UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Project of the Pacific Island Countries and Territories

PCREEE
Pacific Centre for Renewable Energy and Energy Efficiency

Project Document, updated version 13 October 2020

Project Number:	Project ID: 140276
Project Title:	First Operational Phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) - A SE4ALL Centre of Excellence to Promote Sustainable Energy Markets, Industries and Innovation
Relationship to IP:	N/A
Thematic area code:	EAE GC31
Starting date:	September 2016
Duration:	6 years (72 months)
Project site:	Regional project covering 22 Pacific Island countries and territories
Counterpart(s):	The main counterparts are the Pacific Community (SPC)[1], the Sustainable Energy Island and Climate Resilience Initiative (SIDS DOCK)[2] and the Government of the Kingdom of Tonga. The centre will provide key technical services to the SPC Member States and closely cooperate with the other regional sustainable energy centres for SIDS (ECREEE, CCREEE) in the context of the SAMOA Pathway implementation, SDG 7, SDG 9 and the Nationally Determined Contributions under the Paris Agreement (SDG 13)
Executing agency:	United Nations Industrial Development Organization (UNIDO) in partnership with the Pacific Community (SPC)
Project Inputs: **UNIDO Inputs:**	€ 1,578,834 from the Royal Norwegian Ministry of Foreign Affairs (through UNIDO - incl. 13% support costs) € 650,000 from Austria (ADA) (through UNIDO - incl. 13% support costs)[3] € 300,000 from Austria (MFA) (through UNIDO - incl. 13% support costs) € 600,000 from UNIDO (starting from 2016)
Support Costs (13%)	€ 109,292 (from ADA and MFA contribution) € 181,636 (from the Royal Norwegian Ministry of Foreign Affairs)
Counterpart(s) Inputs:	SPC: € 500,000

[1] The Pacific Community has 26 members. They include the 22 Pacific Island countries and territories served by SPC: 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).

[2] SIDS DOCK is an initiative of the member countries of the Alliance of Small Island States (AOSIS). On 17th March 2014 the *Government of Austria,* UNIDO and SIDS DOCK signed a Memorandum of Understanding (MOU) on support for the establishment of a SIDS network of regional sustainable energy centres.

[3] The Austrian Federal Ministry for Europe, Integration and Foreign Affairs and the Austrian Development Agency (ADA) are contributing jointly to the project.

	Host country: € 357,000 Expected co-funding: € 2,291,166[4] (to be mobilized from other development partners)
Grand Total:	€ 6,277,000

Under the umbrella of the Global Network of Regional Sustainable Energy Centres and in line with the decisions of the Ministers of Energy of the Pacific Island States and Territories (PICTs), UNIDO assists the Pacific Community (SPC) in the establishment and execution of the first operational phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). The centre represents an innovative fusion of regional and international efforts and capabilities.

Its design leverages a network of intra and extra regional partnerships, serving as a "hub" for knowledge and technical expertise on matters related to sustainable energy projects implementation. It will also serve as a facilitator for innovative partnerships with the private sector. PCREEE addresses gaps in the current effort to face existing barriers and strengthen drivers for sustainable energy markets, industries and innovation through regional methodologies and tools. The centre focuses on up-scaling and replicating national efforts in the areas of capacity development, knowledge management and innovation, awareness raising, as well as investment and business promotion.

The centre has a strong focus on the private sector and industry while supporting targeted RE&EE programs 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. In the area of regional-national policy development and implementation the center would closely cooperate with the SPC Energy Programme and provide technical services as delegated. Whereas the SPC Energy Programme will continue to take leadership in providing regional policy coordination and coherence, the center will focus on practical policy aspects with high relevance for the private sector and industry.

With the inauguration of the centre on 26 April 2017 in Nuku'alofa, Tonga, at the margins of the Third Pacific Regional Energy and Transport Ministers' Meeting, a major mile-stone was achieved. The centre commenced its operations and has started to implement a number of flag-ship programs. The institutional set-up of PCREEE reflects the principles of maximising the impact, avoiding duplication of efforts, strengthening and up-scaling the already existing local capacities. The centre is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms of the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG)[5] and the Pacific Energy Advisory Group (PEAG). It will develop and execute its activities through a network of Thematic Hubs (THs) and National Focal Institutions (NFIs). The PCREEE Secretariat is hosted by the Kingdom of Tonga in Nuku'alofa. PCREEE is guided by a Steering Committee (SC). UNIDO provides technical services and mentoring throughout the first operational phase of the centre.

The centre is part of the wider post-2015 multi-stakeholder and triangular partnership directed to implement the SAMOA Pathway, the SIDS DOCK Goal of 25-50-25, SDG 7, SDG 9 and the Nationally Determined Contributions under the Paris Agreement (SDG 13). The officially registered SDG partnership[6] aims to create a network of regional sustainable energy centres for SIDS in Africa, Caribbean, Pacific and Indian Ocean. In October 2015, the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) was formally established in Bridgetown, Barbados. The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) based in Praia, Cape Verde, acts as SIDS DOCK hub for African SIDS. The centre is member of the Global Network of Regional Sustainable Energy Centre Platform, hosted by UNIDO (www.se4allnetwork.org). The network of SIDS centres is established with financial support of the Governments of Austria and Norway.

[4] Based on the examples of ECREEE and CCREEE, it is expected, that once PCREEE becomes operational it will attract significant co-funding from other donors. Promising discussions with partners such as the EU and Sweden are ongoing. The support will partly go to UNIDO, directly to SPC or will co-fund certain activities.
[5] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.
[6] https://sustainabledevelopment.un.org/partnership/?p=7639

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ACRONYMS

ADA	Austrian Development Agency
BAU	business as usual
CFL	compact fluorescent lights
CNO	Coconut Oil
DPK	Dual Petroleum Kerosene
DSM	Demand Side Management
EE	Energy efficiency
EPU	Energy Planning Unit
HV	High Voltage
INDC	Intended Nationally Determined Contribution
kV	kilovolt
kW	kilowatt
kWh	Kilowatt hour
kWp	kilowatt peak
LED	light emitting diode
LPG	liquefied petroleum gas
LTL	linear tube lights
MPWU	Ministry of Public Works and Utilities
MV	Medium Voltage
MW	megawatts
MWh	megawatts hour
NZMFAT	New Zealand Ministry of Foreign Affairs and Trade
OTEC	Ocean Thermal Energy Conversion
PALS	Pacific Appliance Labelling Standards
PCREEE	Pacific Centre for Renewable Energy and Energy Efficiency
PPA	Pacific Power Association
PRDR	Pacific Regional Data Repository
PUB	Public Utilities Board
PV	Photovoltaic
RO	Reverse Osmosis
SC	Steering Committee
SFC	specific fuel consumption
SOC	State of Charge
SPC	Pacific Community
SSM	Supply Side Management
STSISP	South Tarawa Sanitation Improvement Sector Project
TAC	Technical Advisory Committee
UAE	United Arab Emirates
UNIDO	United Nations Industrial Development Organisation
WB	World Bank

0. Introduction and Summary

In line with the decisions of the Ministers of Energy of the Pacific Island States and Territories (PICTs), the project aims to **establish and implement the first operational phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)**. The centre represents an innovative fusion of regional and international efforts and capabilities. Its design leverages a network of intra and extra regional partnerships, serving as a "hub" for knowledge and technical expertise on matters related to sustainable energy projects' implementation.

PCREEE addresses gaps in the current effort to face existing barriers and strengthen drivers for sustainable energy markets, industries and innovation through regional methodologies and tools. The centre focuses on up-scaling and replicating national efforts in the areas of capacity development, knowledge management and innovation, awareness raising, as well as investment and business promotion. The centre has a strong focus on private sector and industry, while supporting targeted RE&EE programs to enhance the productivity and competitiveness of key industries with high job leverage in the Pacific (e.g. agriculture, tourism, fishery, manufacturing, creative industry). The creation of PCREEE is fully in line with the Framework for Action on Energy Security in the Pacific and the Majuro Declaration for Climate Leadership adopted by the Leaders of the Pacific Islands Forum on 5 September 2013. The 2018 Boe Declaration is recognising that "climate change presents the single greatest threat to the livelihood, security and wellbeing of Pacific people".

PCREEE is part of the wider officially registered SDG multi-stakeholder and triangular partnership,[7] directed to implement the SAMOA Pathway, the SIDS DOCK Goal of 25-50-25, SDG 7, SDG 9 and the Nationally Determined Contributions under the Paris Agreement (SDG 13). The partnership aims to create a **network of regional sustainable energy centres for SIDS** in Africa, Caribbean, Pacific and Indian Ocean. The 17th March 2014 UNIDO, the *Government of Austria* and the Sustainable Energy Island and Climate Resilience Initiative (SIDS DOCK) signed a Memorandum of Understanding (MOU) on the partnership. In October 2015, the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) was formally inaugurated in Bridgetown, Barbados. The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) based in Praia, Cape Verde, acts as SIDS DOCK hub for African SIDS. The centres will cooperate on SIDS-SIDS sustainable energy issues. The network of centres receives key funding support of the Governments of Austria and Norway.

PCREEE is **member of the Global Network of Regional Sustainable Energy Centres (GN-SEC) Platform**, coordinated by UNIDO (www.se4allnetwork.org). The gradually expanding partnership comprises a sub-network of centers for the African and the Arab region (in cooperation with the EAC, SADC, ECOWAS, and the Arab League) and a sub-network for Small Island Developing States (in cooperation with SIDS DOCK, CARICOM, and SPC). The regional centres aim to accelerate the energy and climate transformation by creating economies of scales, equal progress and spill-over effects between countries. The GN-SEC is currently **becoming a formalized global platform to advocate for SDG-7, SDG-9 and SDG-13** and joint interests in international policy processes. The platform is hosted by UNIDO in Vienna, Austria. It provides also a "virtual" maker-space for south-south cooperation activities and joint project proposals.

PCREEE was developed between 2014-2015 in the context of a consultative preparatory process, which included the execution of a needs assessment and the development of the project document on the technical and institutional design of the centre. The documents were validated during a joint SPC-UNIDO regional workshop held from 12-13 March 2014 in Nadi, Fiji. The Second Meeting of the Pacific Ministers of Energy and Transport, held from 2 to 4 April 2014, in Nadi, Fiji, endorsed the establishment of the PCREEE. In September 2015, the **Pacific Community (SPC) was selected as the host organisation of PCREEE** in the context of a competitive selection process.

It was decided to **establish the PCREEE Secretariat in Nuku'alofa, Tonga** side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with SPC's effort to strengthen its in-country presence on its members. With the inauguration of the centre on 26 April 2017 in Nuku'alofa, Tonga, at the margins of the Third Pacific Regional Energy and Transport Ministers' Meeting, a major mile-stone was

[7] https://sustainabledevelopment.un.org/partnership/?p=7639

ship achieved. The centre commenced operations and is already implementing a number of flag-ship programs.

The institutional PCREEE set-up reflects the principles of: maximising the impact, avoiding the duplication of efforts, strengthening and up-scaling existing local capacities. The centre is hosted by the Pacific Community (SPC) and **operates under the umbrella of the two coordinating mechanisms of the Framework for Action on Energy Security in the Pacific** – the Pacific Energy Oversight Group (PEOG)[8] and the Pacific Energy Advisory Group (PEAG). The centre will develop and execute its activities through a network of Thematic Hubs (THs) and National Focal Institutions (NFIs). PCREEE is guided by a Steering Committee (SC) and a Technical Committee (TC).

UNIDO provides technical services and mentoring throughout the first operational phase of the centre. The centre will reach financial sustainability through core funding from donor partners, the host organization and country, mobilized project funding and provision of remunerated services. The centre will not duplicate already ongoing activities and strengthen existing national institutions and private sector. SPC and the Government of Tonga have approved co-funding for the center throughout the first operational phase.

PCREEE responds to the remaining barriers for sustainable energy markets, industries and innovation in the PICTs region. The undertaken needs assessment revealed that some PICTs have made considerable progress in the creation of enabling national environments for the promotion of renewable energy (RE) and energy efficiency (EE). However, in some of the areas the developments are still in the initial stage and have not been transformed yet into real investments and the creation of a vibrant market and business sector. The areas of small and medium-sized grid-connected renewable energy plants, decentralised renewable energy solutions for rural areas and households (e.g. sustainable cooking, mini-grids, stand-alone systems, water heating) as well as energy efficiency improvements in different sectors (e.g. buildings, grid losses, appliances, industry) need a further boost.

The needs assessment revealed that the CROP agencies are assisting PICTs already effectively in addressing parts of these barriers through various projects and activities (e.g. coordination, policy advisory, (pre-) investment support for projects). However, PICTs expressed an urgent **need for concentrated regional technical capacities to promote local human resources, awareness and knowledge management, as well as businesses and industry** in the sustainable energy sector. The increasing sustainable energy investments and the introduction of appropriate regulations and standards go hand in hand with the need of local capacities. Moreover, there is the impression that the local private sector and industry do not take advantage of the growing sustainable energy market and job opportunities. These developments endanger the long-term sustainability of existing investments as they are usually conducted by enterprises from outside without local representatives. The centre can play a key role in creating economies of scale and a competitive sustainable energy market and business sector in the Pacific.

The **creation of PCREEE was recommended by the needs assessment**. The character of the centre should be exclusively technical and enabling. It will **fill the existing regional gaps** regarding capacity development, knowledge management, awareness raising and the promotion of investments in local sustainable energy businesses and industry. In line with the expressed needs of key stakeholders in PICTs, the center will **particularly focus on addressing existing barriers for the local private sector and small-scale industries**. This implies support for mainstreaming renewable energy and energy efficiency solutions into industrial processes and SMEs in key non-energy sectors (e.g. agro-business, fishery, manufacturing, etc.), as well as enabling support for the establishment of a local sustainable energy manufacturing and servicing industry.

In the **area of regional-national policy development and implementation the center closely cooperates with the SPC Energy Programme** and provide technical services as delegated. Whereas the SPC Energy Programme will continue to take leadership in providing regional policy coordination and coherence, the center **will focus on practical policy aspects with high relevance for the private sector and industry**. In contrast to other ongoing initiatives it will address RE&EE holistically and in a balanced way. It will not be active in areas that are already covered by other CROP agencies.

[8] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.

The following **project document provides a comprehensive planning and implementation framework** for the proposed institutional design of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), as well as the envisaged key objectives, outcomes and outputs for its start-up and first operational phase. In the annual work plans the partners will agree on the priority activities to be implemented by the centre.

A. Context

The following chapter **gives a short overview on the results of the undertaken needs assessment on the PCREEE**. The elaboration of the assessment involved various stakeholder consultations in the Pacific Island Countries and Territories (PICTs). Further information can be found in the detailed report elaborated in cooperation with AETS (see separate report in the annex). The following chapter summarizes the status and trends of renewable energy and energy efficiency markets in PICTs. Moreover, it highlights the ongoing national and regional efforts to make use of the unharnessed opportunities. The analysis revealed **gaps in the existing regional framework to deal with remaining capacity constraints, knowledge management needs and the promotion of opportunities for local sustainable energy businesses and industry**. Based on the identified gaps, the creation of the PCREEE was recommended.

A.1 Energy Context in the Pacific

A.1.1 CROP Agencies and the Energy Sector

Within the independent Pacific Island Countries (PICs), and to a lesser extent the French & United States territories (all forming the PICTs), regional activities are coordinated through the Pacific Islands Forum Secretariat (PIFS with decisions made by PIC leaders through the Pacific Islands Forum). The Forum, consisting of Prime Ministers and Presidents, releases an annual communiqué with its decisions and directives. The PIFS chairs the Council of Regional Organisations of the Pacific (CROP), which is a mechanism for the Executives of Pacific regional organisations to coordinate action and review progress of their agencies' implementation for the 'Pacific Plan'[9] and other regional frameworks. The Pacific Plan is being substantially revamped during 2014 but changes are unlikely to affect significantly the energy sector.

According to the Forum Secretariat[10], the CROP is to improve cooperation, coordination, and collaboration among the Pacific intergovernmental regional organisations to work toward achieving the common goal of sustainable development in the PICs. However, the 2012 CROP Charter refers only to voluntary coordination. It is also meant to be a high-level advisory body. CROP consists of the heads of individual regional organisations. The CROP agencies are: Pacific Islands Forum Secretariat (PIFS); Pacific Islands Forum Fisheries Agency (PIFFA); Pacific Islands Development Programme (PIDP) at the East-West Centre in Hawaii; the Pacific Community (SPC); Secretariat of the Pacific Regional Environment Programme (SPREP); South Pacific Tourism Organisation (SPTO); University of the South Pacific (USP); Pacific Power Association (PPA); and Pacific Aviation Safety Office (PASO).

Each CROP agency has a specific mandate but there is considerable overlap and the interpretations of the mandates tend to be flexible, especially when there is available donor funding for some initiatives. The tendency for CROP agencies is (like other bureaucracies) too often to compete for funds rather than cooperate, as the highly critical independent 2013 Pacific Plan Review notes. Those with current active energy sector activities are:

- *Pacific Community* (SPC), based in New Caledonia with large offices in Fiji and Federated States of Micronesia, with the overall mandate to lead and coordinate energy sector activities of CROP agencies through the *Framework for Action on Energy Security for the Pacific* (FAESP) which was endorsed by PIC leaders (see next page). The donor community was widely consulted during the FAESP preparation process with SPC overseeing the process;
- *Pacific Power Association* (PPA, Fiji), a small organisation which coordinates CROP agency work within the electric power sector, and has 25 power utility members and more than 50

[9] Now replaced with the Pacific Regionalism Framework
[10] www.forumsec.org/pages.cfm/about-us/crop

'allied' private sector members[11]. PPA is active in workshops/capacity building for grid-connected renewable energy (mostly PV), supply-side energy efficiency and to a much lesser extent demand-side energy efficiency;

- *Secretariat of the Pacific Regional Environment Programme* (SPREP, Samoa), through its climate change mandate, has had long programmes dealing with energy sector adaptation or mitigation (mainly renewable energy but recently also some demand-side regarding energy efficiency). It has implemented several regional GEF (PIREP; PIGGAREP) and other donor-funded projects and works closely with SIDS-DOCK (of whom it is a founding member);
- *The University of the South Pacific* (USP, Fiji with 12 campuses throughout the English-speaking Pacific, except PNG). USP has no specific energy-sector mandate but is among the leading regional centre for energy sector training. Through donor assistance (primarily Korea) it has produced 16 MSc graduates in the past two years in energy studies (mostly technical RE), has several students in its PhD programme (3 on technical aspects of RE and 1 on policies for RE&EE) and is currently managing a vocational level regional solar PV training programme, including training of trainers for other PIC tertiary institutions. In addition, USP is currently supporting renewable energy resource monitoring in most of the PICs (mainly solar, wind and possibly marine energy).
- *Pacific Islands Forum Secretariat* (PIFS, Fiji). The PIFS has no formal energy mandate but it administers the US$65 million Pacific Environment Community (PEC) Fund, which is providing Japanese funded solar PV systems and desalination to the 14 Forum Island Countries.

The mentioned organizations were potential regional candidates to host PCREEE and they submitted a joint proposal. Synergies to the ongoing RE&EE activities of the respective organization could be created.

SPC's energy mandate and the review / oversight mechanisms

The SPC has a mandate from Pacific leaders as the "lead and coordinating agency for the regional energy sector"[12], i.e. hosting the regional energy programme and coordinating the energy work of the CROP agencies[13]. Leading is understood as hosting the Regional Energy Programme whilst Coordination means that SPC's role includes assisting them to find funds; not SPC implementing everything, or the bulk of new CROP energy sector efforts. There are two groups which oversee and coordinate CROP's effort in the implementation of the FAESP:

- The *Pacific Energy Oversight Group* (PEOG). "The purpose of PEOG is to ensure that regional energy related programmes are planned, implemented and coordinated through an integrated and multi-stakeholder approach with the premise of 'many partners, one team'. In undertaking this responsibility the PEOG shall be guided primarily by the *Framework for Action on Energy Security in the Pacific* (FAESP) and *the Implementation Plan for an Energy Secure Pacific* (IPESP). PEOG membership is SPC (chair and secretariat), PIFS, PPA, SPREP, USP and one non-CROP organisation, the International Union for the Conservation of Nature (IUCN) Oceania Regional Office, which currently implements a medium-term donor-funded regional sustainable energy programme[14]. The 38th CROP meeting in November 2015 approved the renaming of PEOG to the CROP Energy Security Working Group (ESWG).

[11] www.ppa.org.fj/what-is-ppa

[12] The coordinating role is expanded in "Organisation Reform and Implementation of the Regional Institutional Framework", prepared by SPC for the 39th Meeting of the Committee of Representatives of Governments and Administrations (i.e. the PICs and the Territories) held in Tonga in October 2009, where the recommendations were adopted.

[13] "On 1 January 2010, SPC assumed the lead agency role in the Energy Sector as mandated to it by the Pacific Energy Ministers, the joint meeting of the Governing bodies of SOPAC, SPREP and SPC, the Forum Leaders and approved by the Sixth Conference of the Pacific Community, held in Tonga on 12-13 October 2009. SPC's lead agency role is to provide leadership, effective coordination and management through the premise of Many Partners, One Team. Its effort is guided by the Forum-adopted Framework for Action on Energy Security in the Pacific." (http://www.spc.int/edd/section-01/energy-overview).

[14] The information on PEOG and PEAG is from SPC's report of the December 2012 PEAG meeting. The report includes detailed TOR for both PEOG (Annex 5) and PEAG (Annex 6).

- The *Pacific Energy Advisory Group* (PEAG). The PEAG is to deliberate on Pacific energy issues and provide guidance to the Pacific Energy Oversight Group (PEOG) and development partners/donors through an integrated and multi-stakeholder approach of "many partners, one team''. In undertaking this responsibility the PEAG shall meet on an annual basis and be guided primarily by the *Framework for Action on Energy Security in the Pacific* (FAESP) and the *Implementation Plan for Energy Security in the Pacific* (IPESP)." PEAG consists on the PEOG plus the representatives of development partners/donors, small island states, Polynesia, Micronesia, Melanesia, private, commercial, industrial and government sectors, non-government/civil society and public power utilities.

It is proposed that PCREEE works under the FAESP framework. This will ensure that the activities are fully aligned and coordinated with the other past and ongoing activities.

A.1.2 Energy challenges in the Pacific

PICTs must address the **interrelated challenges of fossil-fuel dependence, climate change and particular geography**, which affect their energy security and contribute to the region's economic and social challenges. Indeed, this trio of factors has been having a significant impact in 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 less than 10 million inhabitants. However, Table 1 expresses the discrepancy of these figures among the PICTs. It is in Papua New Guinea (PNG) - the PICT with the largest population and land area – where the biggest share of population without access to electricity can be found. The table also shows that PICTs range in size from about 12 km^2 of land (Tokelau) to nearly 463,000 km^2 (PNG), most having between several hundred and several thousand km^2. These unique geographical characteristics, where long distances separate sparsely populated areas or markets are too small to achieve cost savings through economies of scale in electricity production, result in high costs of supplying electricity, particularly to rural areas.

Table 1: PICTs' land area, population, GDP and electricity access[15]

PICT	Population (2011)	Land area km^2	GDP per capita (US$)
Cook Islands	15 576	237	11 917
Fiji	851 745	18 273	3 472
Kiribati	102 697	811	1 664
RMI	54 999	181	3 130
FSM	10 236	701	2 889
Nauru	10 185	21	7 121
Palau	20 643	444	10 692
PNG	6 888 297	46 284	2 700
Samoa	183 617	2 785	3 706
Solomon Islands	553 254	30 407	1 181
Tonga	103 682	650	4 394
Tuvalu	11 206	26	4 002
Vanuatu	251 784	12 281	3 022
American Samoa	66 692	199	7 874
Guam	19 209	541	23 134
Niue	1 446	259	11 985
Northern Mariana Isl.	63 517	457	16 494
New Caledonia	252 331	18 576	37 993
French Polynesia	271 831	3 521	21 071
Wallis & Futuna	13 193	142	1 264
Total	**9 746 140**	**136 796**	

[15] Benchmarking Report, 2012, PPA

As in most small island states, the PICTs are vulnerable to **the volatile prices of global oil markets** due to their almost exclusively dependence on imported refined oil products to meet their power generation and transportation energy needs. On average, 55% of electricity produced in the region is generated from fossil fuels and about 40% from hydropower. Although, these statistics are misleading as large hydro power are concentrated in Fiji and PNG. If large hydro is not accounted, the percentage of fossil fuel generated electricity would rise to approximately 90%. As a result of this dependence, a good proportion of the individual countries foreign exchange reserves are going to fossil-fuels; this is an unsustainable situation in a region where only PNG is an oil producer. Moreover, the reliance on diesel power plants also results in high electricity tariffs for consumers. PPA reported that in 2010 the region's utilities had consumer electricity tariffs that averaged between USD 0.39 and 0.44/kWh, respectively, for household (<200 kWh/month) and commercial (<500 kWh/month) users[16].

Climate change is another concern to the energy agenda of the PICTs. The region is only responsible for less than the 0.1% of global energy-related GHG emissions. Nonetheless, the energy sector will be highly impacted by economic losses due to climate change in the coming decades. Climate change impacts such as rising ocean levels, changes in rainfall patterns and extreme weather events will further challenge the energy security of PICTs. Climate change resilience of energy infrastructure becomes an important aspect of energy planning and maintenance. The switch to renewable energy and increased energy independence, to adapt to and mitigate climate change and also to provide greater economic stability within PICTs is thus important. At the same time, the investments made into various renewable energy technologies should consider the changing environment due to the effects of climate change. In the case of small hydropower, this means the effect on water availability particularly during the dry season.

A.1.3 Sustainable Energy Perspectives in the PICTs

Figure 1 illustrates the overwhelming dependence of almost all PICTs on diesel power generation. Large hydropower is the second contributor in terms of electricity generation; however, this resource is limited to specific geographic characteristics (mountainous and large land areas).

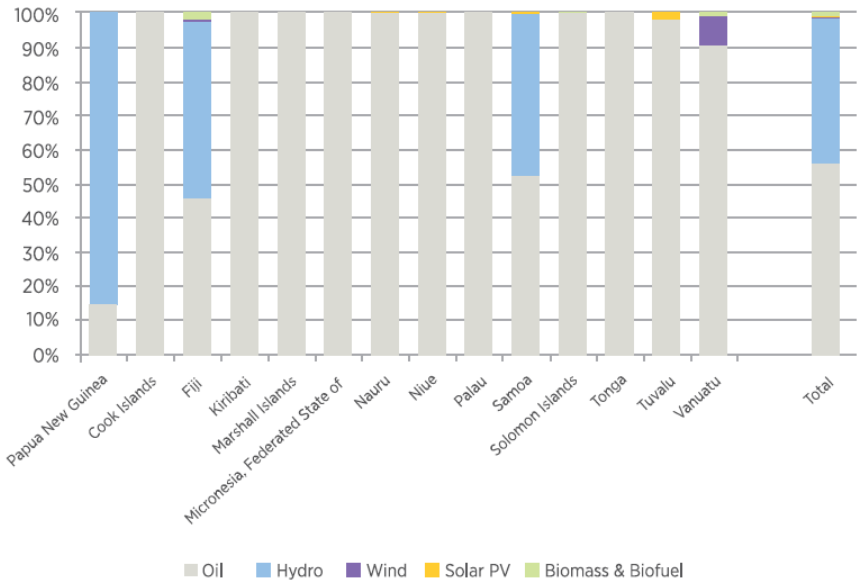


Figure 1: Electricity Generation for grids by source in 2010 (source IRENA with data from PPA)

Over the past 30 years development agencies and the PICTs have invested in a wide range of renewable energy technologies for electricity generation for remote islands and more recently for main island grid systems. For every dollar of grant funding for renewables, roughly $0.07 has been invested in energy efficiency, and a preliminary analysis of over US$300 million of grant aid committed for new

[16] Pacific Power Utilities: Benchmarking report 2012 (PPA, 2013)

PIC energy initiatives suggests that this percentage is not increasing substantially[17]. Yet experience globally shows that a balanced approach that incorporates energy efficiency into renewable energy systems, and improved efficiency of energy use in general, will provide more affordable and sustainable energy services for the people of the Pacific. However, part of the undertaken RE investments have not been operating throughout their estimated life-cycle and have not led to replication and up-scaling due to the lack of local planning, installation and maintenance capacities. The sustainability of RE&EE investments is a major challenge and will be addressed by PCREEE. Climate resilience of energy infrastructure will be an important aspect of the envisaged sustainability.

In 2005, a comprehensive Global Environment Facility/UNDP study on the opportunities and constraints for the expanded use of renewable energy in 15 PICs[18] concluded that for a third of them, about 40-80% of fuel savings and reductions in GHG emissions would probably be met technically more easily from energy efficiency investments than from renewables. The estimates excluded both economic and environmental considerations, which would have reduced the renewable energy percentages further. In general these and more detailed subsequent studies have demonstrated that a balanced programme of RE&EE investment makes far more sense than renewables alone and that in the short term, energy efficiency for the main islands is usually a better investment. In 2010, the Pacific's political leaders endorsed a Framework for Action on Energy Security in the Pacific based on a more balanced RE & EE approach.

Although efforts are being made, there is still a strong need to scale up the renewable energy and energy development across the region. In this sense the PCREEE will have a pivotal role, as through its activities in the areas of capacity development, knowledge management, awareness raising, as well as business and investment promotion, it will considerably improve the environment to allow the development of further projects. **In contrast to other ongoing initiatives, the centre will address RE & EE holistically and in a balanced way.** Experience in the region has shown that a regional or multi-country approach is generally more cost-effective than national efforts for wide energy-sector assistance. A common market-place with certain guarantees will help to attract the awareness of potential public and private investors. Regional cooperation can also facilitate the expansion of sustainable energy markets while adding value, businesses and jobs for the region.

A.1.4 Renewable Energy and Energy Efficiency opportunities

The energy access, energy security and climate change adaptation and mitigation objectives of the Pacific region will not be obtained in the short-term or simultaneously in future decades without significant additional investment in sustainable energy infrastructure in all PICTs. Along with other low-carbon technologies, renewable energy and energy efficiency (RE&EE) are appropriate tools to address these challenges simultaneously and in a sustainable manner.

Over recent decades, a broad range of commercially proven decentralised and centralised RE&EE technologies and solutions, ready to meet various demands for energy services in urban or rural areas of the Pacific islands, have been developed. Renewable energy systems are particularly effective if they are combined with energy efficiency measures which are often practical at low cost. If planned carefully and according to quality principles, such investments can be associated with various benefits and opportunities for PICTs to reduce their reliance on fossil fuels. Moreover, the development of renewables is, in many cases, more sustainable than thermal plants, as they rely on local energy sources, create local employment opportunities and reduce negative environmental externalities of the energy system (GHG emissions, local environmental impacts) if planned according with robust sustainability criteria.

Renewable energy costs vary greatly with the technology type, the site where it is implemented and available resources. The increased deployment of these technologies and their cost decline are interconnected and changing very rapidly in time. According to a 2012 IRENA report on the Renewable

[17] The estimates are from background materials prepared during the development of the Framework for Action on Energy Security in the Pacific (Pacific Community, 2010) and discussions with a number of development agencies active in energy sector assistance in the Pacific.

[18] From Pacific Islands Renewable Energy Project (PIREP) national reports (GEF/UNDP/ Secretariat of the Pacific Regional Environment Programme, 2005). The Tonga Energy Roadmap (World Bank, et. al, 2010) and Green Energy Micronesia report (Government of Marshall Islands, 2010) show considerably higher affordable EE opportunities in those countries.

Power Generation Costs, the levelised cost of electricity (LCOE) from wind, solar PV, concentrated solar power (CSP) and some biomass technologies is declining; and hydropower and geothermal produced at good sites is still often the cheapest way to generate electricity.

Figure 2 has been sourced from the same report and shows that most of renewable energy technologies have LCOE cost ranges below the diesel fired electricity cost range. Although costs of these technologies in PICTs will certainly be higher due to several factors such as transport costs and lack of regional technical capacity, some of these technologies are already cost competitive in the region. It can be expected that as diesel power plants reach the end of their lifetime, some could start to be replaced by renewable energy plants producing energy at a lower cost than new diesel systems.

