

## CONCEPT IDEA NOTE FOR CLIMATE RELATED ACTIVITIES THAT MAY BE FUNDABLE BY THE GREEN CLIMATE FUND AND OTHER FINANCIAL SOURCES

This Concept Idea Note is based upon the GCF Concept Note. It is designed to prepare any Concepts or Project Ideas with GCF financing in mind, however, can also be applicable to other financial institutions. Once the Concept Idea Note is completed please send to the CCCI office (as the GCF National Focal Point), where an assessment will be undertaken as to whether the Concept could be eligible for funding under the GCF or other financial source, or both. CCCI will then communicate the result of the assessment back to the proponent, and outline what will next happen to the Concept Idea Note, such as require more information to make a clearer assessment, the submitted Concept is GCF eligible for funding and the next steps, or a determination that outlines the Concept is not eligible for GCF funding but may get funding from another source.

Title of Concept OR Project Idea:

**ENERGY EFFICIENCY PROGRAM IN PUBLIC BUILDINGS, RESIDENTIAL AND COMMERCIAL SECTORS**

Date of Submission: 25<sup>th</sup> October 2018

Submitted by and Contact:

**Tangi Tereapii, Director, Renewable Energy Development Division**

Private Bag, Avarua, Rarotonga, Cook Islands

<p><b>Cook Islands Priority Programmatic Area:</b> <b>RENEWABLE ENERGY DEVELOPMENT</b></p> <p><b>PROGRAMME ELEMENTS:</b></p> <ul style="list-style-type: none"> <li>• Expand renewable energy such as solar, wind, biomass, and other relevant electricity generation sources with a focus on tried and proven technologies</li> <li>• Implement energy efficiency in public buildings</li> <li>• Implement energy efficient businesses and households</li> <li>• Explore and implement means to incentivise the uptake of renewable energy, including the implementation of cheaper financing options for the private sector, households and communities</li> </ul>	<p><u>Mitigation:</u> Reduced emissions from:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Energy access and power generation</li> <li><input type="checkbox"/> Low emission transport</li> <li><input checked="" type="checkbox"/> Buildings, cities and industries and appliances</li> <li><input type="checkbox"/> Forestry and land use</li> </ul> <p><u>Adaptation:</u> Increased resilience of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Most vulnerable people and communities</li> <li><input type="checkbox"/> Health and well-being, and food and water security</li> <li><input type="checkbox"/> Infrastructure and built environment</li> <li><input type="checkbox"/> Ecosystem and ecosystem services</li> </ul>
<p><b>Indicative total project cost</b></p>	<p>Amount: <b>NZD5,000,000.00</b></p>

### **Project/Programme rationale, objectives and approach of programme/project (max 100 words)**

Brief summary of the problem statement and climate rationale, objective and selected implementation approach, including the executing entity(ies) and other implementing partners.

The program entails the large-scale implementation of energy efficiency and renewable (EE/RE) projects in all sectors using the business models established in recent and current projects including Promotion of Energy Efficiency in the Pacific - Phase 2 (PEEP2) and the Kigali - Cooling Efficiency Program (K-CEP). The objective is to reduce electricity generation from fossil fuels and includes the safe disposal of electrical products containing residual mercury and harmful refrigerants.

The Renewable Energy Development Division (REDD) will be the executing agency. The implementing partners include Te Aponga Uira o Tumutevarovaro (TAU), Bank of the Cook Islands (BCI) and Cook Islands Investment Corporation (CIIC), National Environment Services (NES).

---

### **Context and baseline (max. 2 pages)**

*Describe the climate vulnerabilities and impacts, GHG emissions profile, and mitigation and adaptation needs that the prospective intervention is envisaged to address.*

*Please indicate how the project fits in with the country's national priorities and its full ownership of the concept. Is the project/programme directly contributing to the country's INDC/NDC or national climate strategies or other plans such as NAMAs, NAPs or equivalent? If so, please describe which priorities identified in these documents the proposed project is aiming to address and/or improve.*

*Describe the main root causes and barriers (social, gender, fiscal, regulatory, technological, financial, ecological, institutional, etc.) that need to be addressed.*

*Where relevant, and particularly for private sector project/programme, please describe the key characteristics and dynamics of the sector or market in which the project/programme will operate.*

Energy consumption in the Cook Islands is predominantly reliant on imported fossil fuels. The electrification rates are 99.9% in Rarotonga and 90% in the outer islands. The Cook Islands has made good progress towards the achievement of its aspirational renewable energy targets of 50% of islands powered by renewable energy by 2015 and 100% by 2020. Several PV projects have been completed in the Northern and Southern islands. Although, PV projects have been completed or planned in Rarotonga it can only supplement the electricity demand due to system constraints. Hence, demand-side efficiency measures need to be undertaken to reduce fossil fuel (diesel) generation. The situation is also compounded by the fact that most of the generators are operating at lower efficiency due to its age and the financial constraints for replacements. The current Emission Factor is 0.83 tCO<sub>2e</sub>/MWh.

