a+b
Total Grant Resources				N/A	N/A	N/A

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

[2] Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)[9]

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	Amount Requested ($)	Agency Fee for PPG ($)[10]
• No PPG required.	-- 0--	--0--
• (up to) $50k for projects up to & including $1 million		
• (up to)$100k for projects up to & including $3 million	**50,000**	**4,750**

PART II: PROJECT JUSTIFICATION[11]

PROJECT OVERVIEW

A.1. Project Description.

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

Background and Current Status of the Energy and Water Sectors

Although a variety of new renewable energy sources are now planned to come on line in the near future, at present Seychelles remains almost 100 percent dependent on imported oil to meet its energy needs, including electricity production (90 percent of the primary energy supply comes from imported fuel, which accounts for 23 percent of total merchandise imports). As with most Small Island Developing States, this dependence on fuel imports has a significant economic and budgetary cost to the country, with the balance of payments and state budget deficits made worse by the financing of electricity and other energy infrastructure. Imported fossil fuels are also the single largest contributor of greenhouse gases in the Seychelles, and the country's overwhelming dependence on imported fuel poses major energy security concerns, both in terms of access to supplies and pricing.

Data from the past 10 years combined with new projections shows that without new interventions the impact of imported fuel on the national economy and environment will only worsen in the future. A 2007 study found that local consumption of imported petroleum fuels increased by an average of 5.4% per year between 1996 and 2007, and in the 3-year period 2005-2007 the average rate of increase was 9.7% per year. Energy demand is set to continue to increase as a result of continued expansion of the electricity distribution system; rising standards of living and higher disposable incomes; and the coming online of new projects in the tourism sector aided by a recent influx of foreign investment. At present the Seychelles receives approximately 160,000 tourism visitors annually; however this number is expected to rise significantly in the coming decade. The 2008 Energy Task Force (GoS, 2008) based their energy forecasts upon two demand scenarios – (I) business as usual and (II) accelerated growth in line with Strategy 2017 whose aim is to double the Seychelles GDP by 2017. Scenario I and Scenario II assumed annual average

[9] On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

[10] PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

[11] Part II should not be longer than 5 pages.

growth rates (AAGR) of 2.6% and 7%, respectively. Under those conditions it was estimated that energy demand will grow by about 2.7 orders of magnitude under scenario II, with a Toe of 514,460 in 2017. This is equivalent to more than 5 times that of the 2007 level of consumption. Electricity demand will exceed 650 million KWh by 2017, effectively tripling demand under Scenario 2.

Seychelles' total energy consumption in 2010 was approximately 260 GWh. More recent analysis reveals the following electricity consumption patterns in the country:

- In 2011 the domestic sector consumed 84,044,356 KWh representing **30% of all electricity distribution**
- PUC (state energy utility) had nearly 31,398 metered electricity consumers in 2011, out of which 26,728 were from the **domestic/residential sector (85% of all customers)** and the rest from the government, industry and commercial sectors.
- Industry and commerce, which includes the tourism industry, are the biggest consumers (using 60% of all energy distributed) and government also consumes a relatively high proportion at 9%.
- Electricity use per capita is 2,660 kWh, among the highest in Africa (close to the world average)
- Consumer electricity tariffs now range from 11–22 US cents/KWh with a peak rate of 38 US cents
- Cost of electricity from Diesel Gensets ranges from 35-45 US cents/kWh
- The average water tariff for the residential sector is around 1 US$/$m^3$
- Estimated yearly average tariff increases of 5% per annum for electricity and 1.2% for water are expected
- In 2009 the Government was spending a total of R1.2 million a month (USD$100,000) to run desalination plants in Seychelles because of water shortages. Desalination plants supply 13,000 kilolitres of water a day to consumers on Mahe, Praslin and La Digue during the dry season to supplement shortages in the treated water supply.

In response to those challenges, government, the private sector and non-governmental organizations are already implementing a number of activities enshrined in the Environment Management Plan 2000 to 2010 and the Seychelles First National Communication (FNC), as well as the Seychelles National Climate Change Strategy (2009). Within this context the government has taken several steps in the past few years to consolidate its national energy laws, policies and programs, and is now putting in place a variety of concrete initiatives to promote renewable energy and EE technologies in the country as a national priority. Over the last two years the government (with support from the European Union) has undertaken a review of all existing energy legislation and drafted new legislation. **They have developed a major new draft Energy Bill which was just approved by Cabinet in November 2012** and is now being presented to the National Assembly. The Bill will enable the regulation of the electricity sector and promote the use of renewable energy and energy efficiency. The Act is expected to liberalize and deregulate the existing Seychelles energy market via:

- The formal establishment of a Seychelles Energy Commission (S.E.C.) whose role is to regulate the electricity sector;
- The lifting of duties on all renewable energy technology imports;
- A new policy to remove all conventional vehicles from the island of La Digue and allow only electric or hybrid vehicles;
- Licensing of electricity activities;
- Tendering and awards of contracts with Independent Power Producers;
- Determination of tariffs and charges;
- Consumer rights and protections; and
- Dispute resolutions mechanisms.

The new Bill includes an entire section on energy efficiency and states that "***the promotion of energy efficiency in all sectors of the economy shall be pursued through the development of an Energy Efficiency Strategy pursuant to the Energy Policy which shall identify the appropriate schemes of promotion***." The Energy Efficiency Strategy shall be developed and adopted by the SEC together with an Energy Efficiency Implementation Plan for the Energy Efficiency Strategy. The following activities are called for under the Strategy and Plan:

- Energy efficiency and energy conservation standards related to motor, machines, appliances and equipment, building and construction methods, lighting and any other end-uses of energy shall be adopted by the household, commercial, industrial and public sectors.
- The Commission shall adopt guidelines on labelling of all energy-related products .
- Commission shall develop national Information and consumer education programs on energy efficiency and energy conservation related to measures and best practices in all sectors, including energy, transport, building, industrial, commercial and residential.
- The Commission shall develop, implement and maintain technical training programs and may enter into agreements with universities, professional associations or other organisations to that effect.
- The Commission shall facilitate and foster co-operation and voluntary agreements between consumers, producers, industrial and commercial operators, importers and public authorities in order to improve energy efficiency and energy conservation in the energy, environment, transport, land use and planning and industry sectors, and to comply with the related objectives and targets of the Energy Policy and National Energy Efficiency Implementation Plan.
- The Minister may, by regulations, establish a Fund to be known as Energy Efficiency Fund.
- The SEC should propose actions and make recommendations for implementation by other authorities to reducing barriers to the promotion of energy efficiency, including tax policy related to energy efficiency and conservation and pricing of primary energy sources, etc;
- The SEC should propose schemes, and facilitate agreements, on financial support to initiatives related to energy efficiency requiring financial support from any person; and
- The SEC should propose legislations on energy audits and certification.

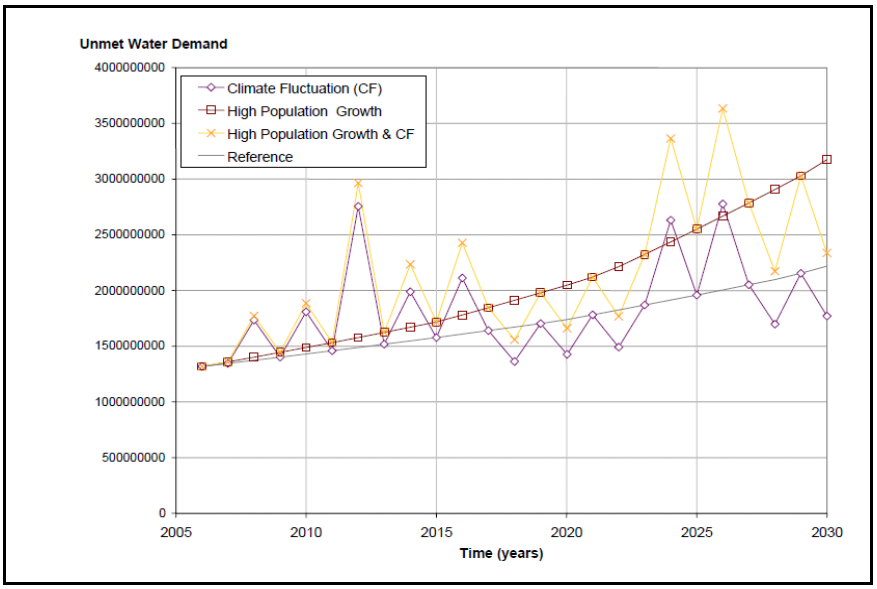
As regards water usage and climate vulnerability, these trends are interconnected with a response to Seychelles' energy challenges. Seychelles is characterized by widely spread islands of small size where the vast majority of human habitation and infrastructure is situated on low-lying coastal plains. The water resources of the main island, Mahe, are captured by an extensive network of streams but the water supply varies from year to year depending on the climate conditions. In addition, the combined effects of steep topography, low retention of soil (high run-off) and high evaporation allow only 2-3 % of water to be captured through a network of streams around the island (Labodo, 1998). Groundwater extractions have not been successful in view of the narrow coastal plateau and as noted the government spends a large amount of money operating desalination plants (with associated GHG emissions) to meet shortfall in demand during the dry season. Water distribution on the three main islands is extensive, serving more than 87% of the population with treated water supply (NSB, 2007). Despite these efforts, Seychelles is expected to face serious water shortages in the near future (FNC, 2000); the projected demand for water in Seychelles for the years 2005 and 2010 exceeds current water supply by +13,890 and +13,950 kilo liters per day (PUC, 2000). This is primarily due to a lack of adequate resources to invest in appropriate reservoirs and growing residential and industrial demand, exacerbated by a lack of access to water saving technologies like low-flow shower heads, water-saving washing machines and rainwater harvesting systems.

Moreover Seychelles is highly vulnerable to the adverse effects of climate change, including climate variability and severe weather events, and the expected negative impacts of climate change on the economy, environment, and well-being of the population of the Seychelles are projected to be significant. According to the Seychelles' FNC, the archipelago is expected to suffer from increased flooding and erosion from climate-change related sea level rise and increased intensity of tropical storms. In light of this

challenge the Climate and Environmental Services Division (CESD) was established in 2008, which incorporated the National Meteorological Services (NMS), the Environment Engineering Section (EES) and Programme Management Section (PMS) to enable focus on climate change issues. Climate change mitigation and adaptation criteria are now mandated to be considered in all sector development plans.