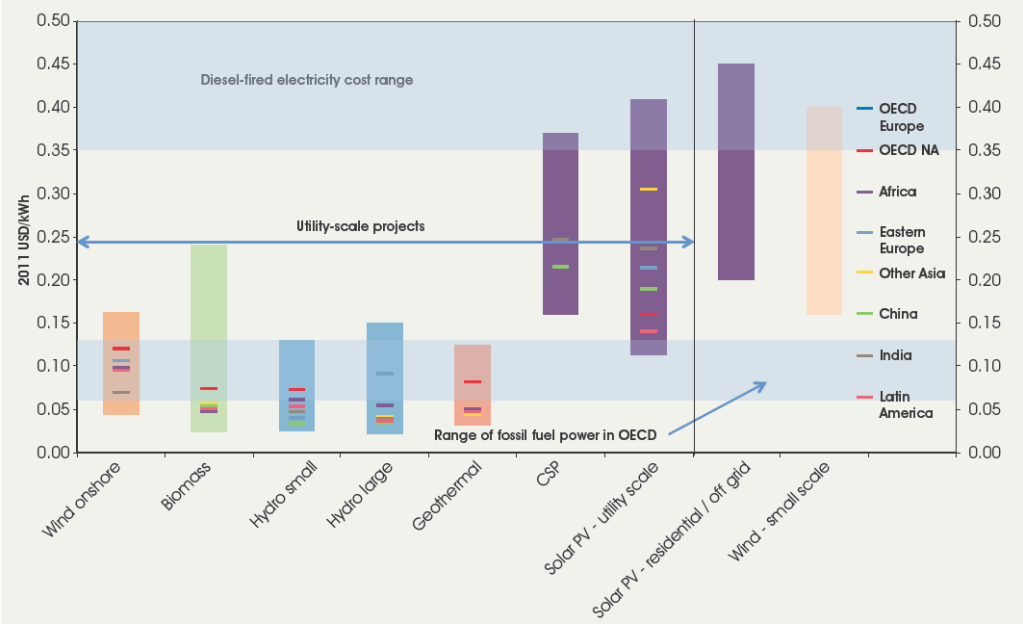


Figure 2: Typical LCOE ranges and weighted averages by region for renewable technologies

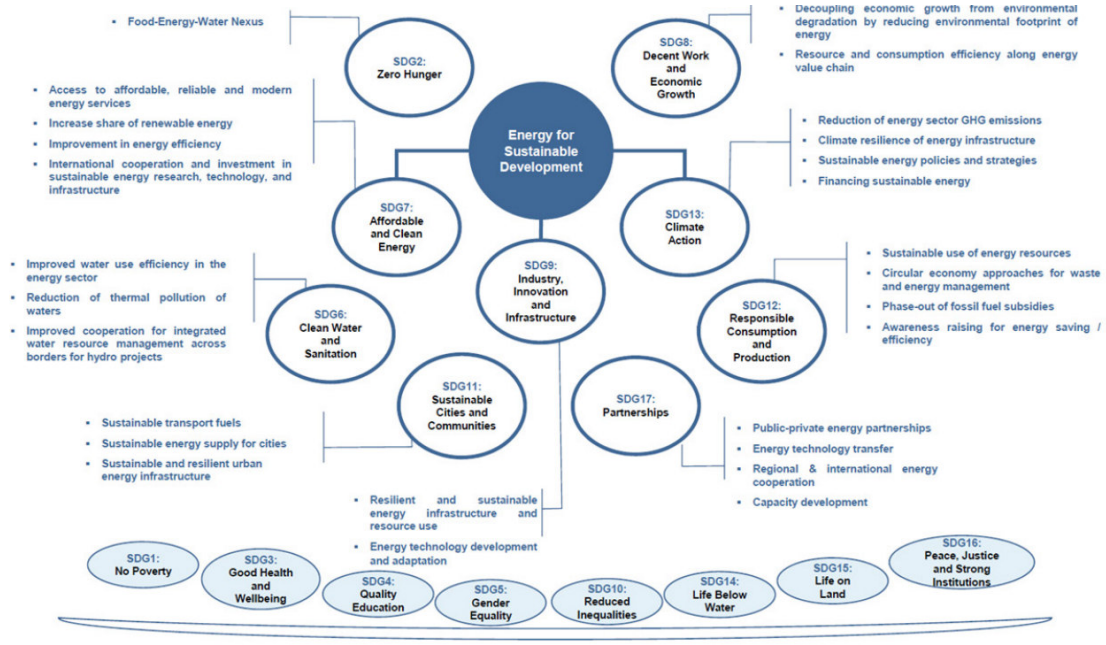
On energy efficiency, a 2011 study conducted by the Australian Department of Climate Change and Energy Efficiency and AusAID for SPC in 2011 on the Costs and Benefits of Introducing Standards and Labels for Electrical Appliances in 14 Pacific Island Countries revealed that for residential, commercial and government sectors combined, energy efficiency measures would mean that projected electricity use in 2025 would be about 2672 GWh instead of 3031 GWh, a saving of about 12%, or 359 GWh per year.

	2010	2025	Change
Population	8584598	10710626	24.8%
Persons/HH	5.1	4.9	-4.3%
Households	1682556	2193599	30.4%
Electrification rate	22%	29%	33.2%
Electrified HH	367151	637620	73.7%
Total Res GWh (BAU)	691	1720	148.9%
Total Res GWh (EE)	691	1523	120.4%
GWh saved/yr	0	197	11.4%
Res kWh/HH (BAU)	1882	2697	43.3%
Res kWh/HH (EE)	1882	2388	26.9%
Res kWh/HH saved	0	308	11.4%
Total Comm/Govt GWh (BAU)	915	1312	43.4%
Total Comm/Govt GWh (EE)	915	1149	25.6%
GWh saved/yr	0	163	12.4%
Comm kWh/cap (BAU)	107	122	14.9%
Comm kWh/cap (EE)	107	107	0.7%
Total GWh demand (BAU)	1606	3031	88.8%
Total GWh with measures (EE)	1606	2672	66.4%
Total GWh saved	0	359	11.9%

Figure 3: Potential electricity savings through EE standards for appliances in 14 PICTs by 2025

Energy is a key factor in shifting towards a more sustainable development and poverty reduction in the Pacific region. There are many cross-links and interlinkages between SDG-7 and other SDGs. The SDG-9 dimension of SDG-7 has an important role to play to make technology transfer processes to SIDS more inclusive in terms of local value and job creation. Access to sustainable energy services is a key enabler for key economic sectors in SIDS (e.g. fishery, agriculture, food processing, manufacturing, tourism). PCREEE works particularly towards SDG-7, SDG-9 and SDG-13. Moreover, there is need to increase domestic benefits along the value chain of sustainable energy investments through the strengthening of energy innovation systems and entrepreneurship.

Figure 4: Contribution of Energy to the 2030 Agenda for Sustainable Development



Source: UNECE (2017). *Global Tracking Framework: UNECE Progress in Sustainable Energy*.

There is mutual understanding on the importance of integrating energy into development policies to promote sustainable and rural development, by making available new and renewable energy sources, and improved energy efficiency for social services and productive needs in rural development programmes. Access to clean, reliable and affordable energy services for basic human needs at household level (e.g. cooking, refrigeration, heating, lighting and communication), health centres, schools; and productive uses to improve productivity represent the minimum levels required to improve livelihoods in the poorest countries and to drive local economic development on a sustainable basis. The following figure shows important cross-links to the Millennium Development Goals (in the meantime replaced by the SDGs).

MDG	Renewable Energy Contributes by
1 Cutting Extreme Poverty and Hunger	• Reducing share of household income spent on cooking, lighting, and space heating by eliminating the purchase of kerosene through wider use of renewable options such as biogas. • Improving ability to cook staple foods. • Reducing post-harvest losses through use of solar dryers as opposed to diesel run generators for better preservation. • Use of treadle and ram pumps, and electricity from renewable energy sources for irrigation to increase food production and access to nutrition. • Enabling enterprise development, utilizing locally available resources such as agricultural residues, biogas etc and creating jobs. • Use of renewables-based lighting to allow permit income generating activities during the night. •
2 Universal Primary Education	• Renewables based lighting for reading or studying beyond daylight. • Creating a more child-friendly environment (access to clean water, sanitation, lighting, and space heating/cooling, less time needed for firewood collection, school feeding), which can improve attendance in school and reduce dropout rates. • Provision of renewables based electricity to rural schools can assist in retaining teachers. • Electricity from renewables can power equipment enabling access to media and communications that increase educational opportunities.
3 Gender Equality and Women's Empowerment	• Freeing women's time from survival activities, allowing opportunities for income generation. • Clean energy options such improved biomass cookstoves and biogas units can reduce exposure to indoor air pollution which adversely affects women in Africa and improve health (through use of improved stoves). • Lighting streets using electricity from renewables can improve women's safety. • Providing lighting for home study and the possibility of holding evening classes for women.
4, 5, 6. Health	• Reducing exposure to indoor air pollution thus reducing respiratory and eye diseases, less burns, and improving health through improved and more efficient biofuel cookstoves. • Providing access to better medical facilities for maternal care through PV-powered clinics and medical equipment. • Allowing for medicine refrigeration, equipment sterilization, and safe disposal by incineration. • Facilitating development, testing, and distribution of drugs through PV-powered rural clinics. • Enabling access to the latest medicines/expertise through renewable-energy based telemedicine systems. • Providing access to health education media.
7 Environmental Sustainability	• Boosting agricultural productivity, increasing quality instead of quantity of cultivated land. • Reducing deforestation for traditional fuels, reducing erosion and desertification. • Reducing greenhouse gas emissions. • Restoring ecosystem integrity through land management.

Source: REN21 Renewable Energy Policy Network, 2005

Figure 5: Renewable Energy and the MDGs

A.1.5 Status of RE&EE Markets in the Pacific

The assessment of the **baseline situation revealed that PICTs have made considerable progress in the creation of enabling national environments for the uptake of RE&EE technology markets** (see in the annex). Many countries have adopted specific targets. However, in some PICs the developments and the implementation of commitments are still in the initial stage and have not transformed into real investments and the creation of a vibrant market and business sector. The areas of small and medium-sized grid-connected RE plants, decentralised renewable energy solutions for rural areas and households (e.g. cooking, mini-grids, stand-alone systems, hot water heating) as well as energy efficiency improvements in different sectors (e.g. buildings, grid losses, appliances, industry) need a further boost. Moreover, there was much focus on creating market demand for sustainable energy products and services and very little emphasis on strengthening domestic quality supply through the promotion of entrepreneurship and innovation (e.g. quality infrastructure, qualification and certification, incubation, acceleration, cluster building).

So far there are no RE & EE targets on regional levels under the FAESP framework. In the 2017 meeting of the Pacific Ministers for Energy and Transport reaffirmed the need for urgent and ambitious global actions to reduce greenhouse gas emissions with the aim of 1.5 degrees, and endorsed a vision of 100 per cent in renewable energy generation for the region. In the meeting, **SPC and PCREEE were tasked to develop regional targets for RE&EE, as well as an implementation and monitoring framework with indicators.**

Table 2: Targets for renewable energy and emission reductions in the Pacific Island Countries

Country	Targets for renewable energy and emission reductions
Cook Islands	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 50% of inhabited islands electricity needs to be provided by renewable energy in 2015, and 100% by 2020, through implementing the Cook Islands Renewables Energy Chart with key strategies that: 1. Ensure the use of proven renewable electricity technology options 2. Ensure the policy and regulatory environment is aligned with the 50% by 2015 and 100% by 2020 renewable energy goal 3. Ensure ongoing education, awareness and advocacy for renewable energy and energy efficiency 4. Strengthen the required capacity to implement the Cook Islands renewable energy targets
Federated States of Micronesia	**FSM Strategic Development Plan (2004-2013)** Decrease the import and use of imported petroleum fuels by 50% by 2020. 10% of electricity in urban centres and 50% in rural areas will be generated using renewable energy sources by 2020. FSM will have a net gain of area covered by forests between now and 2020. FSM will have a net gain of area and health status of coral reefs between now and 2020 FSM will remain a net importer of GHG through 2020.
Kiribati	**Fuel reduction target for electricity generation in Kiribati by 2025** 1. South Tarawa: 45% 2. Kiritimati: 60% 3. Rural public infrastructure: 60% 4. Rural public and private institutions: 100%
Nauru	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 50% of electricity generation to be provided by renewable energy by 2020.
Niue	100 % of electricity generation from renewables by 2020.
Palau	**Palau Strategic Action Plan Energy Sector** 20% contribution of renewable energy to the energy mix by 2020. 30% reduction in energy consumption though energy efficiency and conservation
Papua New Guinea	**UN Document FCCC/AWGLCA/2011/INF.1** Decrease GHG emissions at least 50% before 2030 while becoming carbon neutral before 2050.
RMI	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** Pursuant to the Republic of Marshall Islands 2009 National Energy Policy and Energy Action Plan, the 2011 National Climate Change Policy Framework and Joint National Action Plan (for climate change adaptation, energy security and disaster risk reduction), and the Green Energy Micronesia initiative: 1. A 40% reduction in CO2 emissions below 2009 levels by 2020; 2. Electrification of 100% of urban households and 95% of rural outer atoll households by 2015; 3. The provision of 20% of energy through indigenous renewable resources by 2020; 4. Improved efficiency of energy use in 50% of households and businesses, and 75% of government buildings by 2020; 5. A 20% efficiency improvement in transportation sector fuel use by 2020; 6. Feasibility studies and internationally supported financing plans for innovative 'game-changing' renewable energy and sustainable development opportunities including Majuro atoll waste-to-energy and Kwajalein/Ebeye atoll OTEC plants undertaken by 2015 40% reduction of CO2 emissions below 2009 levels by 2020, pursuant to the 2009 National Energy Policy and Energy Action Plan, and with subject to the provision of adequate international support.

Samoa	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 1. To reduce the growth rate in the volume of imported fossil fuels by 10% by 2016. The high level indicators for this overarching goal/objective are: a. Energy Sector Plan launched and implemented with at least 75% of targets achieved by 2016; b. Increase in the contribution of RE to total energy consumption by 10% by 2016; c. Increase in the supply of RE for energy services by 10% by 2016; 2. Increase Public and Private investment on Renewable Energy in transport fuels and electricity generation. 3. Energy regulatory function established.
Solomon Islands	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 1. Replace current use of imported fossil fuel for electricity generation by 100% by Year 2030 2. Increase access to reliable, affordable and stable electricity grid by 50% from the current 12% by Year 2030 3. Reduce the price of electricity by half the present tariff rate by 2020 4. Increase access to Solar-Home-Systems by remote rural dwellers located far from electricity grid from current 8.7% to 30% by Year 2020.
Tonga	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 1. To reduce Tonga's greenhouse gas emissions and improve energy security through 50% renewable energy mix in the Energy Transformation (TERM) sector by the end of the Tonga Energy Roadmap 2010-2020 implementation period. 2. To improve efficiency of electricity supply and demand sides by 18% by the end of the TERM implementation period. 3. All Tongans shall access to clean, reliable and affordable energy services by the end of TERM implementation period. Establish phased, comprehensive set of action plans to put in place a long-term institutional arrangement, which provides strong leadership and coordination of energy sector activities.
Tuvalu	**Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States** 1. Power Generation – 100% renewable energy between 2013 and 2020 2. Implementation Principles - Solar PV 60 – 95% of demand - Wind 0 – 40% of demand (if feasible) - Biodiesel 5% of demand (import) Energy Efficiency – improvements of 30% of current annual demand of Funafuti.
Vanuatu	100% of energy from renewables with the following milestones: 40% of power generation through renewables by 2015 65% of power generation through renewables by 2020

There still exists a broad range of barriers which need to be addressed, in order to take full advantage of RE&EE potentials. While the potential for resources such as wind, solar, hydropower, biomass and geothermal energy is considered high, the PICTs face significant barriers for the development of commercially driven and sustainable energy markets. The lack of appropriate policies, capacities, knowledge, finance and the respective business environment are constraints that restrict the dissemination of RE&EE technologies and services. Apart from large hydropower, so far only a small fraction of the grid-connected electricity produced is from renewable sources such as PV, wind and biomass/biofuels. The off-grid and decentralized sector particularly in rural areas (e.g. mini-grids, stand-alone systems) remains underdeveloped in the PICTs with significant rural populations. To ensure the sustainability of investments, there is need to strengthen local energy entrepreneurship and innovation.

A.2 Needs Assessment

In order to identify the need for the PCREEE in the region, the project team conducted a survey as part of a needs assessment among the RE&EE stakeholders in PICTs to ascertain the Centre mandate, priority activities and issues that should be addressed by the Centre. The project team consisted of local consultants with an excellent regional understating of the RE&EE market in the Pacific. The project team has undertaken the needs assessment with government institutions, the private sector, training and research institutions and the donor community. The needs assessment report is included in the annex.

Method

Respondents were sent an e-mail requesting their assistance in the survey, along with a questionnaire. Telephone and in-person interviews were then conducted, with the outcome being registered by the project team. However, the majority of the respondents filled in and sent the questionnaires by email.

The questionnaire focused on four major questions:
1. Design of the Centre
2. Recommendations for an effective Centre
3. Information regarding Country/Territory situation
4. Identification of synergies with existing efforts to promote sustainable energies

A.2.1 Barriers for RE&EE Markets to be addressed

Despite the potential contribution of RE&EE technologies and services to resolving some of the energy challenges in the region, markets for these technologies and services remain largely underdeveloped. The development of this market has to be coordinated closely with the development of the conventional fossil fuel based sector (e.g. diesel generation capacity, transport fuels). The needs assessment (see Section A1.5) conducted as part of the preparatory work for the establishment of the Centre identified the following market barriers for sustainable energies:

Specific barriers for Renewable Energies:

1. Lack of firm plans and targets on RE&EE: Although 13 PICTs have specific targets for RE adoption and for rural electrification some lack technical studies, infrastructure and allocated budget for achieving the targets. Due to these factors some of the targets are likely not to be achieved. The current FAESP does not include explicit regional renewable energy and energy efficiency targets. That does not reflect the pro-active commitments of countries on national levels.
2. There is a lack of concrete follow-up measures to implement national policy commitments and targets (e.g. laws, standards, investment plans, incentive schemes, public procurement). This goes hand in hand with existing knowledge and capacity gaps concerning sustainable energy implementation. Regional RE&EE targets in the FAESP and a guided regional implementation process could help to facilitate the implementation of national commitments.
3. Existing RE support policies in many cases are considered as insufficient by the private sector. Project developers usually require financial support from bilateral and multilateral institutions, in the form of grants and concessional loans, to pass the different stages of project development. Moreover, often they do not consider energy efficiency improvement as a complementary activity. There is need for targeted practical policy support on practical issues relevant for the local industry and SMEs. The support shall focus on the mainstreaming of RE&EE into key non-energy sectors, as well as the empowering of the local sustainable energy manufacturing and servicing industry.
4. Electricity generation sector is not attractive to Independent Power Producers: Governments have not been able to establish support schemes such as feed-in-tariffs to deem RE projects economically viable. There is also the particular case in Fiji where biomass power plants are not economically sustainable due to low tariffs combined with technical issues.
5. Monopoly by utilities: Utilities in the PICTs are vertically integrated (usual practice in small island states) combining generation, transport and distribution, and frequently, also regulation. This can be seen as a conflict of interest especially by the utilities in terms of dealing with independent power producers.

6. Lack of technical capacity to formulate and enforce policies. Usually, the technical capacity in the Pacific islands is confined to the staff of the utilities. Governments and regulators often lack the resources to formulate consistent sustainable energy policies and regulations in line with the local environment and social aspects. This is frequently due to the limited number of persons in these institutions but also because of their technical skills.
7. Low grid stability: The reliability of the PICTs power systems is low due to lack of investments in the generation, transmission and distribution networks. Adding intermittent sources of energy as is the case of the majority of RE sources such as solar and wind could contribute to further interruptions in the grid when the power plants are not able to meet the demand. As in many PICTs only intermittent RE sources are available an efficient interplay with the conventional production units is of high importance. The outdated diesel engines in some PICTs make that difficult.
8. Subsidies to fossil fuels: One of the key constraints to investments in renewable energy and energy efficiency is the biased subsidies to fossil fuels.
9. Lack of trained O&M personnel to operate and maintain the power systems. This has caused that a significant number of RE projects (mostly PV) to stop operating.
10. Lack of RE resource assessments and feasibility studies. The potential for hydro, wind, biomass and tidal/wave energies in many PICTs is not entirely understood. Although some studies have already identified potential sites are identified, there was no follow up for conducting feasibility studies. This is the result of the lack of allocation of funds by governments and utilities, and the reduced technical capacity in the region to conduct these technical studies.
11. Apprehension in making new investments. The economic slowdown and the increase in frequency of extreme climate events (e.g. cyclones and floods), has led to business owners to hold back on potential RE&EE investments. This is the case in the hospitality industry that prefer not to install solar water heaters, an equipment which has usually very short payback times when electricity tariffs are as high as in the PICTs.
12. Land use/availability: Land in small islands is limited as its use is often sensitive. As most RE technologies require significant land usage, investors can be weary of projects that entail land acquisitions/lease.
13. Low electrification rates. Efforts to electrify peri-urban and rural areas, especially in PNG and Vanuatu, need to be significantly scaled-up in order to tackle their low electrification rates. Besides availability of finance, the main barrier is the lack of regulatory framework to allow private businesses such as RE services companies to operate in this market. It is also important to link these mechanisms with other access-to-energy programmes (e.g. rural electrification and efficient cooking stoves).
14. Due to lack of knowledge and awareness, renewable energy technologies are still perceived as expensive although some are already cost-competitive when they compete with conventional alternatives under specific conditions. Moreover, decision makers often do not have the full understanding of the potential benefits of existing technologies.
15. Equipment not appropriate to local environment. The selection of system components often is based only in the price without taking into consideration the local environment conditions such as high temperatures, salinity and climatic variability found in PICTs. This leads to an increased risk of equipment failure and high maintenance costs.
16. Quality standards for renewable energy equipment are not existing or implemented sufficiently. Presence in the market of low quality equipment can lead to a negative uptake of RE technologies, and interviews in some PICTs confirm that this is the case. Consumers need to be educated regarding the options when purchasing equipment. It is also urgent to address waste management issues of the equipment when they reach the end of their life. There is a lack of certification of equipment such as the Lighting Africa programme from World Bank which tests and certifies off-grid lighting products. Failed demonstration projects lead to the perception that RE technologies are not reliable.
17. Stakeholders have also mentioned the lack of reliable and updated energy data. Renewable energy projects will often require information, which may not be readily available, including historic weather-related data such as sun radiation, wind speed, biomass availability and precipitation.

18. The up-front costs for RE tend to be high (but operational costs low) and there is a lack of tailored financial schemes for small scale to medium scale projects available. Another challenges is that most ongoing renewable energy investments are fully financed from outside. Systems tend to be fully (or over-) subsidised leading to a lack of ownership, especially in small scale projects. Markets cannot very well develop under these conditions.

Specific barriers for Energy Efficiency:

19. Although energy efficiency is part of PICTs national energy policies and plans, there is often no clear responsibility within the government for developing and implementing EE efforts, no priorities and little or no budget support.
20. There are weak or no minimum energy performance standards for new buildings, building renovations, appliances, lights, air conditioning and refrigeration, vehicles, etc.
21. There is limited human and institutional capacity to carry out energy audits, provide energy efficiency training, help arranging the finance, guarantee results, etc.
22. Although energy efficiency improvements are often the “low hanging fruit” and cost-competitive they are not considered or there is lack of awareness options. For the business community, there are no guaranteed benefits for the costs incurred and sometimes a lack of trust in energy auditors, who may be linked to equipment suppliers. Renewable energy solutions are implemented without energy efficiency measures what leads to higher costs (e.g. change of light bulbs).
23. Decisions (regarding appliance choice, new building design, vehicle purchases, etc.) tend to be made on the basis of initial cost, not operating or life-cycle costs.
24. There is no incentive or legal requirement for the power utilities to provide energy efficiency services and usually little or no capacity to do so. They tend to concentrate on expanding supply and distribution. The area of commercial losses is not very well managed.
25. In much of the Pacific, power tariffs (at least for households) have traditionally been lower than actual costs of supply, encouraging waste in the use of electricity.
26. Utility short-to-medium term planning (often donor supported) largely ignores demand-side (end-use) efficiency opportunities and seldom if ever considers end-use efficiency as an alternative to new generation.

General Regional Barriers:

27. Small market size does not allow economies of scale especially among the smaller PICTs
28. Distances between islands and from manufacturers significantly increase the cost of equipment and spare parts. Moreover, this is further exacerbated by the small size of the local markets.
29. Staff turnover tend to be high in governments and developing partners. This tends to result in complications in the implementation of projects and programmes. Brain drain in the energy sector is a general challenge.
30. The distinct geographical, environmental, cultural and social aspects in the region difficult the creation of one-size fits all approach. This is an issue when developing capacity building activities and selecting appropriate technologies and business models for different islands.
31. Lack of continuity and planning of capacity building, awareness raising and investment promotion activities in the sustainable energy sector combined with the fact that most of them are led by external organisations. This leads to the wheel being reinvented several times, efficient use of resources and demotivation by regional institutions and individuals who feel that their views and needs are not addressed.
32. Some sustainable energy areas such as transport, cooking, solar thermal heating and cooling or energy storage systems are not very well integrated in regional activities. Particularly transport would be a high impact area as it consumes most of the energy in PICTs. The area of sustainable cooking is a high priority area with high expected impacts for the population in PICTs.

33. Gender and climate change resilience of energy infrastructure are not well integrated in the energy sector planning and policy in PICTs. This leads to the situation that the needs of women are not well addressed.

Barriers Faced by Local Businesses:

34. Local businesses, especially suppliers and installers of RE&EE equipment are generally not benefiting from donor funded projects. This is mostly due to the size of the projects which tend to be of a scale not appropriate to the capacity of local companies. Also, external companies tend to be able to offer significantly cheaper prices as they are able to buy bulk quantities.
35. Lack of technical capacity of local staff. Local companies tend to be set-up by self-taught individuals who then have to train their own staff as the know-how is not present in the labour market. They also face difficulties when trying to approach new markets/technologies as there is limited experience in the region or the experience/lessons learned have not been disseminated (e.g. setting-up renewable energy service companies). During the needs assessment it was also mentioned that installation manuals and training materials are often not available in local languages.
36. Equipment and technologies are not appropriate to the market environment. Due to the small size of the market, there is a lack of options to answer the needs of users, especially for pico and micro applications.

General Capacity Constraints

Technical knowledge is required to establish a critical mass of policy makers, project financiers and engineers who will be able to manage all aspects of sustainable energy development. For successful dissemination, it is necessary to foster trained manpower capable of developing and manufacturing equipment and offering energy services. The following table summarises the capacity requirements of the different stakeholder groups.

Table 3: Capacity Requirements of Various Stakeholder Groups

Stakeholder group	Capacity needs
Policy makers in the renewable energy and energy efficiency sectors and the energy sector in general.	• Developing and operationalize coherent, comprehensive and evidence based policies, laws and regulations that create a level playing field for RE&EE technologies • Implementing rural energy planning • Negotiating power purchase agreement (PPAs) with independent power producers (IPPs) and setting viable feed-in tariffs • mainstreaming climate resilience and gender
Policy makers from non-energy sectors like agriculture, health, water, private sector, transport sectors etc.	• Basic design of renewable energy systems • Integrating renewable energy components into their sectors
Entrepreneurs, project developers, equipment manufacturers, consultants and industry support bodies	• Development of vocational and higher education courses adapted to the RE&EE requirements and languages of the region • Certification for conducting energy audits • Identifying, developing and packaging a pipeline of potential RE&EE investment projects • Negotiating viable power purchase agreement with investors • Preparing quality business plans that are consistent with existing financing mechanisms • Identifying and developing potential CDM projects • Mobilizing and structuring investments in RE&EE projects • Mainstreaming climate resilience of energy infrastructure and gender
Utilities	• Ability to tender RE&EE efficiency projects • Negotiate power purchase agreements (PPAs) • Integrate RE generation in the grid

Recipients/buyers of energy services and technologies	• Willingness and ability to pay for the services or technologies • Ability to assess the energy implication or cost in daily choices and decisions such as selecting electric equipment

A.3 Origin of the project

PCREEE is linked to previous energy projects implemented by UNIDO with financial support of Austria since 2008. PCREEE is an important output/deliverable of the UNIDO project "Strategic Programme for Scaling-Up Renewable Energy Markets in the PICTs (SAP 120225)", executed between 2012 and 2016, and the project "Renewable Energy Development for Electricity Generation and Productive Uses in selected Pacific Island States (Project UERAS08001)", executed by UNIDO 2008 and 2011. **The creation of SIDS DOCK and a network of regional sustainable energy centres for SIDS (PCREEE, CCREEE, ECREEE) follows the adopted SIDS Energy Vision 2020-2030**, developed under the first project. The vision aimed at the creation of a global SIDS initiative on sustainable energy in the context of the AOSIS.

PCREEE is part of wider officially registered SDG multi-stakeholder and triangular partnership directed to implement the SAMOA Pathway, SDG 7, SDG 9 and the Nationally Determined Contributions under the Paris Agreement (SDG 13).[19] The partnership aims to create a **network of regional sustainable energy centres for SIDS** in Africa, Caribbean, Pacific and Indian Ocean. In August 2013 the Small Island Sustainable Energy and Climate Resilience Initiative (SIDS DOCK) of the AOSIS requested UNIDO officially to support. On 17th March 2014 UNIDO, the *Government of Austria* and the Sustainable Energy Island and Climate Resilience Initiative (SIDS DOCK) signed a Memorandum of Understanding (MOU) on the partnership. In 2018 the Royal Norwegian Ministry of Foreign Affairs joined the strategic partnership. The Governments of Austria and Norway provide key financial support to the regional SIDS centres.

PCREEE is **member of the Global Network of Regional Sustainable Energy Centres (GN-SEC)**, coordinated by UNIDO (www.se4allnetwork.org). The gradually expanding partnership comprises a sub-network of centers for the African and the Arab region (in cooperation with the EAC, SADC, ECOWAS, and the Arab League) and a sub-network for Small Island Developing States (in cooperation with SIDS DOCK, CARICOM, and SPC). The GN-SEC is currently **becoming a formalized global platform to advocate for SDG-7, SDG-9 and SDG-13** and joint interests in international policy processes. The platform is hosted by UNIDO in Vienna, Austria.

It provides also a "virtual" maker-space for south-south cooperation activities and joint project proposals. For example, SIDS share similar challenges and opportunities when it comes to electric mobility and storage solutions. LDCs in Sub Sahara Africa share a common interest in renewable energy (hybrid) mini-grid development for rural electrification and productive uses. The platform provides also an interesting forum to exchange experiences and lessons learned on methodologies related to sub-regional cooperation.

The **centres are developed in close partnership with the respective regional organizations** (e.g. ECOWAS, SPC, CARICOM) and SIDS DOCK. In September 2015, SIDS DOCK was recognized as intergovernmental organization of the United Nations. The preparatory process for the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) was finalised in 2015. The Government of Barbados was selected as the host country for the Secretariat of the CCREEE Secretariat through competitive bidding. In October 2015, the CCREEE was formally inaugurated in Bridgetown, Barbados. The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) is operating in Praia, Cape Verde since 2010 and acts as SIDS DOCK hub for African SIDS. The centres will closely cooperate on common SIDS-SIDS sustainable energy issues.

PCREEE was developed between 2014-2015 in the context of a consultative preparatory process, which included the execution of a needs assessment and the development of the project document on the technical and institutional design of the centre. The documents were validated during a joint SPC-UNIDO regional workshop held from 12-13 March 2014 in Nadi, Fiji. The collected feedback was worked into the final documents. The Second Meeting of Pacific Ministers of Energy and Transport, held from 2 to 4 April 2014, in Nadi, Fiji, endorsed the establishment of the PCREEE.

[19] https://sustainabledevelopment.un.org/partnership/?p=7639

It was agreed by the Ministers **to select the host organisation of the centre through a competitive selection process**. The Ministers of Energy requested that the Pacific Islands Forum Secretariat (PIFS) to work with UNIDO to coordinate the process. Interested and qualified regional and national organisations and countries were invited by PIFS to submit their applications in electronic form at latest by 30 January 2015 in line with the established bidding and evaluation framework (see in the annex). Based on an independent evaluation by a consultant, the selection panel comprising SIDS DOCK, UNIDO, EU, Palau and Tonga **recommended the bid of the Pacific Community (SPC) for approval** and gave directions.

The SPC application suggested a **joint hosting of the PCREEE with the main hub/centre hosted at the Pacific Community (SPC) with supporting spokes/thematic hubs** hosted at the Pacific Islands Forum Secretariat (PIFS), the Pacific Power Association (PPA), the Secretariat of the Pacific Regional Environment Programme (SPREP) and The University of the South Pacific (USP), based on the organisations' mandate and comparative advantage to deliver on the overall objective and mandate of the centre as well as its specific objectives (outcomes). The basis of this submission is for a joint hosting of the PCREEE based on one hub and spokes that are strategically positioned to deliver on the overall objective and mandate of the centre as well as its specific objectives (outcomes). It is for existing regional organisations to be strengthened and their coordination to be enhanced rather than establishing a new autonomous organisation. **In September 2015, the Pacific Community (SPC) was officially endorsed / recognized by the Ministers as host organisation of PCREEE** (see annex).

It was decided to **establish the PCREEE Secretariat in Nuku'alofa, Tonga** side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with SPC's effort to strengthen its in-country presence in its members. In this context, the coordination of existing regional projects managed by the SPC Energy Programme in Tonga would be housed and delivered from the Centre. SPC conducted a meeting of the PEOG in mid-Oct 2015 to move the PCREEE establishment forward. SPC and UNIDO informed all partners on the progress in the PEAG meeting in November 2015.

The institutional PCREEE set-up reflects the principles of maximising the impact, avoiding duplication of efforts, strengthening and up-scaling of already existing local capacities. The centre is hosted by the Pacific Community (SPC) and **operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific** – the Pacific Energy Oversight Group (PEOG)[20] and the Pacific Energy Advisory Group (PEAG).

The Centre, under SPC's management will still maintain strong link with the rest of the SPC Energy Programme based in Suva. The Manager of the Centre will also manage the SPC Energy Programme thereby ensuring the activities of both campuses are complimentary and are in line with the FAESP. **The SPC Energy Programme will continue to take leadership in the area of energy policy development, coordination and coherence but will delegate** certain technical tasks for implementation to the center. The PCREEE will contribute to policy issues particularly through activities in the areas of capacity development, knowledge management and applied research, as well as investment and business promotion. The policy barriers identified during the needs assessment study on PCREEE will be addressed by the team in Suva and/or jointly depending upon the expected deadlines and availability of staff.

The centre will develop and execute its activities through a network of Thematic Hubs (THs) or the PEOG and National Focal Institutions (NFIs) or the National Energy Focal Points as is currently known. PCREEE is guided by an Steering Committee (SC) or the PEAG. UNIDO provides technical services and mentoring throughout the first operational phase of the centre. The centre will reach financial sustainability through core funding from donor partners, the host organization and country, mobilized project funding and provision of remunerated services. The centre will not duplicate already ongoing activities and strengthen existing national institutions and private sector. SPC and the Government of Tonga have approved co-funding for the centre throughout the first operational phase.

