



PCREEE SUSTAINABLE ENERGY RESEARCH SUPPORT FUND

1.0 BACKGROUND & CONTEXT

PICTs are confronted with interrelated challenges of fossil-fuel dependence, climate change and unique geographic spread, which affect their energy security and contribute to the region's economic and social challenges. This trio of factors has been having a significant impact on the affordability, availability and reliability of energy supplies. Access to reliable and affordable modern energy forms remains a central challenge to approximately 6.3 million persons in a region with a little over 10 million inhabitants.

The Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) was established in Nukualofa, Tonga in April 2017. Its objective is basically to improve access to modern, affordable and reliable energy services, energy security and mitigation of negative externalities of the energy system (e.g. local pollution and GHG emissions), by promoting renewable energy and energy efficiency investments, markets and industries in PICTs. The Pacific Community is the hub for the PCREEE while the University of the South Pacific is its spoke for training and research.

One of the Outcomes of the PCREEE is Strengthening the Capacities of the local industry and business sector on various RE & EE aspects through the up-scaling and replication of certified training and applied research programs and mechanisms. One of the outputs for this Outcome is Applied science research networks and technology transfer with high relevance for the local business and industry sector are promoted. It is in this context that this PCREEE Sustainable Energy Research Support Fund intends to invoke unique innovative minds and entrepreneurial skills of PICTs students in tertiary institutions to take part in the effort to enhance the productivity of key industries with high job leverage (e.g. agriculture, tourism, fishery, manufacturing, creative industry) and the creation of a local sustainable energy servicing and manufacturing industry.

2.0 Criteria

The selection of the recipients of the research fund will be based on the following criteria:

- Applicant must be a national of a SPC member country and territory¹ and currently enrolled in a Post-Graduates, Master's or PhD programme.
- Ability to work independently and excellent report writing skills.

¹ SPC has 26 members: American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna plus Australia, France, New Zealand and the United States of America (four of the founding countries). They include the 22 Pacific Island countries and territories served by SPC:

- Research topic must be based on a community, application or industry in a SPC member country and territory. Researchers are encouraged to incorporate issues relating to poverty alleviation, gender equity and children welfare as well as climate change in their research.
- The support fund of 2,500 Euro per selected research will complement other funds for the students' research effort. Applications must include a detailed breakdown of costs clearly stating items to be covered by PCREEE and how it complement other funds available to the student. Eligible costs include accommodation while doing data collection, local transportation, costs of hiring a research assistant (if applicable), printing and publication.
- The research topic and budget must have the prior approval of the applicant's supervisor.
- PCREEE must have access to all research data and information and copies of the completed research paper.

Depending on the completion of the research, extra support may be provided to enable the researcher to present his/her research findings at relevant national and regional meetings and events.

4.0 Duration and Supervision

The research duration will depend on the research content and the requirements of the university. It is expected that the student will be supervised by their nominated academic referee and will have access to supervision from the PCREEE, if needed.

5.0 Applications

Each application must include the university-approved research proposal and must be submitted electronically to: Dr. Atul Raturi (atul.raturi@usp.ac.fj) and a copy to Solomone Fifita (Solomone F@spc.int). The deadline for the applications is the 1st June 2018 and the successful applications will be announced / notified accordingly.

Further enquiries should be directed to the contacts mentioned above.

Annex 1 – Examples of Possible Research Topics

Any other specific initiatives from the students in the area of Renewable Energy and Energy Efficiency can also be considered.

1. Improving the efficiency of solar dryers for improving food security
2. Assessing the feasibility of solar refrigeration for fishing in remote communities
3. Conducting energy audits in the tourism industry
4. Improving the energy efficiency of a manufacturing plant
5. A technical and socio-economic evaluation of consideration either RE or EE or both in a PICT community / tourism industry or sector.
6. A feasibility study of a micro hydropower project in a community in Melanesia

7. Assessing the impacts of introducing biofuel blends for reducing public transport fuel consumption
8. Feasibility of Ocean Thermal Energy Conversion Technologies (OTEC) for power supply in PICTs including the utilisation of by products of the project
9. Assessing the economics of and potential for, methane recovery and power generation from sewage and agricultural wastes at household / community level in the PICT.
10. Comparison of options for sustainable water desalination in small island states - Solar PV vs. Cogeneration
11. Assessing the current fuel consumption of domestic commercial shipping vessels in the Pacific and exploring RE applicable options for PICTs.
12. Identifying the true cost of diesel generated power in a remote community of a PICT
13. Reducing Fuel consumption in the transport sector and addressing the traffic jams in specific PICTs.
14. Costing options for energy efficient street lighting in a PICT capital
15. Use of RE & EE for productive uses. A Case Study either in the agriculture, tourism, fishery, manufacturing or creative industry.
16. Wind power assessment and feasibility studies
17. Biomass power and feasibility studies
18. RE based mini/micro grids

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