As to the specific impacts of climate change on water resources, four global circulation models indicate that water shortages – which are already a significant problem on the main islands of the Seychelles – are expected to grow more acute through the following climate-induced processes: i) decreases in rainfall during the dry southeast monsoon which will reduce stream flow, groundwater recharge and therefore water supply; ii) increases in surface-air temperatures which will increase rates of evapo-transpiration and consequently reduce stream flow, ground water recharge and further exacerbate the water supply problem; and iii) increases in rainfall intensity which will result in greater surface runoff and reduced water capture in existing storage facilities.[12] As noted in Figure 1 below it is expected that climate fluctuations together with high population growth will put tremendous pressure on availability of water in the future.

Figure 1 – Seychelles – Projected Unmet Water Demand in a Scenario with High Population Growth and High Population Growth superimposed on climate fluctuation compared to the reference scenario (i.e. likely evolution of the scenario without intervention)



Source: ***Climate Change Impact and Adaptation in the Water Sector in the Seychelles*** **(2008)**

[12] Assessments of vulnerability in the Seychelles have been derived from three main studies – the preparation for the first national communication (INC, 2001), the AIACC Project (Payet, 2006) and preliminary outcome of the Second National Communications (SNC). Climate Scenarios for the islands of Mahe and Aldabra have been constructed using the MAGICC SCENGEN model and the GCM-Guided Perturbation Method (GPM) and the Regional Climate-Change Projection from Multi-Model Ensembles (RCPM) technique (Chang-Seng, 2007). These studies show that Seychelles is highly vulnerable to climate change as regards rainfall variability. Individual GCM output shows a maximum increase in rainfall of +5.9 % (+19 mm) for the year 2025; +9.3 % (+25.4 mm) for the year 2050 and +12.4 % (+38.6 mm) for the year 2100 (Chang-Seng 2007). However, the range of percentage change in annual rainfall is -2.4 to +5.0 %; -4.8 to +8.5 %; -8.6 to +16.3 % respectively for the years 2025, 2050 and 2100. Based upon these results, the GEF-funded report *Climate Change Impact and Adaptation in the Water Sector in the Seychelles* (2008) concludes that the rainy season is 'more likely than not' to be wetter, while the dry season is 'more likely than not' to be dryer with the exception of the Jun-Jul-Aug season of the year 2050. That report concluded that it is likely (50-80 %) that for the Dec-Jan-Feb period, rainfall will increase, whilst it is unlikely to increase in the Jun-Jul-Aug period (20-40%). The probability of an increase in the Aldabra area annual rainfall is lower than Mahe and it is more likely that the Aldabra area rainfall will decrease compared to the Mahe area in the Jun-Jul-Aug season up to the year 2100.

Problem Statement and Barrier Analysis

With the Energy Bill now close to being enacted and the next steps tabled to develop and approve the Energy Efficiency Strategy and Energy Efficiency Implementation Plan, the GoS is making important strides as regards the underlying enabling environment and only limited support is required for technical assistance on specific identified policy reforms. **A more pressing opportunity now exists to get started on the implementation of priority institutional strengthening activities and financial de-risking initiatives for specific sub-sectors that will be combined and sequenced with broader policy reforms**. In addition to regulatory activities, an immediate opportunity is to scale up some recent initiatives focused on promoting resource efficient measures and awareness in the domestic sector, which is a priority sector for intervention (given likely tariff increases and water shortages) and an area where a number of proof of concepts exist that have the potential to be taken to scale. As noted in an IFC study done in 2011 *"the Seychellois residential sector has done little to reduce its energy consumption or adopt RE or EE technologies."* The four key conditions to induce domestic demand for resource efficient applications at the residential level are: enabling policy and legal frameworks adopted to promote residential resource efficient appliances; appropriate financial de-risking instruments; improved information and awareness of the benefits of such applications; and appropriate vocational training for installation and maintenance of such technologies.

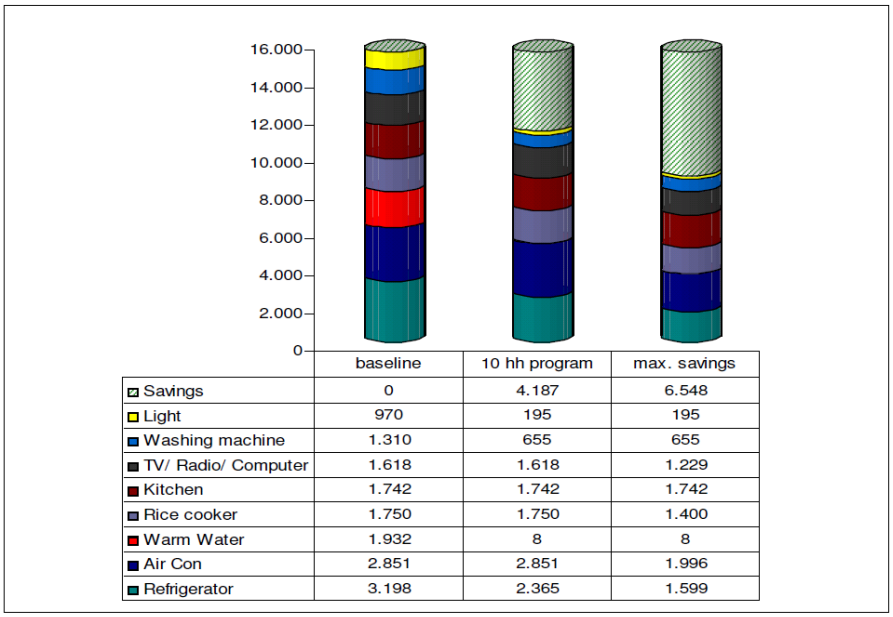
Problem Statement: Given the Seychelles' overwhelming dependence on imported fuel and the associated energy security concerns – as well as its high vulnerability to the adverse effects of climate change, namely predicted water shortages – there is urgent nation-wide need to reduce the rate of electricity consumption and water usage, particularly in the residential sector (which accounts for 30% of all energy supply and which has received little investment in energy efficient measures to date).

Over the last year the SEC and PUC, together with the NGO Sustainability for Seychelles and a German Consultancy (The Netrawat Group Germany), implemented a pilot initiative called the 10 household program. In support of the new Energy Bill and planned changes, the government was keen to demonstrate resource efficiency in private households and therefore picked 10 representative households on Mahe Island to participate in this program. Each household received (free of charge):

- installation of an energy efficient (class A) refrigerator
- water saving shower heads and an EE washing machine
- solar thermal warm water systems
- replacement of old bulbs with energy efficient bulbs
- a rain water harvesting system

An evaluation study entitled "*Resource Efficiency Program for the Residential Sector in Seychelles*" was carried out in March 2012 and was completed in June 2012 by the IFC Resource Efficiency and Climate Advisory Team. That report also analyzed data from the 10 household energy efficiency test pilots and revealed that the pilot showed some positive results. The baseline study showed that the largest consumption of electricity in each household came from three appliances: refrigerators; water heaters; and air conditioners (see Figure 2)

Figure 2 – Domestic Consumption (Wh/ per day by appliance) for 10 Household Pilot



	baseline	10 hh program	max. savings
Savings	0	4.187	6.548
Light	970	195	195
Washing machine	1.310	655	655
TV/ Radio/ Computer	1.618	1.618	1.229
Kitchen	1.742	1.742	1.742
Rice cooker	1.750	1.750	1.400
Warm Water	1.932	8	8
Air Con	2.851	2.851	1.996
Refrigerator	3.198	2.365	1.599

Source: Netrawatt Group Germany, Seychelles 10 household study report, 2010.

A post-implementation evaluation showed average monthly savings per participating household of 18% on electricity and 24% on water; maximum savings were estimated as high as 27%. The total investment per house (the technologies were provided free of charge) was SCR 33,760 (US$2,600) with an average SCR 5,135 in annual savings (US$400) with a simple pay-back of 6.6 years. The 10 house pilot showed that savings from resource efficient technologies were possible and more importantly doable. The major drawbacks were that it was fully subsidized by the government; there was little local capacity to install and maintain the equipment; and the level of awareness by the consumers was shown to be very low.

The study spurred a discussion on the key conditions to induce domestic demand for resource efficient applications and a consensus has emerged that four key barriers need to be addressed to catalyze uptake of such applications as part of a broader suite of policy reforms:

Barrier 1: Lack of an enabling policy framework for Residential resource efficient technologies

As noted previously, while the passage of the Energy Bill is a positive first step there remains the urgent need to develop and approve the Energy Efficiency Strategy and Energy Efficiency Implementation Plan. At present he country does not yet have any policies and regulations on importation of residential EE technologies, including mandatory national standards and labels (MEPS) for imported residential EE technologies. Moreover no policy framework is in place for recycling and disposal of non-EE residential appliances to eliminate them from the waste stream, or any legal framework for public/private fiscal incentives to be deployed to spur uptake of more resource efficient applications among domestic consumers.

Barrier 2: Financial Barriers:

Individuals and private companies in the Seychelles are becoming increasingly interested in renewable energy and energy efficient applications. By way of example, the recently started GEF-funded Grid-Connected Rooftop Photovoltaic System project confirmed that trend as regards interest in distributed generation from households and businesses to invest in PV applications. The Island Development Corporation, which manages most of the 100+ outer islands in the Seychelles archipelago, is investigating opportunities for alternatives to oil-generated electricity. On the main islands, a number of hotels have established their own resource efficiency schemes and power production facilities, particularly those with water shortages and high energy demands (primarily for air conditioning, water heating, refrigeration/freezing, and desalination) and located in areas where the electrical

transmission lines are operating near or at capacity. In December 2012 two German companies, e3plan GmbH (Kiel) and Sea & Sun Technology (Trappenkamp), delivered PV systems to seven different hotels on two islands. The interest and experience of these private companies and other organizations to invest in RE also applies to resource efficiency applications.

In November 2011, the Government and IFC signed an Energy Efficient and Clean Production (EE/CP) Service Agreement. Under this agreement, IFC and GoS are proposing the setting up of a Resource Efficiency Program (REP) in Seychelles whereby the first stage will aim to induce the adoption of resource efficient home appliances in the domestic residential sector and alongside propose an affordable financing solution where banks will be encouraged to lend to a new sector perceived as risky. IFC will undertake a study to recommend the resource efficient technologies best suited both in terms of technical and financial viability for households, small and medium enterprises (SMEs) and unincorporated business entities. IFC will also have discussions with commercial banks to find and propose the appropriate lending mechanism to encourage them to lend to such clients and to invest in EE/CP goods, appliances, and equipment. Banks will also be offered technical advisory support to adopt the methodology and process best suited for the targeted borrowers.