26 April 2017 saw to the inauguration of PCREEE in Nuku'alofa, Tonga, during the Third Pacific Regional Energy and Transport Ministers' Meeting, and in conjunction with the 70th Anniversary

[20] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.

celebration of the Pacific Community (SPC). The inauguration was attended by the Director-General of SPC, the UNIDO Regional Director and several Prime Ministers of the Pacific Islands and Territories (PICTs) and the Managing Director of the Austrian Development Agency (ADA). In the 2017 meeting of the Pacific Ministers for Energy and Transport reaffirmed the need for urgent and ambitious global actions to reduce greenhouse gas emissions with the aim of 1.5 degrees, and endorsed a vision of 100 per cent in renewable energy generation for the region.

In the meeting, **SPC and PCREEE were tasked to develop regional targets for RE&EE, as well as an implementation and monitoring framework with indicators.** PCREEE will have a key role to ensure that the policies are inclusive and have a clear focus on promoting domestic value creation in terms of jobs and turn-over. A strong emphasis on the SDG-9 dimension and the supply side in addition to demand-side interventions are required. This includes a focus on promote RE&EE for productive uses in economic key sectors, as well as the strengthening of domestic entrepreneurship and innovation.

On 6 September 2018 at the 49th Pacific Islands Forum held in Nauru, Mr. Nikolai Astrup, Norway's Minister of International Development, reconfirmed "the commitment of the Government of Norway to support the Pacific leaders in their aspirations towards the endorsed 100% renewable energy vision for the Pacific island region," and highlighted "the importance of regional cooperation to accelerate the climate and energy transformation in the Pacific and globally". He **announced financial support to PCREEE** through the established UNIDO GN-SEC modality. The Pacific leaders in attendance applauded Norway for the significant contribution to the Boe Declaration, which recognizes climate change as the single greatest threat to the livelihood, security and well-being of Pacific people.

A.3.1 Justification and added value of PCREEE

The undertaken needs assessment **revealed that some PICTs have made considerable progress in the creation of enabling national environments for the uptake of renewable energy (RE) and energy efficiency (EE) technology markets**. However, in some of the areas the developments are still in the initial stage and have not been transformed into real investments and the creation of a vibrant market and business sector. The areas of small and medium-sized grid-connected renewable energy plants, decentralised renewable energy solutions for rural areas and households (e.g. sustainable cooking, mini-grids, stand-alone systems, water heating) as well as energy efficiency improvements in different sectors (e.g. buildings, grid losses, appliances, industry) need a further boost. **There still exist a broad range of barriers which need to be addressed, in order to take full advantage of RE&EE potentials.**

The assessment revealed that the **CROP agencies are assisting PICTs already effectively in addressing parts of these barriers through various projects and activities** (e.g. coordination, policy advisory, (pre-) investment support for projects). However, PICTs expressed an urgent **need for enforced regional technical capacities to promote local human resources, awareness and knowledge management, as well as businesses and industry** in the sustainable energy sector. The increasing sustainable energy investments and the introduction of appropriate regulations and standards go hand in hand with the need for local capacities. Moreover, there is the impression that the local private sector and industry do not take advantage of the growing sustainable energy market and job opportunities. These developments endanger the long-term sustainability of existing investments as they are usually conducted by enterprises from outside without local representations. It was also pointed out that in most cases RE&EE are treated separately and not in an integrated way (fragmented programs and projects). The centre can play a key role in creating economies of scale, as well as a competitive sustainable energy market and business sector in the Pacific.

The **creation of a specialized regional entity (PCREEE) in the context of the existing SPC framework is recommended**. The character of the centre will be exclusively technical. It will **fill the existing regional gaps** regarding capacity development, knowledge management, awareness raising and the promotion of investments in local sustainable energy businesses and industry. In contrast to other ongoing initiatives it will address RE&EE holistically and in a balanced way. Moreover, the centre will have strong focus on strengthening domestic quality supply of products and services through the promotion of entrepreneurship and innovation (e.g. quality infrastructure, qualification and certification, incubation, acceleration, cluster building). The centre will be not active in areas, which are covered already by other CROP agencies sufficiently. All activities of the centre shall demonstrate high

relevance for the local private sector and industry. To save costs and ensure linkages and strong impact in PICTs the centre will work through a network of national focal institutions (NFIs) and thematic hubs (THs).

In comparison with the existing activities in the region, the **following added value of PCREEE shall be highlighted:**

- The Centre will particularly focus on integrated RE&EE projects, programs and activities. The centre will also deal with sustainable energy areas which do not get a lot of attention by today (e.g. sustainable transport, sustainable cooking, solar thermal heating and cooling, energy storage systems).
- The Centre will focus on improving access to energy services which are adapted to the local environment and social factors. The Centre will assist the private sector in tapping the existing market potential in rural areas for mini-grids. Training to local companies will be provided to facilitate the identification of appropriate technologies and business approaches which take into consideration the needs of the rural population. Businesses will also be prepared to assist the local population in engaging in productive activities in order to generate an income to safeguard the long-term sustainability of the projects. The area of sustainable cooking is of high importance.
- The Centre will work with its partners in order to identify sources of finance for RE&EE projects that directly benefit local companies. The needs assessment pointed out to some technologies which should already be economically viable in most PICTs (e.g. hybrid mini-grids and solar cooling/ice productions) but that currently are not benefiting from existing financing sources.
- The Centre will train local experts and companies in the installation and maintenance of RE&EE systems and equipment. The training will be associated to a certification programme to promote quality and the long-term sustainability of the projects. The centre will work and provide training materials particularly in local languages.
- The Centre will assist local research centres in the development and promotion of energy efficiency standards, qualification and certification of local companies.
- The Centre will contribute to provide continuity (and sustainability) to a large number of activities in the Pacific being led by external partners. This is especially true for capacity building as much of the activities in this area tend not to take into account support material developed previously and lessons learned from past activities. The maintenance of a physical centre with regional core staff is expected to answer this.
- The Centre will contribute to the strengthening of the human capital of the CROP agencies and PICTs in the area of sustainable energy. The Centre will be able to answer to requests from governments seeking to implement projects and develop and execute energy policies more effectively. There is also a wide field of possible cooperation with the PPA and its members, i.e., utilities. The capacities need to be strengthened particularly regarding RE grid integration and demand side and supply side efficiency.
- The application of train the trainer approaches can facilitate national follow-up activities and regional research projects can strengthen the capacities of universities and vocational centres with regard to the development of adapted technologies.
- The centre can contribute to sustainable energy data quality, harmonisation and reliability in the region. Improving the accessibility for local key market enablers to RE&EE information.
- The barriers for the dissemination and usage of sustainable energy technologies are similar in most of all PICTs. Through regional knowledge exchange, lessons learned, capacity building and awareness raising PICTs can learn from existing experiences in the region.
- The experience of the European Union (EU) has shown that regional standards for equipment and training can be a useful tool to facilitate the adoption and implementation of RE&EE technologies at national levels (e.g. EU Directive on RE&EE). The introduction of minimum quality standards and labelling for RE&EE equipment or appliances can be more effective than introducing isolated and non-harmonised rules on national levels. The Centre will work in this regard particularly with the institutions which are already conducting a laudable work in the

harmonisation of EE standards (SPC PALS programme) and RE standards, i.e., IRENA and SEIAPI.

- The establishment of a specialised institution for RE&EE helps to coordinate ongoing activities in the region on access to energy and capacity building activities. The PCREEE in cooperation with SPC shall become an early check-point for determining the relevance of regional and local level initiatives and programmes.
- Regional cooperation can also be an effective tool to facilitate that the expansion of sustainable energy markets transform into local added value, businesses and jobs in the Pacific. For example, regional cooperation in the field of applied research and manufacturing can contribute to the strengthening of local business sector.
- The creation of the centre is fully in line with the Paris Declaration on Aid Effectiveness and the principles of donor harmonisation and alignment with local country systems. The centre will apply local regulations and proceedings (e.g. SPC procurement, financial rules) and employ exclusively local staff from the PICTs. The PCREEE will contribute to the creation of a strong sustainable energy network in the region. Contrary to some ongoing donor driven initiatives in the sustainable energy sector which do not make use of local capacities and procedures.

A.4 Target Beneficiaries

The main target beneficiaries of the activities of the Centre shall consist primarily of renewable energy and energy efficiency market players and enablers in the Pacific. More specifically, the following stakeholders will benefit from the Centre's activities:

1. Policy makers in energy and related sectors: as a result of the activities of the centre, policy makers will have better capacity to develop, implement and operationalize policies, strategies that are conducive to the dissemination of renewable energy and energy efficiency technologies in their countries/territories. Policy makers will benefit from the joint activities of PCREEE and the Energy Programme of SPC.
2. Private sector like micro, small and medium enterprises (MSMEs), entrepreneurs, project developers and financing institutions: as a result of the project will be trained on various aspects including renewable energy project identification, development, implementation, funding mobilization, equipment manufacturing etc.
3. National institutions charged with promoting renewable energy and energy efficiency (e.g. energy offices) will benefit from the project through targeted training programmes that include regional equipment standards and performance labelling scheme, policy implementation and rural energy planning.
4. Regulators, Independent Power Producers and utilities: as a result of the project, they will have clear policy and regulatory framework on how to collaborate with other stakeholders in the development of renewable energy and will be alerted on the benefits of adopting energy efficiency strategies.
5. Policy makers, private sector, national institutions: will benefit from the project through awareness raising programmes on renewable energy and energy efficiency.
6. Ultimately, the greater population in the PICTs will benefit from increased access to modern energy services through increased market penetration of renewable energy technologies and systems as well as energy efficiency technologies and services. Women as beneficiaries or target groups (e.g. entrepreneurs) will benefit from gender-sensitive projects or special gender-sustainable energy projects or programs.

A.5 Policies, Strategies and plans in place

The suggestion to establish PCREEE is fully in the line with the vision, goal and outcomes of the Framework for Action on Energy Security in the Pacific (FAESP) and the respective Implementation Plan for Energy Security in the Pacific (IPESP). The FAESP was formulated in response to the call from Pacific Leaders at the 40th Pacific Islands Forum in Cairns (August 2009) for greater energy security. The Framework is designed to provide guidance to PICTs to enhance their national efforts to achieve energy security and to clarify how regional services can assist countries to develop and implement their national plans. The guiding principles of the FAESP are:

1. Leaderships, transparency, decision-making and governance
2. National-led solutions supported by regional initiatives
3. Coordinated whole-of-sector approach
4. Sustainable livelihoods, culture, equity and gender
5. Link between energy sources (primary and secondary), energy services and uses
6. Cost-effective, technically proven and appropriate technological solutions
7. Environmentally friendly solutions
8. Evidence-based planning (the importance on energy statistics)
9. Appropriate investment in human capital
10. Many partners, one team
11. Financing, monitoring and evaluation.

The IPESP is a five-year (2011–2015) plan focused on regional interventions that provide practical support for the implementation of national policies and plans. IPESP was endorsed at the Inaugural Regional Meeting of Ministers of Energy, Information and Communication Technology and Transport held in Noumea, New Caledonia from 4–8 April 2011. SPC has been identified as the coordinating agency of the plan. Therefore, it will be responsible for coordinating and providing leadership to the PICTs, CROP agencies and donor partners for the IPESP implementation.

The plan has also distinguished the areas of intervention which should be developed at national and regional levels. At national level, they will be:

a) energy policies and implementation plans;
b) roles and responsibilities of national energy sector institutions;
c) energy pricing, subsidies, legislation and regulation;
d) energy data and information;
e) energy studies and technical reports;
f) relationships between government and private sector regarding energy services;
g) capacity building and human resource development;
h) priorities for technical assistance; and
i) close collaboration with development partners.

Due to the diversity in the market status and the individual requirements of each PICT, the plan noted that not all of the above interventions would be applied to all PICTs. The regional interventions and activities within IPESP focus on the following areas:

a) economies of scale;
b) development and synchronisation of standards across PICTs;
c) regional leadership, strategic engagement and advocacy;
d) capacity building or supplementation and skills transfer;
e) policy analysis, research and development; and
f) systems for data collection, analysis, reporting and information dissemination.

The IPESP has estimated that the cost to implement the proposed activities in the timeframe 2011-2015 would be approximately USD 20 million (excluding staff costs). The current FAESP does not include explicit regional renewable energy and energy efficiency targets. That does not reflect the pro-active commitments of countries on national levels.

The implementation plan for the FAESP was reviewed in 2015 and has not been finalised, awaiting to be finalised together with the PCREEE Business Plan to ensure they are complementary. The SPC Energy Programme will closely cooperate with PCREEE in the area of regional policy. Theme 2 of the FAESP 2010 - 2020 is on planning, policy and regulatory frameworks. It is on this theme that SPC is assisting PICs to draft their national energy policies and energy roadmaps, the drafting of energy legislations, technical assistance to energy regulators and establishing the baselines and the monitoring framework for the energy roadmaps.

The SPC Energy Programme, based in Suva, will continue to take the leadership in the coordination, implementation and monitoring of the regional policy framework. Specific tasks to be undertaken in this area will be delegated for implementation to PCREEE. The centre would particularly focus on policies and legislations specific to the private sector and investments, for instance, power purchase agreements and feed-in-tariffs, while the energy programme in Suva deals with the broader and macro energy sector policies. With the head of the SPC energy programme also managing the centre and a member of the centre's steering committee, this would ensure there is complementarity and consistency between the policy-related activities of the centre and that to be carried out in Suva.

A.6 Matrix on Programs and Initiatives and existing gaps

Various regional RE&EE initiatives focusing on investment promotion, capacity building, knowledge management, awareness raising are currently ongoing or are in the stage of finalization. However, some duplication and lack of coherence seems to exist. Many projects cover only isolated aspects of the whole picture. Many of the initiatives are project based with a limited life cycle. After the closure of the projects the lessons learned are lost or the results are not sustained. Since PCREEE will be established as centre it will focus particularly on this sustainability aspect. The validation workshop revealed that there is a strong need for a "more systematic approach regarding renewable energy and energy efficiency". There is, a number of gaps that would be filled by the PCREEE.

PCREEE will also address important areas such as sustainable cooking, sustainable transport and storage systems. The following matrix summarises previous, ongoing and planned sustainable projects and programmes. From the very beginning PCREEE will discuss with these institutions the development of joint activities in order to deliver services at reasonable quality and cost, and avoiding duplication of activities. Since PCREEE operates under the FAESP framework close cooperation and coordination is ensured.

Capacity Building and Knowledge Management - Gap Matrix		
Activity / Institution	**Details**	**Gaps / Remarks**
Vocational Training and Education for Clean Energy; University of the South Pacific, Suva, Fiji	Completed project A vocational solar PV training programme funded by USAID will be completed by the end of 2014. The training focuses on the design, installation, operation and maintenance of stand-alone solar PV power systems. The programme targets training of technicians and train-the-trainers components.	There will be no follow up activities with the training materials developed for this project. The project only implemented training courses in Fiji, Solomon Island, Tonga and Vanuatu. The training materials could be adapted to implement training courses in other PICTs. There is a strong need for building up training networks which includes national institutions. Moreover, national institutions can focus on specific areas where they have comparative advantages.
European Union Pacific Technical Vocational Education & Training for Sustainable Energy and Climate Change Adaptation (PacTVET) Project: 2014 – 2018 Jointly managed by SPC and USP	On-going project Four results are expected of the PACTVET project: National training needs in SE and CCA are assessed and existing informal and formal TVET training courses and training and education providers are identified and strengthened Benchmarks, competency standards and courses on Training of Trainers (ToT) are developed and implemented and a pool of national trainers is created Develop and establish training courses and support facilities within TVET institutions d) CCA and SE training networks are strengthened	
DIREKT Renewable Energy Research & Technology Transfer Centre; University of the South Pacific, Suva, Fiji	Completed project Arranged workshops and conferences with DIRECT funding which ended in November 2013. The project aimed at becoming a virtual hub for communication and information exchange between all renewable energy sectors in the Pacific.	There is no public available information on the contents developed under the project. The PCREEE could be a platform to disseminate the contents of the DIREKT project through the planned RE&EE Observatory. There is a strong need for the facilitation of research networks which involves national institutions.
LifeLong Learning for Energy Security,	Approved project To be established in October 2014 and will run for 3 years. The project will develop courses, programmes of study and a pilot teaching module in energy	A partnership could be formed with the PCREEE to expand the scope of the project or to follow up with other universities in the region.

Access and Efficiency (L^3EAP); University of the South Pacific, Suva, Fiji	access, energy security and efficiency for universities. A part-time administrative person will staff the project office The project intends to be a follow up of the DIREKT project.	
Oceania Centre for Sustainable Transport; University of the South Pacific, Suva, Fiji	Planned project The Centre aims to provide a one-stop shop for research, among others, that will deliver sustainable transport solutions appropriate to the Pacific and its island communities.	Interest has been demonstrated by this centre to partner with the PCREEE. Joint projects could be developed on the use of sustainable energy technologies in the transport sector.
Pacific Climate Change Centre; SPREP, Samoa	Proposed project The project has been endorsed by the Government of Samoa with proposed funding from Japan. The Centre will act as an expanded hub for SPREP's climate change support to Pacific Island Countries and Territories in particular, Climate Change Policy; Adaptation and Mitigation Programmes; the Pacific Meteorological Partnership Desk; Partnerships for Climate Change; Access to Climate Finance and; Climate Change Research.	This centre, if implemented, could partner with the PCREEE to encourage partnerships and joint activities of climate change mitigation and resilience in the energy sector.
Sustainable Energy Industry Development Project (PPA / SEIAPI)	Funded by the World Bank, the SEIDP development objective is to increase the data availability and capacity in Pacific Island power utilities to enhance their ability to incorporate and manage renewable energy technologies and long-term disaster risk planning. Component 1: Renewable Energy Resource Mapping Component 2: Utilities Capacity Building Component 3: Technical assistance and project management	
Pacific Regional Data Repository	On-going Project Supported by the World Bank and Australia, the PRDR was launched as a partnership at the 3rd SIDS conference in Samoa. The PRDR aims to be a one-stop shop for accurate, reliable and up-to-date data in the PICTs. The PRDR supports PICTs in their reporting to the SE4ALL Initiative and the Paris Agreement too.	
Certification / Accreditation - Gap Matrix		
Activity / Institution	**Details**	**Gaps / Remarks**
European Union Pacific Technical Vocational Education & Training for Sustainable Energy and Climate Change	On-going project Four results are expected of the PACTVET project: National training needs in SE and CCA are assessed and existing informal and formal TVET training courses and training and education providers are identified and strengthened	

Adaptation (PacTVET) Project: 2014 – 2018 Jointly managed by SPC and USP	Benchmarks, competency standards and courses on Training of Trainers (ToT) are developed and implemented and a pool of national trainers is Created Develop and establish training courses and support facilities within TVET institutions d) CCA and SE training networks are strengthened	
SEIAPI Certification and Accreditation Scheme	Ongoing project (with funding limitations) This initiative aims to establish a sustainable long term training programme for the Pacific. Its main objectives are to develop competency standards to define which details should be taught and assessed in a course to provide an individual with the skills to competently do a specific task (e.g. install an off grid power system); and, establish Professional training centres (accredited by a third party) that have the correct equipment and suitably trained and experienced trainers.	The supporters of the initiative, namely SEIAPI, USP, PPA and SPC; see the PCREEE as a potential partner to: mobilise the required funding to set-up the certification and accreditation scheme to become the secretariat for the scheme (which could become a source of funding in the medium-term) to extend the scheme from PV to other areas (e.g. solar thermal, improved cook-stoves)
Climate Change Resilience in the Energy Sector - Gap Matrix		
Activity / Institution	**Details**	**Gaps / Remarks**
Adapting to Climate change and Sustainable Energy (ACSE) Implemented by SPC	Approved project The management arrangements for the EU-funded EDF-10 Pacific project have been finalised. The total volume of the program is 37.26 million Euros and is implemented in cooperation with GIZ, New Zealand Government, the Asian Development Bank and SPC. The program is supporting adaptation and mitigation activities in fifteen ACP countries (Cook Islands, East-Timor, Fijii, Kiribati, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu). The program includes €6.1 million under SPC management for 'Technical Vocational Education and Training' (TVET).	The program will be launched in parallel to the PCREEE process and therefore plenty of synergies can be created. The program addresses climate mitigation as well as climate adaptation and resilience in the energy sector.
Coping with Climate Change in the Pacific Islands Region (CCCPIR) programme Implemented by SPC/GIZ	Ongoing project The regional SPC/GIZ programme 'Coping with climate change in the Pacific Island Region' (CCCPIR) aims at strengthening the capacities of Pacific Island Countries (PICs) and regional organisations to cope with the anticipated effects of climate change that will affect communities across the region. CCCPIR's sustainable energy management component started in January 2012 and assists public and private energy service providers in strengthening and improving their climate-related services and focus on	This project has a strong component of policy and planning advice, technical assistance to project development and knowledge dissemination. Strong partnerships could be developed with the PCREEE in order to facilitate the implementation of energy related activities.

	sustainability, reliability and cost-effectiveness in the energy sector within the region.	
European Union Pacific Technical Vocational Education & Training for Sustainable Energy and Climate Change Adaptation (PacTVET) Project: 2014 – 2018 Jointly managed by SPC and USP	On-going project Four results are expected of the PACTVET project: 1) National training needs in SE and CCA are assessed and existing informal and formal TVET training courses and training and education providers are identified and strengthened 2) Benchmarks, competency standards and courses on Training of Trainers (ToT) are developed and implemented and a pool of national trainers is created 3) Develop and establish training courses and support facilities within TVET institutions 4) CCA and SE training networks are strengthened	
Energy Efficiency - Gap Matrix		
Activity / Institution	**Details**	**Gaps / Remarks**
Pacific Appliance Labelling and Standards (PALS) Implemented by SPC	Ongoing project The PALS is a project which aims to assist PICs implement labelling and standards for energy-using equipment such as refrigerators, freezers, air conditioners and lighting. PALS is based in the Australian and New Zealand standards and labelling programme. So far, 13 PICTs have joined this initiative that establish minimum levels of performance for electrical appliances PALS is up to April 2017 and is working with UNEP on a funding proposal to the GCF.	The labelling standards are limited to appliances certified by the Australian/New Zealand labelling programme. This limits the offer of appliances which could be better suited to the Pacific market (i.e. smaller and of lower power. PCREEE could document lessons learned and disseminate them widely through the planed observatory.
Promoting Energy Efficiency in The Pacific: Phase 2 Financed by ADB and other investment projects	Completed project The objective of the project is to improve efficiency in the use of electrical power for consumers in five Pacific countries - the Cook Islands, Papua New Guinea (PNG), Samoa, Tonga, and Vanuatu. Demand-side energy efficiency improvements in the residential, commercial, and government sectors of each country are the targeted activities of the project.	The project has developed an extensive energy use baseline for the building sector and has compiled information on energy use from each country. There is a gap with regard to support programs for smaller RE&EE projects. The minimum investment requirement prevents ADB to be active in these areas. PCREEE could fill that gap through its investment and business promotion activities (e.g. promotion of mini-grids, stand-alone systems sustainable cook-stoves). PCREEE could assist in bundling projects to a relevant size and

Investment and Business Promotion		
Activity / Institution	**Details**	**Gaps / Remarks**
Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project "Plus" Implemented by SPREP	Completed project The objective of PIGGAREP+ is primarily to provide grants the development of renewable energy projects (e.g. measurements, resource assessments, feasibility studies). Finance has been provided to RE (PV powered applications – telecommunications and water pumping); and to EE applications demonstration energy efficient house and the establishment of a financing scheme. The project will come to an end in 2014 and the continuation is uncertain. There are plans to do a follow-up program with a stronger focus on energy efficiency and promotion of infrastructure investments. The program was implemented in cooperation with UNDP and with funding of the GEF. The "Plus" project was funded by SIDS DOCK.	SPREP has accumulated a wealth of lessons learned from this project and the predecessor project – PIGGAREP – on the finance of sustainable energy projects. These should be thoroughly assessed and used when investing in RE&EE in the Pacific. As it is uncertain whether the program continues the centre could help to ensure continuity through its investment and business promotion activities. So far there is no business promotion program for local sustainable energy businesses. Both projects are now completed and closed.
The Pacific Environment Community Fund (PEC) operated by the Pacific Islands Forum Secretariat	On-going (to be completed and closed in 2016) In May of 2009 Pacific Islands Forum Leaders met with the Government of Japan at the 5th Pacific Island Leaders Meeting (PALM 5) in Hokkaido, Japan. At the PALM 5 Summit, Leaders issued the Islanders' Hokkaido Declaration which reaffirmed Leaders' commitment to collaborate and cooperate on a wide range of issues. A significant part of the Declaration was the launch of the PEC Fund, under which Japan provided a ¥6.8billion (approximately US$66 million) contribution to Forum Island Countries (FIC) to tackle environmental issues. Each FIC is provided with an indicative allocation of USD$4million to support projects with a focus on the provision of solar power generation systems and sea water desalination plants or a combination of both.	The fund provided grants for several RE PV projects. The support is bound to the technology of the donor which is usually more expensive. The technology driven support could lead to sustainability issues in the near future. PCREEE can have an important role in disseminating the lessons learned of the projects and strengthening local capacities to maintain these systems.
Small Island Developing States (SIDS) Sustainable Energy Initiative - SIDS DOCK Implemented by SPREP	Ongoing project The SIDS DOCK is an initiative which aims to support Small Island Developing States (SIDS) to transition to low carbon economies through development and deployment of renewable energy (RE) resources and promotion of greater energy efficiency (EE). SIDS DOCK development is being jointly coordinated by the Caribbean Community Climate Change Centre (5Cs) and the Secretariat of the Pacific Regional Environment Programme (SPREP), with oversight from a Steering Committee comprised primarily of AOSIS Ambassadors to the United Nations and technical experts. The ultimate goal of SIDS DOCK is to increase energy efficiency by 25 percent (2005 baseline) and to generate a minimum of 50 percent of electric	The Steering Committee of SIDS DOCK requested UNIDO to support in the establishment of regional sustainable energy centres for SIDS in the Pacific, Caribbean, Africa and the Indian Ocean in 2013. SIDS DOCK pledged support for the establishment of PCREEE. In March 2014 a MOU between SIDS DOCK, UNIDO and the Austrian Government will be signed. It is planned to open a SIDS DOCK office at SPREP. PCREEE could strengthen the planned office.

	power from renewable sources and a 20-30 percent decrease in conventional transportation fuel use by 2033, some SIDS have announced more ambitious goals.	
Pacific SIDS Energy, Ecosystems and Sustainable Livelihoods Initiative: Managing the Ecosystem Implications of Energy Policies in the Pacific Island States by IUCN	On-going EESLI was designed with the vision to accelerate the transition to energy systems that are ecologically sustainable, socially equitable and economically efficient. Thus IUCN Oceania Regional Office has been supporting the initiative "Managing the Ecosystem and Livelihood Implication of Energy Policies in the Pacific Island States" to achieve the mission through: (i) Feasibility studies, design and implementation of renewable energy and energy efficiency projects; (ii) Support for the projects including through the provision of management tools and institutional strengthening; (iii) Networking with Pacific SIDS and small island states globally to share lessons learned, skills and technology	The grant program is similar to the PIGGAREP program and focuses on pre-investment support of RE projects. PCREEE could assist in disseminating lessons learned and mobilizing funding for the projects. Moreover, PCREEE could focus on a grant program specifically focusing on projects targeting local businesses.
Energy loans for Tonga IUCN	Ongoing project The aim of this project is to promote energy efficiency by providing loans for energy efficient houses in collaboration with the Tonga Development Bank. The bank is responsible for evaluating and financing energy efficiency buildings that will consume less energy than existing buildings.	The project has been a replication of a previous project in Palau. In a region where energy is expensive, energy efficiency technologies are usually investments with a quick payback time. The lessons from this project could be disseminated regionally to the finance sector with the aim to mainstream EE in new developments.
Various donor support for on and off-grid RE investments	Various bilateral donors (e.g. Australia, Austria, New Zealand, Japan).	
North Pacific ACP Renewable Energy and Energy Efficiency Project (North-REP) Implemented by the SPC	Completed project The project is providing support to the energy sector in the Federated States of Micronesia, the Republic of the Marshall Islands and the Republic of Palau. A budget allocation of €14.44 million was offered by the European Union to finance capacity building activities and installation of RE&EE equipment. The project was terminated in April 2014.	One of the main gaps of the project has been the lack of mechanisms to ensure the sustainability of the installed equipment. The lessons learned from this project could be used during the planning process of future RE&EE projects. PCREEE can strengthen the programme through its planned certified train-the-trainer networks.

In addition to the above, there are institutions which have (or intermittently have had) capacity building programmes at vocational level for renewable energy and sometimes to a lesser extent energy efficiency. Examples of organisations with a long history of RE training, and in some cases energy auditing training, include:

- The Appropriate Technology & Community Development Unit at Unitech in Lae, which has a Renewable Energy Division that has had RE courses and implemented community projects and demonstrations (solar PV, small wind, biomass, etc.) for nearly 40 years.
- The Centre for Appropriate Technology in Nadave, Fiji has run a number of solar PV training programmes since the 1980s.
- The National University of Samoa;
- The College of Micronesia (in the Federated States of Micronesia);
- The College of the Marshall Islands (Majuro); and
- Technical colleges in other PICs including the Solomon Islands, Kiribati and Vanuatu.

The PCREEE will partner and strengthen these institutions by mobilizing support for capacity building and research networks. Most of the activities will be implemented by national institutions whereas PCREEE will keep the overall coordinating role.

A.6.1 International Partner Programmes

Sustainable Energy for All Initiative (SE4ALL)
The Pacific Islands Forum Leaders published in 2010 the Pacific Regional MDG Tracking Report. The report identified climate change and the reliance on fossil fuels as serious obstacles for the region to achieve the MDG by 2015. The heavy reliance on fossil fuels and the consequent impact of high fuel prices has affected both national and household budgets which in turn impact negatively the economy. Lack of access to energy in the rural areas has also been identified as a barrier for the achievement of the MDGs in some countries (e.g. Papua New Guinea and Kiribati).

The report suggests that efforts are needed to reduce the reliance on fossil fuels by encouraging the use of renewable energy sources and energy efficiency technologies. These investments could help to *balance the perceived trade-off between addressing climate change at the expense of development*. Moreover, the promotion of sustainable energies could provide new opportunities for private investment and, consequently, the generation of employment in the region. Therefore, the report confirms that the increase in access to energy and in the use of sustainable energies as means for attaining the MDGs and, as a result, the Sustainable Energy for All (SE4ALL) objectives. In the meantime the MDGs were replace by the SDG framework.

The centre will contribute to SDG 7: by 2030, ensure universal access to affordable, reliable and modern energy services; increase substantially the share of renewable energy in the global energy mix; double the global rate of improvement in energy efficiency;[21] the centre will closely coordinate with the SE4ALL partnership on certain activities; the centre will also contribute to SDG 9 on inclusive and sustainable industrial development as well as to SDG 13 on climate mitigation and adaptation;

IRENA – International Renewable Energy Agency
In January 2012, IRENA hosted a Pacific Leaders Forum in Abu Dhabi. In the resulting Abu Dhabi Communiqué, leaders from 11 Pacific Island Countries and Territories called on IRENA to work jointly on establishing an enabling environment for renewable energy deployment in the region. They asked for this work to be integrated into a roadmap for accelerated renewable energy uptake in the Pacific.

[21] Further SDG 7 targets include: By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology; By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support;

Since then, IRENA started working closely with a wide range of stakeholders in the Pacific, including governments, utilities, CROP agencies, SEIAPI and the private sector, to identify gaps and produce innovative, practical and island-specific solutions. The outcome of this work was presented in the *Pacific Lighthouses: Renewable Energy Roadmapping for Islands*. The document provides a framework for further action identifying challenges and best practices for the accelerated uptake of renewable energy across the region.

In the meantime, IRENA has been developing a series of Renewable Readiness Assessment (RRA) workshop in the region. These activities are country driven processes involving representatives of government departments, the local utility, private sector, community, and training institutions. The purpose of the workshops is to identify critical areas and actions that should be taken in the countries. Usually, the key areas proposed for improvement include capacity building, institutional reforms and application of specific RE technologies.

Moreover, IRENA, PPA and SEAIPI are working in the adoption of a regional guideline and standard for solar photovoltaic systems. These institutions aim to ensure that the equipment used in the region meets a certain quality and performance standards in order to avoid early systems failures. As part of this project, a three-day workshop on Harmonised Technical Guidelines for PV Systems in the Pacific Islands was conducted in Nabua, Fiji on 27–29 August 2013.

B. Reasons for UNIDO's assistance

UNIDO is strategically placed to assist in establishing the PCREEE for the following reasons:

- UNIDO is entering the energy, climate and environmental space from the viewpoint of SDG-9 on inclusive industrial development and innovation. In line with the SDGs, the UNIDO works towards a new global business model that allows to produce more of the goods and services required by a growing world population, while using fewer resources and producing less waste and pollution. There is a trend towards circular economy policy concepts against the background of the increasing scarcity and price volatility of raw materials, including fossil fuels, as well as the need to internalize the costs of environmental externalities, such as air, soil and water pollution and climate change caused by global greenhouse gas emissions. In the energy sector, UNIDO puts particular emphasis on the supply side, by promoting sustainable energy for productive uses in key economic sectors as well as the strengthening of energy entrepreneurship and innovation. Through its private-sector focus and programs, such as the Global Innovation Clean Tech Program (GCIP) and the Private Finance Advisory Network (PFAN), UNIDO is well prepared to support PCREEE in the development of supplier-oriented programs.