The Cook Islands was the recipient of a regional project titled "Promoting Energy Efficiency in the Pacific (PEEP)" which was implemented in two phases from 2008 to 2015. The project was implemented by the Asian Development Bank (ADB) with co-funding from the Global Environment Facility (ADB). The first phase which was concluded in May 2011 focused on conducting pilot programmes and identifying a pipeline of energy efficiency projects for implementation. The objective of Phase 2 (PEEP2) was to implement EE measures in the 5 PDMCs in order to contribute to achieving the overall goal reducing energy consumption in the residential, commercial and public sectors through the implementation of energy efficiency measures, and to establish the policy and implementation frameworks to move towards the goals of reducing fossil fuel imports, achieving total energy savings, and reducing greenhouse gas (GHG) emissions.

Under PEEP2, a total of 34 EE/RE projects were implemented in the 5 participating countries (Cook Islands, Papua New Guinea, Samoa, Tonga and Vanuatu); of which the Cook Islands accounted for 9 projects covering

commercial, residential and public sectors. The projects included EE street lighting, EE lighting in buildings, air-conditioning, refrigerators/freezers and Solar Water Heating (SWH). The impact of the projects included:

- Energy savings: 325,225 kWh/year
- Diesel Generation savings: 153,310 litres/year
- GHG Reduction: 471 tCO<sub>2</sub>e/year

In 2018, the ClimateWorks Foundation has provided financial assistance to the Cook Islands, under Kigali Cooling Efficiency Program (K-CEP), focusing on promoting energy efficiency in cooling and phasing out the use of high global warming potential (GWP) refrigerants. The project focuses on promoting energy efficient and climate-friendly air-conditioners in the hotel, commercial and residential sectors. The scope includes the development of a financial mechanism to accelerate the market adoption and large-scale implementation of EE and climate friendly air-conditioners (ACs). A financial mechanism has been developed with the Bank of the Cook Islands (BCI) that would offer incentives to both consumers and AC suppliers for the purchase of energy efficient ACs. The proposal is to pilot test a financing program for energy efficient ACs using the K-CEP funds as guarantee for the portfolio of loans to be generated. Additional funding will be provided by the Climate Works Foundation, if the piloted financial mechanism is successful. An assumed default rate will be agreed upon, which will be higher than the actual default rate of the bank over the past 3 years. A Loan Guarantee Fund (LGF) account equal to the agreed assumed default rate of the original principal amount of the loan portfolio will be set up. This program is currently in the implementation phase and scheduled to be completed in December 2019.

The scope of this proposal is to use the established business models from the ADB and ClimateWorks projects to expand the adoption of EE and RE technologies across all sectors to reduce the demand for diesel generation and reduce GHG consistent with the policies of the Cook Islands Government. The proposed programs include:

- Public and Community buildings - Lighting and RAC
- Commercial buildings - Refrigerators/freezers, RACs, lighting, solar PV rooftop and Solar Water Heaters
- Residential - Refrigerators/freezers, RACs, Solar Water Heaters

---

**Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)**

*Please describe how engagement among the NDA, AE and/or other relevant stakeholders in the country has taken place and what further engagement will be undertaken as the concept is developed into a funding proposal.*

The Renewable Energy Development Division been working in collaboration with ADB, IIEC, CIIC, MFEM (Customs), Project Recipients and Importers on past EE Projects. Further consultation with stakeholders will be undertaken to scale up this proposal into full project proposal for funding.

---

**Sustainability and replicability of the project (exit strategy) (max. 1 page)**

*Please explain how the project/programme sustainability will be ensured in the long run and how this will be monitored, after the project/programme is implemented with support from the GCF and other sources.*

*For non-grant instruments, explain how the capital invested will be repaid and over what duration of time.*

**The proposed project is expected to have a 10 year life pending on the various appliances. The asset will be owned by recipients and if is government premises assets will be owned by CIIC. CIIC is responsible for managing Cook Islands government assets and state owned enterprises, and is therefore very well placed to provide a long term asset management strategy for the project and provide support to the non-government recipients for assets managements.**

**The Implementation of the project will be monitored and controlled by the Renewable Energy Development Division that have been working with similar projects across the country. Their experience working with Donor Partners and International consultants will provide confidence in ensuring that this project is sustainable.**

**The experience of the Bank of the Cook Islands can provide confidence in the repayments of any capital investments if it going thru a loan scheme and a subsidized system.**

**Assessed By and Date:**

**Recommendation:**