Initial analyses suggest that among the chief barriers to domestic uptake of energy efficient technologies is the higher initial capital outlay for EE appliances versus market alternatives and the lack of targeted financial incentives to entice consumers to retire their current energy inefficient appliances early, before they reach their end of life. Neither the government, which is currently participating in an IMF-sponsored economic reform process, nor the Public Utilities Corporation, which can no longer rely on government subsidies for capital expenditures (as of 2012), are alone in a position to provide sufficient financial incentives to spur the widespread adoption of EE technology uptake and insure non-EE are properly disposed of and retired. At the same time, domestic consumers face financial and market constraints to adopting resource efficient technologies due to the unwillingness of banks and lenders to provide de-risking instruments for such products, which are still widely unknown in the country and more expensive compared to BAU alternatives. Although the Government has expressed its willingness to support financial mechanisms to spur investment in energy efficient technologies, it has no experience with such mechanisms and little technical expertise in assessing the most suitable resource efficient technologies for promotion or selecting the most appropriate financial incentive platform for domestic users (hence the MoU with IFC and partnership with European Investment Bank - EIB).

The IFC and EIB have proposed several innovative financing schemes, including a concessional loan facility and/or introduction of a credit risk fund mechanism (partial guarantee fund) in conjunction with the Development Bank of Seychelles and several private banks (more information is available in Table 2) to scale up the 10 households pilot using a market-based approach. IFC estimates of the total targeted impact from investment schemes linked to the EE/CP program are as follows[13]:

- The EE/CP program could have a direct investment in new efficient equipment of SCR 225 million repayable within 5.3 years. (i.e Consumer savings of SCR +40 million per annum)
- The EE/CP program could achieve 13,300 MWh/yr of electricity savings and 1,225,000 m3/yr of water savings
- The targeted population (11,000 households) has an electricity peak demand of 14.7 MW. The electricity demand abatement is 3.5 MW corresponding to 24% of the demand for this market segment
- Fuel saving at PUC are estimated at 3,685 ton HFO per year which could amount to SCR +25m in savings per year (assuming a 2011 average price of HFO of US$ 598 per ton)

Barrier 3: Information Barriers and Lack of Awareness:

Over the past two decades there have been several campaigns in Seychelles aimed towards the general public to promote energy efficiency and energy conservation. Several years ago the (former) Energy Bureau produced a series of brochures focusing on different topics such as energy efficient refrigerators, light bulbs, etc. PUC has also produced brochures in the past giving the public tips on how to use their appliances more efficiently and also spearheaded a campaign focusing on the economic benefits of reducing energy consumption, "*Servi Mwens, Pey Mwens*" and produced posters and TV spots to stimulate public interest. The topic of energy conservation was also covered at several places in the primary and secondary science curriculum.

[13] *Residential Resource Efficiency in Seychelles,* Presentation to Government of Seychelles, IFC, July 2012

However none of these ad-hoc energy education initiatives were formally evaluated and so it is difficult to say if they had any direct effect on public energy habits. Some behaviors have certainly changed in recent years; for instance many households have now switched from incandescent lights over to CFL bulbs. Nonetheless recent surveys suggest that knowledge of resource efficient practices and technologies is still very low among the general population. To coincide with the establishment of the new Energy Act and the introduction of an energy efficiency labeling system in Seychelles, the government recently finalized an Energy Education & Communication Strategy for Seychelles (2012-2014) which has as its objective "reducing the rate of electricity consumption in Seychelles across all sectors of society." The campaign covers a range of key target audiences, and focuses on changing specific behaviors among each target group, using diverse strategies but all towards the end of achieving the above objective. The Ministry of Environment and Energy (MEE) is the lead agency responsible for implementation of the strategy. As part of the campaign MEE will work in close partnership with the SEC, as well as with other key stakeholders including: Department of Environment (Public Education and Community Outreach Division), Ministry of Education, PUC, SBC, SeyPec and Sustainability for Seychelles.

Barrier 4: Vocational training and after-sales support

One of the findings from the 10 household program was that households are concerned about equipment supplier integrity (equipment type, specs, after-sale service, warranties, fair price) for EE applications when it comes to making a decision as to whether invest in EE appliances. At present there is a lack of a functioning supply chain and technical support system in Seychelles that would ensure broad availability of EE applications, competitive prices through supply chain efficiencies, or adequate maintenance support for end-users. Seychelles has a well-regarded vocational training center (Seychelles Institute of Technology - SIT) which offers training certificates across a variety of applied science disciplines but has no specific training program on installation, testing or maintenance of resource efficiency appliances. SIT is very keen to develop a new training program on installation and maintenance of EE appliances.

The baseline scenario and any associated baseline projects

A number of government- and donor–financed initiatives are either underway or under development to address these barriers. The major baseline activities currently underway in the resource efficiency sector and relevant to the project are listed below:

Table 2. Summary Overview of all Relevant Baseline Activities

Baseline Project #1 – Government of Seychelles activities related to the drafting and enactment of an Energy Efficiency Implementation Plan for the Energy Efficiency Strategy, REP & other resource efficiency activities

Under the new Energy Act the SEC, PUC and Ministry of Finance have allocated a sizeable amount of resources over the next three years for various EE activities, including funding for the formal operationalization of the SEC which is formally established under the Act (the Act stipulates that the Commission shall prepare its annual budget by calculating reasonable expenses and investments for the following year, which shall be informed to the President) and some initial funding for the development of the Energy Efficiency Strategy and Energy Efficiency Implementation Plan, as well as development of mandatory national standards and labels (MEPS) for appliances.

Moreover under the EE/CP agreement with IFC the Ministry of Finance, Trade and Investment (MOFTI) has agreed to dedicate personnel and funds to act as the main coordinating body to drive the REP project with technical support from the SEC. It will invite stakeholders to participate in a Project Working Committee (PWC). It is expected that the REP will include an appointment of a Program Administrator (PA) funded by government and at the initial stage the PA will as the secretariat to the PWC.

MOFTI also recently funded the Netrawatt study and test pilot.

Sub-total: **Combined USD 375,000 USD over 2013-2016 for various EE activities**

Baseline Project #2 – Energy Education & Communication Strategy for Seychelles (2012-2014) – Ministry of Environment and Energy, Department of Environment (Public Education and Community Outreach Division), Ministry of Education and PUC

The Energy Education & Communication Strategy for Seychelles (2012-2015) is now finalized and starting Year 1 implementation (see additional information as provided in Annex 1). The success of the campaign will be measured by a reduction in Seychelles' overall annual energy intensity over the 3-year period. Energy intensity takes into account energy consumption and economic growth. The strategy uses the baseline of 2007 for measuring results (in 2007 Seychelles' energy intensity was 18.3 TOE/MSR). The strategy does not cover water consumption.

The strategy includes a number of planned activities over the next couple years and an action plan has been developed with funding resources requested for each activity. The Ministry of Environment and Energy (MEE) is the lead agency responsible for implementation of the strategy. MEE will work in close partnership with the Seychelles Energy Commission, as well as with other key stakeholders including: Department of Environment (Public Education and Community Outreach Division), Ministry of Education, Public Utilities Corporation, SBC, SeyPec and Sustainability for Seychelles. The MEE is chairing the Energy Education and Communication working group consisting of these key stakeholders (and others as needed) to oversee and monitor the implementation of the strategy.

Sub-total: **USD 125,000 from Government of Seychelles for core activities under the Strategy (2012-2015)**[14]

Baseline Project #3 – World Bank Micro-Grant - Estimation of Grid absorption capacity for RE, Preparation of a Grid Code, Feed-in-Tariffs and Model Energy Supply Purchase Agreements for Renewable Energy Systems (2012-2013)

The WB is providing Seychelles with a US$250K grant or the following activities:

1. Component 1: Estimation of the grid absorption capacity of the Public Utilities Corporation under current circumstances. (estimated US$50,000).
2. Component 2: Development of grid code for wind and solar (estimated US$50,000):
3. Component 3: Design of feed-in-tariffs for wind, PV, biomass and waste-to energy systems (estimated US$100,000).
4. Component 4: Preparation of templates and models for Energy Supply Purchase Agreements (estimated US$50,000).

The study shall essentially cover all the feasible renewable energy systems in appropriate bands, as deemed necessary by the Project Team constituted by the consultants and the PUC representatives that will provide guidance to their work. Although the work is not directly related to EE it is nonetheless important for integration with the EE activities to be supported by this project.

Sub-total: **USD 250K**

Baseline Project #4 – IFC Energy Efficient and Clean Production (EE/CP) Service Agreement work

Under the EE/CP service agreement IFC has agreed to provide advisory assistance to develop a Credit Risk Fund (partial guarantee fund) for EE appliances. The scheme will be operational in at least three local banks (selected via an RFP) and done in collaboration with Development Bank of Seychelles.

In July 2012 during a mission the IFC held consultative talks to address the limited offer of affordable financing solutions from commercial banks and the Development Bank of Seychelles (DBS). The rationale is that IFC develops a financing scheme dedicated to the residential sector in partnership with banks to address the lack of affordable financing solutions. To tap the high liquid asset component of banks, IFC proposed that the consideration of a fiscal based incentive plan where a Credit Risk Fund (CRF) is set up within each private sector tax-paying banking institution. Each tax-paying institution will be granted a tax credit on their tax payable. The

[14] Total GoS co-financing (from both baseline projects #1 & #2) thus comes to $500K

amount resulting from the applicable tax credit percentage [to be discussed and agreed within the appropriate forum based on the intended volume of the Eligible REP Portfolio and the current level of non- performing loans and Credit losses suffered by banks on the existing Housing Loan portfolio over the last 2 or 3 years using audited financial statements] will be placed with each respective institution, in the form of a 'deposit' in the name of the Government of Seychelles. The 'deposit' therefore becomes the CRF absorbing a % (to be decided as above) of the loss actually incurred by banks in lending to the target segment under the intended program. The claims and offset mechanism will also be managed by the program administrator of the REP. An added advantage is that all banks are eligible to participate in the Program, creating a level playing field and opportunity across the banking system.

A second alternative proposal (to be done in conjunction with the CRF or on a stand-alone basis) is the launch of a partial guarantee fund, a risk-sharing mechanism that will provide commercial banks with partial coverage of risk exposure against loans made for energy efficiency appliances to mitigate the risk perception associated with the lending for new technologies and new business models associated with energy efficiency projects. This could be in addition to the risk cover available from the CRF. The guarantee will directly support financing of energy efficiency investments by:

- Addressing credit risk and transaction structuring barriers to energy efficiency finance
- Engaging and building capacities of commercial financial institutions to provide financing for energy efficiency projects on a commercially sustainable basis.