- The Global Network of Regional Sustainable Energy Centres (GN-SEC) is a powerful global south-south multi-stakeholder partnership, coordinated by the UNIDO Energy Department in partnership with various regional economic communities and organizations. The regional centres respond to the urgent need for enforced south-south cooperation and capacities to promote inclusive and sustainable energy industries and markets in developing and transformation countries in the post-2015 era. The centres enjoy high-level support by the Energy Ministers and respond to the individual needs of the respective national Governments. The regional centres play an instrumental role to empower local energy industries to take advantage of the growing renewable energy and energy efficiency market opportunities. Under the umbrella of the network, various regional centres are already operating or are in the process to get fully operational. The Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) was inaugurated in Bridgetown, Barbados, end of 2015. The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) is operating in Cape Verde since 2010 and is acting as the SIDS DOCK hub for African SIDS. The GN-SEC provides a common umbrella to promote south-south cooperation between the centres and regions. Further information is available at www.se4allnetwork.org.

- UNIDO has established similar centres in the past that include the Centre for South-South Industrial Cooperation in India, the International Centre for Small Hydro Power in India; International Centre for Solar Energy in China; International Centre for Advanced Manufacturing Technology in India. In addition, UNIDO has also established a global network of Cleaner Production Centres, which has over 40 national offices. These centres have played an instrumental role in promoting specific technologies, services and concepts that support sustainable development. UNIDO in cooperation with UNEP is also managing the Climate Technology Centre and Network (CTCN). In the process, UNIDO has acquired a wealth of experiences that would be useful in the preparation and running of the PCREEE.

C. Technical and Institutional Design of the Centre

C.1. Development goal and intermediate outcome of PCREEE

PCREEE aims at the following development objective (long-term outcome):

Improved 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.

C.1.1 Alignment with regional and international policies and strategies

The PCREEE activities will contribute to and are fully aligned with:

- the implementation of the Framework for Action on Energy Security in the Pacific: 2010 - 2020 (FAESP) and its associated Implementation Plan for Energy Security in the Pacific (IPESP);
- the 100% renewable energy vision adopted at the meeting of Pacific Ministers for Energy and Transport in April 2017.
- the SIDS DOCK objectives to improve energy efficiency by 25 percent (2005 baseline), to increase the renewable energy share in power generation to a minimum of 50 percent and to reduce fuel use in conventional transportation by 20-30 percent by 2033.
- the objectives of SDG 7: by 2030, ensure universal access to affordable, reliable and modern energy services; increase substantially the share of renewable energy in the global energy mix; double the global rate of improvement in energy efficiency;[22] the centre will closely coordinate with the SE4ALL partnership on certain activities; the centre will also contribute to SDG 9 on inclusive and sustainable industrial development as well as to SDG 13 on climate mitigation and adaptation;
- the Asia-Pacific Energy Forum's Plan of Action: 2013 - 2018
- the increase of the technical capacity in PICTs required to design, implement and maintain sustainable energy projects adapted to the local needs;
- the growth of the current levels of investment in sustainable energy services;

C.1.2 Scope of mandate of the Centre

The **geographic scope of intervention of the Centre** is defined as follows:

- Supports interventions in 22 PICTs (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). All of them are Members of the Pacific Community (SPC); the Steering Committee of the centre might decide to include other countries or territories;
- Supports and executes RE&EE activities and projects which cover one or more PICTs.
- Focuses primarily on activities and projects with regional impact or national projects which demonstrate high potential for scaling-up or regional replication.
- Works in urban as well as peri-urban and rural areas due to the high relevance of decentralized RE&EE technologies and services for rural areas linked with the agricultural sector.

[22] Further SDG 7 targets include: By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology; By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support;

Technical scope: The center promotes all appropriate and sustainable renewable energy and energy efficiency technologies, including renewable energy hybrid systems and mini-grids. The center focuses equally on RE&EE. The table below provides a detailed overview of the technologies under PCREEE's scope.

Table 4: Technical scope of intervention of PCREEE

PCREEE Target Groups	Technical Focus
• Government institutions (ministries, electrification agencies, municipalities) • Private, public or public–private companies (e.g. SMEs, ESCOs, utilities) • Individual consultants and project developers • Universities, schools, research centres • NGOs and cooperatives • International organizations	**Renewable Energy:** • Renewable energy (multi-focus) • Biomass (e.g. improved stoves for cooking, power generation) • Biofuels (e.g. biodiesel, bioethanol) • Biogas • Waste-to-energy • Geothermal energy • Hydroelectric power (medium, small, micro, pico) • Solar photovoltaic (PV) (e.g. grid/off-grid, stand-alone systems, lighting, pumping, desalination) • Concentrated solar power • Solar thermal (water heating, cooling, process heat, solar cooking and drying) • Wind energy (e.g. off/on-grid, on- and off-shore, small and large, water pumping, desalination, etc.) • Wave, tidal and ocean thermal • Hybrid Minigrids • Sustainable energy Storage (batteries, hydrogen) **Energy Efficiency:** • Sustainable transport • Efficient appliances • Energy efficiency in buildings • Efficient transmission and distribution • Energy conservation and management **Cross-cutting and nexus:** • Sustainable city solutions • Energy for productive activities (e.g. value chain development) • Energy innovations and "green" business development • Energy for circular economy (e.g. cleaner production, resource efficiency)

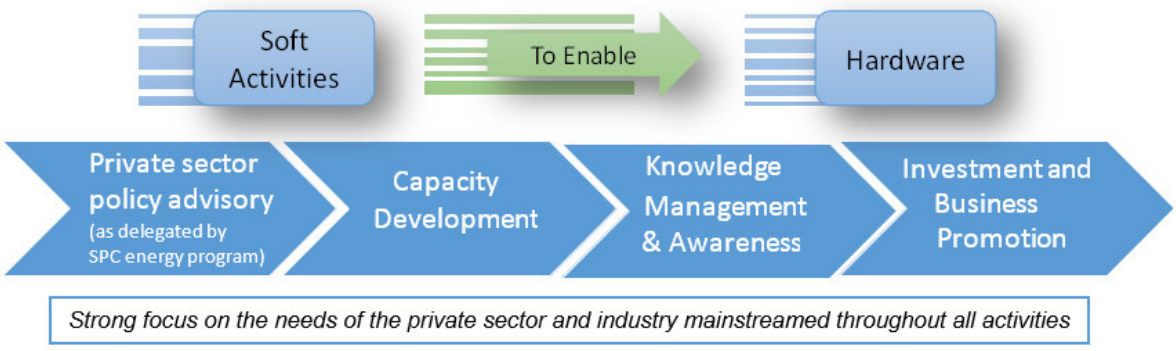
C.2. Expected immediate outcomes of PCREEE

The specific objectives (outcomes) of the Centre are embedded in four (4) components of activity which will be integrated into the 7 themes of the FAESP and the activities of the hub and spokes regional organisations. The components correspond with the identified gap during the needs assessment concerning regional capacity development, knowledge management and business development support. In line with the discussions in the validation workshop, in the area of regional-national policy development and implementation the center would closely cooperate with the SPC Energy Programme and provide technical services as delegated. Whereas the SPC Energy Programme will continue to take leadership in providing regional policy coordination and coherence, the center will focus on practical policy aspects with high relevance for the private sector and industry.

PCREEE coordinates, executes and co-funds programmes, projects and activities in the scope of the following areas:

- **Outcome 1:** Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)
- **Outcome 2:** Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified training and applied research programs and mechanisms
- **Outcome 3:** Enhanced awareness of key stakeholder groups on RE&EE opportunities through the up-scaling of regional mechanisms for data and knowledge management and advocacy
- **Outcome 4:** Increased RE&EE business opportunities for local companies and industry through the execution of regional investment promotion programs and tailored financial schemes

Figure 6: Intervention logic of PCREEE in cooperation with the SPC Energy Programme

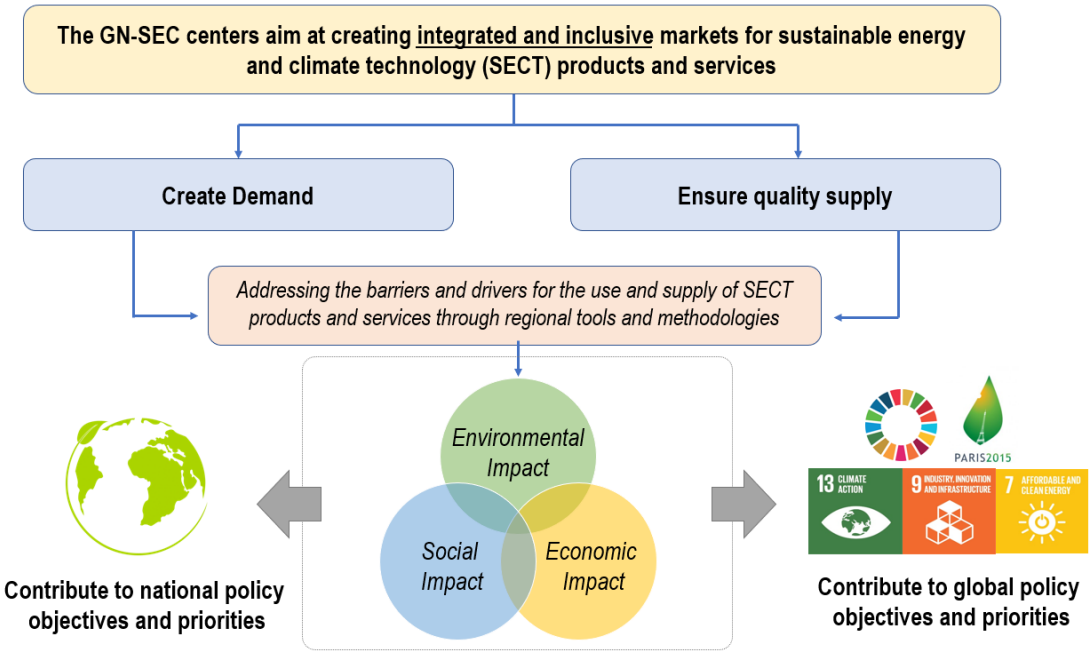


In line with the GN-SEC modality, **PCREEE works towards an equilibrium between market demand for and supply of sustainable energy and climate technology (SECT) products and services**. It focuses particularly on the SDG-9 dimension of SDG-7. It puts particular emphasis on actions directed to increase the domestic value creation of investments in SECTs. In this context, PCREEE focuses on sub-regional actions to strengthen the productive (agriculture, processing of food and high-value products, manufacturing, assembling, servicing) and innovation capacities of domestic businesses and entrepreneurs (e.g. fiscal and non-fiscal incentives, incubation, acceleration, R&D, quality infrastructure and standards, qualification, IPs, cluster building).

Therefore, PCREEE supports **activities with high relevance for the domestic private sector and industry.** The centre promotes:

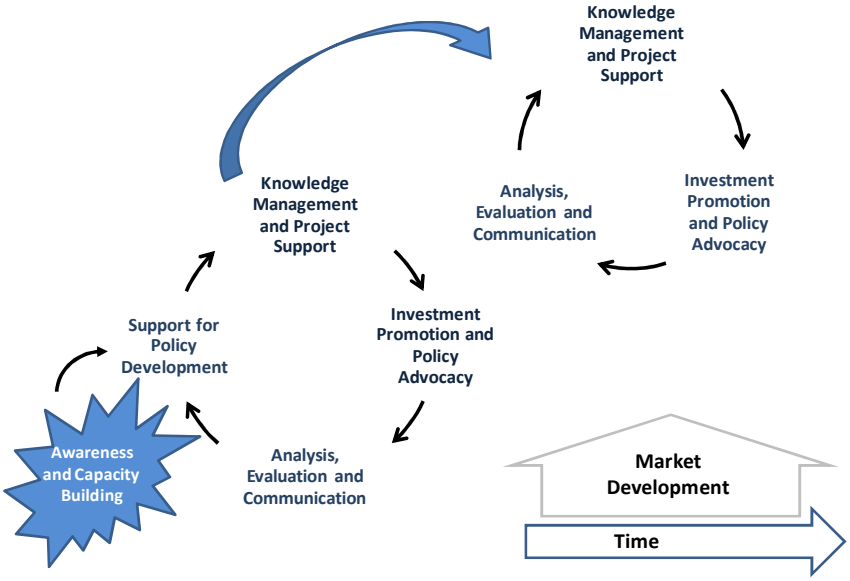
1. sustainable energy solutions and technologies to enhance the productivity and competitiveness of island industries with high value and job creation potential (e.g. agriculture, tourism, fishery, manufacturing, creative industry);
2. nexus-approaches which combine sustainable energy interventions with productive activities (e.g. value chain development) and other aspects of circular economy (e.g. resource efficiency, cleaner production, waste and water management, recycling);
3. sustainable energy entrepreneurship, industrial development and innovation;

Figure 7: Theory of Change of the GN-SEC centres (UNIDO)



Local business and industry promotion will be an important activity component of the centre but also a cross-cutting issue across the other result areas (e.g. capacity development, knowledge management, awareness raising). In the area of regional-national policy development and implementation the center would closely cooperate with the SPC Energy Programme and provide technical services as delegated. Whereas the SPC Energy Programme will continue to take leadership in providing regional policy coordination and coherence, the center will focus on practical policy aspects with high relevance for the private sector and industry. The figure below shows expected spill-over effects of the different interventions; for example awareness raising and capacity building can lead to positive developments in the area of knowledge management and investment and business promotion. To create a regional RE&EE market, it is crucial for PCREEE to stimulate as much as possible such spill-over effects across result areas and national borders.

Figure 8: RE&EE Market Creation through PCREEE



C.3. Strategic positioning of the Centre

The **creation of a specialized, effectively coordinated regional entity in the context of strengthening the existing regional institutional framework is what this project is all about**. The centre represents an innovative fusion of regional and international efforts and capabilities. Its design allows for the leveraging of a network of intra and extra regional partnerships, thereby serving as a "hub" for knowledge and technical expertise on matters related to sustainable energy project implementation. It will also serve as a facilitator for innovative partnerships with the private sector.

The centre addresses gaps in the current effort to **address existing barriers and strengthen drivers for sustainable energy markets, industries and innovation** through regional methodologies and tools. It addresses RE&EE holistically and in a balanced way. The character of the centre is exclusively technical. PCREEE will position itself as "one stop shop" that will deliver sustainable and reliable energy solutions appropriate to PICTs. The centre focuses on the up-scaling and replication of national efforts in the areas of capacity development, knowledge management and innovation, awareness raising, as well as investment and business promotion. The centre has a **strong private sector and industry focus** and will support targeted RE&EE programs 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.

The institutional set-up of PCREEE reflects the principles of **maximising the impact, avoiding duplication of efforts, strengthening and up-scaling of already existing local capacities**. PCREEE will develop and **execute its activities through a network of Thematic Hubs (THs) and National Focal Institutions (NFIs)** among all PICTs countries and territories (incl. opt-in countries). The thematic hubs (for policy, investment, capacity development and knowledge management) and the NFIs will be nominated during the start-up phase of the centre. **The centre will be guided by an Steering Committee (SC)** which will be established during the start-up phase. The centre will work on the basis of a long-term business plan and annual work plans.

PCREEE will position itself as a regional RE&EE promotion agency rather than an implementer on micro- and grass-root levels. To **maximize the local added value** the execution of specific assignments or services is in many cases delegated to national institutions and/or the private sector. Usually, the Centre performs only up to the level of programme/project development, fund raising, oversight, quality assurance as well as coordination, monitoring and evaluation of project/programme implementation.

Cooperation with a wide range of public/private and local/international stakeholders during implementation will maximize the local added value, north–south and south–south technology and know-how transfer to the Pacific region. It also avoids duplication of effort and competition with already

existing energy institutions and companies. Finally, the approach maximizes the impact and visibility of the small Centre in the region.

C.4. Outputs and activities of the Centre

The outputs and activities of the Centre (project) have been set aligning with the respective outcomes, as presented in the table below. The detailed result based management framework can be found in the annex of the document. However, at this stage, the corresponding activities are merely indicative. They will be detailed as soon the Centre is established. After its creation the Centre will apply an interrelated **short-term and long-term planning, implementation and monitoring framework**. After the creation of the Centre, the nominated Manager will develop the **PCREEE Business Plan** which will provide a long-term planning and implementation framework for the first operational phase. The **annual work plans,** which are subject to approval by the Committee, provide a short-term planning framework which incorporates projects and activities to be executed by the Secretariat in a given year. The **annual status reports** monitor the implementation of the work plans and report on the achievements in the different project components.

It shall be noted that **the full range of technical activities can be only executed if sufficient financial resources are mobilised** (see budget chapter). Certain proposed activities in the matrix of this document might not be implemented. The detailed logical framework can be found in the annex of this document. At this initial stage the activity matrix is more indicative. **The prioritisation and detailed budgeting of the activities will be done once the centre and its governance structure is fully operational**. The Centre will apply an interrelated short-term and long-term planning, implementation and monitoring framework. The Manager will develop the business plan of the centre and the annual work plans in cooperation with the National Focal Institutions (NFIs), the Thematic Hubs (THs) and under the direction of the SC, a role to be played by the PEAG:

- The **PCREEE Business Plan** will be aligned with the FEASP IPESP 2015 – 2020
- In the **annual work plans** the partners will agree on the priority activities to be implemented by the centre in the given year and in accordance with the available budget. The work plans are subject to review and approval by the Steering Committee (SC). The annual work plans shall **include a matrix of proposed activities, their estimated costs, as well as the indication from which partner contribution the costs will be covered**. For transparency purposes the matrix shall include all received donor contributions by PCREEE. The annual status reports to be prepared by the Manager will monitor the implementation of the work plans and report on the achievements in the different project components.

C.4.1 First Operational Phase

The start-up phase of the Centre will be launched shortly after the approval of this project document. Most of the administrative and legal issues were already solved during the preparatory phase. All relevant approvals have been taken. The selection of the host organisation and country was finalized. Funding commitments have been received. The following time schedule for the start-up phase was agreed:

- Establishment of office space and staff recruitments and reassignments (incl. Manager and technical staff)
- Inauguration of the centre and launch of start-up phase in August 2016 or end of the year
- Signing of an MOU on the PCREEE co-funding contributions between SPC and Tonga
- Signing of an implementation agreement between SPC and UNIDO on the first operational phase of four years
- Finalisation of the MOU between SPC and thematic hubs by end of 2016
- Organization of the first Steering Committee (SC) meeting at latest by beginning of 2017

UNIDO will support the process through its project manager/GN-SEC coordinator. UNIDO will also facilitate SIDS-SIDS cooperation in partnership with SIDS DOCK and the other regional centres for SIDS.

C.4.2 Output and activity matrix

The following matrix gives an outlook on the tentative outputs and activities envisaged under the four specific objectives (outcomes) of the centre. The activities are based on the gap analysis made during the needs assessment. The detailed logical framework can be found in the annex. **Once the Centre is operational a prioritisation of the activities will take place based on the request of the countries as well as the availability of funds.** The centre will closely coordinate with the other regional institutions and programs to avoid duplication of efforts. The received comments and suggestions made during the validation workshop in Nadi (12-13 March 2014) were incorporated.

Table 5: Output-Activity Matrix of the start-up and first operational phase

Outcome 1: Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)	
Output 1.1 The PCREEE Secretariat is physically established	
Activities	**Responsibility**
1.1.1 Ensure the timely establishment of the PCREEE office infrastructure; operationalize the implementation of the committed co-funding of SPC, UNIDO and the Government of Tonga in line with the host country agreement;	UNIDO, SPC, GoT
1.1.2 Purchase of office equipment and establishment works in line with SPC and GoT procurement rules	SPC & MEIDECC
1.1.3 Rent and running costs for PCREEE office (to be covered by SPC and Government of Tonga)	SPC & MEIDECC
Output 1.2 The Manager and the technical and administrative staff are recruited and the internal procedures and regulations are implemented	
Activities	**Responsibility**
1.2.1 Appointment of the PCREEE Manager by SPC in line with the established TORs and relocation to the PCREEE office in Tonga	SPC
1.2.2 Recruit the administrative and technical PCREEE staff in accordance with the organizational chart and established ToRs (depends on availability of funds); UNIDO will be part of the selection committee;	UNIDO, SPC, SIDS DOCK & PCREEE
1.2.3 Initial IT, HR, Finance & Admin support for the creation and implementation of the internal procurement, staff, travel, financial and accounting rules and procedures to approved in the first Steering Committee meeting;	PCREEE & SPC (PCREEE will just use SPC's)
1.2.4 Establish an internal quality and appraisal framework for supported renewable energy and energy efficiency activities	PCREEE, SPC
Output 1.3 The institutional governance structure of the Centre is established and executed	
Activities	**Responsibility**
1.3.1 Sign and implement an Agreement for the Centre hosting	SPC & MEIDECC
1.3.2 Establish a network of National Focal Institutions (NFIs) and Thematic Hubs (THs) and develop their capacities	PCREEE, SPC
1.3.3 Organize the Steering Committee (SC) meetings as required	PCREEE
Output 1.4 Long and short term planning, implementation and monitoring framework of the Centre is established and implemented	
Activities	**Responsibility**
1.4.1 Development of the PCREEE Business Plan and ensure that the environmental impact of RE&EE measures, technologies, equipment and infrastructure is taken into account and duly reflected in the plan	PCREEE
1.4.2 Development and adoption of annual work plans, status reports and audited financial statements of the Centre in line with SPC	PCREEE

1.4.3 Develop and implement a monitoring and evaluation system including indicators measuring the PCREEE progress and impact	PCREEE
Output 1.5 The core activities and functions of PCREEE are implemented and sustainability of the organization is reached	
Activities	**Responsibility**
1.5.1 Mobilize and sign a funding agreement with at least one additional PCREEE donor	PCREEE, SPC, SIDS DOCK, UNIDO & MEIDECC
1.5.2 Sign at least 5 technical cooperation agreements with local (e.g. universities, institutions, training centres) and international partners	PCREEE
1.5.3 Develop at least 2 RE&EE PCREEE program/project proposals to be submitted for financing to international partners (e.g. GEF, GCF, CTCN)	PCREEE, SPC, SIDS DOCK, UNIDO, GoT
1.5.4 Represent PCREEE in regional and international key events (travel costs)	PCREEE
Output 1.6 A special programme on gender and sustainable energy is established and integrated to the activities of the centre and the network of regional sustainable energy centres	
1.6.1 Develop the energy-gender programme of the PCREEE in the context of the "Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations"	PCREEE & UNIDO & SIDS DOCK & ECREEE & CCREEE
1.6.2 Submit the energy-gender programme to be endorsed by the SC	PCREEE & UNIDO
1.6.3 Develop funding proposals for the energy-gender programme	PCREEE & UNIDO
1.6.4 Implement and continuously review to ensure consistency with the regional gender programme of SPC's Social Development Programme and the "Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations"	PCREEE & UNIDO & SIDS DOCK & ECREEE & CCREEE

Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified training and applied research programs and mechanisms	
Output 2.1 A multi-year framework to strengthen the local RE&EE capacities of key institutions and stakeholder groups is developed, adopted and under implementation	
Activities	**Responsibility**
2.1.1 Conduct a regional capacity needs assessment particularly reflecting the needs of the governments and local technology industry and business using existing studies and in cooperation with the NFIs (to be done in combination with activity 4.2.1 under output 4.2)	PCREEE
2.1.2 Develop a regional multi-year capacity development strategy particularly reflecting the needs of local public and private stakeholders (to be done in combination with activity 4.2.1 under output 4.2)	PCREEE
2.1.3 Produce tailored training and certification modules covering various RE&EE issues and tools in coordination with local business and industry groups (also in local language)	PCREEE
Output 2.2 Pacific certification / accreditation scheme for individuals, organisations and products is created (in collaboration with SEIAPI) and operational	
Activities	**Responsibility**
2.2.1 Act as the secretariat for developing the training competency standards on RE&EE which was already started by USP/SEIAPI	PCREEE, USP
2.2.2 Act as the body accrediting training centres and certifying trainers	PCREEE, USP
2.2.3 Act as the secretariat for co-coordinating installation and products standards/guidelines	PCREEE, USP

Output 2.3 Key stakeholders are trained by the certified trainers on RE&EE aspects of high relevance for the local business and industry sector	
Activities	**Responsibility**
2.3.1 Train key policy makers in sustainable energy policy planning and incentive mechanisms (including sustainable cooking and transport and equal access to renewable energy and the impacts of renewable energy installations on the environment)	PCREEE
2.3.2 Train utilities and regulators regarding RE integration/grid stability and energy efficiency (e.g. demand side management)	PCREEE, PPA
2.3.3 Provide targeted RE&EE business development training for clean-tech SMEs and entrepreneurs (e.g. energy auditors, equipment installers, RE service providers)	PCREEE, SEIAPI
2.3.4 Increase the capacity of stakeholders to mainstream gender and climate resilience into RE&EE policies and projects	PCREEE, SIDS DOCK
2.3.5 Increase the capacity of technical private-sector experts and start-ups to develop, install and maintain RE&EE projects and systems (including training on climate resilient energy infrastructure).	PCREEE, PFAN and others
2.3.6 Train experts on the financial structuring, design and planning of RE&EE projects (e.g. climate finance, RETScreen, HOMER)	PCREEE
Output 2.4 Applied science research networks and technology transfer with high relevance for the local business and industry sector are promoted	
Activities	**Responsibility**
2.4.1 Conduct a baseline study on the research priority needs of the Pacific RE&EE industry and business sectors	PCREEE, PFAN and others
2.4.2 Create a regional incentive model for the establishment of regional research programmes with high relevance for the local industry (e.g. call for proposals)	PCREEE
2.4.3 Promote south-south and north-south technology transfer programs and projects	PCREEE, CCREEE, ECREEE, SIDS DOCK

Outcome 3: The awareness and knowledge base of local key institutions and stakeholder groups on RE&EE are strengthened	
Output 3.1 An effective online RE&EE information management system addressing the needs of investors, private sector and industry is created and operating	
Activities	**Responsibility**
3.1.1 Establishment of the interactive PCREEE website (www.pcreee.org) and link it to the Global Network of Centres and the Pacific Regional Data Repository for SE4ALL	UNIDO, PCREEE
3.1.2 Compile an inventory of relevant experiences/projects and papers/study reports/research reports and documents on best practices, skills, know-how, knowledge, technology suppliers in each PICT (disseminated through the information system)	PCREEE
3.1.3 Create a database of RE&EE stakeholders, including governments, training institutes, industry and NGO's (to be disseminated through the information system)	PCREEE
3.1.4 Develop guidelines on energy data verification, quality and harmonisation in cooperation with the NFIs	PCREEE
3.1.5 Create a database of RE&EE standard investment opportunities for the region to facilitate matching available funds to real projects (particularly in alignment with the activities under outcome 4)	PCREEE
3.1.6 Produce and publish and RE&EE resource atlas and facilitate resource mapping in the PICTs (data to be disseminated through the information system)	PCREEE
3.1.7 Map existing sustainable energy projects including their key information (manufacturer, installer, status of operation, generated energy, etc) and disseminate information through the information system	PCREEE

Output 3.2 Awareness and knowledge base of key stakeholder groups on various RE&EE aspects are strengthened	
Activities	**Responsibility**
3.2.1 Organize at least one major annual conference on different RE&EE aspects	PCREEE, SPC, SIDS DOCK, UNIDO
3.2.2 Contribute to the production a RE&EE Industry report in cooperation with REN-21 and link the Pacific to the Asia-Pacific portal as well as the global tracking framework to the SE4ALL initiative	PCREEE, REN-21, SIDS DOCK
3.2.3 Design and implement at least one regional RE&EE awareness campaign targeting the residential, commercial or industrial sectors	PCREEE
3.2.4 Provide technical policy implementation to CROP agencies, especially to SPC, as well as Member States and the private sector and industry (task to be delegated by the SPC Energy Programme)	SPC Energy Programme, PCREEE

Outcome 4: Increased RE&EE business opportunities for local companies and industry through the development and implementation of regional investment promotion programs and tailored financial schemes	
Output 4.1 Investments in RE&EE projects are promoted	
Activities	**Responsibility**
4.1.1 Establish a database of RE&EE priority investment projects in the residential, commercial and industry sectors presenting relevant project data (to be published through the Centre website)	PCREEE, SIDS DOCK
4.1.2 Organize annual investment and business forums (e.g. trade fare) to present the project pipeline to interested financiers and investors	PCREEE
4.1.3 Raise funding for the pool of bankable RE&EE investment projects and provide preparatory and investment support for new projects (e.g. feasibility studies, elaboration of project proposals) in cooperation with existing mechanisms (e.g. SPREP, IUCN, ADB)	PCREEE, SIDS DOCK
4.1.4 Design and testing of innovative RE financing schemes and business models for off-grid projects in cooperation with local banks (e.g. micro-credits)	PCREEE
Output 4.2 The local sustainable energy industry is strengthened	
Activities	**Responsibility**
4.2.1 Undertake a baseline assessment and develop a PICTs strategy for the promotion of local sustainable energy businesses and industries in cooperation with PFAN and SEIAPI / the activity includes at least two private sector technical staff exchange and training visits	PCREEE, SEIAPI, PFAN and others
4.2.2 Work with PFAN and other partners on the potential opening of a call for proposal window for PICTs (e.g. to promote local RE&EE businesses and start-ups, investments) (to be implemented in combination with activity 2.3.3 under output 2.3)	PCREEE, PFAN and others
4.2.3 Develop and execute a clean-tech program to promote RE&EE business innovations (including prize competition for the most innovative business idea) - (to be implemented in combination with activity 2.3.3 under output 2.3 and output 3.1)	PCREEE
4.2.4 Collect lessons learned and develop a manual for sustainable energy start-up companies (to be used in the trainings under output 2.3)	PCREEE

C.4.3 Services Provided by the Centre

The centre will **provide the following services to different clients and target groups**:

- strengthen SPC in coordinating sustainable energy activities;
- act as service provider for the Sustainable Energy For All Initiative (SE4ALL), SIDS DOCK and other donor activities;

- act as service provider to assist the Pacific islands to implement their sustainable energy policy commitments in practice (e.g. laws, standards, incentive schemes);
- work closely with and strengthen already existing national energy institutions;
- be a strong link between international climate finance and implementation on the ground
- act as think tank, lobbying agent and advisory platform for RE&EE in the Pacific;
- act as provider of reliable RE&EE investment and market data;
- promote the Pacific region as attractive place to invest in sustainable energy;
- act as implementer of regional awareness raising campaigns;
- act as manager of call for proposals for local sustainable energy businesses;
- support local businesses to take advantage of sustainable energy investment opportunities;
- act as coordinator of regional train the trainer networks and applied research networks;
- Provide co-funding for demand-driven programs and projects executed by the private and public sector or civil society in the region (e.g. call for proposals and tenders);
- act as executer of regional RE&EE programs, projects and activities in cooperation with international partners (e.g. UN, EU, donors, IRENA, GEF)
- participate in the Global Network of Sustainable Energy Centers and coordinate closely with the other regional centers (e.g. ECREEE, SACREEE, EACREEE, CCREEE, RCREEE)
- act as promoter of south-south and north-south knowledge and technology transfer
- promote networking and co-organization of conferences, forums and workshops;

C.4.4 Fund Mobilization

Fund mobilization would be a continuous and cross-cutting activity of the PCREEE. PCREEE starts only with a very limited core budget and staff structure. To implement all planned activities the Centre will have to mobilize financing from different partners and actors. In addition, the PCREEE will actively develop new programmes and projects and solicit funding from development partners or respond to calls for proposals. Besides taking advantage of regular meetings and conferences organized by different organisation in the region to meet development partners and private sector to mobilize funding, the Centre will organise missions to meet development partners in their countries and at other international forums. Fund mobilization will be an important performance criteria for the Manager. Currently, the partners are already discussing with the EU, Sweden, Australia and New Zealand. In 2018, the Government of Norway committed funding to PCREEE through UNIDO.

C.5. UNIDO's approach

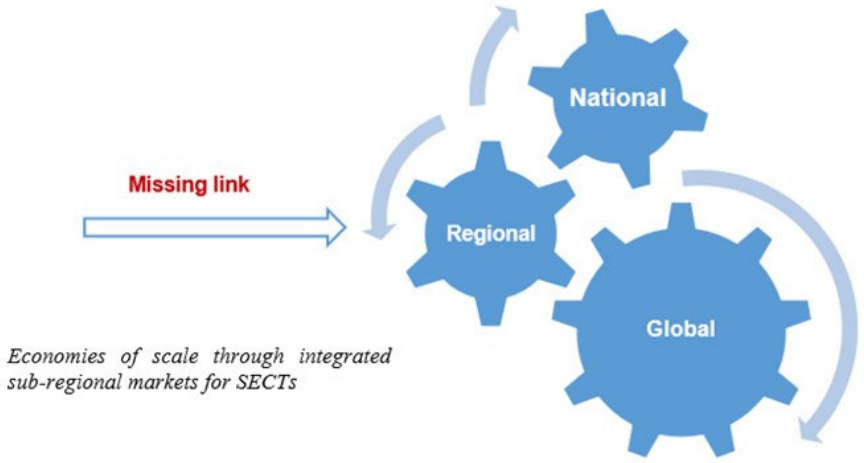
The creation of PCREEE is guided by the key principles and methodologies of the Global Network of Regional Sustainable Energy Centres (GN-SEC) Programme.

