

## Project Concept No.2

**Country:** Solomon Islands

**Location within the country:** Solomon Islands National University (SINU) and the Solomon Islands Electricity Authority (SIEA).

**Project type:** Type 1

**Total requested budget:** €200,000

**Duration of project:** 2 years, May 2015 – May 2017

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**Project title:** DEVELOPMENT OF ACCREDITED TECHNICAL COURSE PROGRAMMES FOR SOLAR TECHNICIANS AND REFRIGERATION & AIR-CONDITIONING TECHNICIANS AT THE SOLOMON ISLANDS NATIONAL UNIVERSITY (SINU) AND ESTABLISHMENT OF LICENSING SYSTEM FOR THE INDUSTRY PRACTITIONERS.

### **Background and rationale (max ¼ page)**

The current accredited industrial tradesman courses offered at the Solomon Islands National University caters only for the electrical, mechanical, plumbing and carpentry tradesman disciplines. The Electricity Act (Cap 128) empowers the Solomon Islands Electricity Authority as the regulator of the electricity industry and is the entity that issues contractor's or electrician's licenses to graduated electricians to practice the trade in the country.

Despite heavy use of refrigeration in our fisheries industry and air-conditioning in large buildings, there are no accredited courses offered within the country to produce qualified Refrigeration & Air-conditioning (RAC) technicians and likewise no licensing system for RAC technicians.

Recent influx of the solar technology into the country especially into our rural areas has involved unqualified persons conduct unsafe wiring installations that resulted in serious accidents and poor operation & maintenance of systems that have rendered the solar systems malfunctioned well before their designed life-time is reached.

Most solar training courses conducted in the past in Solomon Islands were mostly on ad-hoc basis (provided through the Ministry of Mines, Energy & Rural Electrification) except for training provided by a private company (Willies Solar power company ) to train its customers on basic operation &

maintenance knowledge and solar technicians. The training provided by the private company was basically to fulfill the company's purpose of expanding its market into the rural areas. The Solomon Islands National University (SINU) recently conducted a one-off solar training provided through VOCTEC. There is however no recognized accreditation system in place for qualified solar technicians that the Government would require in its future plans (currently in planning stage with the Asian Development Bank) to roll-out solar electrification in the rural areas on commercial-business terms .

The country's rural vocational training institutes do not run solar training courses. Recognizing this gap, the Ministry of Mines, Energy & Rural Electrification with financial assistance from the Government of Australia and the Asian Development Bank piloted a solar training for 20 village-based women technicians in West Are Are constituency on Malaita earlier in 2014 to equip them with knowledge to maintain and service solar-home-systems installed under PEC Fund in their district. Each woman was assisted to register a business name and the Ministry will contract these women as RESCOs to conduct servicing and maintenance of the installed SHSs.

The solar technical course will be developed with SINU with consideration given to resources provided under VOCTEC and SEIAPI to avoid duplication. The Project will also work closely with ASCE TVET (component 3).

#### **Objective (s) (max ¼ page)**

The objectives of this project are: I) have constant supply of qualified and licensed solar technicians available in the country over the coming years to provide the country with a pool of manpower for the Renewable Energy Services Company (RESCO) Market to install, operate & maintain solar power stations for isolated mini-grids, main grid-connected solar farms and for servicing of individual solar-home-systems out in the remote rural areas of the country to maintain sustainability and consistent supply of power from solar energy; II) have constant supply of qualified and licensed RAC technicians to effectively operate new RAC technology as the country phases-out use of HCFC refrigerants and adopt new environmentally-sound and energy efficient technology within the country's refrigeration & air-conditioning industry.

The qualified and licensed solar technicians could be rural village-based women as experienced in our pilot solar training course conducted for women in West Are Are Constituency (Malaita province) to maintain solar-home-systems installed under PEC Fund in their district.

At the National level, the project meets Objectives 4, 5, 6 and 7 of the country's National Development Strategy (2011-2020). It also relates well to the objective to, "guide and ensure the country benefits from clean and renewable energy, energy efficiency and mitigation technologies that improves people's livelihoods and the national economy, is environmentally sustainable and contributes to global efforts to reduce GHG emissions and global warming", of the National Climate Change Policy 2012-2017 and further falls in well with the notion to, "i) Increase access to electricity in rural households to 35% by 2020, ii) Increase the use of renewable energy sources for power generation in urban and rural areas to 50% by 2020 and iv) Improve energy efficiency and conservation in all sectors by 10.17% by 2019" under the National Energy Policy (2014).

**Expected project outcomes (max ½ page)**

The expected outcomes of the project are: I) qualified and well regulated manpower resource to install, operate and maintain solar systems; II) qualified manpower within the refrigeration and air-conditioning industry; III) creation of income-earning opportunities for Solomon Islands citizens; IV) protection of job markets for national citizens; V) effective regulation, monitoring and evaluation mechanism established for both solar industry and RAC industry; VI) monetary savings from energy efficiency applications in the RAC industry

**Targeted outputs (max ½ page)**

Targeted outputs are: I) Introduction of project to SINU, SIEA, RAC Industry stakeholders, RESCOs and signing of MoA completed; II) conduct of study to determine the gaps and how to address the shortfall for both industries in terms of accredited training course and licensing mechanism; III) conduct of consultation workshops; IV) develop course programmes at SINU for both trade disciplines together with appropriate accreditation system; V) develop and establish licensing system for practitioners in both solar technology and refrigeration & air-conditioning industry; VI) develop course materials for both course programmes for SINU.