Each Participating Bank as a CRF partner will create a partial guarantee fund which is reflected in a deposit account in the name of GoS. Features of the schemes will include:

- The portfolio build up period allows the Deposit (Credit Risk Fund) to build.
- GoS and Banks to co-brand on communication and awareness
- Portfolio reporting parameters to Administrator established.
- Claims procedure established for Administrator to release payments on established rules.
- Mechanism will be audited by GoS and Bank's auditors will report on claims and use of funds.

The CRF will be managed by the Development Bank of Seychelles. The CRF will act as a first loss, subordinated recovery guarantee and will be placed in a guarantee reserve account in each participating bank and will be paid out to participating banks in the event of a loss or default. The amount paid out will be equal to the amount of outstanding principal times the guarantee percentage, and will not cover accrued interest or other fees owed to the bank. The lending banks will also pursue recovery procedures in the event of default, and will pay to the CRF any monies recovered after first satisfying its own receivables.

Sub-total: **USD 75K (from IFC)** Note**:** no funding is available to capitalize the actual CRF since Seychelles' status as a Middle Income Country (MIC) makes it challenging for IFC to justify a direct investment or to allocate medium to long investment staff resources to an investment project in Seychelles.

Baseline Project #5 – European Investment Bank (EIB)

The EIB has already allocated 3 million Euros for a dedicated line of credit for RE investments or capitalization of the rebate scheme for Solar PV investments under the recently started UNDP/GEF *Grid-Connected Rooftop Photovoltaic Systems* Project. The EIB has explicitly stated that it has a **"long-term interest is to provide finance for a range of renewable energy technologies and projects."**

In line with that commitment and following consultations with GoS and UNDP, EIB has now agreed that it can extend a concessional credit line to local banks that will on-lend to investors in EE measures. The final amount will be in the range of USD 7-8 million, depending on the pipeline of eligible investments stemming from the program, and local banks' requirements for external funding. There is no maximum limit on funding; however a lower limit of USD 6.5M should be applied to be extended through a maximum of three local banks, in relation to resources required to appraise and monitor the credit line. EIB has stipulated that they can finance up to 50% of investments (subject to internal approval this limit could eventually be increased to 75%), and these would be

eligible for an interest rate subsidy from EDF funds. In addition, TA can be applied to support local banks' capacity to evaluate loan applications and eligibility for EIB funding.

It is important to note that the EIB concessional finance will target both the residential sector as well as the industrial and commercial sectors. Although the credit line can be extended in SCR, EIB believes that local currency funding is already available to local banks through domestic deposits and at a cheaper rate than the EIB can offer. Therefore, EIB value-added is likely to be achieved through the provision of USD and EUR funding.

It should be noted that while EIB can provide funding for investments in energy efficient domestic white goods, certain conditions will apply in this case related to minimal EE standards and the scrapping of the old white goods to help ensure objectives in relation to overall reduction of greenhouse gas emissions are met. EIB has also been in discussions with IFC about possibly contributing to the CRF scheme.

Sub-total: **USD 7.5 million in concessional finance plus potential funding for required TA to local financial intermediaries**

Baseline #6 – Clinton Climate Initiative (CCI)

CCI has agreed a Memorandum of Understanding with the GoS to assist with the deployment of a series of projects to reduce Seychelles' dependency on imported fossil fuels. These include, but are not limited to, a waste-to-energy project, a multiple-MW solar project, and a broad scope for energy efficiency measures. This MOU falls under CCI's Diesel Replacement Project, which advises governments and assists in the design and implementation of the government's demonstration projects and policies that directly reduce greenhouse gas emissions through the decreased use of imported fossil fuels and create replicable and scalable implementation models for others to follow. CCI's Diesel Replacement Project also attempts to achieve the benefits of scale on behalf of small countries by bundling these programs together in negotiations with global suppliers and financial institutions. CCI has public sector, business, and financial expertise. Its independent, third-party nature allows CCI to put itself at the service of governments and help them to assess, develop, and implement programs from an unbiased perspective. CCI is not a developer, technology provider, or investor, and has no financial interest in any program that might be a result of the partnership.

As delineated in the MOU, CCI will:

a. Provide technical assistance at no cost, including commercial, financial, and policy analysis to support the development of projects;
b. Identify and mobilize international resources including project developers, technology suppliers, financial institutions, development banks, and other stakeholders that could potentially participate in projects and/or bid on sub-projects;
c. Facilitate discussion and negotiations between GoS and private sector partners to help forge agreements so that projects can move forward;
d. Work in conjunction with other partners deemed appropriate by GoS as necessary;
e. Assist with contract negotiations, off-take agreements for the sale of recyclables, compost and/or energy, and general project development for approved projects;
f. Engage in information sharing on issues pertaining to renewable energy, energy transmission, water and wastewater treatment, and water production/distribution.

CCI is also in discussions with the EIB on supporting a dedicated credit facility for EE investments. The value of CCI support will vary according to projects and they can provide technical assistance to other projects initiated by the World Bank, IFC and other development finance institutions, as listed above.

Sub-total: **USD 300K (dependent on the phases of various projects)**

Baseline #7 – Seychelles Institute of Technology

SIT offers post-secondary education and training programs at Certificate, Diploma/Advanced Diploma Level. The courses cater to the needs of persons who require initial training and upgrading principally in vocational areas for personal and professional development and advancement.

All regular courses offered at the Seychelles Institute of Technology fall under two Programme Areas, namely: 1) Built Environment Studies; and 2) Engineering Studies.SIT also has the necessary flexibility to mount tailor-made, industry-response courses to satisfy specific training needs expressed by organizations. The versatility practiced within the SIT make possible extra-mural and off-campus short training courses in response to emerging and special requirements. With the passage of the new Energy Act and renewed focus on EE measures and investments SIT is interested in developing a new certificate course on installation and maintenance of EE appliances. Sub-total: **$100K USD cash and in-kind to develop the new certificate course over the next several years**
Total: USD 8,775,000

The proposed alternative scenario, with brief description of outcomes and components of the project

The proposed GEF project has been developed following extensive consultations with a wide range of actors in Seychelles and has been designed to address the three categories of challenges and needs described in Section B.1 while building on and complementing the proposed baseline activities described in Table 2, particularly as regards the financing schemes. The specific added value of proposed GEF-funded project activities vis-à-vis identified needs is described in detail in Table 3 below.

Table 3: Project Activities and Incremental Reasoning

Baseline Activities	Incremental Activities	Incremental Reasoning
Component 1: Improved policy, institutional, legal/regulatory and financial framework for Residential resource efficient technologies		
Refer to activities from Baseline Projects #1 (GoS) #3 (World Bank), #4 (IFC) and #6 (Clinton Climate Initiative)	• Developed and approved Energy Efficiency Strategy and Energy Efficiency Implementation Plan (under Energy Bill) with sub-component on residential resource efficient appliances • Approved and enforced policies and regulations on importation of residential EE technologies • Established and effectively enforced mandatory national standards and labels (MEPS) for imported residential EE technologies covered under the project • Policy framework in place for recycling and disposal of non-EE residential appliances • Legal Fiscal Framework at Central Bank in place for Credit Risk Fund scheme (see Component #4	GEF-funded activities in this component will build on baseline activities from the Government of Seychelles, World Bank, IFC and CCI. Limited GoS funds have been allocated for the development of the EE strategy and implementation plan and therefore GEF funds are urgently needed to develop these frameworks in the first year of the project. It is important to note that these frameworks will apply to all sectors of the economy as regards EE measures, but supported activities will pay particularly close attention to a sub-component of the plan focused on the residential sector. The development and operationalization of MEPS for all imported residential EE technologies covered under the project (as well as a framework in place for recycling and disposal of non-EE residential appliances) are also urgently needed and will be funded under this project; both activities are in fact a pre-condition for the EIB to provide concessional loan financing for purchase of appliances (as noted in Table 2) and so GEF support will catalyze this private sector investment (discussions with EIB were held on this specific issue). CCI has particular expertise in the recycling and waste disposal sector and has allocated funds to assist the GoS to develop a recycling and retirement policy framework; GEF funds will complement this assistance. Just as World Bank support is essential for funding the follow-up regulatory work for the RE component of the new Energy Bill, GEF funds will play a similar role in supporting the development of key regulatory frameworks for the EE sector. Finally IFC has proposed that the GoS urgently address a number of key legal issues (through direct and/or delegated procedures) that are pre-conditions to

		the establishment of the CRF under the REP. Since IFC is only providing a very limited amount of advisory assistance, GEF-funds are needed for technical assistance on the following legal activities: • Income Tax act amendment to allow for tax credit deduction • New customs product nomenclature be set up for the targeted category of equipment and consumables • Customs Act amendment and duty concession amendment for eligible REP equipment • Amendment of Customs Act to 'discourage' or negatively discriminate on import of inefficient equipment and consumable • Provide exemption for REP Equipment clauses for forthcoming VAT law • Consultation with all existing and potential REP suppliers on the proposed amendments and larger implications if any; • The GoS, through MOFTI issuing an invitation to all commercial banks duly licensed in Seychelles to participate in the intended Program; • The Signing of an Memorandum of Understanding with individual banks setting out the outline of the CRF including tax credit, outline recovery mechanism, structure, loan portfolio eligibility criteria, and the intended volume (Risk appetite) for the Eligible loan portfolio • The signing of individual Risk Sharing Facility Agreement with participating banks setting out the Program Objective, Loan underwriting, Portfolio Management, Claims and Payment Process • State Law Office drafting MoU.
Component 2: Awareness-raising and educational campaign on resource efficient applications		
Refer to activities from Baseline Projects #2 (GoS - Energy Education & Communication Strategy for Seychelles) and #6 (Clinton Climate Initiative)	• All activities of the Seychelles Energy Education and Communication Strategy completed and evaluated with additional component developed around domestic water usage reductions • Energy label system for appliances launched and operational across Seychelles • Study completed on potential of absorption refrigerator applications in Seychelles	As noted in Table 2, GoS has already developed (and allocated funds toward) the Energy Education and Communication Strategy which includes a number of planned activities over the next couple years (2012-2015) with funding resources requested for each activity. GEF funds will build on GoS seed investments and pledged advisory support from CCI to support various activities related to resource efficiency measures (to be identified during the PPG phase) of the strategy during 2014-2015, including a comprehensive evaluation of impacts from the strategy compared to a 2007 baseline and a new component developed around domestic water usage reductions. The launch and establishment of an energy labeling system for appliances is expected to be one of the key activities under the strategy for GEF support. GEF funds under this component will also support a study on the potential of absorption refrigerator applications in Seychelles, which were one of the technologies identified by the Netrawatt Sustainability study (funded by GoS) as having a high potential