Regional cooperation as the missing link in the sustainable energy and climate transformation

By looking at the moderate growth rates of Sustainable Energy and Climate Technology (SECT) markets in many developing countries, it becomes obvious that SDG-7, SDG-9 and SDG-13 cannot be attained by 2030 in business-as-usual scenarios. There is need for economies of scale and speed. Formal, informal, 48entralized and decentralized multi-stakeholder partnerships – leveraging flexible networks and resources between a broad range of like-minded partners in developing and developed countries – can become important accelerators.

Regional partnerships, cooperation and integration between countries, private sector civil society can be an effective tool to address some of the existing demand and supply barriers for SECT market development. Integrated markets, which follow joint standards and a common framework, are an important prerequisite for the reduction of investment risks in and foster trade with SECTs products and services. However, for several reasons, the Regional level is ignored and remains a missing link in the international sustainable energy and climate cooperation. It is not used systematically as a (cost-)effective tool to promote equal progress, coordination and economies of scales.
Regionally, the energy transformation tends to remain uncoordinated between countries and common barriers and opportunities are not addressed jointly for the benefit of all. Duplication, fragmentation and lack of agenda-setting by the region lead often to inefficient use of international funding and opportunity costs. Simultaneously, global climate agreements and funding instruments face implementation challenges due to the limited national absorption capacities and the absence of Regional arrangements.

Figure 9: Regional cooperation as the missing link of sustainable energy and climate cooperation



In many parts of the developing world, the institutional capacities to coordinate and promote Regional sustainable energy cooperation and integration are weakly developed. The traditional regional organisations/communities and their energy institutions (e.g. regional utility organisations and regulators) are dealing with wider energy and/or interconnection issues and focus often more on traditional energy sources (e.g. gas, coal, large hydro). In most cases, regional organisations lack of resources and capacities to overlook and monitor complex political and technical sustainable energy policy and implementation processes.

The Global Network of Regional Sustainable Energy Centres (GN-SEC)

To make Regional sustainable energy and climate cooperation/integration a priority, UNIDO launched the Global Network of Regional Sustainable Energy Centres (GN-SEC) Programme. Under a common framework, UNIDO assists regional organisations in the creation and operation of sustainable energy centres. The GN-SEC is an innovative south-south and triangular multi-stakeholder partnership to accelerate the energy and climate transformation in developing countries. The gradually expanding partnership comprises a sub-network of centres for the African and the Arab region (in cooperation with the EAC, SADC, ECOWAS, and the Arab League) and a sub-network for Small Island Developing States (in cooperation with SIDS DOCK, CARICOM, and SPC). Currently, the network is expanding to Central America, Central Asia and the Himalaya-Hindukush region. Further information is available at: www.se4allnetwork.org.

The GN-SEC Platform

The GN-SEC is currently becoming a formalized global platform to advocate for SDG-7, SDG-9 and SDG-13 and joint interests in international policy processes. The platform is hosted by UNIDO in Vienna, Austria. It provides also a "virtual" maker-space for south-south cooperation activities and joint project proposals. For example, SIDS share similar challenges and opportunities when it comes to electric mobility and storage solutions. LDCs in Sub Sahara Africa share a common interest in renewable energy (hybrid) mini-grid development for rural electrification and productive uses. The platform provides also an interesting forum to exchange experiences and lessons learned on methodologies related to Regional cooperation and institution building.

Functions of the GN-SEC Platform:

- Raising the profile and visibility of the network on global level;
- Advocating for SDG-7, SDG-9 and SDG-13;
- South-south cooperation on common issues and solutions (e.g. SIDS, LDCs)
- Advocating for more inclusive SECT technology transfer processes;
- Joint policy inputs for international energy and climate processes;
- Effective communication, public relations and cooperate identity;
- Lessons learned and joint learning on technical and institutional aspects;
- Joint quality assurance and monitoring of results;
- Provision of global services and promote joint products;
- Promote Joint programs and projects;
- Joint fund raising;
- Strategic partnerships with int. organizations, industry, civil society, investors and foundations;

The mission of the GN-SEC network

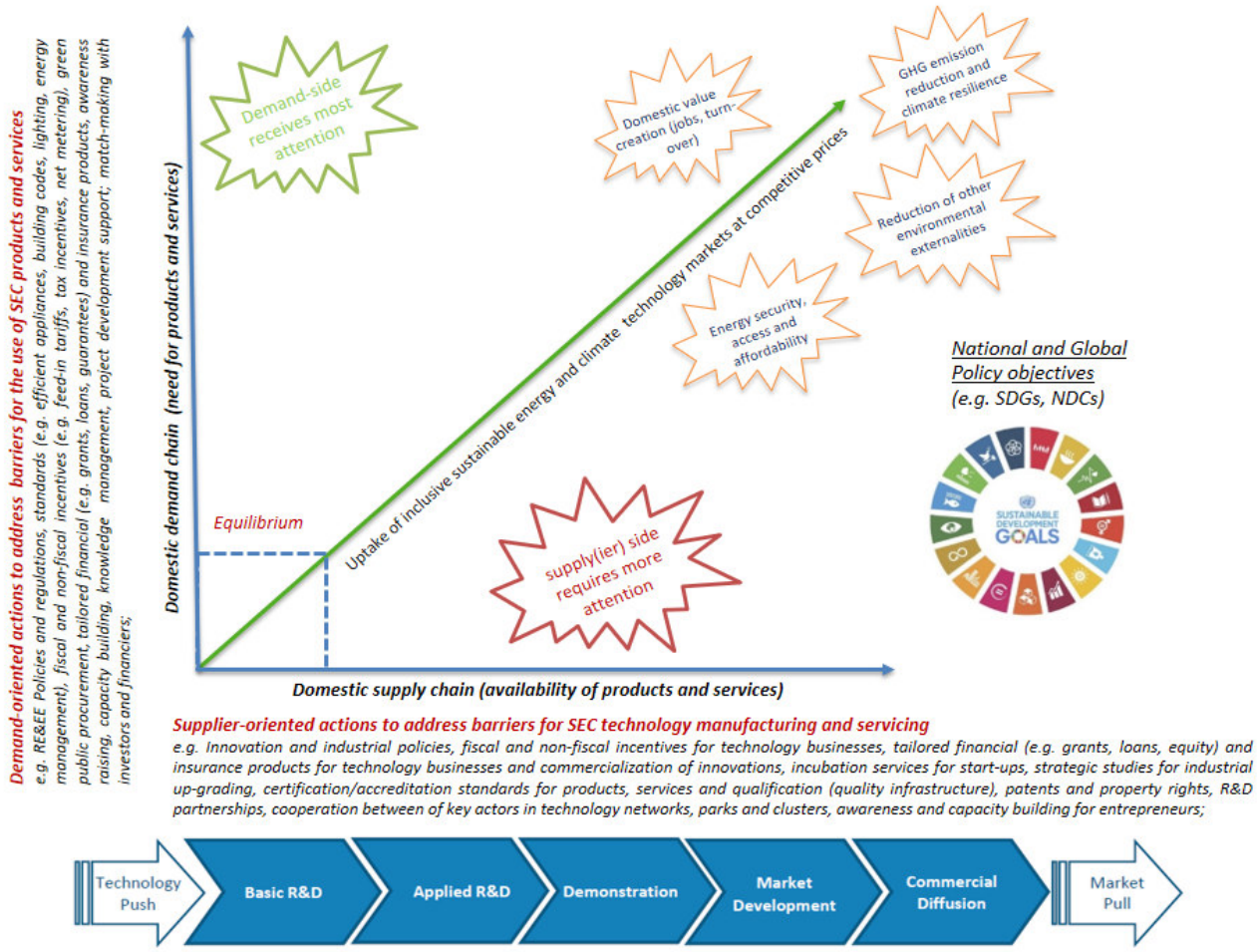
The regional sustainable energy centres aim to accelerate the energy and climate transformation by creating economies of scales, equal progress and spill-over effects between countries. In partnership with Member States and other sub-regional players (e.g. power pools, utility organisations, regulatory authorities, regional banks), the centres work towards the creation of integrated and inclusive regional markets for SECT products and services. This is being done by setting common targets, policies, standards and incentives, as well as the de-risking of investments through the provision of reliable data, analytics, bundling of projects and convening power. Each of the centres has its own priorities depending on the demands of member states.

Some of the barriers for the development of SECT markets can be addressed more effectively and at lower cost at sub-regional level. The GN-SEC centres play an important role in setting domestic priorities, contribute to donor harmonisation and coordination, as well as ensuring the sustainability and availability of results and deliverables after project closure. The centres provide regional organisations with the urgently needed technical capacities to coordinate and monitor the implementation of sub-regional energy and climate policies/regulations on national level. Moreover, the GN-SEC centres serve as knowledge resource facility, and provide advice to Member States on how best to manage the transition towards sustainable energy.

Through cross-border approaches and methodologies, the centres complement and accelerate national efforts in the areas of policy and regulation, capacity development, knowledge and data management, awareness raising, as well as the promotion of investment, innovation and entrepreneurship. The centres serve as a hub for all kind of domestic and international partnerships. They are important advocates for SDG-7, SDG-9 and SDG-13 in national, regional and international policy and decision-making processes. They can complement regional banks when it comes to the addressing of “soft” issues hindering the de-risking and long-term sustainability of investments (e.g. policy, standards, laws, qualification, certification). These issues have usually too high transaction costs for banks and/or lead to unfavourable financing terms (e.g. interest rates).

The GN-SEC centres aim at an equilibrium between market demand for and supply of SECT products and services. They put particular emphasis on actions directed to increase the domestic value creation of investments in SECTs. In this context, the centres focus on sub-regional actions to strengthen the productive (manufacturing, assembling, servicing) and innovation capacities of domestic businesses and entrepreneurs (e.g. fiscal and non-fiscal incentives, incubation, acceleration, R&D, quality infrastructure and standards, qualification, IPs, cluster building).

Figure 10: UNIDO theory of change: The uptake of inclusive SECT markets in developing countries requires equal emphasis on demand- and supply(ier)-side actions



The GN-SEC principles

GN-SEC means ”living empowerment”. The centres are advocates for a “New Deal” giving particularly LDCs and SIDS a stronger voice in shaping climate and technology transfer processes. The official mandate given by Ministers and Head of States, the intergovernmental character (based on int. agreements) and the close link to the RECs and national Ministries (through national focal points) give the centres high-level legitimacy. Currently, over ninety Minsters of Energy and/or Heads of State adopted the creation of such centres.

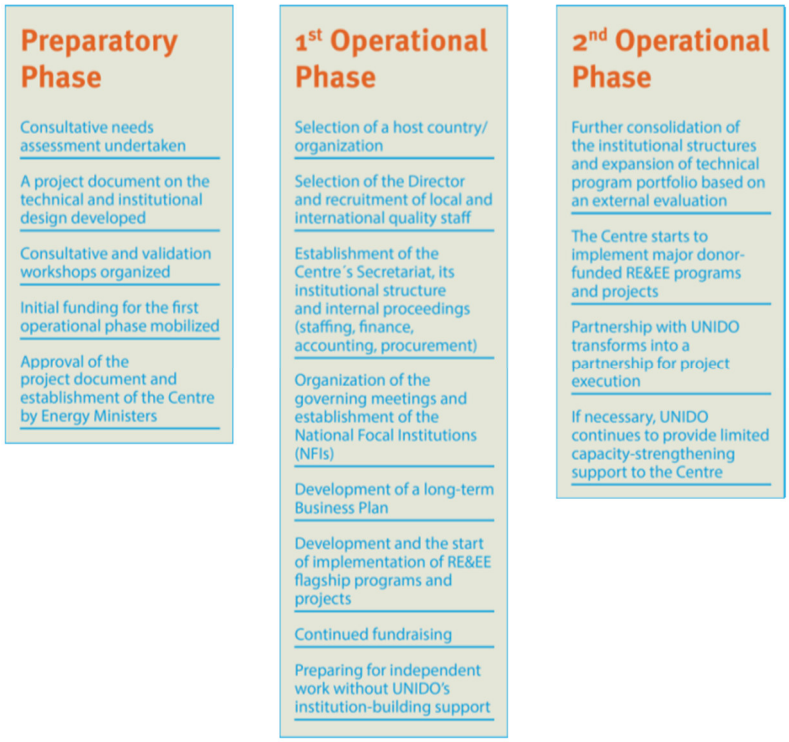
From the very beginning, the centres are in the ownership and under the leadership of the respective regional organization and its Member States. The centres are well embedded in the regional decision-making structure and report usually to the RECs and their Member States. The centres employ domestic staff and seconded international experts. The centres are designed as hubs for all kind of domestic and international partnerships. Building on country leadership within existing regional cooperation entities, the network puts the key principles of aid and development effectiveness (as defined in the Accra, Paris and Busan Declarations) into practice: It respects country ownership of development priorities coupled with results-oriented partnerships, transparency and shared responsibility.

Under the umbrella of the GN-SEC platform, UNIDO provides technical services for the establishment and operation of these centres throughout the preparatory and first operational phase. UNIDO acts also as facilitator and neutral moderator of the complex political process and dialogue between the Member States and the RECs. The RECs and their Member States are the owner of the progress and decide on the pace. It is envisaged that after the first operational phase the centres have reached self-sufficiency and UNIDO is becoming a technical partner like many others. The GN-SEC model builds on already ongoing integration processes in the respective regions, lessons learned with the creation of

similar technology centres (e.g. solar, hydro, hydrogen, biotechnology, Global Network of Resource Efficient and Cleaner Production Centres) and general integration theories and tools.

UNIDO´s support model is implemented in three phases: preparatory phase, first operational phase and second operational phase (see below and the attached brochure in the annex). This model has been successfully applied in other regional centres in the past.

Figure 11: UNIDO´s support model for regional centres implemented in three phases



<u>The PCREEE approach is guided by the following GN-SEC quality principles:</u>

- The comprehensive PCREEE preparatory process is demand-driven and participatory. Local and international key stakeholders are involved in the design phase from the very beginning.
- The support of UNIDO is directed to establish an effective regional sustainable energy centre with a strong Pacific identity. It works in accordance with local SPC rules, procedures and regulations (e.g. staff, financial, procurement, reporting and accounting).
- The ownership of the Pacific islands (also expressed through SPC, SIDS DOCK and the Government of Tonga) is considered to be a key success factor. This is also demonstrated by cash and in-kind co-funding contributions to the centre.
- The high-level approval and the incorporation of the PCREEE in the Pacific decision making structure and SIDS DOCK network ensures alignment, sustainability, legitimacy of activities and visibility and acknowledgement on national, regional and international levels.
- The centre has a strong technical and action-oriented mandate and works client-oriented
- The centre has a legal identity and its contracts, recruitments and procurements are able to be efficiently signed and executed
- The governance structure comprising a Steering Committee Steering Committee (SC) ensures transparency, accountability and contributes to donor confidence
- The involvement of the Network of National Focal Institutions (NFIs) and Thematic Hubs (THs) in the planning and implementation of the annual work plans ensures high impact and tailored responses to the needs of the countries. Duplication of efforts is avoided.
- The centre will have a strong network through partnerships with a broad range of local and international partners. It will try to diversify its donor base from the very beginning.
- The centre demonstrates strong fund raising abilities. Fund raising is a strong performance criteria for the Manager. Financial sustainability is reached through core funding, raised project funding and "fee for services".

- “Form follows function” - The centres starts with a small staff base at the beginning and can grow in accordance with mobilized funding, projects and needs.
- The centre employs highly qualified local and seconded international staff. The "twinning-model" which brings together local and international knowledge was successfully applied in other centres.
- At the beginning the centre will focus on establishing long-term flagship programs which demonstrate high visibility and impact in PICTs.
- The centre will establish an internal quality, appraisal and management framework for supported interventions and projects
- The strong base of the collaboration with the renewable energy associations of each country will bring the much needed private sector involvement to assure its industry focus, ownership, and sustainability.
- UNIDO’s technical institution building support has a clear exit strategy. In the optimum case it is time limited to the first 4 years of the operational phase. Then it will transform to a partnership for the implementation of specific approved projects and programs (e.g. EU, GEF).
- UNIDO will transfer its knowledge and experience gained from similar interventions and adopt the best practices and the success stories involved, namely, the RE&EE centres in Africa and the recent Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE).
- UNIDO will facilitate south-south cooperation between ECREEE, PCREEE and CCREEE under the umbrella of the network of regional sustainable energy centres for SIDS.
- The centre will take into consideration the ongoing interventions by other donors/ organisations to ensure close coordination and synergy and avoid duplication and conflict.
- Through its strategic partnership, the centre will collaborate and coordinate closely with different international organizations (e.g. the SE4ALL office in Vienna, IRENA) with a specific agenda of removing the challenges facing the Pacific with respect to sustainable energy technologies.
- The centre will utilize the existing locally available capacities through using the services of existing R&D institutions, consulting firms, technical centres, and universities.
- Through the hosting by SPC the centre can rely on a sound organisation with solid rules, d procedures and policies.

C.5.1 Lessons learned from other regional centres and previous Pacific projects

The lessons learned and success factors concerning the establishment and first operational phase of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) were considered in the design process of PCREEE. These were mostly based on the external evaluation of the first phase of ECREEE in West Africa which were conducted by an external consultant. The following table below gives an overview on the lessons learned and how they were applied in the design of PCREEE:

Lesson learned/Success factors	Incorporation in PCREEE Process
Institutional Aspects of the Centre	
Involve key stakeholders (e.g. ministries, utilities, electrification agencies, private sector, civil society) during the preparatory phase and operational phase; gather inputs for the design, the technical program and demanded services; create awareness and attract interest.	The project document has undergone a comprehensive review of local and international stakeholder consultations. UNIDO worked closely with SPC, SIDS DOCK and PIFS throughout the previous two years. A regional validation workshop on all key documents was organized. The host organization was determined through a competitive participatory process. All major decisions have approval by the Ministers of Energy and Transport. Close contact to potential donor partners has been kept throughout the preparatory process and they showed great interest in the centre and its services. The preparatory consultants held meetings with key stakeholders in Pacific countries and territories.
Mainstream and encourage ownership and strong local identity throughout the design and operations of the centre. The ECREEE and CCREEE experience and several other evaluations of excellence centres have highlighted the importance of local ownership and use of local procedures to ensure sustainability and long-term capacity strengthening. The centres shall be owned by the local counterpart. It is important the centre if fully integrated in the existing regional decision-making process related to energy (such as in the case of ECOWAS or CARICOM). The initial UNIDO institution building and mentoring support shall be timely limited and directed to build a centre with strong Caribbean identity, ownership and ability to mobilize and implement its own financial resources. Co-funding from the local counterpart is one important indicator of ownership. ECOWAS covered most parts of the staff and administrative costs of ECREEE. The role of UNIDO is to provide technical assistance to the centre from the background. The host country should show high interest in the centre and see it as strategic investment. The competitive bidding procedure to host the Centre applied in the case of ECREEE was also a good strategy to ensure ownership.	Considerable co-funding contributions from Pacific actors (host country, SPC and SIDS DOCK) were incorporated in the project document. To ensure the sustainability of the centre, local contributions will cover particularly the running and parts of the staff costs of the centre. The centre will have a strong Pacific identity and will work according to SPC rules and procedures. The centre is fully integrated in the regional decision making process in PICTs. It operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). SPC, the host organization of PCREEE, is responsible for the coordination of the regional energy cooperation. The meetings of the Steering Committee (SC) will. High ownership and commitment is demonstrated by SPC and the Government of Tonga. The envisaged limitation of the UNIDO institution building and mentoring support for the first operational phase was incorporated in the document. Through PCREEE, UNIDO and others will win a long-term execution partner for projects. The main responsibility for the establishment, operation and organisational development of the centre lies with the Manager from the very beginning.
The budget of the Centre shall reflect the needs, be realistic, be ambitious and not be limited to the actual received funding commitments at the beginning. Fund mobilisation shall be a core activity of the Centre and its Manager. The expansion of the project portfolio shall be a requirement for the expansion of staff and administrative costs: form shall follow function. The mixture of co-funding from ECOWAS, international support and active fund raising of the centre has been the basis for the financial sustainability of ECREEE. There are numerous examples of closed centres after the first phase due to the dependence on only one financing source and very limited budget scope. A clear	Fund raising is one of the key responsibilities of the Manager of PCREEE from the very beginning. The centre will start with a small staff base which can be expanded based on the mobilised project funds. The budget of PCREEE tried to balance between ambition and realistic assumptions. UNIDO and PCREEE has already received concreted pledges of other donor partners which intend to support either directly or through co-funding for specific activities in the logical framework.

funding gap shall be shown to interested donor partners.	
The early establishment of the network of National Focal Institutions (NFIs) and Thematic Hubs (THs) is crucial for the functioning of the Centre. The network allows high level access to national policy makers and national support services (e.g. workshops, project monitoring, awareness creation and data collection); the experience of ECREEE has shown to strengthening of the capacities of the NFIs is very important; clarify the compensation of NFIs for provided services.	The establishment of the network of NFIs and of a competence hub were included as a priority activity of the centre at the beginning. Based on the experiences of ECREEE and CCREEE, a special program to strengthen the capacities of the NFIs was included in the project document (e.g. intern model). The SPC hosting application suggested a joint hosting of the PCREEE with the main hub/centre hosted at the Pacific Community (SPC) with supporting spokes/thematic hubs hosted at the Pacific Islands Forum Secretariat (PIFS), the Pacific Power Association (PPA), the Secretariat of the Pacific Regional Environment Programme (SPREP) and The University of the South Pacific (USP). A MOU was already drafted and will be signed.
The external evaluation of ECREEE has shown the importance of high-quality UNIDO funded technical experts to the centres from the very beginning. Project staff shall be recruited by international tender. In the best case such an expert shall combine technical-economic energy skills with management and development cooperation experience. Good relations and contacts to international donors are of high importance for fund raising and building of trust for the centres. The expert shall assist the Manager of the centre in the establishment and first operational phase (e.g. staffing, procurement, financial management, technical program, project cycle management) until the Centre is consolidated; in the beginning priority shall be given to the establishment of an effective office, as well as the creation of the internal rules, processes and templates.	Technical staff is foreseen in the project document.
The quality of the local staff and a clear management and staff strategy are a key success factors; it is important to develop the organisational chart and TORs for administrative and technical staff. The centre shall start with a small base of staff and grow with increasing demands and project funds. The recruitment of a well-known Manager with extensive knowledge on the energy sector and good relationships to national governments and donor partners is a key success factor. it shall be ensured the office is functioning by a deputy while the Manager is travelling.	The organisational chart was developed and is included in the project document. The TORs for the PCREEE Manager was included in the project document. The Manager will be funded through SPC sources.
Establish an efficient and effective institutional structure of the Centre with high level of legitimacy. Clearly define the duties and roles of the Steering Committee, Technical Committee, Secretariat, NFIs and Manager; strategic representation of countries, departments (e.g. technical and administrative) and core donors in the governance structure.	The proven ECREEE and CCREEE structure was adapted to the PCREEE by considering the proposals of Pacific stakeholders.
The definition of the legal status (e.g. specialised agency) and scope of delegation of competencies from the regional organization to the Centre (e.g. signing of contracts, recruitment, procurement) from the very beginning is key. For efficiency purposes it might be important that the centre has its own legal identity but	A different model as in the case of ECREEE was applied for the centre in the Pacific due to the different circumstances. The PICTs region has already well-functioning regional intergovernmental organisations. . Therefore, the centre will first work through the existing SPC framework in terms of its established

works in accordance with the rules of the regional organization. Any conflicts between the energy unit in the regional organization and the centre shall be avoided. To ensure continued donor support the centre has to show efficient implementation.	administration, HR, procurement and financial rules and procedures. At the end of the first operational phase, the need for the centre to be autonomous and independent will be assessed. This was also a key recommendation of the evaluation expert which appraised the host applications.
Develop a long-term (4 to 5 years) and short-term (annually) planning, execution and monitoring framework including a set of performance indicators; This allows an efficient monitoring of the progress by the donor partners and the Steering Committee. To avoid double financing all activities and co-funding received by the centre shall be included in the annual work plans. The management of the centre shall take ownership in developing the Business Plan and work plans. The design of the project document should leave space for changes in accordance with the priorities of the Manager and demands from the national focal institutions.	The model of ECREEE and CCREEE has been applied in adapted form. The establishment of the annual work plan and reporting cycle, as well as the development of the business plan of the centre was included as priority activity in the start-up phase of the centre. The approach will allow that the Manager takes ownership in the planning and implementation of the activities. The work plans and business plan are subject to the review and approval by the Steering Committee. The project document defines the main pillars of the technical program of the centre but leaves space for changes by the Manager. The envisaged outputs and activities of the logical framework were developed on the basis of the discussions held during the preparatory phase, the field visits, reports and experiences from the ECOWAS region. The individual starting situations of the two regions have been considered in the design of the technical program. Most of the Pacific countries have already experiences with RE&EE policies and projects, which need support for implementation or up-scaling.
The annual work plans shall be developed in close coordination with the NFIs and other relevant market enablers. NFIs should carry out wider stakeholder consultations on the work plans.	A procedure to involve the NFIs and national stakeholders stronger in the planning of the work plans was included.
Technical Program Aspects of the Centre	
The centre acts as facilitator and supporter rather than implementer of grass-root activities. It avoids competition and overlapping of services provided by the private sector and other institutions (e.g. consultancies, audits, trainings); uses call for applicants, tenders and call for proposals; focus on the added value of regional cooperation and exchange (e.g. train the trainers, RE&EE data collection, regional policy processes, research networks, dissemination of lessons learned). The centre provides information and data for free, in order to ensure a strengthening of local capacities and knowledge management http://prdrse4all.spc.int/production/	The lesson learned has been fully considered (see chapter on strategic positioning of the centre). The PCREEE shall promote and upscale existing capacities in the public and private sector, rather than duplicate or compete with them. To stimulate the market and to reach a certain impact the Centre will execute most of its activities in cooperation with external partners of the public and private sector. The approach assures that the added value of the centre in the region will be seen in the short-term.
Demonstrate added value on local and international levels with early start-up activities with high visibility factor (e.g. country visits, call for applicants and/or projects, tenders, regional key conferences and workshops, data provider, partner in project submissions). Avoid the “dead valley impression” in the beginning (long development time of programs). Establish a website and a newsletter cycle. The Manager of the centre is present at important international events and maintain donor relationships;	A similar approach as in the case of ECREEE and CCREEE has been applied. Highly visible and demanded activities were included in the logical framework. Certain technical activities were already included in the start-up phase, in order to ensure the readiness to present first results already with the inauguration of the centre. The establishment of the website of the Centre is of high importance.
Permanent pro-active fund raising for the technical program of the Centre shall be a key performance indicator for staff; the centre shall participate in call for	During the start-up process the centre will already aggressively start with the preparation and submission of project proposals to donor partners and

proposals and donor dialogues from the very beginning; the centre shall prepare high-quality project documents in cooperation with strong partners from the region and internationally; UNIDO should involve the centre as executing partner for project in the early stage of development (e.g. SPWA).	international call for proposals. To facilitate that process, UNIDO will involve PCREEE already in the PPG phase of GEF projects as an executing agency. Through that approach the centre in West Africa has been able to mobilise significant co-funding from different partners in only a short time. Through project funds the centre can expand its staff base.
Develop well designed long-term oriented flag-ship priority programs with the potential for up-scaling to be implemented during the first operational phase across all result areas (e.g. capacity and policy development, knowledge management, awareness raising, business and investment promotion); make use of innovative approaches and models with the potential for up-scaling and replication (e.g. train the trainer approaches, financing mechanisms); urban and rural areas focus;	Such flagship programs have been incorporated in the logical framework. However, these flag-ship activities shall be defined in detail by the Manager in close cooperation with the Steering Committee and Technical Committee.
Create informative website, inform regularly on updates and establish the newsletter cycle of the Centre; build up a contact database and make use of electronic social media features.	It was included as a priority activity in the start-up phase.
Build a strong network of partnerships with local and international institutions in the clean energy sector; develop common projects and win-win situations. Use comparative advantage of the centre due to knowledge of the local environment.	The signing of cooperation agreements and MOUs with international and local institutions was included as a priority. The centre can become a service provider for international organisations and act as a contractor of local institutions and companies. With that approach considerable co-funding can be raised for the technical program of the centre.
Establish an internal quality, appraisal and management framework for technical procurements and projects; establish a technical appraisal framework for renewable energy and energy efficiency projects and programs; develop templates for project appraisal, procurement and project cycle management; develop standard project document templates to be used by PCREEE to co-fund and monitor projects.	The establishment of such a framework was included in the logical framework. UNIDO will assist the Manager in this regard and will make use of the documents from West Africa and the existing SPC procurement documents to derive one which captures best practices from both.
The country and donor interests have to be managed and balanced carefully by the Manager of the Centre; The centre shall keep independence and cooperate with a wide range of local and international partners; it shall coordinate donor activities and define the priorities for their assistance through the annual work plans and its business plan. The building up of numerous partnerships with different partners will strengthen the capacities of the centre and will make it easier to raise co-funding. The funding might not be managed by the centre, but it will receive credit and visibility.	The lessons learned were integrated fully in the design of the centre. PCREEE will open up to other partners from the very beginning. SPC, UNIDO and SIDS DOCK are already in dialogue with a broad range of partners. UNIDO will stay a core partner of the centre.

Linkages and lessons learned to other UNIDO Pacific Energy Projects

PCREEE is linked to previous energy projects implemented by UNIDO with financial support of Austria since 2008. PCREEE is an important output/deliverable of the UNIDO project “Strategic Programme for Scaling-Up Renewable Energy Markets in the PICTs (SAP 120225)”, executed between 2012 and 2016, and the project “Renewable Energy Development for Electricity Generation and Productive Uses in selected Pacific Island States (Project UERAS08001)”, executed by UNIDO 2008 and 2011. **The creation of SIDS DOCK and a network of regional sustainable energy centres for SIDS (PCREEE, CCREEE, ECREEE) follows the adopted SIDS Energy Vision 2020-2030**, developed under the first project. The vision aimed at the creation of a global SIDS initiative on sustainable energy in the context of the AOSIS.

The PCREEE project **is also in line with previous external evaluations**. The external evaluation on the first project called for a more systematic approach, execution through local capacities and avoidance of small scale project installations. The creation of PCREEE as local long-term implementation capacity is fully in line with this recommendation and shows that also with small funding important institutional changes can be facilitated.