**Target group (max ¼ page)**

The direct beneficiaries of the project are first intakes for the two course programmes, RESCOs, refrigeration & air-conditioning industry and SINU. Other beneficiaries include users of power generated from solar energy, users of refrigeration and air-conditioning systems, SIEA and the Government.

Rural village-based women who have set up companies to maintain SHSs installed under PEC Fund pilot project will be allocated spaces to attain accredited qualifications to effectively conduct their business operations.

Other key stakeholders for the project include: Ministry of Environment, Climate Change, Disaster and Meteorology (MECDM); Ministry of Mines, Energy & Rural Electrification (MMERE), Ministry of Development Planning & Aid Coordination (MDPAC), Ministry of Education & Human Resources Development (MEHRD), Ministry of Commerce, Industries, Employment & Immigration, Solomon Islands Electricity Authority and Solomon Islands National University.

**Indicative Budget (max ½ page)**

The Indicative budget for the project is outlined in the table below.

Item	Indicative budget (€)
Project management costs	30,000
Consultation workshops	40,000
Contracts for development of course programmes, associated course materials & establishment of licensing mechanism system	110,000
Procurement of material	10,000
Contingency	10,000
<b>TOTAL</b>	<b>€200,000</b>

**Project management (max ½)**

The project will be co-implemented by Ministry of Environment, Climate Change, Disaster Management & Meteorology (MECDM), and the Ministry of Mines, Energy, and Rural Electrification (MMERE). The National Focal Point for this project is the Permanent Secretary of MECDM.

The Project Management Unit (PMU) established for the Project Concept No.1 which will be established within MECDM Office will manage the implementation of this project. An additional technical officer will be added to join the PMU's project Coordinator and the Finance Officer. The technical officer will be responsible for the development of the course programme and associated course materials and the establishment of the licensing mechanism while the project Coordinator will manage the day to day activities of the project and supported by the finance officer.

A technical committee will be established purposely for this project - Chaired by PS MECDM and co-Chaired by PS MMERE, and composing of Director Energy Division, Director Climate Change Division, two other technical officers from these two divisions; Director Strategic Planning from Ministry of Development Planning and Aid Coordination; Director with Ministry of Education & Human Resources Development; and Director of Institute of Technology (ITech), School of Technology & Maritime Studies, Solomon Islands National University.

The project coordinator will be answerable to the Chair of this committee. The technical committee will oversee the project operation during the project lifetime beginning from the concept note stage.

The same project account established for project concept no.1 will be used for this project.

The Ministry of Environment, Climate Change, Disaster Management and Meteorology have various other externally funded projects that have similar management, institutional and financial setup so are comfortable with this setup.

Concept notes, PDDs, quarterly progress/financial reports are expected to be screened by the steering committee, signed off by National Focal Point for the project who is also the Chair (PS MECDM) before submission to GIZ by the NAO who is the Minister of Development Planning and Aid Coordination.

**Implementing partner(s) (NGO, CROP agency, etc.) (max two sentences)**

This project will be co-implemented by the following authorities: (1) Ministry of Environment, Climate Change, Disaster Management and Meteorology; (2) Ministry of Mines, Energy, and Rural Electrification; (3) Ministry of Education & Human Resources Development; (4) Solomon Islands National University; (5) the Solomon Islands Electricity Authority; and (6) the National Trade Testing Unit of the Ministry of Commerce, Industries, Employment and Immigration.

**Complementarity and replicability (max ¼ page)**

This project will support Project concept No.1 developed along with this project by having well- qualified persons to operate & maintain the solar power station planned to be installed to supply the existing mini-grids at the Selwyn College and Su'u National secondary school.

In the long-term, this project will support the Government's: 1) recently approved "Scaling-up of renewable energy programme (SREP) investment plan" planned to take off in 2017 by ensuring that the

installed solar infrastructures are operated and maintained sustainably. II) phasing-out of HCFC and adoption of new technology in the RAC industry.

The Government plans to roll-out solar-home-systems and solar technology for rural-based institutions on commercial basis under our Scaling-up Renewable Energy Programme (SREP) Investment Plan recently approved by the SREP Committee (Climate Investment Fund – World Bank) on 28th June 2014. The solar training course will assist in sustaining the Government’s plan.

**Sustainability and risks (max ¼ page)**

Solar and RAC training courses will be tailored to meet existing lack of technical skills within each tradesman disciplines and can be adjusted in the future depending on the need by manpower resources of the country.

An identified **RISK** is the sustainability of the solar training course.

**MITIGATION** - The Government’s plan to create private investment opportunities in rural solar technology will create a market for qualified technicians (both male & female) to get sub-contracts from private solar companies awarded concession areas by the Government in its future rural electrification plans for the country’s rural areas envisaged to commence 2017 onwards. The business opportunities created will encourage more students taking up solar training as a career.

**Timeline for planned measures (max ¼ page)**

Item	2015-Q2	2016-Q1	2016-Q2	2017-Q1	2017-Q2
Project Inception and Establishment of PMU					
Workshops					
Contracts					
Establishment of course programme at SINU and licensing system					
Evaluation					

**Stakeholder engagement in concept note development (maximum three sentences)**

Stakeholders consulted included SIEA, SINU, RAC industry practitioners, MECDM, RESCOs, IAC (SI) Ltd (private sector solar company), MDPAC. The Deputy Permanent Secretary of Ministry of Education and Human Resources Development was consulted and gave his full support to the concept. The Director of the Institute of Technology (ITech) within the School of Technology & Maritime Studies at Solomon Islands National University, Mr. Solomon Pita was also consulted on the concept and he has shown keen interest to pursue the idea.