		suitability for the Seychelles climate. Many buildings in Seychelles are cooled using decentralized air conditioners which are inefficient and often poorly maintained. Absorption refrigerators and solar-powered air conditioners use heat as their primary energy source rather than electricity and can be operated via solar collectors. The energy required for night time use can be stored in an accumulator. By way of example, the Netrawatt study looked at a case study of replacing the Central Bank's current air conditioning system with a solar-powered air conditioning system at an investment cost of USD $407K. The solar-powered system was estimated to save $105K in electricity bills per annum which indicates a payback of less than four years for a product with a life expectancy of 20 years. The study will look at the viability of such technologies in the Seychelles and ways to encourage their uptake.
Component 3: Vocational training scheme for local installation, operation and maintenance of residential resource efficient applications		
Refer to activities from Baseline Projects #6 (Clinton Climate Initiative) and #7 (Seychelles Institute of Technology)	• Vocational training program (certificate course) on installation and maintenance of appliances established at the Seychelles Institute of Technology, with appropriate curriculum approved and operational (TA) • Demonstration units and testing facilities purchased for use by students in certificate course (INV)	Activities under this component will incrementally build on SIT's current investments in vocational training and expressed interest to develop (they will commit both staff time and budgetary resources) a new certificate course on installation and maintenance of resource efficient applications. GEF funds are needed for both the TA to develop the appropriate curriculum and train SIT staff, as well as INV for demonstration units (hardware) and testing facilities. The courses are hands-on and designed to be practical so it's essential that students have access to actual hardware in the classrooms. CCI funds will provide advisory assistance in the development of the training scheme and provide lessons learned from other such schemes around the world. The GEF-funding for this component also complements a recent MoU between the University of Seychelles and TERI University in India on a new course in renewable energy that will be offered to train middle managers in energy management and planning for RE and EE investments.
Component 4: Financial de-risking instrument for residential EE appliances		
Refer to activities from Baseline Projects #4 (IFC), #5 (EIB) and #6 (Clinton Climate Initiative)	• Credit Risk Fund (partial guarantee fund) and/or concessional loan facility for uptake of EE appliances operational in at least three local banks • MOU signed with Development Bank to set out the objective, funding mechanism, administration rules and confirmation of their	The majority of GEF funds will be used under this component. GEF funds will complement existing baseline investments by IFC, EIB and CCI. It is envisioned that GEF funds will be used as INV and co-capitalize one of the de-risking instruments or financing facilities. Under one option, GEF funds could be used to co-capitalize the partial guarantee fund under the CRF which is intended to be in a deposit account in the name of GoS either at participating banks or at the Development Bank of Seychelles. As previously noted, it envisioned that the CRF will act as a first loss,

	participation in the CRF. • By end of project 11,000 households accessing loans via the loan facility or CRF mechanism for purchase of EE appliances	subordinated recovery guarantee and will be placed in a reserve account in each participating bank and will be paid out to participating banks in the event of a loss or default for EE loans. In this case GEF funds would be used as a non-grant financial mechanism whereby they are deposited as a partial guarantee fund as part of the CRF. This would be a type of performance-based grant since the GEF funds capitalizing the fund would only be disbursed in the event of a loss on EE loans. GEF funds will be incremental to the IFC advisory assistance already secured as part of the REP. A portion of the GEF funds could also be used to fund the costs of the PA to administer the CRF. Alternatively if for whatever the reason the CRF scheme did not go ahead GEF funds could be co-mixed with EIB funds for a dedicated concessional credit line to local banks that will on-lend to investors for EE measures (however it is unlikely GEF funds would exert significant leverage). While EIB funds are intended to be used for EE investments for all sectors, GEF funds would be allocated specifically for concessional finance for EE residential applications. The funds could be provided on a wholesale basis to the Development Bank of Seychelles and then they could implement an RFP to identify three local banks that would benefit from the GEF-funded concessional finance to roll-out loan products for households. The actual financial schemes and use of GEF funds will be decided following an in-depth review of the various de-risking instruments during the first year of the project (done in conjunction with IFC, EIB and CC). The GoS and UNDP/GEF (together with EIB) are already designing and implementing a variety of catalytic financial incentives for Solar PV auto-producers as part of the Solar PV project and so the relationships and frameworks can be replicated for the EE sector..

Global Environmental Benefits

The proposed project is requesting grant money for both technical assistance and investment; approximately 51% of GEF funds are expected to go directly towards the operation and capitalization of the CRF (partial guarantee fund) and/or co-capitalize a concessional credit line for EE loans (with EIB) under component #4. The design of the project as regards the use of non-grant financial mechanisms and financial de-risking instruments is consistent with a variety of other similar instruments that GEF and UNDP are piloting in Seychelles and Mauritius in the RE sectors.

As noted from IFC estimates, it is expected that some 13,300 MWh of electricity and 1,225,000 m3 of water can saved per year by end of project from residential appliances purchased under the various financial de-risking instruments developed under the project. Electricity saved from these systems will replace existing fossil fuel based electricity production, which has an emission factor of 0.688 tCO2/MWh. The GEF guidelines for calculating the lifetime CO2 emission savings of technology / measures implemented during the project period (as direct action of the GEF project) are as follows:

CO2 direct = $e * l * c$

Where

e = annual energy savings in the last year of the project period [in t / MWh]
l = average useful lifetime of equipment in years
c = CO2 intensity of the marginal technology [in t CO2/ t fuel or MWh]

Using this calculation, and assuming an expected (conservative) lifetime of 15 years for the appliances, the total direct CO2 emission reductions will be 13,300 x 15 X 0.688 = **137,256 tCo2.** Therefore, the unit abatement cost (GEF$/ton CO2) of the direct CO2 emissions reduction from the uptake of the appliances is US$12.9/ ton CO2. These calculations will be further refined at the PPG phase.

The water-saving technologies will also indirectly contribute to reduced GHG emissions since at present the Government of Seychelles is spending a considerable amount of fossil fuel based electricity production on desalinization because of water supply shortages. The Sustainable Development Strategy of Seychelles specifically advocates to "Promote rain water harvesting; Promote the reclamation and re-use of waste water; and Promote water saving devices and technologies." If water demand can be reduced in the residential sector through appliances that are both water saving and energy efficient it will be win-win situation with dual-faceted abatement potential.

The potential reduction in water demand from technological water saving devices was analyzed in the report funded by GEF *Climate Change Impact and Adaptation in the Water Sector in the Seychelles* (October 2000) prepared for the Seychelles Second National Communication (SNC). As noted in the introductory section, because of the local limitations in ability to predict future water demand, different scenarios of demand with other superimposed factors that affect water resources were assessed. Each scenario was run for a period of 24 years up to the year 2030 to encompass a range of hydrological conditions. The results presented provide a "first estimate" of water demand trends and possible approaches to ensure that water resources are sufficient to meet demands. A number of estimates and assumptions were made in view of data limitations. These assumptions and limitations must be taken into consideration and must be carefully understood when interpreting the outputs and results presented. Nevertheless, the study findings provided useful insights into water resources management in the catchment and the following conclusions can be drawn:

The WEAP results showed that the sum of the combined water stressor (WS) defined here as the worst case scenario policy ranging from the effect of likely climate fluctuations, high population growth and sector economic development were characterized by 4,879.1, 5,297, 6,151, 8,058 and 9,565 million liters of unmet demand for the years 2010, 2015, 2020, 2025 and 2030 respectively. These figures highlighted the drastic increase in deficit of water and the serious risk to the sustainable development of the country. The demand management scenarios such as improvement in technological water saving devices (i.e. toilets, showers and washing devices) in the tourism and residential demand sites ***showed large reduction of unmet demand compared to the reference or business as usual scenario ranging from -221.3 to -941.7 million liters less from the years 2010 to 2030.*** The indirect contribution of the targeted technologies to reduced water demand and in turn energy savings from reduced water supply activities will be estimated at the PPG phase.

Climate resilience benefits

As regards the benefits of promoting climate resilience, given that this project is funded from CCM STAR funds this project does not directly focus on this category of global environmental benefits but the climate-proofing of the proposed upstream policy work and climate-resilience of the targeted technologies are nonetheless critical components and ancillary benefits of the project. Both the third environment management plan and Sustainable Development Strategy 2012-2020 (SDS) note the multidimensional nature of climate change in a highly fragile SIDS environment and the need for all stakeholders to play a role in achieving effective adaptation and mitigation. The SDS notes the importance of "improving baseline information, including that of the built environments, to better support climate monitoring and assessment studies at local, island, national and regional scales." Moreover at present the National Climate

Change Steering Committee is undertaking a study to identify and prioritize areas for adaptation interventions in key sectors such as energy, waste and water and is also engaging government (incl. the executive & legislative) with the scientific community for input of climate risk information into the development of all national development strategies, policies and laws. As such during the PPG phase it will be important for the project stakeholders to articulate how resiliency will be integrated into energy efficiency regulatory frameworks and waste disposal policy, as well as the specific climate resilience benefits and criteria for each of the targeted technologies.

Innovativeness, sustainability and potential for scaling up

The recent UNDP/GEF publication highlights the importance of financial de-risking instruments in addressing financial barriers to RE and EE uptake in a sustainable way: "*Financial de-risking instruments do not seek to directly address the underlying barriers, but instead transfer the risks that investors face to public actors, such as development banks. These instruments can include, for example, loan guarantees, political risk insurance and public co-investments. Recognizing that all risks cannot be eliminated through policy de-risking or transferred through financial de-risking, efforts to reduce risks can be complemented by additional financial incentives to compensate for any residual above-average risks and costs."* This project has been specifically designed in line with the principles and cutting-edge lessons learned from that report and incorporate both cornerstone policies such as regulations on MEPS and retirement of non-EE appliances with financial de-risking instruments. The project has tremendous potential for scale-up and long-term sustainability since the de-risking instruments will continue beyond the project end and could be either further capitalized through additional investments from EIB or local banks or could be replicated/modified for application to other sectors. It is also hoped that the financial mechanisms will provide lessons and guidance on the planned development of micro-insurance, risk reduction and financing mechanisms and private sector financing options for adaptation interventions.

The project also has significant socio-economic co-benefits. Electricity and water are among the highest household expenditures facing the average Seychellois. The proposed project is expected to bring about the following socio-economic benefits to Seychellois at the national and local levels.