The SIDS network of centres is **officially registered as a SDG multi-stakeholder and triangular partnership**.[23] Moreover, PCREEE has full support from all relevant local and international partners in the PICTs energy field. In several stock-taking and review meetings, involving national and regional policy makers, development partners and the private sector, the creation of PCREEE was recommended and supported:

- Pacific Energy Advisory Group (PEAG) meeting held from 3 to 4 December 2013 (comprising experts of CROP agencies, countries, as well as all major development partners) recommended to start preparatory process for PCREEE;
- PCREEE Validation Workshop, 12–13 March 2014, Fiji, recommended PCREEE for approval by Ministers of Energy and Transport;
- On 17th March 2014 UNIDO, the Government of Austria and the Sustainable Energy Island and Climate Resilience Initiative (SIDS DOCK) signed a Memorandum of Understanding (MOU) on the network of regional sustainable energy centres;
- Second Meeting of Pacific Ministers of Energy and Transport, held from 2 to 4 April 2014, in Nadi, Fiji, endorsed the establishment of PCREEE;
- UNIDO side event on the official registration of the SDG-7 Partnership “Network of regional sustainable energy centres”.
- Pacific Energy Advisory Group (PEAG) meeting held in November 2014 (comprising experts of CROP agencies, countries, as well as all major development partners);
- Official circular of the Pacific Islands Forum Secretariat (PIFS) to invite interested countries and organizations to submit applications for hosting PCREEE (deadline 30 January 2015);
- SIDS DOCK Members adopt Vienna Declaration on SE4ALL Network of Regional Sustainable Energy Centres in SIDS at the Vienna Energy Forum; common UNIDO, SPC, CARICOM and ECOWAS side event ant the VEF in May 2015;
- Evaluation Panel on PCREEE applications, comprising SIDS DOCK, UNIDO, EU, Palau and Tonga, recommended the bid of SPC for approval;
- Pacific Ministers of Energy and Transport endorse the hosting of PCREEE by SPC in Tonga;
- Pacific Energy Advisory Group (PEAG) meeting held 16 to 18 November 2015 (comprising experts of CROP agencies, countries, as well as all major development partners) recommended to commence the start-up phase;

[23] https://sustainabledevelopment.un.org/partnership/?p=7639

C.6. Time-Activity Diagram for the first operational phase (6 years)

Activity	Year 1												Year 2												Year 3												Year 4												Year 5												Year 6											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
Output 1.1 The PCREEE Secretariat is physically established																																																																							
1.1.1 Ensure the timely establishment of the PCREEE office infrastructure; operationalize the implementation of the committed co-funding of SPC, UNIDO and the Government of Tonga in line with the host country agreement;																																																																							
1.1.2 Purchase of office equipment and establishment works in line with SPC and GoT procurement rules																																																																							
1.1.3 Rent and running costs for PCREEE office (to be covered by SPC and Government of Tonga)																																																																							
Output 1.2 The Director and the technical and administrative staff are recruited and the internal procedures and regulations are implemented																																																																						
1.2.1 Appointment of the PCREEE Director by SPC in line with the established TORs and																																																																						
1.2.2 Recruit the administrative and technical PCREEE staff in accordance with the organizational chart and established ToRs (depends on availability of funds); UNIDO will be																																																																							
1.2.3 Initial IT, HR, Finance & Admin support for the creation and implementation of the internal																																																																							
1.2.4 Establish an internal quality and appraisal framework for supported renewable energy																																																																							
Output 1.3 The institutional governance structure of the Centre is established and executed																																																																						
1.3.1 Sign and implement an Agreement for the Centre hosting																																																																							
1.3.2 Establish a network of National Focal Institutions (NFIs) and Thematic Hubs (THs) and																																																																							
1.3.3 Organize the Executive Board meetings as required																																																																							
Output 1.4 Long and short term planning, implementation and monitoring framework of the Centre is established and implemented																																																																						
1.4.1 Development of the PCREEE Business Plan																																																																							
1.4.2 Development and adoption of annual work plans, status reports and audited financial statements of the Centre in line with SPC																																																																							
1.4.3 Develop and implement a monitoring and evaluation system including indicators measuring the PCREEE progress and impact																																																																							
Output 1.5 The core activities and functions of PCREEE are implemented and sustainability																																																																							
1.5.1 Mobilize and sign a funding agreement with at least one additional PCREEE donor																																																																							
1.5.2 Sign at least 5 technical cooperation agreements with local (e.g. universities, institutions, training centres) and international partners																																																																							
1.5.3 Develop at least 2 RE&EE PCREEE program/project proposals to be submitted for financing to international partners (e.g. GEF, GCF, CTCN)																																																																							
1.5.4 Represent PCREEE in regional and international key events (travel costs)																																																																								

Activity	Year 1												Year 2												Year 3												Year 4												Year 5												Year 6											
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42
Output 2.1 A multi-year framework to strengthen the local RE&EE capacities of key																																																																						
2.1.1 Conduct a regional capacity needs assessment particularly reflecting the needs of the governments and local technology industry and business using existing studies and in cooperation with the NFIs (to be done in combination with activity 4.2.1 under output 4.2)																																																																	
2.1.2 Develop a regional multi-year capacity development strategy particularly reflecting the needs of local public and private stakeholders (to be done in combination with activity 4.2.1 under output 4.2)																																																																
2.1.3 Produce tailored training and certification modules covering various RE&EE issues and tools in coordination with local business and industry groups (also in local language)																																																																
Output 2.2 Pacific certification / accreditation scheme for individuals, organisations and																																																																
2.2.1 Act as the secretariat for developing the training competency standards on RE&EE which was already started by USP/SEIAPI																																																															
2.2.2 Act as the body accrediting training centres and certifying trainers																																																															
2.2.3 Act as the secretariat for co-coordinating installation and products standards/guidelines																																																														

Activity	Year 1												Year 2												Year 3												Year 4												Year 5												Year 6											
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42
Output 2.3 Key stakeholders are trained by the certified trainers on RE&EE aspects of high																																																																				
2.3.1 Train key policy makers in sustainable energy policy planning and incentive mechanisms (including sustainable cooking and transport)																																																																	
2.3.2 Train utilities and regulators regarding RE integration/grid stability and energy efficiency (e.g. demand side management)																																																																
2.3.3 Provide targeted RE&EE business development training for clean-tech SMEs and entrepreneurs (e.g. energy auditors, equipment installers, RE service providers)																																																																
2.3.4 Increase the capacity of stakeholders to mainstream gender and climate resilience into RE&EE policies and projects																																																																
2.3.5 Increase the capacity of technical private-sector experts and start-ups to develop, install and maintain RE&EE projects and systems (including training on climate resilient energy																																																																
2.3.6 Train experts on the financial structuring, design and planning of RE&EE projects (e.g. climate finance, RETScreen, HOMER)																																																																
Output 2.4 Applied science research networks and technology transfer with high relevance																																																																
2.4.1 Conduct a baseline study on the research priority needs of the Pacific RE&EE industry and business sectors																																																																
2.4.2 Create a regional incentive model for the establishment of regional research programmes with high relevance for the local industry (e.g. call for proposals)																																																																
2.4.3 Promote south-south and north-south technology transfer programs and projects																																																																
Output 3.1 An effective online RE&EE information management system addressing the needs of investors, private sector and industry is created and operating																																																																
3.1.1 Contribute to the establishment of the interactive PCREEE website (www.pcreee.org) and link it to the Pacific Regional Data Repository for SE4ALL																																																																
3.1.2 Compile an inventory of relevant experiences/projects and papers/study reports/research reports and documents on best practices, skills, know-how, knowledge, technology suppliers																																																																
3.1.3 Create a database of RE&EE stakeholders, including governments, training institutes, industry and NGO's (to be disseminated through the information system)																																																																
3.1.4 Develop guidelines on energy data verification, quality and harmonisation in cooperation with the NFIs																																																																
3.1.5 Create a database of RE&EE standard investment opportunities for the region to facilitate matching available funds to real projects (particularly in alignment with the activities under																																																																
3.1.6 Produce and publish and RE&EE resource atlas and facilitate resource mapping in the PICTs (data to be disseminated through the information system)																																																																
3.1.7 Map existing sustainable energy projects including their key information (manufacturer, installer, status of operation, generated energy, etc) and disseminate information through the information system																																																																
Output 3.2 Awareness and knowledge base of key stakeholder groups on various RE&EE																																																																
3.2.1 Organize at least one major annual conference on different RE&EE aspects																																																																
3.2.2 Contribute to the production a RE&EE Industry report in cooperation with REN-21 and link the Pacific to the Asia-Pacific portal as well as the global tracking framework to the SE4ALL																																																																
3.2.3 Design and implement at least one regional RE&EE awareness campaign targeting the residential, commercial or industrial sectors																																																															
3.2.4 Provides energy policy support to CROP agencies, especially to SPC, as well as Member States																																																															

Activity	Year 1												Year 2												Year 3												Year 4												Year 5												Year 6											
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42	31	32	33	34	35	36	37	38	39	40	41	42
Output 4.1 Investments in RE&EE projects are promoted																																																																									
4.1.1 Establish a database of RE&EE priority investment projects in the residential, commercial and industry sectors presenting relevant project data (to be published through the																																																																									
4.1.2 Organize annual investment and business forums (e.g. trade fare) to present the project pipeline to interested financiers and investors																																																																					
4.1.3 Raise funding for the pool of bankable RE&EE investment projects and provide preparatory and investment support for new projects (e.g. feasibility studies, elaboration of project proposals) in cooperation with existing mechanisms (e.g. SPREP, IUCN, ADB)																																																																					
4.1.4 Design and testing of innovative RE financing schemes and business models for off-grid projects in cooperation with local banks (e.g. micro-credits)																																																																				
Output 4.2 The local sustainable energy industry is strengthened																																																																					
4.2.1 Undertake a baseline assessment and develop a PICTs strategy for the promotion of local sustainable energy businesses and industries in cooperation with PFAN and SEIAPI / the activity includes at least two private sector technical staff exchange and training visits																																																																		
4.2.2 Work with PFAN and other partners on the potential opening of a call for proposal window for PICTs (e.g. to promote local RE&EE businesses and start-ups, investments) (to be implemented in combination with activity 2.3.3 under output 2.3)																																																																		
4.2.3 Develop and execute a clean-tech program to promote RE&EE business innovations (including prize competition for the most innovative business idea) - (to be implemented in combination with activity 2.3.3 under output 2.3 and output 3.1)																																																																	
4.2.4 Collect lessons learned and develop a manual for sustainable energy start-up companies (to be used in the trainings under output 2.3)																																																																			

C.7. Risks

The following potential risks to the success of the PCREEE have been identified and risk mitigation strategies have been proposed:

Risk	Mitigation Strategy
1. Lack of commitment by host organisation to support the centre	A MoU between SPC and the Government of Tonga on the co-funding commitments was signed (see in the annex). SIDS DOCK has signed a co-funding letter.
2. Interference in operations by the host organisation	Host organisation and/or PICTs could attempt to influence the decision making processes of the PCREEE. This will be mitigated through including a clear phrase on the independency and autonomy of the operations of the PCREEE in the MOU between SPC and the host organisation.
3. Limited Capacity of the PCREEE to monitor project	Funding from development partners will be linked to specific activities and will entail regular monitoring of the PCREEE.
4. Poor responsiveness by national focal institutions	The partnership agreement between the PCREEE and the NFIs will be such that the PCREEE will be empowered to terminate the agreement in case of poor responsiveness and performance. In such case, the PCREEE will also be empowered to engage alternative institutions in its projects and programmes. The PCREEE will also carry out regular capacity building programmes for the staff of the NFIs to ensure their continued and meaningful engagement. In addition, each national focal institution will be required to regularly brief the representative of the member state to the PCREEE. Adequate financial operational resources from the PCREEE to NFIs will also help to maintain interest and cooperation.
5. Lack of coherence with other regional programmes	Strong links with CROP agencies, PEAG and the constant communication with development partners will ensure the coherence of the Centre activities with regional RE&EE programmes.
6. Poor uptake of RE&EE projects by PICTs	Risk is considered to be low as PICTs have, through various forums, policies and development plans, expressed their commitment to the development of RE&EE in the region. The PCREEE will develop RE&EE activities as an integral part of the energy picture in the region. This way, the evaluation of these options will take into consideration all the benefits in comparison to other energy alternatives.
7. Lack of ownership by PICTs	Risk is considered moderate. PICTs will be closely involved in the activities of the PCREEE and its major decisions through project implemented in each country. Care will be taken so that the PCREEE maintains its regional focus and not appear to be favouring specific PICTs. Moreover, the annual work plans will be developed through a consultative decision making process which will also involve the Centre stakeholders, especially the NFIs.
8. Financial sustainability beyond the support by development partners	The level of support from the Centre partners is anticipated to be in excess of what the Centre requires for its operational costs during the first 4 years of the operational phase. Moreover, the host organisation should sign a MoU with long term (10 years) support to continue to pay for a significant part of the operational costs by providing office space, IT services, telephone and other office facilities. Additionally, the Centre business plan will include activities which could generate income and aggressive fund raising will be carried out during the first operational phase.
9. Overall sustainability of the PCREEE	To establish good credibility and integrity, the Centre will develop and adopt code of conduct and ethics governing its operations. In particular, no PICT will feel excluded from the activities of the Centre.
10. Poor performance of PCREEE	UNIDO will provide technical key support for institution building and to build up the technical programme of the Centre from the very beginning; The Centre will have to show its added value to PICTs and international partners quickly. The use of existing SPC f sound internal procedures right from the beginning of the Centre (e.g. financial, accounting) is key for the credibility and the basis to receive direct funding from donor partners. Moreover, UNIDO will facilitate south-south cooperation with the other regional sustainable energy centres.

D. Institutional and Governance Structure of the Centre

D.1. Legal Status of the PCREEE

During the first operational phase, the Centre **works within the legal, administrative and financial framework and policies of SPC**. This will allow PCREEE a smooth start on sound administrative and organisational foundations. These policies and procedures are somewhat similar across the partners and approved by the European Union thus allowing the partners to manage and implement major multi million Euro EU-funded regional projects in the Pacific.

It was agreed, that the PCREEE will be **established as a Centre without time-limit** (as long as resources are available to support it). In line with the results of the competitive selection process, PCREEE will be hosted by the Pacific Community (SPC) and will operate under the rules and procedures of the SPC, including its gender policy, unless there are special agreements entered into with SPC where these rules and procedures are relaxed and special exemptions apply.

SPC will **delegate the day-to-day management and decision-making authorities to the Centre's Manager** however procurement, authority to sign contracts and recruitment will be in accordance with the host organisation's policies and procedures). The centre will operate the received funding for projects and programs and prepare the annual financial statements in line with SPC rules and procedures. SPC and the host country will sign an agreement (see addendum to the MOU in the annex). It will be guided by the rules, procedures and policies of the host organization, including its gender policy. The oversight and policy direction of the centre will be done by the Steering Committee.

D.2. Location of the Secretariat of the Centre

It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with the SPC's effort to strengthen its in-country presence in its members. The Director-General of SPC and the Prime Minister of Tonga signed a MOU which includes support for the **placement of the SPC hosted PCREEE in Nuku'alofa, Tonga**. The MOU includes also the agreed co-funding arrangements (see in the annex).

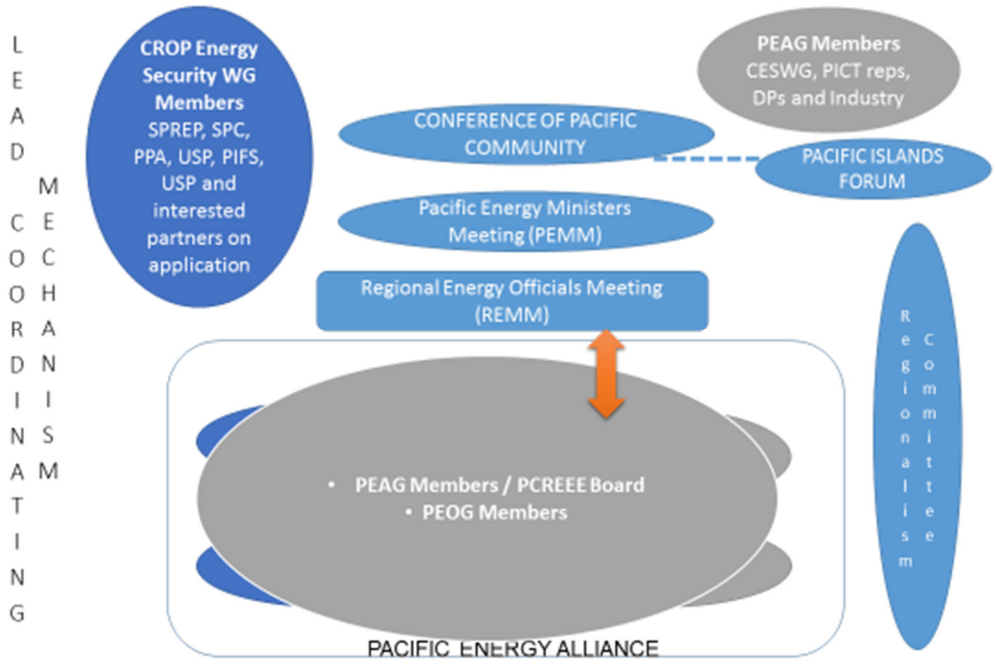
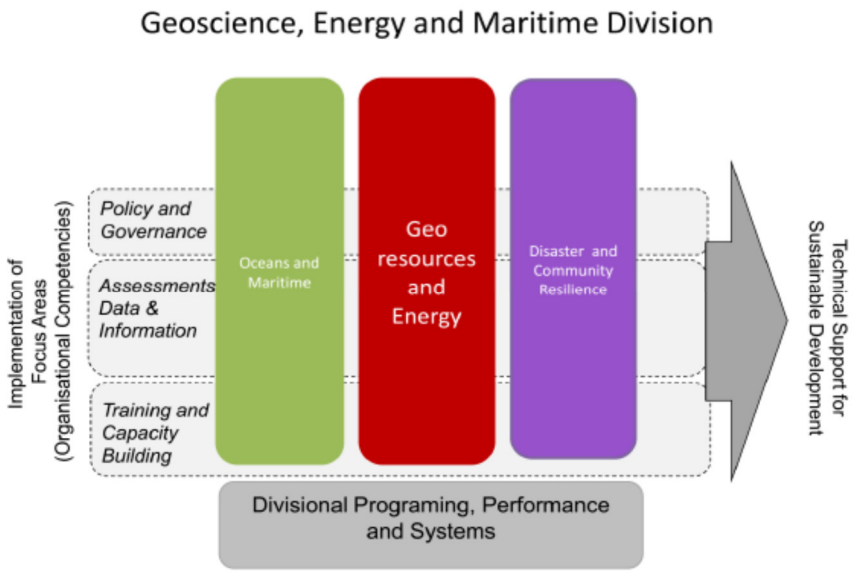


Figure 12: Integration of PCREEE in the regional institutional structure

D.3. Governance and integration into the regional institutional structure

PCREEE is fully integrated in the regional energy decision-making process on energy. The centre operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG)[24] and the Pacific Energy Advisory Group (PEAG). It will develop and execute its activities through a network of Thematic Hubs (THs) and National Focal Institutions (NFIs). UNIDO provides technical services and mentoring throughout the first operational phase of the centre. Also after the recent regional institutional restructuring PCREEE remains a key element of the Pacific energy architecture. PCREEE is formally hosted by the new Geoscience, Energy and Maritime Division.

Figure 13: PCREEE as part of the Pacific energy architecture and SPC



The Centre is guided by a Steering Committee (SC) which will meet at least once a year. The SC meetings will be usually held back to back to the Pacific Energy Advisory Group (PEAG) meetings. The SC might decide to establish a PCREEE Technical Advisory Unit (TAU), comprising international and local technical experts. The TAU might meet physically or virtually in advance to the SC to review the technical documents (e.g. work plans) which are subject to approval by the SC. The TAC would give non-binding recommendations and decides in consensus. In summary, the institutional structure of the Centre includes:

- the Secretariat based in Nuku'alofa, Tonga under the SPC framework
- the Steering Committee Steering Committee (SC) (incl. potential Technical Advisory Unit / TAU)
- National Focal Institutions (NFIs) based within the PICTs
- The Thematic Hubs (THs)

[24] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.

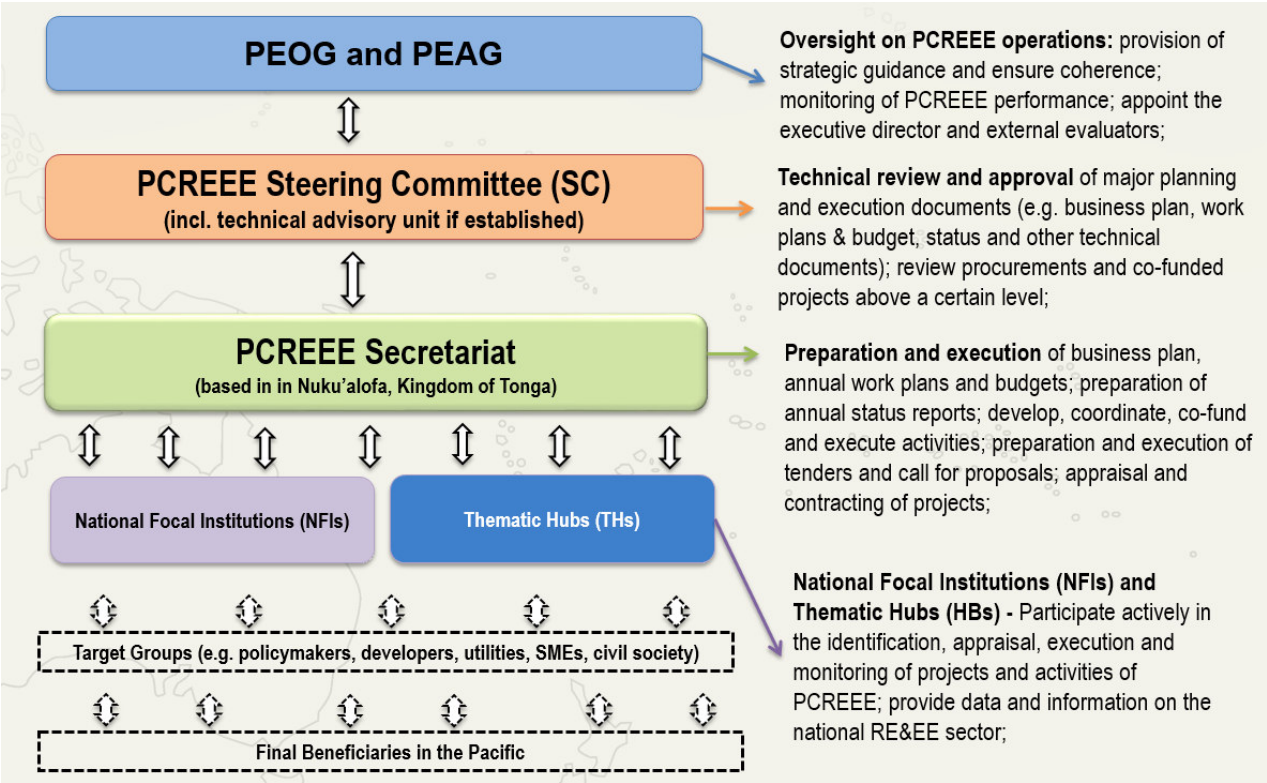


Figure 14: PCREEE Governance Structure

In line with the discussions in the validation workshop, the composition of the SC was defined as follows:

Steering Committee

A total of three representatives from each of the following regions: Micronesia/Melanesia/Polynesia (on a rotating basis) and ensuring there is a balanced mix of government, industry and NGO/community and consumer representatives.

A total of one representative from each of the following CROP agencies: SPC, SPREP, USP, PPA and PIF (on a rotating basis)

One representative from regional industry associations and networks, like SEAPI, the association of Development Banks in the Pacific, etc

One from each core donor partner (UNIDO, Austria, Norway, SIDS DOCK) and others)

PCREEE Director

Non-voting: staff of PCREEE and invited observer

Figure 15: Proposed Composition of the PCREEE Steering Committee

It is envisaged that **at least 30% of the members of the SC are female, where possible**. Core partners are defined as partners who support the technical and institutional (administrative budget) operations of the centre through considerable long-term contributions. UNIDO, Austria, Norway, SIDS DOCK and possible other contributing donors will join the SC as initial core partners. UNIDO will be represented by the UNIDO Climate Policy and Partnership Division of the Department of Energy and the UNIDO Regional Office Hub in Thailand. Once the Centre is established, other core donor partners will be invited to join depending on their financial contributions to the Centre. Meetings of the TAC would be also open to non-core partners, which are considering to co-fund activities of the annual work plans or want to align their activities with the centre (e.g. EU, IRENA, GIZ, UNEP, and UNDP).

Private sector and civil society interests shall be reflected in the annual work plans of PCREEE. It will be mandatory for the NFIs and Thematic Hubs (THs) to involve the relevant stakeholders in the review process of the annual work plans of PCREEE. Relevant minutes of the meetings with private sector stakeholders shall be shared with the PCREEE Secretariat. This review process will ensure the relevance of the PCREEE interventions for the private sector and local industry.

D.3.1 The Steering Committee

The SC provides strategic guidance to the annual work plans and budgets, progress reports and financial statements of the Centre before recommending them for the final approval of the SPC Executives and CRGA. The PCREEE Manager will ensure that SC meetings will take place in conjunction with the PEAG meetings and timely enough to submit the results to the meetings of SPC Executives and CRGA. In case that there is significant time difference between the SC meeting and CRGA meeting, the centre will implement works based on the established interim work plan. In such cases it can be also decided to bridge the time gap though resources implemented by UNIDO directly. Representatives appointed to the PCREEE's SC will serve for a fixed period of term of three (3) years which can be renewed for a maximum of one more additional term. The benefit of the proposed membership of the SC is that it provides avenues for harnessing the strengths of regional and international actors with broad experience in the energy sector. The SC decides in consensus. It can decide to take certain decisions also by e-mail and according to the non-objection principle[25]. A participation of at least 30% women in the SC will be pursued. The functions of the SC are as follows:

- decides in consensus and by written procedure if necessary; in case no physical meetings can be held, the SC can decide also by electronic means (e.g. e-mail) in accordance with the non-objection principle.
- offers strategic direction to PCREEE secretariat to meet its objectives;
- proposes strategic flag-ship programmes (targeting high-visibility & low-cost activities);
- finalise PCREEE's annual work plan and budgets proposed by the PCREEE Secretariat;
- finalise PCREEE's Business Plan upon recommendation of the PCREEE Secretariat;
- monitors the progress and performance of the Secretariat and the Manager (for which successful fund raising and collaborations will be an important performance criterion);
- finalise the annual status reports, audited financial statements and evaluations;
- review the appropriateness of SPC's procurement, staff, contracting and financial rules to the PCREEE and make recommendations to the SPC Executives, as appropriate;
- finalise PCREEE's organisational chart;
- recommend external auditors and finalise external audit reports;
- recommend external evaluators and finalise evaluations and management responses;
- finalise procurements and co-funding for projects exceeding a certain amount;
- reviews the composition and membership of the SC ; and
- contributes to PREEE's visibility in the Pacific and internationally.

The PCREEE will only fund PICTs members of the SC to its meetings. The SC might decide to establish a PCREEE Technical Advisory Committee (TAC), comprising international and local technical experts. The TAC might meet physically or virtually in advance to the SC to review the technical documents (e.g. work plans) which are subject to approval by the SC.

D.3.2 The National Focal Institutions

PCREEE will establish a strong network of National Focal Institutions (NFIs) which interlinks the Secretariat with all PICTs. The NFIs for the Regional Energy Programme managed by SPC are basically the lead government agency in the national energy sector, naturally the departments of energy, energy divisions and energy planning units. The activities of the Centre are executed in cooperation with the NFIs or other entities of the public and private sector. The NFIs will be nominated by the Ministry responsible for Energy in the PICTs; however, strong links will be built up also with governmental institutions in charge of environmental and social aspects of sustainable energy and particularly with the power utilities and the transport authorities too.

The NFIs duties would include:

- participate actively in the identification, appraisal, implementation and monitoring of projects and activities of PCREEE;

[25] Decision are approved unless rejected by writing by a certain date

- timely consultations with private sector and civil society experts to review the annual PCREEE work plans and suggest priority activities
- provide data and information on the national RE&EE sector;
- coordinate centre activities in their countries/territories.

D.3.3 The PCREEE Secretariat (Team)

The PCREEE team is based at the SCREEE Secretariat which is housed in the SPC office in Nuku'alofa, Tonga, and operates in English and French as the official languages of SPC. It employs a small multinational team of Pacific and international full-time staff. The staff base would expand in line with mobilized project funding (temporary staff). The Secretariat implements the activities and elaborates the annual work plans and status reports and presents the documents for review and guidance to the SC. The day to day activities of the Centre will be under the direction of the Manager of the PCREEE who will be primarily responsible for the implementation of the mandate of the Centre and the work plan as approved by the Steering Committee. The Manager will also lead the funds mobilization efforts of the Centre.

The general responsibilities of the PCREEE Team (Secretariat) are:

- develops and updates the PCREEE Business Plan;
- develops the annual work plans, status reports and financial reports in cooperation with NFIs;
- cooperates with external auditors and evaluators assigned by the SC;
- pro-active fund raising;
- implements activities approved in the annual work plan in cooperation with the NFIs;
- implements the decisions of the Steering Committee (SC) monitors the progress of the implementation of the annual work plans;
- organizes the meetings of the SC;
- elaborates periodical reports on the progress and achievements of the Centre in relation to the indicators in the PCREEE Business Plan;
- keeps an overview on relevance, effectiveness, efficiency and sustainability of the PCREEE programme;
- compiles regularly information and data provided by the NFIs

Regarding technical support, the PCREEE Team's role will be to:

- strengthens the regional network of NFIs
- recruits qualified administrative and technical staff; strengthen the capacities of staff and select international seconded experts;
- provides support to SPC on policy issues;
- coordinates regularly with the core partners of the Centre;
- meets back to back with the SC;
- develops, appraises, implements and monitors PCREEE projects;
- undertakes fund raising activities and contributes to proposal preparation;
- develops the quality, appraisal and project cycle management framework for activities to be co-funded and implemented;
- confirms the quality of approved projects meet donor requirements and that pro-poor, environmental, and gender issues are addressed;
- confirms that projects are in line with national policies and legislation;
- participates actively in the evaluation of tender bids and proposals in line host organisation;
- prepares and executes procurements and call for proposals; and
- signs contracts and monitors projects and assignments;

The PCREEE Team (Secretariat) will also be responsible for PCREEE's communication as follows:

- partnerships with other local and international technical institutions;
- contribute to SE4ALL and SIDS DOCK objectives;
- work for harmonization of PCREEE activities with other donor initiatives and alignment with local initiatives and support systems;
- network with national and regional energy research institutions;
- engage relevant stakeholders in renewable energy and energy efficiency development dialogue including public institutions, civil society and private sector;
- arrange for effective public relations and publication of information; and
- promote awareness rising on RE&EE in the Pacific.

The organizational structure of the PCREEE Secretariat will be as follows:

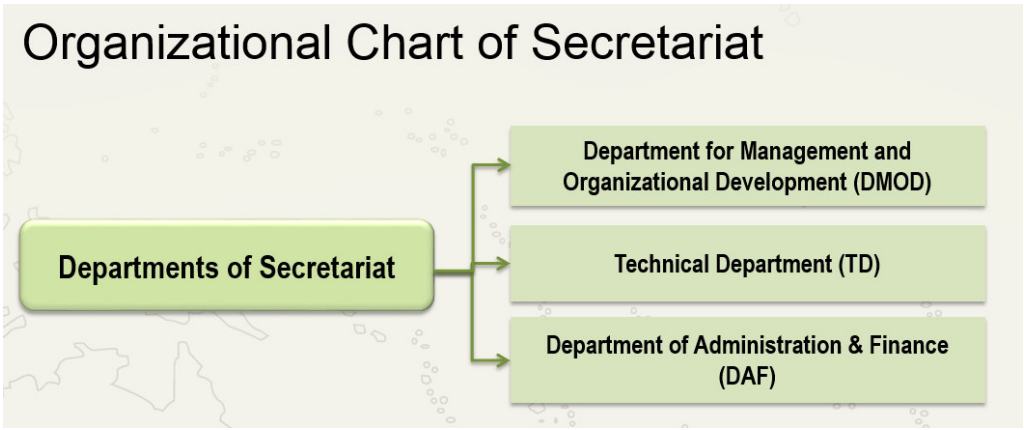


Figure 16: Structure of the PCREEE Secretariat

D.3.4 Organizational Staff Chart

In the beginning the Centre starts with a very small technical and administrative staff base. It can expand depending on the mobilised funding and developed programmes and projects (form follows function). Flexible employment arrangements will be applied.

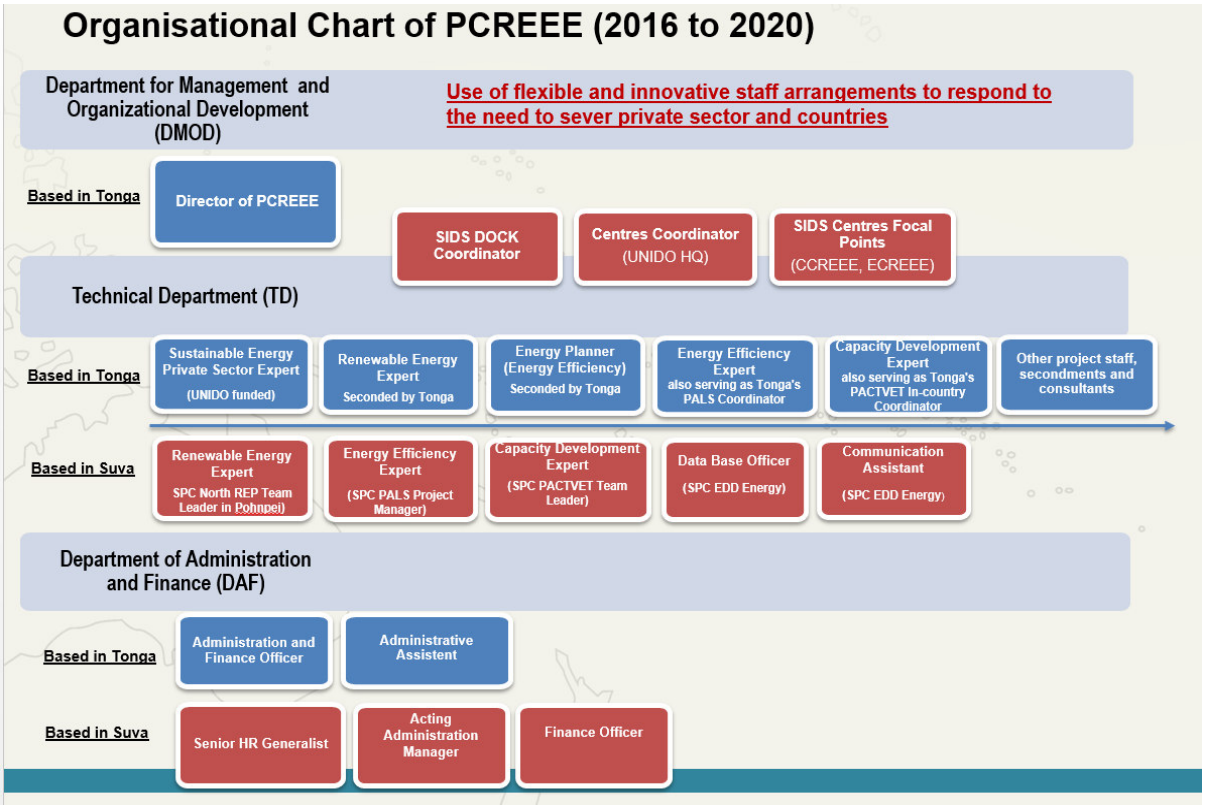


Figure 17: PCREEE Staff Chart in the Context of the SPC Energy Framework (2016 to 2022)

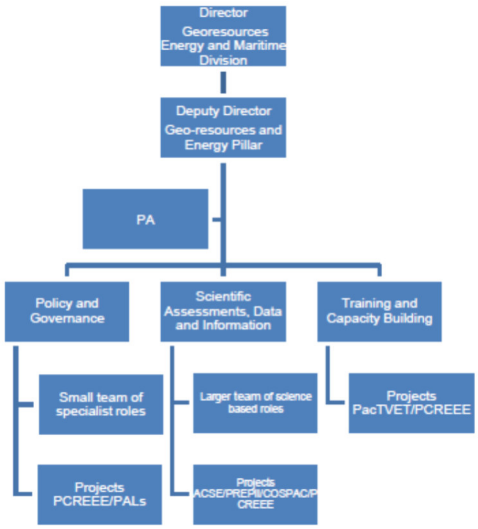
The following staff strategy was agreed between the partners (see also signed MOU between SPC and the GoT in the annex):

- SPC's Deputy Director (Energy), who is currently in charge of the Pacific Regional Energy Programme, will manage the PCREEE during the initial phase. SPC will therefore finance partly the Manager to the PCREEE in Tonga (see job description in the annex) during the first operational phase. The Manager will as much as possible try to balance his time between Suva

and Tonga. It is envisaged that he stays at least 50% of his or her time in Tonga. SPC is currently implementing two regional energy projects, the PALS and the EU PACTVET. The two national coordinators for these two projects are expected to be housed at the PCREEE in Tonga and to be paid by their respective projects (see job descriptions in the annex). SPC has committed the staff resources until 2022 (beyond the first operational phase of PCREEE).