1. National and local government officials will acquire coordination capacity in working with the private sector and implementing market-based approaches
2. Increased awareness and knowledge by local government, manufacturers, banks and consumers about the benefits of energy efficient products.
3. Households will gain access to financing products to purchase resource efficient appliances
4. This in turn will result in decreased household costs for electricity and water thus resulting in increased disposable income for productive uses

The project design and implementation will take into account gender equality indicators, particularly in ensuring women participation in decision making process and access of women in households to knowledge, financing products and benefits. The project will be designed to contribute towards empowering women through specific activities that promote awareness on energy efficient home appliances, calculation method on cost saving from utilization of energy efficient appliances, capacity to access financing facility and involvement of women in monitoring implementation of energy efficient home appliances program in the market. The project will use gender-disaggregated data if applicable that would help in coming up with a strong monitoring and evaluation mechanism to operate and advance gender mainstreaming and equality.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

The project will be implemented and coordinated by the Seychelles Energy Commission under overall responsibility of the Department of Environment (DOE) in the Ministry of Environment and Energy (MEE). However, in order to successfully implement the various components of the project, the SEC will need the support and cooperation of various government ministries and departments, as well as partners outside of government, to create a market-oriented environment that can successfully promote uptake of EE appliances. Different entities will play a lead role under different components. For example, under Component #2 the MEE is the lead agency and there are many different agencies responsible for different elements of the EE communications strategy as described in Annex 1. Under Component #3 the lead agency will be SIT with SEC providing technical support and coordination. Under Component #4 there will be a host of local and international actors – MEE, MOFTI, DBS, EIB, IFC, CCI, local private banks – who will provide support and have specific roles and responsibilities as fiduciary agents and implementing entities under the financial incentive schemes. A detailed analysis of the role of all stakeholders will be done during the PPG phase.

The project will be implemented over a period of four years. UNDP will be responsible for the implementation of the project. The project will be nationally implemented (NIM) by the Department of Environment (DOE) in the MEE in line with the Standard Basic Assistance Agreement (SBAA, 1977) between the UNDP and the Government of Seychelles. A centralized Programme Coordination Unit (PCU) has been established by the UNDP and the Government of Seychelles to oversee, support, administer and coordinate the implementation of all UNDP-GEF environmental projects in the Seychelles. The PCU is comprised of a GEF National Programme Coordinator, an International Chief Technical Advisor (currently being recruited), and administrative and accounts support staff. The Project Manager will be located at the PCU offices, along with all other UNDP-GEF Project Managers. Day-to-day management of the project will be carried out by a Project Manager (PM). The PM will work under the overall guidance of the Project Steering Committee (PSC), and will report to the PSC and the GEF National Programme Coordinator.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

Risk	Rating	Mitigation
Seychelles is highly vulnerable to climate-induced changes and risks which could affect many of the energy and water use assumptions in the project and jeopardize achievement of GEBs	Medium	Every effort will be made to undertake detailed planning for all climate-resilient interventions and capacity building activities, based on latest climatic data and models and use of best-practices identified in prior projects. The project will also benefit from Component 3 of the UNEP SCCF adaptation project which focuses on "Technology and know-how support through integration and demonstration of climate adaptation technologies."
The sequencing and timing of activities under the project as regards achievement of upstream policy reforms (some of which are preconditions to EIB assistance) followed by downstream financial incentives does not happen as planned	Low	In discussions with GoS and other stakeholders, every effort has been made to ensure that all activities under Component #1 will be completed by the end of the Year 1 of the project so as to allow roll-out of the financial mechanisms in Year 2 and 3. The GoS is committed to put in place the MEPS and recycling standards as preconditions for the EIB concessional finance
Local banks or consumers do not positively respond to the RFPs or financial mechanisms developed under Component #4 thus resulting in less uptake of EE appliances as envisioned	Low	During their field visit in July 2012 the IFC team received positive feedback from the consultative meetings held on both the product and financing structure of the intended Resource Efficiency Program in Seychelles. The various stakeholders consulted to put together this initiative

		includes Ministry of Finance, Trade and Investment, Ministry of Energy and Environment, Central Bank of Seychelles, Seychelles Energy Commission, Public Utilities Company, Nouvobanq, Barclays Bank, MCB, Seychelles Chamber of Commerce and Industry, Seychelles Standards Bureau, Development Bank of Seychelles and SENPA. According to the IFC report, stakeholders in general agreed that a CRF funding mechanism or even concessional finance may not do enough to have the desired impact of inducing demand. A strategic approach bringing all stakeholders to participate with the right participative mind-set and communication plan to include a larger audience will also provide the right momentum for a medium to long term perspective. That is why the project not only focus on addressing financial barriers bit also supporting the EE communications strategy and development of a training program.
Human resources are slow in being hired and/or insufficiently trained to successfully implement the project	Low	UNDP and GoS will ensure that SEC has the requisite capacity to implement the project and that regional experts are brought in from around the Indian Ocean to fill key positions and contracts. CCI has a large network of technical assistance providers it can tap into and one of their key contributions to the project will be to identify and mobilize international resources including project developers, technology suppliers, financial institutions, development banks, and other stakeholders that could potentially participate in projects and/or bid on sub-projects.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

- In addition to its membership in SIDS Dock, the Seychelles has been a participant in the development (on-going) of the joint European Union – Indian Ocean Commission "Regional Program on Renewable Energy and Energy Efficiency", which is intended to support renewable energy development and energy efficiency improvements in IOC member countries, including detailed energy resource analyses. With a planned overall (regional) budget of 10 million Euros, this program will work to remove barriers to the development of renewable energy and energy efficiency technologies, focusing on interventions that will benefit most from a regional approach.

- At present, the Government of Seychelles is implementing the EU-funded "Seychelles Climate Change Support Programme", a Euro 2 million project whose objective is to support implementation of the priorities identified in the Seychelles National Climate Change Strategy. The EU project (which runs from 2010-2014) will mainstream climate change into national development policies and key sector strategies and action plans, build the capacity of key stakeholders, and establish effective steering & monitoring mechanisms. In addition, the EU project will support changes to the legal framework for the energy sector to enable wide participation and investment in renewable energies, innovation and access to transfer of technology, and improved energy efficiency. Since this program is quite broad-based and almost completed listed as related initiative and not baseline financing.

- A regional project involving Cape Verde, Comoros, Mauritius, Maldives, Seychelles, Sao Tome and Principe, "Implementing Integrated Water Resource and Wastewater Management in Atlantic and Indian Ocean SIDS was approved by the GEF in December 2010.

- The EU-COI - Regional Program on Renewable Energy and Energy Efficiency is expected to provide up to Euro 15 million to several countries in the Indian Ocean region for renewable energy development and energy efficiency improvements. This program has already provided support to Seychelles for the development of the EE Bill (these funds are already spent and thus they are not listed as co-finance).

- This project will also work in close collaboration with the UNDP/GEF *Grid-Connected Rooftop Photovoltaic Systems* project which is also developing a financial mechanism and supporting activities for the uptake of Solar PV technologies in the country. This project will also learn from the UNDP-GEF Mauritius project '*Removal of Barriers to Energy Efficiency and Energy Conservation in Buildings*' which is piloting various types of market-based financial incentives schemes for RE and EE which could be considered for incorporation in this project.

- Seychelles was recently part of a UNEP multi-country SCCF project entitled: *Enhancing capacity, knowledge and technology support to build climate resilience of vulnerable developing countries*. The objective of that project is to build climate resilience using an ecosystem management approach in vulnerable developing countries by increasing institutional capacity, mobilizing knowledge and transferring appropriate adaptation technologies The preferred solution to these problems is to build capacity in developing countries to plan and implement best-practice adaptation technologies and increase the availability of information on cost-effective adaptation technology options, with a focus on the ecosystem management approach. The SCCF project will pilot these adaptation interventions in three pilot countries (i.e. Mauritania, Nepal and Seychelles) of the selected regions (i.e. West Africa, South Asia and the SIDS) as a pre-investment in adaptation technologies to build climate resilience. This project will work closely with that project to ensure that all technologies are sufficiently climate resilient.

- The GOS/UNDP/GEF *Capacity Development for Improved National and International Environmental Management in Seychelles* aims to integrate local and global environmental management and enhance the capacity to implement global environmental management objectives within national programmes. The purpose is to demonstrate how global objectives relate to climate change. This project will also integrate with that project.

Description of the consistency of the project with:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

According to the Instrument for the Establishment of the Restructured Global Environment Facility, Seychelles qualifies for GEF financing on the following grounds:

- It has ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 22 September 1992 and signed the Kyoto Protocol on the 20 March 1998; and

- It receives development assistance from UNDP's core resources.

The overarching national policy document for the energy sector in the Seychelles is the Seychelles Energy Policy 2010-2030, which was developed with UNDP support during 2010 and formally approved by Cabinet and adopted as official government policy in 2010. It recommends a sustainable development of the energy sector focusing on Energy Efficiency, Renewable Energy and reduction of dependence on oil to improve energy security. A diversification of the energy supply is prioritized with a minimum share of 5% for renewable energy stipulated by 2020 and 15% by 2030. In the long term it is envisioned that the energy supply will be 100% based on renewable sources.

In addition to the Seychelles Energy Policy, several other policy documents have relevance to the energy sector and to the promotion of energy efficiency. Within the context of the Second National Communications (SNC), a second greenhouse gas (GHG) inventory has been undertaken and the inventory concluded that the most significant source of GHG in Seychelles is the consumption of fuel oil for the production of electricity. The SNC also focuses on climate change and adaptation activities in water sector. It consist of four adaptation-oriented project activities addressing (1) integrated water resource evaluation, planning and management focusing on climate, socio-economic and technological change impacts on the water resources, (2) hydro-climate statistical prediction for better water resource planning and management (3) a study on the potential of rain water harvesting study in Victoria as a water conservation and flood control measure and (4) a national education and awareness program on climate change in the water sector.

The subsequent National Climate Change Strategy (SNCCS), formulated in 2009, is intended to mainstream climate change into sustainable development through a cross-sectoral approach addressing matters of policy, institutions, capacity building and civil society involvement. The third objective of the SNCCS is "to achieve sustainable energy security through reduction of greenhouse gas emissions." The SNCCS identifies the main issues inhibiting effective mitigation measures in Seychelles as: 1) lack of a clear policy and legal framework for the introduction of alternative energy technologies; 2) lack of access to appropriate and cost-effective technologies for mitigation; and 3) a weak implementation of energy conservation measures and awareness.

Meanwhile the Seychelles Sustainable Development Strategy 2011-2020 (SDSS) – which is the framework document for all environment-related programs and policies in the country – identifies the "promotion of renewable and alternative energy at the national level" as one of five strategic objectives for the energy sector in the country. Additionally the SSDS advocates for the implementation of a "Green Homes Programme" with special focus on energy-saving devices, water usage & demand reductions and water collection.

Seychelles is also a signatory to the SIDS DOCK Support Programme, a joint initiative of UNDP and the World Bank funded by the Government of Denmark that was developed in close consultation with the Alliance of Small Island States (AOSIS). As one of the countries to have formally signed on to the SIDS DOCK Seychelles has committed to several critical long-term goals in order to move toward sustainable development planning by 2033, one of which is "Increase energy efficiency by a minimum of 25% (relative to a 2005 baseline)."

The Seychelles Water Master Plan (2010-2025) has as its first Goal: "Ensure effective and integrated management of water resources." Under this goal are strategic objectives to "enhance the capacity for supply and storage of potable water" and "promote water conservation measures and to reduce demand."

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

The project objective of reducing the rate of electricity consumption and water usage in Seychelles across domestic households through improved awareness and financial incentives for the uptake of selected resource efficient residential technologies is in line with GEF V Climate Change Mitigation strategic focal area objective #2 (CCM-2), and more specifically: GEF focal area Outcome 2.1 (*Appropriate policy, legal and regulatory frameworks adopted and enforced*) and focal area Outcome 2.2 (*Sustainable financing and delivery mechanisms established and operational).* The project has also taken into

consideration GEF's revised strategy for enhancing engagement with the private sector and the renewed focus on expanded use of non-grant instruments as a key tool for building public private partnerships and attracting greater private sector financing, thus increasing global environmental benefits. Finally while not requesting funding under the Special Climate Change Fund (SCCF) the project has been developed in support of the SCCF objective to support countries to increase resilience to climate change through both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions. In this case all policy measures supported under the project for both the energy and water sectors will be climate-proofed and all technologies promoted will be customized according to the most revelant climate risk analyses and vulnerability assessments.

B.3 The GEF Agency's comparative advantage for implementing this project:

Given the limited number of UN resident agencies in Seychelles (only the World Health Organization) the country is not required to prepare a UNDAF. The project supports the following UNDP strategic plan and UN country program outcomes:

- *UNDP Strategic Plan Environment and Sustainable Development Primary Outcome: Mainstreaming environment and energy: Strengthened national capacities to mainstream environment and energy concerns into national development plans and implementation systems*
- *Expected CP Outcome(s): UN Country Programme 2012-2016 – Country Programme Outcome #2: By 2016, the governance systems, use of technologies and practices and financing mechanisms that promote environmental, energy and climate-change adaptation have been mainstreamed into national development plans.*

As regards CO capacity, UNDP is one of the only resident UN agencies in the country and is already overseeing several GEF projects. A centralized Programme Coordination Unit (PCU) has been established by the UNDP and the Government of Seychelles to oversee, support, administer and coordinate the implementation of all UNDP-GEF environmental projects in the Seychelles. The PCU is comprised of a National Programme Coordinator, an International Chief Technical Advisor (currently being recruited), and administrative and accounts support staff. UNDP Mauritius/Seychelles will maintain the oversight and management of the overall project budget. It will be responsible for monitoring project implementation and timely reporting of the progress to the UNDP Regional Coordination Unit and GEF, as well as organizing mandatory reviews and evaluations. It will also support the Department of Environment and the Seychelles Energy Commission in the procurement of the required expert services and other project inputs and administer the required contracts. Furthermore, it will support the coordination and networking with other related initiatives and institutions in the country, including integration with the Solar PV project (the PM for this project and the Solar PV project will both be located in the PCU.

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

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

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Mr. Didier Dogley	Special Advisor to the Minister & GEF Operational Focal Point	MINISTRY OF ENVIRONMENT AND ENERGY	February 15th, 2013

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**
Adriana Dinu UNDP/GEF Officer-in-Charge		March 19, 2013	Lucas Black UNDP Regional Technical Advisor, EITT	Tel: +27 12 354-8132	lucas.black@undp.org

Annex 1

PROPOSED ROLE OF PARTNERS FOR IMPLEMENTATION OF THE EE COMMUNICATIONS STRATEGY

PARTNER	DESCRIPTION	PROPOSED ROLE
Ministry of Environment and Energy (MEE)	Government ministry responsible for energy	Chair the Energy Education & Communication working group and taking lead role on the campaign Provide annual budget for energy education campaign activities Contribute human resources (staff with technical background in energy) Conduct study on economic benefits of energy conservation and efficiency (on national scale)
Public Utilities Corporation (PUC)	Parastatal company responsible for electricity generation on Mahe, Praslin and La Digue (generators and new wind farm on Mahe)	Contribute funding for energy education campaign activities Contribute technical input and information to the campaign
Seychelles Energy Commission (SEC)	Government agency responsible for energy regulation	Provide input of SR 300,000 to develop strategy and kick start the campaign in year one Contribute technical advice Enforce compliance with energy efficiency regulations (Energy Label, etc.)
Seychelles Petroleum Company	Parastatal company responsible for import of petroleum products into Seychelles	Contribute funding for energy education campaign activities
Seychelles Tourism Board	Government agency responsible for tourism and the new Sustainable Tourism Label for Seychelles	Encourage hotels to reduce energy use and participate in the campaign to improve their sustainability rating for the label.
Ministry of Finance	Government ministry responsible for allocation of national annual budgets	Provide funding support to MEE for the campaign

PARTNER	DESCRIPTION	PROPOSED ROLE
Importers	Private companies responsible for import of appliances	Advertise and promote advantages of energy efficient appliances to clients Participate in training opportunities

NGOs	Non-governmental organisations interested in energy	Implement complementary campaigns on energy efficiency/ conservation and renewable energy
Private Sector	Hotels, Independent Power Producers, etc	Contribute funding support for the campaign Educate clients about saving energy
Ministry of Education	Government ministry responsible for primary, secondary and post-secondary education in Seychelles	Assist with development of curriculum materials and resources for schools
University of Seychelles	Seychelles' recently launched university, providing undergraduate degrees in Education, Law, Environment, Business Management, English Literature and ICT	Incorporate energy education into new BSc Environmental Science and other programs Provide graduates to work in energy sector

CAMPAIGN ACTIVITIES TARGETING KEY AUDIENCES

The campaign will involve a series of activities to be implemented over the three year period targeting each of the eight key audiences. The activities are detailed below, and summarized in the action plan in the next section.

1) DECISION-MAKERS

The main target behavior change for decision-makers is to get them to lead the way towards energy efficiency in their organisations. To convince them to become energy leaders, a series of activities will be implemented as part of the campaign, and most will take place during the first year in order to get everyone on board:

- Pledge signing ceremony for Ministers: The Minister for Environment and Energy will meet with all Ministers to give them an overview of the need to reduce energy use nationally, introduce the Energy Challenge, and invite them to sign a pledge to work with their organisations to reduce their energy consumption.
- Speech by Minister for Environment and Energy: This will be broadcast on TV, radio and printed in Nation and be used to introduce the Energy Challenge and invite government and industry leaders to participate and reduce their energy use.
- Energy Challenge: All organisations who want to reduce their energy use will be encouraged to have their senior manager sign on for the Energy Challenge. Participating organisations which reduce their energy consumption by the greatest percentage each year will be given an award.
- Energy Information Briefs: As needed, short research and information briefs will be produced by MEE and SEC for dissemination to cabinet, MNAs and other government and business leaders. The purpose of these informative and factual papers is to provide background information that will help government decision-makers understand the issues and convince them to support the introduction and implementation of new legislation and policies related to reducing energy consumption.

2) HOTELS

The objective is to convince hotels to reduce their energy consumption. They can do this by implementing energy conservation programs, switching to more efficient technologies, and also by using renewable energy. A major focus is to reduce the energy consumed through air conditioning. The education and awareness activities for hotels planned under this strategy are:

- Workshops on energy efficiency and renewable energy for managers – these workshops should be short and organised in collaboration with STB and SHTA. The workshops should help managers

understand the most effective ways of reducing their energy bills, and the available services and technologies to help them.

- Leaflet on key energy saving for hotels. This leaflet (or it could be produced as a poster) should illustrate the best strategies hotels can use to reduce their energy consumption. It can be given out during the above workshops.
- Articles in SHTA newsletter – these short articles can highlight best practices among hotels, and also provide tips for energy savings. Energy service and technology providers should be encouraged to advertise in the newsletter.
- Award Scheme (link with SSTL) – The sustainable tourism label has an energy component. This activity involves giving a special award each year to a hotel establishment with a successful campaign to reduce energy consumption.
- Media coverage of best practices – MEE and SEC will provide articles and press releases from time to time highlighting achievements of hotels to the local and international media.
- Energy audits of hotels – Audits are educational exercises in that they help raise awareness among the hotel management and staff of improvements that are needed and achievable. This activity will be developed and implemented by MEE and SEC, but independent auditors may also come on board to provide the service for a fee.
- Revive footprints video – this activity is being led by UNDP/PCU but will complement the energy education campaign. The video will be shown at the airport, and possible on incoming flights. Copies will be made available to hotels to show in their lobbies/rooms if interested.

3) CONSUMERS (THE GENERAL PUBLIC)

The main objective is to convince consumers to switch appliances off when not in use and to change over to more efficient technologies according to their budget. In the third year a special campaign targeting high- income consumers will focus on convincing them to install solar PV for electricity generation. The main activities for this target audience to be implemented through the strategy include:

- Install campaign adverts in and on buses. The stickers will promote the campaign logo and also illustrate different messages for energy conservation and efficiency at home. One bus will have exterior stickers and up to ten buses should have stickers installed on the inside upper windows for people to read as they ride the bus.
- Spots and documentaries – a series of animated TV spots using the campaign characters will introduce the campaign and focus on key messages for energy savings at home. The TV spots will also be broadcast at Deepam Cinema and at the Post Office big screen. Radio spots and quizzes will cover similar messages. Other spots can later focus on energy efficiency label and renewable energy (not all need to use animation style).
- Production of a calendar with key home energy saving tips (2013). A private sponsor could cover production costs, eg. PUC or SeyPec.
- Production of a poster to explain how the energy label works and to encourage consumers to ask for / choose more efficient appliances. The poster can be put up
- Publicity on Independent power production (IPP) and renewable energy (RE) to encourage high-end consumers to install solar PV and other RE technologies for their own consumption and to sell excess to the grid. This will be towards year 3, once the new Energy Act is in place, the system is set up for IPPs, and PV and other technologies are available on the local market.
- SMS energy saver reminders – this will be done periodically with support from local mobile telephone companies.
- Happy face and message on low bills – PUC will lead this activity for customers who reduce their electricity bill from previous month.
- Energy roadshows/ outreach events with give aways – these will be held in conjunction with other national day events and exhibitions. Stickers, bookmarks, posters, t-shirts and other giveaways should be kept in stock for distribution to the public at these events. The first roadshow will take place at the campaign launching in August 2012.