- Moreover, SPC will cover through its full costs recovery policy the staff costs for an Administrative Assistant who will take on the role of receptionist / data entry and an Admin/Finance Officer throughout the first phase.
- The GoT agreed to second two of its technical experts to work as experts in the PCREEE. The costs will be covered by the GoT. The GoT has committed the staff resources until 2022 (beyond the first operational phase of PCREEE).
- UNIDO will fund at least one Sustainable Energy Private Sector expert on a consultancy basis to work at the PCREEE throughout the first four years. The GoT and SPC committed to cover the described staff costs even after the first operational phase of the centre (see job profile in the annex). Further experts will be recruited on a short-or long term basis depending on the need. Through the Norwegian contribution UNIDO will second a young professional sustainable energy expert[26] which will be located partially at the UNIDO Regional Office Hub in Bangkok and the PCREEE Secretariat.
- Moreover, PCREEE will take advantage of the cooperation with the SPC energy and administrative staff based in Suva. The PCREEE Manager will ensure strong synergies between PCREEE and other SPC supported technical programs particularly in the policy and data area.

In the future it is expected that the **Centre will employ permanent core staff, temporarily financed project staff, and seconded staff**. All core staff shall have nationality of one of the PICTs and are employed and recruited according to the host organisation rules, regulations and guidelines. Regional representation in the staff will be promoted during recruitment. It is **envisaged that at least 30% of the technical and administrative professional core staff is female**. The Centre will establish a special focal point for gender issues and will lead the centre's gender programme and activities in close cooperation with the "Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations". The focal point will be responsible to mainstream gender throughout the PCREEE structure, as well as throughout the technical program portfolio. The PCREEE staff will be part of the following SPC staff structure below:



The performance of the Manager will be reviewed by the Steering Committee and SPC too. Successful fund raising and collaborations will be an important performance criterion. In addition, UNIDO will provide further part-time technical backstopping from headquarters by its existing Sustainable Energy Centre Specialist (SECS) in the UNIDO/ENE Department. The expert will facilitate knowledge transfer where appropriate from the other regional sustainable energy centres and travel to the PCREEE

[26] The expert is expected to have a technical profile with at least 3 years of relevant work experience (see separate TORs). The expert will be either recruited through ISA or on P1/2 level. The expert will be identified through a competitive public process. The PCREEE Director will be involved in the selection process.

Secretariat as required. The expert works also with the other regional centres and coordinates the south-south cooperation programme.

International partners will be asked to provide seconded experts as part of their technical assistance. Seconded experts will report to the Manager of the centre. Once the Centre has entered the operational phase, ToR for seconded experts are subject for approval by the SC. They are recruited through a competitive international process. The Manager of the Centre shall participate in the selection of the expert.

It is proposed in the interest of cost-effectiveness to outsource the legal, audit and complex IT services as well as other office services, including security and cleaning if not provided by the host organisation. TORs and contracts for the key outsourced services will be developed during the start-up phase of the PCREEE. In the beginning some flexibility will be necessary.

Consultants and temporary experts

The PCREEE will engage experts/consultants to assist with specific assignments on a short-term basis. The recruitment of such specialized services will be done in accordance to applicable host organisation or UNIDO procurement rules. For all projects for which funding is secured, requisite staff will have to be hired to work on such projects as part of the overhead costs of the project. Besides project staff, development partners would be welcome to provide technical assistants to work on projects they sponsor. The Manager of the Centre will also be responsible for coordinating the activities of project linked staff and technical experts so as to ensure synergy between the core activities of the PCREEE and that of specialised projects and programmes. The core staff of the Centre will also provide assistance as needed by special projects and programmes and at cost to the programmes.

D.3.5 Thematic Hubs (THs) - Spokes

The Centre's primary activities entail leading, coordinating and implementing efforts to develop markets for renewable energy and energy efficiency technologies and services in the region. Most of the **actual execution of the PCREEE's programmes** and projects would be done through the private sector or regional and national institutions which have already a wealth of experience in specific energy sub-sector.

PCREEE will work through **thematic hubs for policy, knowledge management, investment and capacity development**. The SPC host application suggested **a joint hosting of the PCREEE with the main hub/centre hosted at the Pacific Community (SPC)** with supporting spokes/hubs hosted at the Pacific Islands Forum Secretariat (PIFS), the Pacific Power Association (PPA), the Secretariat of the Pacific Regional Environment Programme (SPREP) and The University of the South Pacific (USP), based on the organizations' mandate and comparative advantage to deliver on the overall objective and mandate of the centre as well as its specific objectives (outcomes).

During the PCREEE start-up a MOU with the THs will be signed (see draft version in the annex). The functions of the centre that are to be carried out in the spokes will be conducted according to the established procedures and policies of that organization. SIDS DOCK and UNIDO will create the link to other regional sustainable energy centres and facilitate SIDS-SIDS cooperation.

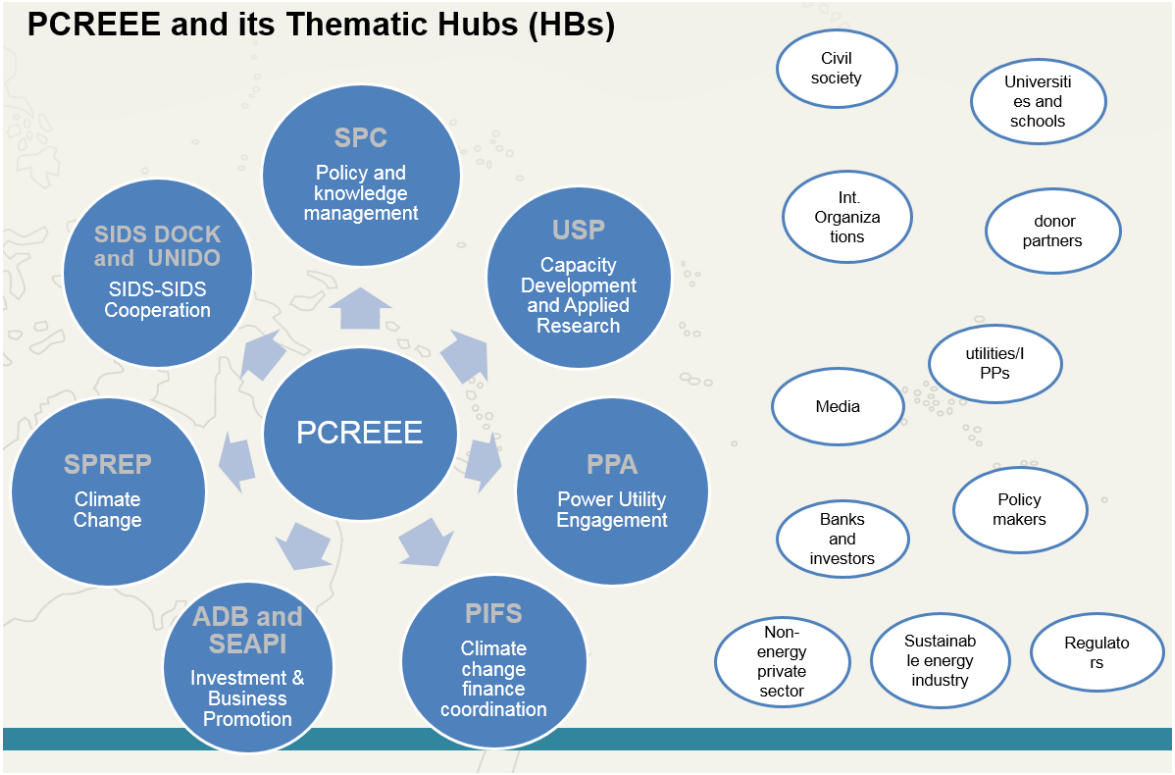


Figure 18: The Thematic Hubs of PCREEE

During the start-up phase also the **option of geographic PCREEE hubs serving Polynesia, Melanesia and Micronesia** was discussed. Such geographic hubs would require a certain type of maturity of the centre. Under the provided Norwegian support the option of establishing a PCREEE Sub-Regional hub for Micronesia in Majuro, Republic of the Marshall Islands was recommended.

D.3.6 Linkages to the target groups and other stakeholders

The Centre's primary activities entail leading and coordinating efforts to develop markets for renewable energy and energy efficiency technologies and services in the region. Most of the actual implementation of the PCREEE's programmes and projects would be done through identified national institutions, private sector and NGOs in the PICTs that will serve as operating/implementing agencies. Training programmes organised by the Centre can take place in its headquarters. However, due to the significant travel costs between PICTs, distance learning through teleconference facilities would be always promoted when technically feasible. In addition to serving as a coordinating centre, the PCREEE will also be responsible for developing regional programmes and mobilizing funds. In this activity, the Manager will be closely supported by all partners such as UNIDO and Austria, and the CROP agencies.

Implementation through national institutions, private sector and NGOs will promote greater ownership of projects and programmes of the Centre, increase chances of sustainability, ensure that regional standard are conformed with and also leverage on capacity already available in the region. It will also ensure that the programmes and projects of the Centre are implemented in a cost effective manner. The envisaged structure of relationship between the Centre and the national focal institutions and other stakeholders in partner states will, to a large extend, depend on the specific activity and demands. As an example, in the case of training programmes, the Centre would subcontract a specific national institution or centre of excellence to develop and conduct the training programme.

The PCREEE, based on its own knowledge, will also carry out an inventory of all national institutions and agencies including universities, research centres, advocacy groups and national professional associations working in its areas of mandate. The choice of which institution or national body collaborates in the implementation of specific projects will be determined on a case by case basis. Given the significant differences across partner states in terms of level of capacity development, needs and resource endowments, the Centre will be mindful of this and will adopt a differentiated approach to each country in the development and implementation of its programmes.

At the global level, the PCREEE will closely cooperate with other centres of excellence from both developed and developing country regions. Other continental and global energy networks that the PCREEE can link with include the SE4ALL Secretariat in Vienna, the International Renewable Energy Agency (IRENA), the Renewable Energy and Energy Efficiency Partnership (REEEP), REN21, the Global Forum on Sustainable Energy (GFSE) among others. The PCREEE will collaborate with similar international organizations in areas of mutual interest like capacity building, technology transfer and knowledge management. It is also expected that the Centre creates a South-South cooperation between the Caribbean and African (in East, West and Southern Africa) centres in order to share experiences and develop partnerships.

D.3.7 Partnership/Donors Meeting

A partnership meeting which will bring together all the various partners and donors of the PCREEE shall be convened once in every two or three years. This will be an avenue for all the various partners to interact and also put forward their various suggestions for the realization of the goals and objectives of the Centre.

D.4. Counterpart inputs

The successful implementation of the first operational phase of PCREEE and its sustainability highly depends on the committed co-funding and inputs from the core partners (e.g. SPC, Government of Tonga, UNIDO, Austria, Norway).

D.4.1 The host organisation and country

The host organisation and country, SPC and the Government of Tonga, will provide office space and possibly furniture, telephone, fax basic IT support and Internet connection for the PCREEE. SPC will also provide the Centre with the requisite support to ensure its successful preparation and operation. This will include empowering the PCREEE through its recognition as a central institution in the RE&EE market. Moreover, both partners will provide staff to the centre as indicated in the chapter of the organisational staff chart and the signed MOU between SPC and Tonga (see annex).

D.4.2 PICTs

The PICTs are the key beneficiaries of the activities of the Centre hence they will be central to the continued relevance of its activities. In this connection, PICTs will support the PCREEE through, nominating focal institutions and supporting activities of these centres and in financial contributions to the Centre, when required. It is foreseen that partner states will be expected to provide co-funding for projects being implemented in their countries. Progress of the PCREEE will be periodically discussed during regular meetings of the Energy Ministries' Meeting.

D.4.3 Austrian and Norwegian Government

The **Austrian Government** will contribute to the PCREEE as captured in the budget through UNIDO. For the start-up phase and the first operational phase, UNIDO will be assigned to provide key technical assistance to establish the Centre and its technical programme in cooperation with the host organisation. In 2018, the Royal Norwegian Ministry of Foreign Affairs of the Kingdom of Norway has committed significant additional financial resources to the centre. The contribution is captured in the budget of this project document. For the start-up phase and the first operational phase, UNIDO will be assigned to provide key technical assistance to establish the Centre and its technical programme in cooperation with the host organisation. Austria and Norway will provide their funding and fully flexible grant which will give UNIDO the possibility to do budget line shifts within the four outcome areas without prior approval of the donors.[27] Budget shifts between outcome areas still require approval by the donors.

The **Norwegian contribution** will be mainly used for technical activities and expertise. Moreover, north-south knowledge transfer on key sustainable energy and climate technology areas will be established (e.g. efficient transport, electric mobility, ocean energy, renewable energy use in fishery). In the Third Meeting of the Pacific Ministers for Energy and Transport, held in April 2017, UNIDO and PCREEE were tasked to work jointly on a GCF financed low-carbon transport project proposal (incl. electric mobility). Works are ongoing and there is the opportunity for Norway to support the proposal by funding

[27] Oucomes are classified as outputs in the UNIDO SAP system

means but also through know-how transfer from Norway and/or the Nordics. To facilitate such activities, the Norwegian contribution will include the secondment of a young sustainable energy professional[28] to be located in the UNIDO Regional Office hub in Bangkok and partly at PCREEE. The seconded expert will be technically supported by the project manager/GN-SEC coordinator in the Climate Policy and Partnership Division (CPP) the Division for Climate Technology and Innovation (CTI) and the Division of Energy Systems and Infrastructure (ESI). Tentatively, it was suggested to focus the Norwegian support on the following PCREEE activities:

- The PCREEE support for the development of the regional renewable energy and energy efficiency targets and implementation and monitoring framework. This will be done in line with the established UNIDO modality in West Africa.
- The PCREEE Sustainable Energy and Climate Technology Entrepreneurship Facility undertakes regular business competitions and provide small grants to innovative start-ups and young entrepreneurs in PICTs (e.g. for strategic studies, business plan support, participation in study tours and investor matching). Close links to the Global Clean Tech Innovation Program (GCIP) and the Private Financing Advisory Network (PFAN), coordinated by the UNIDO Division for Climate Technology and Innovation (CTI) will be created.
- The PCREEE Renewable Energy E-Mobility Program in partnership with CCREEE and in line with the given mandate by the Ministers for Energy and Transport in 2017. This will be developed in close cooperation with the UNIDO Division of Energy Systems and Infrastructure (ESI).
- The PCREEE Expansion Program for the Pacific Regional Data Repository (PRDR) to strengthen data collection capacities and provide GIS based data;
- The PCREEE Islands Laboratories Program focuses on promoting Pacific islands as laboratories for the testing and demonstration of innovative sustainable energy and technologies (e.g. ocean energy); to be executed in cooperation with CCREEE and ECREEE under the SIDS DOCK framework.
- The PCREEE Business Development Training Programme (BDTP) provides training materials and certified trainings to sustainable energy and climate technology entrepreneurs and companies.
- The PCREEE Sustainable Energy Research Support Fund is implemented in cooperation with the University of the South Pacific and provides support for R&D with high relevance for the local business and industry sector.
- ;
- The SIDS DOCK IWON Program on mainstreaming gender into sustainable energy and planning (in partnership with CCREEE and ECREEE);
- The organisation of highly visible events under the SAMOA Pathway Process;

D.4.4 UNIDO

UNIDO will continue to provide technical assistance and mentoring to the Centre to ensure quality delivery. UNIDO will work towards sustainability of the Centre and the ability for the Centre to receive direct funding from other donors. In the optimum case, the UNIDO support is timely limited to the first operational phase. Then the relationship would transform to a of project based partner cooperation. Furthermore, UNIDO will mobilise its own funding for the first operational phase as indicated in the budget. PCREEE is an active member of the Global Network of Regional Sustainable Energy Centres platform. The platform facilitates south-south cooperation activities and brings the information resources of all centres together: www.se4allnetwork.org.

The Since SPC is a reliable and sound organization, UNIDO will start to subcontract activities to PCREEE (SPC) from the very beginning. UNIDO will finance mainly technical activities and staff. Moreover, UNIDO will provide technical part-time backstopping from headquarters through the GN-SEC Coordinator/project manager in UNIDO/ENE/CPP.

During the second part of the first operational phase, UNIDO and PCREEE will focus on developing joint regional programs and projects. To facilitate such activities, the Norwegian contribution will include the secondment of a young sustainable energy professional[29] to be located in the UNIDO Regional

[28] The expert needs to have a technical profile and shall obtain Norwegian language skills (separate TORs are to be developed). The expert will be hired as ISA or as L1/2. The PCREEE Manager will be involved in the selection process.

[29] The expert needs to have a technical profile and shall obtain Norwegian language skills (separate TORs are to be developed). The expert will be hired as ISA or as L1/2. The PCREEE Manager will be involved in the selection process.

Office hub in Bangkok and partly at PCREEE. The seconded expert will be technically supported by the project manager/GN-SEC coordinator in the Climate Policy and Partnership Division (CPP) the Division for Climate Technology and Innovation (CTI) and the Division of Energy Systems and Infrastructure (ESI).

In addition, UNIDO will use its international networks to assist the Centre to establish partnerships with other international players so that the PCREEE could leverage expertise and technologies. UNIDO will also facilitate strategic partnerships between the PCREEE and its network of international centres that include: UNIDO Centre for South-South Industrial Cooperation in India (UCSSIC); UNIDO International Centre for Promotion and Transfer of Solar Energy (ISEC) in China; Hangzhou Regional Centre on Small Hydropower in China and UNIDO Regional Centre for Small Hydro Power in India among others.

D.4.5 SIDS-DOCK

SIDS-DOCK will contribute to the PCREEE through the provision of technical assistance and finance besides assisting in raising the centre's profile internationally.

D.5 Gender Mainstreaming

UNIDO and SPC recognize that gender equality and the empowerment of women has a significant positive impact on sustained economic growth and sustainable industrial development, which are drivers of poverty reduction and social integration. The PCREEE will have an energy–gender component in its business plan and will support institutions in which both men and women staff will gain through improving their skills and knowledge of RE&EE technologies. All required efforts will be made by the project to enrol as much as possible women in its planned activities, both at management and technical levels, and encourage them to participate in all relevant project and decision-making activities. Most of the CROP agencies have already implemented gender programmes. PCREEE will operate within the gender programme adopted by SPC. UNIDO and SIDS DOCK is currently setting-up the "Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations". The activities are expected to be implemented through the network of regional sustainable energy centres.

E. Indicative budget requirements

The **total budget requirement for the running of the Centre and the implementation of its technical programme amounts to € 6,277,000**. The running costs require a total budget estimate of € 2,395,722 (incl. core staff costs and office costs). The **budget requirement to implement the full technical programme as described in the activity matrix requires € 3,881,278**. The activities to be implemented under the different technical components (e.g. capacity building, investment promotion and knowledge management) are described in the logical framework.

Table 6: Indicative budget and funding commitments for the first operational phase (in EUR)

BL	Budget Lines	Total (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	237,000	500,000	145,000	519,764	145,000	430,000	1,976,764
1700	National Consultants/staff	-	-	4,000	107,434	4,000	350,000	465,434
2100	Contractual Services	-	-	526,708	360,000	297,000	500,000	1,683,708
1600	International Travel	-	-	45,000	50,000	41,000	60,000	196,000
1500	Local Travel	-	-	50,000	90,000	58,000	150,000	348,000
3500	Regional Meetings/Workshops	-	-	40,000	210,000	25,000	300,000	575,000
5100	Miscellaneous expenses	120,000	-	20,000	60,000	20,000	160,000	380,000
4500	Equipment	-	-	10,000	-	10,000	281,166	301,166
3000	Training/Fellowships	-	-	-	-	-	60,000	60,000
	Subtotal	357,000	500,000	840,708	1,397,198	600,000	2,291,166	5,986,072
	13% Support Costs (UNIDO)			109,292	181,636			290,928
	Total	357,000	500,000	950,000	1,578,834	600,000	2,291,166	6,277,000

Table 7: Indicative budget in the first year of operation (in EUR)

BL	Budget Lines	Year 1 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO)	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	58,000	129,744	25,000		25,000		237,744
1700	National Consultants/staff			1,000		1,000		2,000
2100	Contractual Services			69,000		39,000		108,000
1600	International Travel			15,000		13,000		28,000
1500	Local Travel			15,000		15,000		30,000
3500	Regional Meetings/Workshops			15,000		5,000		20,000
5100	Miscellaneous expenses	30,000		10,000		10,000		50,000
4500	Equipment			5,000		5,000		10,000
3000	Training/Fellowships							-
	Subtotal	88,000	129,744	155,000	-	113,000	-	485,744
	13% Support Costs (UNIDO)			20,150	-			20,150
	Total	88,000	129,744	175,150	-	113,000	-	505,894

Table 8: Indicative budget in the second year of operation (in EUR)

BL	Budget Lines	Year 2 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	59,000	136,221	50,000		50,000	50,000	345,221
1700	National Consultants/staff			1,000		1,000	25,000	27,000
2100	Contractual Services			229,000		109,000	75,000	413,000
1600	International Travel			10,000		15,000	20,000	45,000
1500	Local Travel			15,000		10,000	25,000	50,000
3500	Regional Meetings/Workshops			15,000		10,000	50,000	75,000
5100	Miscellaneous expenses	30,000		5,000		5,000	30,000	70,000
4500	Equipment			5,000		5,000	50,000	60,000
3000	Training/Fellowships						30,000	30,000
	Subtotal	89,000	136,221	330,000	-	205,000	355,000	1,115,221
	13% Support Costs (UNIDO)			42,900	-			42,900
	Total	89,000	136,221	372,900	-	205,000	355,000	1,158,121

Table 9: Indicative budget in the third year of operation (in EUR)

BL	Budget Lines	Year 3 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	40,000	102,035	50,000	185,000	50,000	80,000	507,035
1700	National Consultants/staff			1,000	42,478	1,000	75,000	119,478
2100	Contractual Services			209,000	120,000	124,000	75,000	528,000
1600	International Travel			15,000	10,000	5,000	10,000	40,000
1500	Local Travel			15,000	30,000	25,000	25,000	95,000
3500	Regional Meetings/Workshops			10,000	70,000	10,000	50,000	140,000
5100	Miscellaneous expenses	20,000		5,000	20,000	5,000	20,000	70,000
4500	Equipment						50,000	50,000
3000	Training/Fellowships							-
	Subtotal	60,000	102,035	305,000	477,478	220,000	385,000	1,549,513
	13% Support Costs (UNIDO)			39,650	62,072			101,722
	Total	60,000	102,035	344,650	539,550	220,000	385,000	1,651,235

Table 10: Indicative budget in the fourth year of operation (in EUR)

BL	Budget Lines	Year 4 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	40,000	62,000	20,000	184,764	20,000	140,000	466,764
1700	National Consultants/staff			1,000	32,478	1,000	100,000	134,478
2100	Contractual Services			19,708	120,000	25,000	150,000	314,708
1600	International Travel			5,000	20,000	8,000	10,000	43,000
1500	Local Travel			5,000	30,000	8,000	50,000	93,000
3500	Regional Meetings/Workshops			-	70,000		100,000	170,000
5100	Miscellaneous expenses	20,000		-	20,000		60,000	100,000
4500	Equipment						100,000	100,000
3000	Training/Fellowships						30,000	30,000
	Subtotal	60,000	62,000	50,708	477,242	62,000	740,000	1,451,950
	13% Support Costs (UNIDO)			6,592	62,041			68,634
	Total	60,000	62,000	57,300	539,283	62,000	740,000	1,520,584

Table 11: Indicative budget in the fifth year of operation (in EUR)

BL	Budget Lines	Year 5 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	40,000	70,000		100,000		160,000	370,000
1700	National Consultants/staff				22,478		150,000	172,478
2100	Contractual Services				100,000		200,000	300,000
1600	International Travel				20,000		20,000	40,000
1500	Local Travel				20,000		50,000	70,000
3500	Regional Meetings/Workshops				70,000		100,000	170,000
5100	Miscellaneous expenses	20,000			20,000		50,000	90,000
4500	Equipment						81,166	81,166
3000	Training/Fellowships							-
	Subtotal	60,000	70,000	-	352,478	-	811,166	1,293,644
	13% Support Costs (UNIDO)			-	45,822			45,822
	Total	60,000	70,000	-	398,300	-	811,166	1,339,466

Table 12: Indicative budget in the sixth year of operation (in EUR)

BL	Budget Lines	Year 6 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff				50,000			50,000
1700	National Consultants/staff				10,000			10,000
2100	Contractual Services				20,000			20,000
1600	International Travel							-
1500	Local Travel				10,000			10,000
3500	Regional Meetings/Workshops							-
5100	Miscellaneous expenses							-
4500	Equipment							-
3000	Training/Fellowships							-
	Subtotal				90,000			90,000
	13% Support Costs (UNIDO)				11,700			11,700
	Total				101,700			101,700

Table 13: Indicative budget per outcome area[30] (in EUR)

	PCREEE Result Areas (Outcomes)	Total (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
Outcome 1	Outcome 1: Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable PCREEE	357,000	500,000	252,212	419,159	180,000	687,350	2,395,722
Outcome 2	Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified training and applied research programs and mechanisms	-	-	168,142	279,440	120,000	458,233	1,025,814
Outcome 3	Outcome 3: The awareness and knowledge base of local key institutions and stakeholder groups on RE&EE are strengthened	-	-	210,177	349,300	150,000	572,792	1,282,268
Outcome 4	Outcome 4: Increased RE&EE business opportunities for local companies and industry through the development and implementation of regional investment promotion programs	-	-	210,177	349,300	150,000	572,792	1,282,268
	Subtotal	357,000	500,000	840,708	1,397,198	600,000	2,291,166	5,986,072
	13% Support Costs (UNIDO)			109,292	181,636			290,928
	Total	357,000	500,000	950,000	1,578,834	600,000	2,291,166	6,277,000

[30] Outcomes are defined as “Outputs” in the UNIDO SAP

Table 14: Detailed budget for outcome 1 throughout the first operational phase (in EUR)

BL	Budget Lines	Year 1 (in EUR)							Year 2 (in EUR)							Year 3 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	58,000	129,744	7,500	-	7,500	-	202,744	59,000	136,221	15,000		15,000	15,000	240,221	40,000	102,035	15,000	55,500	15,000	24,000	251,535
1700	National Consultants/staff	-	-	300	-	300	-	600	-	-	300		300	7,500	8,100	-	-	300	12,743	300	22,500	35,843
2100	Contractual Services	-	-	20,700	-	11,700	-	32,400	-	-	68,700		32,700	22,500	123,900	-	-	62,700	36,000	37,200	22,500	158,400
1600	International Travel	-	-	4,500	-	3,900	-	8,400	-	-	3,000		4,500	6,000	13,500	-	-	4,500	3,000	1,500	3,000	12,000
1500	Local Travel	-	-	4,500	-	4,500	-	9,000	-	-	4,500		3,000	7,500	15,000	-	-	4,500	9,000	7,500	7,500	28,500
3500	Regional Meetings/Workshops	-	-	4,500	-	1,500	-	6,000	-	-	4,500		3,000	15,000	22,500	-	-	3,000	21,000	3,000	15,000	42,000
5100	Miscellaneous expenses	30,000	-	3,000	-	3,000	-	36,000	30,000	-	1,500		1,500	9,000	42,000	20,000	-	1,500	6,000	1,500	6,000	35,000
4500	Equipment	-	-	1,500	-	1,500	-	3,000	-	-	1,500		1,500	15,000	18,000	-	-	-	-	-	15,000	15,000
3000	Training/Fellowships	-	-	-	-	-	-	-	-	-	-		-	9,000	9,000	-	-	-	-	-	-	-
	Subtotal	88,000	129,744	46,500	-	33,900	-	298,144	89,000	136,221	99,000	-	61,500	106,500	492,221	60,000	102,035	91,500	143,243	66,000	115,500	578,278
	13% Support Costs (UNIDO)			6,045	-			6,045			12,870	-			12,870			11,895	18,622			30,517
	Total	88,000	129,744	52,545	-	33,900	-	304,189	89,000	136,221	111,870	-	61,500	106,500	505,091	60,000	102,035	103,395	161,865	66,000	115,500	608,795

BL	Budget Lines	Year 4 (in EUR)							Year 5 (in EUR)							Year 6 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	40,000	62,000	6,000	55,429	6,000	42,000	211,429	40,000	70,000	-	30,000	-	48,000	188,000				15,000			15,000
1700	National Consultants/staff	-	-	300	9,743	300	30,000	40,343	-	-	-	6,743	-	45,000	51,743				3,000			3,000
2100	Contractual Services	-	-	5,912	36,000	7,500	45,000	94,412	-	-	-	30,000	-	60,000	90,000				6,000			6,000
1600	International Travel	-	-	1,500	6,000	2,400	3,000	12,900	-	-	-	6,000	-	6,000	12,000				-			-
1500	Local Travel	-	-	1,500	9,000	2,400	15,000	27,900	-	-	-	6,000	-	15,000	21,000				3,000			3,000
3500	Regional Meetings/Workshops	-	-	-	21,000	-	30,000	51,000	-	-	-	21,000	-	30,000	51,000				-			-
5100	Miscellaneous expenses	20,000	-	-	6,000	-	18,000	44,000	20,000	-	-	6,000	-	15,000	41,000				-			-
4500	Equipment	-	-	-	-	-	30,000	30,000	-	-	-	-	-	24,350	24,350				-			-
3000	Training/Fellowships	-	-	-	-	-	9,000	9,000	-	-	-	-	-	-	-				-			-
	Subtotal	60,000	62,000	15,212	143,173	18,600	222,000	520,985	60,000	70,000	-	105,743	-	243,350	479,093				27,000			27,000
	13% Support Costs (UNIDO)			1,978	18,612			20,590			-	13,747			13,747				3,510			3,510
	Total	60,000	62,000	17,190	161,785	18,600	222,000	541,575	60,000	70,000	-	119,490	-	243,350	492,840				30,510			30,510

BL	Budget Lines	Total (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	237,000	500,000	43,500	155,929	43,500	129,000	1,108,929
1700	National Consultants/staff	-	-	1,200	32,230	1,200	105,000	139,630
2100	Contractual Services	-	-	158,012	108,000	89,100	150,000	505,112
1600	International Travel	-	-	13,500	15,000	12,300	18,000	58,800
1500	Local Travel	-	-	15,000	27,000	17,400	45,000	104,400
3500	Regional Meetings/Workshops	-	-	12,000	63,000	7,500	90,000	172,500
5100	Miscellaneous expenses	120,000	-	6,000	18,000	6,000	48,000	198,000
4500	Equipment	-	-	3,000	-	3,000	84,350	90,350
3000	Training/Fellowships	-	-	-	-	-	18,000	18,000
	Subtotal	357,000	500,000	252,212	419,159	180,000	687,350	2,395,722
	13% Support Costs (UNIDO)			32,788	54,491			87,278
	Total	357,000	500,000	285,000	473,650	180,000	687,350	2,483,000

Table 15: Detailed budget for outcome 2 throughout the first operational phase (in EUR)

BL	Budget Lines	Year 1 (in EUR)							Year 2 (in EUR)							Year 3 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	5,000	-	5,000	-	10,000	-	-	10,000		10,000	10,000	30,000	-	-	10,000	37,000	10,000	16,000	73,000
1700	National Consultants/staff	-	-	200	-	200	-	400	-	-	200		200	5,000	5,400	-	-	200	8,496	200	15,000	23,896
2100	Contractual Services	-	-	13,800	-	7,800	-	21,600	-	-	45,800		21,800	15,000	82,600	-	-	41,800	24,000	24,800	15,000	105,600
1600	International Travel	-	-	3,000	-	2,600	-	5,600	-	-	2,000		3,000	4,000	9,000	-	-	3,000	2,000	1,000	2,000	8,000
1500	Local Travel	-	-	3,000	-	3,000	-	6,000	-	-	3,000		2,000	5,000	10,000	-	-	3,000	6,000	5,000	5,000	19,000
3500	Regional Meetings/Workshops	-	-	3,000	-	1,000	-	4,000	-	-	3,000		2,000	10,000	15,000	-	-	2,000	14,000	2,000	10,000	28,000
5100	Miscellaneous expenses	-	-	2,000	-	2,000	-	4,000	-	-	1,000		1,000	6,000	8,000	-	-	1,000	4,000	1,000	4,000	10,000
4500	Equipment	-	-	1,000	-	1,000	-	2,000	-	-	1,000		1,000	10,000	12,000	-	-	-	-	-	10,000	10,000
3000	Training/Fellowships	-	-	-	-	-	-	-	-	-	-		-	6,000	6,000	-	-	-	-	-	-	-
	Subtotal	-	-	31,000	-	22,600	-	53,600	-	-	66,000	-	41,000	71,000	178,000	-	-	61,000	95,496	44,000	77,000	277,496
	13% Support Costs (UNIDO)			4,030	-			4,030			8,580	-			8,580			7,930	12,414			20,344
	Total	-	-	35,030	-	22,600	-	57,630	-	-	74,580	-	41,000	71,000	186,580	-	-	68,930	107,910	44,000	77,000	297,840