- Monitor and do PR on model energy efficient homes through media – homes who have participated in energy efficiency retrofit programs will continue to be monitored to collect data on energy savings. This activity will be led by SEC with PUC. New homes should be added. A television documentary or other TV or radio productions on energy efficiency can include information and testimonials from these homes.
- Make energy saving song (Lenerzi Servi Byen) available on Cable Tunes and Allo Tunes

4) IMPORTERS OF ELECTRICAL APPLIANCES

The main objective is to help importers become more aware of energy efficiency and start marketing the benefits of energy efficient appliances to their clients. This will be achieved through a series of activities:

- Workshops: a series of short informative seminars for owners and staff of local companies that import and sell appliances. The workshops should help them understand which kinds of appliances are efficient, how to measure efficiency or compare appliances, and give them basic info about energy savings to pass on to their clients. The workshops should help them see the economic and environmental benefits of selling equipment that uses less energy. They will also need some training to understand the new energy label system when it is introduced. The workshops should be organised in collaboration with SCCI and other private sector networks.
- Energy label system in place – the new energy label will require some publicity to make sure importers are aware of it and have the info to pass on to clients. Stickers and other labels should be printed for installation on appliances.
- Leaflets on do's and don'ts, basic info about energy efficiency and label. These leaflets can be given out to participants at workshops, but also distributed by hand or through importer business networks like SCCI.
- Promote compliant importers to consumers – MEE, SEC and NATCOF can work together to give publicity to responsible importers who are participating actively in the campaign. Publicity may include articles in newspapers or segments in TV and radio programs.

5) SCHOOLS

For schools the focus is on helping teacher and students understand the basic principles of energy conservation and efficiency, and encourage them to put them into practice at home and school. The resources produced should make teaching and learning about energy fun, hands on, and inspiring.

- Teachers guide for primary schools – this guide should link to current curriculum topics on energy and conservation (science mainly). It should focus on the basics of energy conservation, efficiency, renewables and include lesson plans, games and worksheets to help students learn through practical and fun activities
- Teachers guide for secondary schools – this guide should also link to the curriculum, mainly science, and build on the previous one by focusing on energy auditing at school and home, and more advanced information about energy conservation and efficiency.
- Teacher workshops – several teacher workshops will be held. The first one will be to get teachers input on the development of the materials and what to include. Teachers can also participate in workshops to develop the teachers guides themselves. Some workshops will have to be held to introduce the guides to teacher educators and to in-service teachers once they are ready.
- Student magazine / comic book on energy featuring 3 characters. This book for kids should be broad enough to be useful for both primary and secondary education. It should feature the three characters and include stories and adventures that explore the ideas of energy conservation, efficiency and renewable energy. It could also include some games and puzzles for kids.
- Production of give-aways to send home – These items can be the same or similar to the items produced to give away at roadshows: stickers, fridge magnets, key chains etc. Ideally they should be items that would be shared with or shown to parents so that students can influence energy use in the home. The

items would be given to teachers who participate in workshops so that they can use distribute them to students when they teach lessons related to energy.

- Workshop for education planners/operations – this workshop would help them understand the need for good energy planning for schools. It would cover conservation, efficiency (especially good design & insulation of computer rooms and other rooms with air conditioning) and renewable energy.
- Add PV installation and maintenance to SIT electrician currriculum – SIT is ready to gear itself up to train electricians to set up and maintain PV systems. A curriculum module should be developed and some basic equipment for teaching provided. SIT is also willing to host a PV demonstration system to use for teaching/learning should a sponsor be willing to provide this.

6) THE MEDIA

Although many journalists and media houses in Seychelles already do cover energy related stories, the objective here is to encourage them to continue to do so, to improve their access to up to date information, and to help them improve their investigations and stories related to the reducing energy consumption in Seychelles. A series of activities are planned to achieve this:

- Workshops – a basic workshop will be offered to journalists from all media houses to introduce them to the basics of energy conservation, efficiency and renewable energy as well as to the campaign overall. Other seminars can also be offered from time to time to help journalists keep up to date on the energy situation and how their audiences can help reduce energy consumption.
- Website – this website should be updated regularly and contain basic information about energy consumption, conservation, efficiency and renewables in Seychelles. It can be used to highlight best practices, provide statistics etc. The website will be a key resource for journalists but will also provide info for schools, the general public, businesses etc. about how to save energy. The website could be hosted by MEE or the SEC.
- Press releases with news and info – this will be done regularly throughout the three years of the campaign with new stories to keep the media interested. To be led by MEE with SEC input.
- Energy audit of the SBC building – this energy audit exercise will serve primarily as an educational exercise to inspire SBC journalists to get interested in energy and in producing their own stories on energy use and savings.

7) OFFICE WORKERS AND MANAGERS

The main objective is to convince office workers to participate in efforts to help their organisation reduce its energy consumption. The activities will focus particularly on organisations who are participating in the Energy Challenge and have pledged to try and reduce their energy bills. A series of activities will target this particular group:

- Stickers in toilets – a series of stickers highlighting different energy savings practices and technologies will be printed and distributed to government offices for installation in a visible spot in their staff toilets
- Prizes for exemplary workers – organisations will be encouraged to give recognition to energy champions in the office. MEE will provide t-shirts and other give aways as prizes upon request.
- Banner for email – a series of short and catchy banners with energy saving messages will be made available for free download on the MEE website for use by office staff.
- In-house training for staff – MEE, SEC and S4S will conduct short workshops upon request to help staff of government organisations understand the need to reduce energy use and explore how their organisation can achieve this. A short powerpoint presentation can be developed and HR managers trained to do their own motivations workshops on saving energy.

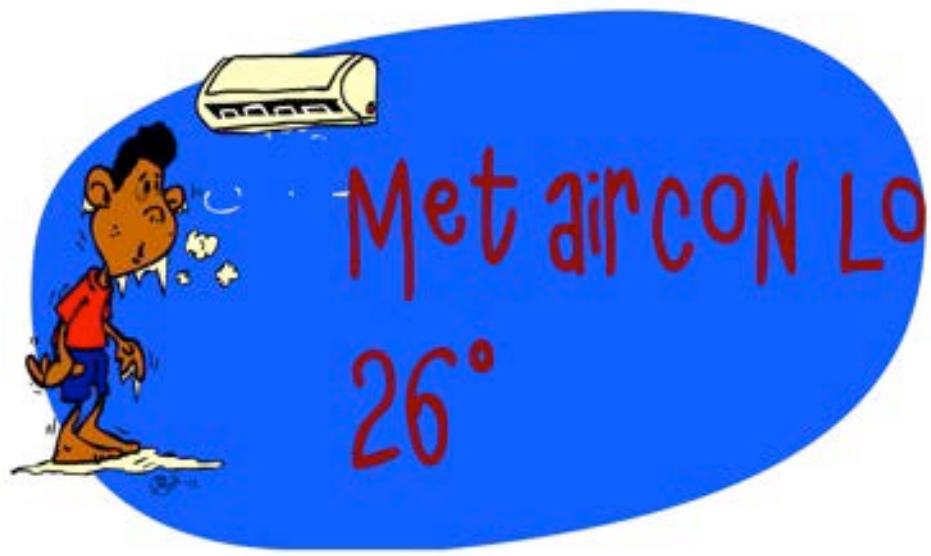
8) THE CONSTRUCTION INDUSTRY

The main objective vis a vis construction is to convince the industry to build more energy efficient houses, office buildings and other structures. Currently very few architects and contractors are concerned about energy efficiency – this needs to change, and tie in with the sustainability guidelines of the new building code being developed. Several activities will be implemented to support this shift in thinking and action:

- Leaflet on energy efficiency & buildings – this leaflet will highlight some of the main features of energy efficient buildings in the tropics and build a case to convince developers based on cost/return analysis. The leaflet should be broad enough to address houses as well as larger buildings.
- Workshops / seminars for the construction industry – 1-2 workshops will be offered each year for architects, contractors, developers and others engaged in building (including construction students at SIT). Topics to be covered can include energy conservation & efficiency, procurement and comparison of building materials, air conditioning and insulation, natural ventilation, etc.
- TV documentary on sustainable/efficient buildings – a documentary will be produced for TV to showcase traditional and modern sustainable / energy efficient building designs in Seychelles.
- Award scheme for sustainable buildings – MEE will develop an award scheme to recognize the efforts of the construction industry to shift toward more energy efficient designs. Awards may be given for best new building, best architect, etc.

13 – ANNEXE 1 – SAMPLE CAMPAIGN MATERIALS

SAMPLE DESIGNS FOR BUSES AND OFFICE STICKERS



SAMPLE VERTICAL PULL UP BANNERS FOR ROAD SHOW

Lenerzi

Servi byeN, Viv byeN

Lenerzi i en resours presye.
Annou servi li dan en fason soutenab pour redwir polisyon e redwir lefe sanzman klima.
Pour nou lasante, pour nou bidze,
pour nou fitir, pour nou planet.
Sak pti zefor i konte!

5 fason pour servi mwens lenerzi:

1) Sanz veye glob;
met glob pli efikas parey CFL

2) Tenny bann lekipman ki pa pe ganny servi (TV, konpiter, charger…). Pa kit li lo standby, tenny li net.

3) Ouver lafnet e servi fan olye aircon.

4) Ferm laport ek lafnet si ou pe servi aircon. Met aircon lo 26.

5) Aste lekipman pli efikas e ki servi mwens lenerzi parey flatscreen, laptop ek nouvo fridge

Ministry of Environment & Energy

Seychelles Energy Commission

ENERGY

use it wisely
live sustainably

Energy is a precious resource for our national development and our everyday lives. We can use it wisely in two main ways:

ENERGY EFFICIENCY

- Energy efficiency means getting the desired energy services (comfortable home or office, profitable business) with less energy use.
- Energy efficiency is achieved byusing technologies that use the least amount of energy to do the same job -like CFL or LED lightbulbs instead of incandescent bulbs, flatscreen TVs insteadof tube TVs, and laptops instead of desktop computers.

ENERGY CONSERVATION

- Energy conservation refers to a behaviour that results in the use of less energy
- For example, you conserve energy when you turn off the TV before going to bed, turn off the fan when you leave the room, or set the air conditioner to 26° instead of 20°.

EFFICIENCY + CONSERVATION = SAVINGS

less money spent at home or at work
less fuel imported into the country
less pollution for the planet

Lenerzi
Servi byeN, Viv byeN

Ministry of Environment & Energy

Seychelles Energy Commission