BL	Budget Lines	Year 4 (in EUR)							Year 5 (in EUR)							Year 6 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	4,000	36,953	4,000	28,000	72,953	-	-	-	20,000	-	32,000	52,000				10,000			10,000
1700	National Consultants/staff	-	-	200	6,496	200	20,000	26,896	-	-	-	4,496	-	30,000	34,496				2,000			2,000
2100	Contractual Services	-	-	3,942	24,000	5,000	30,000	62,942	-	-	-	20,000	-	40,000	60,000				4,000			4,000
1600	International Travel	-	-	1,000	4,000	1,600	2,000	8,600	-	-	-	4,000	-	4,000	8,000				-			-
1500	Local Travel	-	-	1,000	6,000	1,600	10,000	18,600	-	-	-	4,000	-	10,000	14,000				2,000			2,000
3500	Regional Meetings/Workshops	-	-	-	14,000	-	20,000	34,000	-	-	-	14,000	-	20,000	34,000				-			-
5100	Miscellaneous expenses	-	-	-	4,000	-	12,000	16,000	-	-	-	4,000	-	10,000	14,000				-			-
4500	Equipment	-	-	-	-	-	20,000	20,000	-	-	-	-	-	16,233	16,233				-			-
3000	Training/Fellowships	-	-	-	-	-	6,000	6,000	-	-	-	-	-	-	-				-			-
	Subtotal	-	-	10,142	95,448	12,400	148,000	265,990	-	-	-	70,496	-	162,233	232,729				18,000			18,000
	13% Support Costs (UNIDO)			1,318	12,408			13,727			-	9,164			9,164				2,340			2,340
	Total	-	-	11,460	107,857	12,400	148,000	279,717	-	-	-	79,660	-	162,233	241,893				20,340			20,340

BL	Budget Lines	Total (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	29,000	103,953	29,000	86,000	247,953
1700	National Consultants/staff	-	-	800	21,487	800	70,000	93,087
2100	Contractual Services	-	-	105,342	72,000	59,400	100,000	336,742
1600	International Travel	-	-	9,000	10,000	8,200	12,000	39,200
1500	Local Travel	-	-	10,000	18,000	11,600	30,000	69,600
3500	Regional Meetings/Workshops	-	-	8,000	42,000	5,000	60,000	115,000
5100	Miscellaneous expenses	-	-	4,000	12,000	4,000	32,000	52,000
4500	Equipment	-	-	2,000	-	2,000	56,233	60,233
3000	Training/Fellowships	-	-	-	-	-	12,000	12,000
	Subtotal	-	-	168,142	279,440	120,000	458,233	1,025,814
	13% Support Costs (UNIDO)			21,858	36,327			58,186
	Total	-	-	190,000	315,767	120,000	458,233	1,084,000

Table 16: Detailed budget for outcome 3 throughout the first operational phase (in EUR)

BL	Budget Lines	Year 1 (in EUR)							Year 2 (in EUR)							Year 3 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	6,250	-	6,250	-	12,500	-	-	12,500	-	12,500	12,500	37,500	-	-	12,500	46,250	12,500	20,000	91,250
1700	National Consultants/staff	-	-	250	-	250	-	500	-	-	250	-	250	6,250	6,750	-	-	250	10,620	250	18,750	29,870
2100	Contractual Services	-	-	17,250	-	9,750	-	27,000	-	-	57,250	-	27,250	18,750	103,250	-	-	52,250	30,000	31,000	18,750	132,000
1600	International Travel	-	-	3,750	-	3,250	-	7,000	-	-	2,500	-	3,750	5,000	11,250	-	-	3,750	2,500	1,250	2,500	10,000
1500	Local Travel	-	-	3,750	-	3,750	-	7,500	-	-	3,750	-	2,500	6,250	12,500	-	-	3,750	7,500	6,250	6,250	23,750
3500	Regional Meetings/Workshops	-	-	3,750	-	1,250	-	5,000	-	-	3,750	-	2,500	12,500	18,750	-	-	2,500	17,500	2,500	12,500	35,000
5100	Miscellaneous expenses	-	-	2,500	-	2,500	-	5,000	-	-	1,250	-	1,250	7,500	10,000	-	-	1,250	5,000	1,250	5,000	12,500
4500	Equipment	-	-	1,250	-	1,250	-	2,500	-	-	1,250	-	1,250	12,500	15,000	-	-	-	-	-	12,500	12,500
3000	Training/Fellowships	-	-	-	-	-	-	-	-	-	-	-	-	7,500	7,500	-	-	-	-	-	-	-
	Subtotal	-	-	38,750	-	28,250	-	67,000	-	-	82,500	-	51,250	88,750	222,500	-	-	76,250	119,370	55,000	96,250	346,870
	13% Support Costs (UNIDO)			5,038	-			5,038			10,725	-			10,725			9,913	15,518			25,431
	Total	-	-	43,788	-	28,250	-	72,038	-	-	93,225	-	51,250	88,750	233,225	-	-	86,163	134,888	55,000	96,250	372,300

BL	Budget Lines	Year 4 (in EUR)							Year 5 (in EUR)							Year 6 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	5,000	46,191	5,000	35,000	91,191	-	-	-	25,000	-	40,000	65,000				12,500			12,500
1700	National Consultants/staff	-	-	250	8,120	250	25,000	33,620	-	-	-	5,620	-	37,500	43,120				2,500			2,500
2100	Contractual Services	-	-	4,927	30,000	6,250	37,500	78,677	-	-	-	25,000	-	50,000	75,000				5,000			5,000
1600	International Travel	-	-	1,250	5,000	2,000	2,500	10,750	-	-	-	5,000	-	5,000	10,000				-			-
1500	Local Travel	-	-	1,250	7,500	2,000	12,500	23,250	-	-	-	5,000	-	12,500	17,500				2,500			2,500
3500	Regional Meetings/Workshops	-	-	-	17,500	-	25,000	42,500	-	-	-	17,500	-	25,000	42,500				-			-
5100	Miscellaneous expenses	-	-	-	5,000	-	15,000	20,000	-	-	-	5,000	-	12,500	17,500				-			-
4500	Equipment	-	-	-	-	-	25,000	25,000	-	-	-	-	-	20,292	20,292				-			-
3000	Training/Fellowships	-	-	-	-	-	7,500	7,500	-	-	-	-	-	-	-				-			-
	Subtotal	-	-	12,677	119,311	15,500	185,000	332,488	-	-	-	88,120	-	202,792	290,911				22,500			22,500
	13% Support Costs (UNIDO)			1,648	15,510			17,158				11,456			11,456				2,925			2,925
	Total	-	-	14,325	134,821	15,500	185,000	349,646	-	-	-	99,575	-	202,792	302,367				25,425			25,425

BL	Budget Lines	Total (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	36,250	129,941	36,250	107,500	309,941
1700	National Consultants/staff	-	-	1,000	26,859	1,000	87,500	116,359
2100	Contractual Services	-	-	131,677	90,000	74,250	125,000	420,927
1600	International Travel	-	-	11,250	12,500	10,250	15,000	49,000
1500	Local Travel	-	-	12,500	22,500	14,500	37,500	87,000
3500	Regional Meetings/Workshops	-	-	10,000	52,500	6,250	75,000	143,750
5100	Miscellaneous expenses	-	-	5,000	15,000	5,000	40,000	65,000
4500	Equipment	-	-	2,500	-	2,500	70,292	75,292
3000	Training/Fellowships	-	-	-	-	-	15,000	15,000
	Subtotal	-	-	210,177	349,300	150,000	572,792	1,282,268
	13% Support Costs (UNIDO)			27,323	45,409			72,732
	Total	-	-	237,500	394,708	150,000	572,792	1,355,000

Table 17: Detailed budget for outcome 4 throughout the first operational phase (in EUR)

BL	Budget Lines	Year 1 (in EUR)							Year 2 (in EUR)							Year 3 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	6,250	-	6,250	-	12,500	-	-	12,500	-	12,500	12,500	37,500	-	-	12,500	46,250	12,500	20,000	91,250
1700	National Consultants/staff	-	-	250	-	250	-	500	-	-	250	-	250	6,250	6,750	-	-	250	10,620	250	18,750	29,870
2100	Contractual Services	-	-	17,250	-	9,750	-	27,000	-	-	57,250	-	27,250	18,750	103,250	-	-	52,250	30,000	31,000	18,750	132,000
1600	International Travel	-	-	3,750	-	3,250	-	7,000	-	-	2,500	-	3,750	5,000	11,250	-	-	3,750	2,500	1,250	2,500	10,000
1500	Local Travel	-	-	3,750	-	3,750	-	7,500	-	-	3,750	-	2,500	6,250	12,500	-	-	3,750	7,500	6,250	6,250	23,750
3500	Regional Meetings/Workshops	-	-	3,750	-	1,250	-	5,000	-	-	3,750	-	2,500	12,500	18,750	-	-	2,500	17,500	2,500	12,500	35,000
5100	Miscellaneous expenses	-	-	2,500	-	2,500	-	5,000	-	-	1,250	-	1,250	7,500	10,000	-	-	1,250	5,000	1,250	5,000	12,500
4500	Equipment	-	-	1,250	-	1,250	-	2,500	-	-	1,250	-	1,250	12,500	15,000	-	-	-	-	-	12,500	12,500
3000	Training/Fellowships	-	-	-	-	-	-	-	-	-	-	-	-	7,500	7,500	-	-	-	-	-	-	-
	Subtotal	-	-	38,750	-	28,250	-	67,000	-	-	82,500	-	51,250	88,750	222,500	-	-	76,250	119,370	55,000	96,250	346,870
	13% Support Costs (UNIDO)			5,038	-			5,038			10,725	-			10,725			9,913	15,518			25,431
	Total	-	-	43,788	-	28,250	-	72,038	-	-	93,225	-	51,250	88,750	233,225	-	-	86,163	134,888	55,000	96,250	372,300

BL	Budget Lines	Year 4 (in EUR)							Year 5 (in EUR)							Year 6 (in EUR)						
		Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total	Tonga	SPC	ADA/MFA (through UNIDO	Norway (through UNIDO)	UNIDO	Funding to be mobilized (EU, Sweden, Australia, New Zealand)	Total
1100	International Consultant/staff	-	-	5,000	46,191	5,000	35,000	91,191	-	-	-	25,000	-	40,000	65,000				12,500			12,500
1700	National Consultants/staff	-	-	250	8,120	250	25,000	33,620	-	-	-	5,620	-	37,500	43,120				2,500			2,500
2100	Contractual Services	-	-	4,927	30,000	6,250	37,500	78,677	-	-	-	25,000	-	50,000	75,000				5,000			5,000
1600	International Travel	-	-	1,250	5,000	2,000	2,500	10,750	-	-	-	5,000	-	5,000	10,000				-			-
1500	Local Travel	-	-	1,250	7,500	2,000	12,500	23,250	-	-	-	5,000	-	12,500	17,500				2,500			2,500
3500	Regional Meetings/Workshops	-	-	-	17,500	-	25,000	42,500	-	-	-	17,500	-	25,000	42,500				-			-
5100	Miscellaneous expenses	-	-	-	5,000	-	15,000	20,000	-	-	-	5,000	-	12,500	17,500				-			-
4500	Equipment	-	-	-	-	-	25,000	25,000	-	-	-	-	-	20,292	20,292				-			-
3000	Training/Fellowships	-	-	-	-	-	7,500	7,500	-	-	-	-	-	-	-				-			-
	Subtotal	-	-	12,677	119,311	15,500	185,000	332,488	-	-	-	88,120	-	202,792	290,911				22,500			22,500
	13% Support Costs (UNIDO)			1,648	15,510			17,158			-	11,456			11,456				2,925			2,925
	Total	-	-	14,325	134,821	15,500	185,000	349,646	-	-	-	99,575	-	202,792	302,367				25,425			25,425

BL	Budget Lines	Total (in EUR)						
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1700	National Consultants/staff	-	-	1,000	26,859	1,000	87,500	116,359
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1500	Local Travel	-	-	12,500	22,500	14,500	37,500	87,000
3500	Regional Meetings/Workshops	-	-	10,000	52,500	6,250	75,000	143,750
5100	Miscellaneous expenses	-	-	5,000	15,000	5,000	40,000	65,000
4500	Equipment	-	-	2,500	-	2,500	70,292	75,292
3000	Training/Fellowships	-	-	-	-	-	15,000	15,000
	Subtotal	-	-	210,177	349,300	150,000	572,792	1,282,268
	13% Support Costs (UNIDO)			27,323	45,409			72,732
	Total	-	-	237,500	394,708	150,000	572,792	1,355,000

E.1 Funding Sources and commitments

Major funding **commitments for the first operational phase of the centre have been received by the Austrian Government** (Federal Ministry for Europe, Integration and Foreign Affairs, Austrian Development Agency), the **Kingdom of Norway (Royal Norwegian Ministry of Foreign Affairs), UNIDO, the Pacific Community (SPC) and the Government of Tonga**. In addition, the **Government of Korea** has provided around USD 100,000 for the development of a regional renewable energy mini-grid assessment and program for the PICTs. SPC and the Government of Tonga have signed a MOU on the co-funding contributions. Also SIDS DOCK has committed financial support for the centre in the context of the wider partnership on the regional sustainable energy centres for SIDS. The partners intend to make the funding contributions available in line with the previous budget tables. In addition, a number of countries and institutions have committed funding to support technical activities of the centre (e.g. New Zealand, Australia, US, IRENA).

E.2 Earmarking and execution of funding

SPC and the Government of Tonga show high ownership also in terms of co-funding commitments. SPC and the Government of Tonga will **cover the costs office space (incl. running costs) and contribute also with staff secondments and costs** (see budget tables). SPC will partly cover the costs of the PCREEE Manager throughout the first operational phase, as well as in-kind co-funding for technical activities through the creation of synergies to existing regional programs and projects. The **contributions of the Austrian and Norwegian Governments and UNIDO will be mainly used to cover costs for technical activities and staff**. Moreover, through the Norwegian contribution, UNIDO will second a young energy professional to be located in the UNIDO Regional Office hub in Bangkok and partially at the PCREEE Secretariat in Tonga. The expert will work closely with PCREEE, the UNIDO Regional Office hub and the responsible project manager at the UNIDO Department of Energy.

The **earmarking of funding for specific technical PCREEE activities will be done through annual work** plans. The work plans are subject to review and approval by the PCREEE Steering Committee. The annual work plans shall include a matrix of proposed activities and their estimated costs, as well as the indication from which partner contribution the costs will be covered. In many cases other external partner might co-fund these activities (e.g. IRENA, EU, SE4ALL). Since not all needed budget will be available in the beginning, the SC has to decide on the priority activities of the centre. Certain proposed activities in the matrix of this document might not be implemented. To use the comparative advantage of both organizations, and to ensure the private sector and industry focus, the **technical activities will be executed in partnership between SPC and UNIDO**.

UNIDO provides technical services and mentoring throughout the first operational phase of the centre. In line with UNIDO rules and procedures, and depending on the achieved progress and availability of funding, **UNIDO has started to subcontract significant parts (around 50 to 60% of the annual budget / depending on the discussions in the SC) of the technical budget to SPC for execution** (outcome 1 & 2& 3 & 4). The subcontracted activities are being executed by SPC in line with its existing project cycle management system and project management fee policy[31]. This subcontract arrangement will allow SPC also to fully recover its costs for services provided for PCREEE by the SPC energy programme and other departments of SPC (e.g. IT, administration, finance, etc). In the annual work plans it will be indicated where SPC intends to use external expertise or internal expertise of SPC departments.

In line with UNIDO rules and procedures, and based on a **quick institutional assessment**, UNIDO and SPC have signed an implementation (execution) agreement throughout the envisaged implementation period. Payments to SPC depend on implementation progress, the approved annual work plans and audited financial statements of the centre. The signing of the UNIDO implementation agreement (execution) required the up-front signing of an MOU (addendum see in the annex) between SPC and the Government of Tonga on the co-funding contributions to PCREEE (as described in this project document). UNIDO will particularly focus on activities related to the facilitation of SIDS-SIDS activities between the regional sustainable energy centres, the establishment of innovative partnerships and activities with industry and private sector. In cases where UNIDO is operating the funding the UNIDO procurement rules will apply.

[31] According to SPC the fee is currently 15% (needs to be confirmed by documentation provided by SPC)

PCREEE resource mobilization and income in the first operational phase.

At the onset, the PCREEE will mobilize resources from other international partners. PCREEE would leverage on the extensive contacts from SPC, Government of Tonga, UNIDO, SIDS DOCK to mobilise funding for its projects and programmes. The structure of fund flows from the various partners will depend on the different agreements entered into with the respective partners. To date, there has been interest to support the PCREEE from potential partners (e.g. EU, Sweden, Australia, New Zealand). UNIDO and PCREEE were able to leverage already further funding from Norway and the Government of Korea.

E.3 Projections beyond the first operational phase

First Operational Phase (2016-2022)
The first 72 months constitutes the first operational phase of PCREEE. The projected total expenditure and income of the Centre is as provided above. The priority focus of the activities in this phase is development of programmes and resource mobilization. Based on the project document the Manager of the Centre will develop the Business Plan of the Centre for the first operational phase.

Second Operational Phase
The second operational phase of the PCREEE is expected to cover the period 2023-2030. A new Business Plan will be developed for this period. In this phase, the Manager of the PCREEE will work together with Austria, Norway, UNIDO, SPC, GoT and other partners on ensuring the sustainability of the projects and programmes coordinated by the Centre. Based on the demand of its services and availability of resources, the PCREEE will consider expanding its staff compliment and activities. In the optimum case UNIDO will finalise its institution building. In line with the recommendations of the evaluation panel for the host organisation, a review of the PCREEE's management structure, in terms of its planned autonomy and independence will be assessed during this period.

F. MONITORING, REPORTING AND EVALUATION

F.1 Overall monitoring

The Centre will apply an interrelated short-term and long-term planning and monitoring framework:

- The **PCREEE Business Plan**, to be prepared by the Manager, will be based on the result based management framework of this project document and will provide a long-term planning framework. The logical framework defines measurable and attainable indicators for the objectives and project components of the logical framework matrix.
- The **annual work plans,** which are subject to approval by the Committee, provide a short-term planning framework which incorporates projects and activities to be executed by the Secretariat in a given year. The work plans include also the annual budget and an activity matrix which specifies from which source the respective activity is funded.
- The **annual status reports and audited annual financial statements** monitor the implementation of the work plans and report on the achievements in the different project components in the Business Plan and the logical framework of this project document.

Three types of monitoring would be carried out on a regular basis:

a. **Output monitoring** of the achievement in terms of quantitative targets achieved directly due to PCREEE activities (e.g. number of people, men and women trained per programme). An assessment of the outputs of the Centre will be conducted on an annual basis. This will be done on the basis of the annual status reports. The achievements are measured according to the indicators of this project document (and the PCREEE Business Plan to be prepared).
b. **Impact monitoring** at the level of the target groups (intermediary as well as direct target groups) that will also yield both quantitative and qualitative information about progress in renewable energy and energy efficiency market activities will be coordinated by the PCREEE where possible, but collected by the countries. Such information will include increase in the installed capacity of renewable energies, quantity of energy saved, reduction in the electricity production costs and investments in RE&EE projects.
c. **Process monitoring** aimed at keeping on top of changes in the internal and external environment, so as to learn from them and refine strategies of the different components of the PCREEE's multi-annual programme continually.

The results of these different types of monitoring will be captured in the reporting system and annual reports, and will determine the annual operational planning exercise. The annual reports and annual work plans will be presented to the PEOG and to donors and will serve as an exercise in reviewing progress, problems and solutions. Since the PCREEE is likely to seek funding and other support from different types of organizations and agencies, it should negotiate from the very beginning a general annual reporting format that would satisfy the needs of all the different organizations, so as to keep the burden of reporting to a necessary minimum.

One **external evaluation** will take place near to the finalisation of the first operational phase. Emphasis of the evaluations should be an assessment of the organisational design as well as the suitability of its programmes. Another focus should be the financing aspect of the operational budget of the CCREEE in so far as it is possible to raise core funds for its functioning and which of the different functions have a potential for generating an income in the long term. Following the completion of the M&E plan, tools and methods of data collection, processing, analysing, and interpreting will undergo detailed development. Tools such as questionnaires and structured surveys will be used in collecting data. Baseline data will be established for the performance indicators, which have been defined in the project logical framework and benchmarking will be carried out to see the changes caused by the project at different results levels.

F.2 Benchmarks for monitoring and evaluation processes

In line with the proposed institutional setup of the PCREEE, the Manager of the Centre will be responsible for compiling detailed progress reports on an annual basis and present to all parties involved in the management and funding. The annual reports will be discussed and approved by the Steering Committee. The Manager will also be responsible for producing abridged progress report in between SC meetings (i.e. six months after each main progress report). This report will also be made available to all parties.

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G. PRIOR OBLIGATIONS AND PREREQUISITES

PCREEE will be established under SPC rules and regulations.

H. LEGAL CONTEXT

It is expected that each set of activities to be implemented in the target countries will be governed by the provisions of the Standard Basic Cooperation Agreement concluded between the Government of the recipient country concerned and UNIDO or – in the absence of such an agreement – by one of the following: (i) the Standard Basic Assistance Agreement concluded between the recipient country and UNDP, (ii) the Technical Assistance Agreements concluded between the recipient country and the United Nations and specialized agencies, or (iii) the Basic Terms and Conditions Governing UNIDO Projects."

I. LIST OF ANNEXES

Annex 1: Result Based Management Framework on the first operational phase of PCREEE
Annex 2 a.: MOU of SPC and the Government of Tonga on co-funding contributions
Annex 2 b.: Draft Implementation Agreement between UNIDO and SPC
Annex 3: Documentation on the selection process of the host organization
Annex 4: Terms of Reference for the PCREEE National Focal Institutions (NFIs)
Annex 5: Selected Job Descriptions
Annex 6: Needs Assessment Report
Annex 7: Minutes of the Validation Workshop
Annex 8: Decision of the Ministers of Energy and Transport
Annex 9: Co-funding letters
Annex 10: Signed MOU between Austria, SIDS DOCK and UNIDO

Annex 1: Result Based Management Framework on the First Operational Phase of PCREEE

Development Impact (ultimate outcome)	Indicators	Baseline and targets	Means of verification	Risks and assumptions
Improved 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.	- % increase of people [urban and rural and disaggregated to males, females and children] with access to modern, reliable and affordable energy services provided by RE technologies (urban and rural population, sex-disaggregated data - baseline 2013) - % increase of the RE contribution to the electricity mix of the PICTs (baseline 2013) - Increase of investments in RE&EE projects in PICTs (% of it addressing key industries in PICTs - baseline 2013) in USD - % decrease of fossil fuel import spending in PICTs due to the introduction of RE&EE technologies and solutions in USD (baseline 2013) - % decrease of GHG tCO_2 emissions through implemented RE&EE projects - Number of additional jobs created directly or indirectly in the RE&EE sector in PICTs - % increase of registered local companies in the RE&EE sector	**Baseline:** High energy costs hamper the socio-economic and industrial development in PICTs; high fossil fuel import spending in many islands; low productivity and competitiveness of local key industries due to energy costs (e.g. food processing, manufacturing of niche products, fishery, tourism); low levels of RE&EE investments; lack of local energy companies; **Target(s):** - 10% increase of people with access to modern, reliable and affordable energy services provided by RE technologies (urban and rural population, sex-disaggregated data - baseline 2013) - 10% increase of the RE contribution to the electricity mix in PICTs (baseline 2013)	- Regional statistics on investments in RE&EE projects in the region - Regional statistics on GHG emissions - Regional statistics and energy balances - National and regional policy and strategy papers	- Investments in RE&EE projects continue to be and perceived as feasible and viable options - Regional development of policies and legal frameworks for energy continues and creates a favourable environment for sustainable energies - Stable political situation in countries

		- USD 100 million of additional investments in RE&EE projects (at least 25% of it are addressing key industries in PICTs - baseline 2013) - 10% decrease of fossil fuel import spending in PICTs due to the introduction of RE&EE technologies and solutions (baseline 2013) - 15% decrease of GHG tCO_2 emissions through implemented RE&EE projects - At least 100 additionally (directly or indirectly) created local jobs in the RE&EE sector (baseline 2013) - 10% increase of registered local companies in the RE&EE sector (at least 25% of them are in the manufacturing sector)		
Intermediate Outcome (mid-term)	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Outcome 1: Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)	1. Number of additional RE&EE experts [disaggregated to urban, rural, males, females and children] working with PCREEE on PICTs sustainable energy issues 2. Number of major RE&EE programs and/or projects are implemented by PCREEE	**Baseline:** Lack of PICTs staff capacities in the sustainable energy sector; slow implementation of national and regional RE&EE policy	- Staff contracts - Business plan and work plans	- Availability of funding from the host institution and the development partners to finance the Centre - Adequate finance and staff resources made available in a timely manner - Key staff remains in position or are replaced efficiently

	3. % of the envisaged outcomes and activities in the PCREEE project document are executed 4. Amount of financial resources for PCREEE activities mobilized and funding agreements for the second operational phase signed 5. Rating of the external evaluation concerning the relevance, effectiveness, efficiency and impact of PCREEE	commitments; need for enhanced technical implementation and coordination capacities; **Target(s):** 1. At least five (5) additional RE&EE experts are working with PCREEE on regional sustainable energy issues 2. At least five (5) major RE&EE programs or projects are implemented by PCREEE 3. At least 80% of the envisaged outcomes and activities in the PCREEE project document are executed 4. At least ten (6) million Euro for PCREEE activities are mobilized and sufficient funding for the second operational phase is secured 5. High external evaluation scores confirm the relevance, effectiveness, efficiency and impact of PCREEE		
Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified	- Number of trained certified trainers [disaggregated to urban, rural, males, females and children] across 22 PICTs - Number of key stakeholders [disaggregated to urban, rural, males,	**Baseline:** Weak capacities of key institutions and stakeholders in the sustainable energy sector	- The regional capacity development strategy document and progress reports - The certification/accreditation scheme documents	- Involved organisations accept and implement the capacity building framework - Involved organisations and countries accept and implement

training and applied research programs and mechanisms	females and children] across 22 PICTs are trained by certified trainers - % of the trained stakeholders [disaggregated to urban, rural, males, females and children] apply the obtained skills in the national energy sector of PICTs - Number of national research institutions involved in regional applied research programs under implementation	(e.g. public institutions, utilities, banks, companies, consultants educational and research institutions); very weak mainstreaming of gender aspects; **Target(s)**: - At least 60 trainers are certified across 22 PICTs (at least 30% are female) - At least 800 key stakeholders across 22 PICTs are trained by the certified trainers and/or institutions (being at least 30% female) - At least 40% of the trained stakeholders apply their received skills in the energy sector of PICTs (at least 30% of that are female) - At least five (5) national research institutions are involved in the execution of at least (3) regional applied research programs on RE&EE	- Attendance registers for training events	the certification/accreditation scheme
Outcome 3: The awareness and knowledge base of local key institutions and stakeholder groups on RE&EE are strengthened	- Strengthened regional RE&EE information and data management system - Number of national institutions in 22 PICTs countries provide updated RE&EE data to the system on an annual basis (sex-disaggregated)	**Baseline:** Weak existing regional and national RE&EE information systems; lacks of reliability and relevance for the private sector and industry;	- A dedicated website to disseminate information	- Knowledge management services of the Centre are well received by actors in the Pacific energy sector

	- Number of experts [disaggregated to urban, rural, males, females and children] from the PICTs region participates in PCREEE RE&EE conferences by end of the first operational phase (at least 30% of the invited panellists are female) - % of the population in 22 countries is reached by regional awareness RE&EE campaigns supported by PCREEE	currently there exists no systematic collection of sex-disaggregated baseline data; awareness of key stakeholders on RE&EE varies considerably across PICTs; no coherent information on local sustainable energy industry available; **<u>Target(s):</u>** - Regional RE&EE information and data management system established and operational - At least 22 institutions in 22 PICTs countries provide updated baseline data to the regional system on an annual basis (incl. sex-disaggregated data) - At least 400 experts from the PICTs region participate in PCREEE RE&EE conferences by end of the first operational phase (at least 30% of the invited panellists are female) - At least 25% of the population in 22 PICTs is reached by regional RE&EE awareness campaigns supported by PCREEE		

Outcome 4: Increased RE&EE business opportunities for local companies and industry through the development and implementation of regional investment promotion programs and tailored financial schemes	- Volume of investments (in USD) for the execution of the SIDS DOCK project pipeline mobilized - Number of small to medium-scale RE&EE projects co-funded by national institutions (e.g. banks) with the support of newly created regional support schemes - Investment volume (in USD) of developed (pre-)feasibility studies/energy audits for innovative RE&EE projects addressing industrial key sectors (e.g. tourism, agriculture, fishery, creative industry);	**Baseline:** Insufficient levels of RE&EE investments to reach the set SIDS DOCK and RE&EE targets by 2033.[32] Lack of technical assistance and financing for the SIDS DOCK RE&EE project pipeline of USD 617 million; lack of tailored RE&EE financing instruments for small and medium sized RE projects and EE solutions; lack of RE&EE programs which target key industries in PICTs (e.g. food processing, fishery, manufacturing, tourism); **Target(s)**: - USD 100 million of additional investments in RE&EE projects (at least 25% of it are addressing key industries in PICTs - baseline 2013) - National institutions (e.g. banks) in at least 7 countries co-fund 80 small to medium-scale RE&EE projects with	- Reports on implemented projects - Project proposals and concept notes developed by the PCREEE	- There is a greater interest by the private sector in RE&EE investments in the region.

[32] SIDS DOCK Goals by 2033: increase EE by 25 percent; generate a minimum of 50 percent of electric power from RE sources; 20-30 percent decrease in liquid petroleum transportation fuel use; CARICOM targets as approved in the 41st Special Meeting of COTED: 20 percent renewable power capacity by 2017, 28 percent by 2022, and 47 percent by 2027; a 33 percent reduction in energy intensity by 2027;

		support of newly created regional support schemes - (Pre-)feasibility studies and energy audits for innovative RE&EE projects addressing industrial key sectors (e.g. tourism, agriculture, fishery, creative industry) with an investment volume of at least 60 million USD are developed and in the SIDS DOCK project pipeline included		

Outcome 1: Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)				
Outputs	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 1.1 The PCREEE Secretariat is physically established	- Office with appropriate space and equipment to accommodate the staff of the Secretariat	**Baseline**: no regional RE&EE centre is in existence in PICTs; **Target(s):** - Office with appropriate space and equipment to accommodate the staff of the Secretariat	- Office space and invoices	- SPC and GoT provide an appropriate office in time
Activities				
1.1.1 Ensure the timely establishment of the PCREEE office infrastructure; operationalize the implementation of the committed co-funding of SPC, UNIDO and the Government of Tonga in line with the host country agreement;				
1.1.2 Purchase of office equipment and establishment works in line with SPC and GoT procurement rules				
1.1.3 Rent and running costs for PCREEE office (to be covered by SPC and Government of Tonga)				

Outputs	Indicators	Baseline and Targets	Means of verification	Risks and assumptions
Output 1.2 The Manager and the technical and administrative staff are recruited and the internal procedures and regulations are implemented	- Manager is appointed by SPC - Technical and administrative staff is recruited in line with the commitments of SPC, GoT, UNIDO - At least 4 local technical and administrative staff recruited - Implementation of internal rules (e.g. procurement committee, financial and accounting rules)	**Baseline:** no regional RE&EE centre is in existence in PICTs; **Target(s):** - Manager is recruited - At least four (4) technical and administrative experts are recruited - Implementation of internal rules (e.g. procurement committee, financial and accounting rules)	- Staff contracts - Internal rules documents	- Regional staff of suitable quality and experience is available. - Salary scales and contracts conditions do not deter regional staff or result in high turnover.
Activities				
1.2.1 Appointment of the PCREEE Manager by SPC in line with the established TORs and relocation to the PCREEE office in Tonga				
1.2.2 Recruit the administrative and technical PCREEE staff in accordance with the organizational chart and established ToRs (depends on availability of funds); UNIDO will be part of the selection committee;				
1.2.3 Initial IT, HR, Finance & Admin support for the creation and implementation of the internal procurement, staff, travel, financial and accounting rules and procedures to approved in the first Steering Committee meeting				
1.2.4 Establish an internal quality and appraisal framework for supported renewable energy and energy efficiency activities				
Outputs	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 1.3 The institutional governance structure of the Centre are established and executed	- Number of NIFs and Thematic Hubs (TH) nominated - Number of meetings of the Steering Committee and Technical Committee organized - NFI network operational and Steering Committee formed	- Number of NIFs and Thematic Hubs (TH) nominated - Number of meetings of the Steering Committee organized	- Host institution agreement - Minutes of the SC - NFI agreements	- There is interest from national institutions to become a NFI
Activities				

1.3.1 Sign and implement an Agreement for the Centre hosting				
1.3.2 Establish a network of National Focal Institutions (NFIs) and Thematic Hubs (THs) and develop their capacities				
1.3.3 Organize the Steering Committee Steering CommitteeSteering Committee meetings as required				
Outputs	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 1.4 Long and short term planning, implementation and monitoring framework of the Centre is established and implemented	- 1 approved Business Plan by the Committee - 1 work plan per year - 1 Monitoring and Evaluation Framework tracking the PCREEE progress	**Baseline:** no regional RE&EE centre is in existence in PICTs; **Target(s):** - 1 approved Business Plan by the Committee - 1 approved work plan per year - 1 Monitoring and Evaluation Framework tracking the PCREEE progress	- Business Plan and strategic environmental assessment (SEA) - Annual work plans - Monitoring and evaluation framework	- The Committee reaches a consensus regarding the business plan and annual work plans
Activities				
1.4.1 Development of the PCREEE Business Plan and ensure that the environmental impact of RE&EE measures, technologies, equipment and infrastructure is taken into account and duly reflected in the plan				
1.4.2 Development and adoption of annual work plans, status reports and audited financial statements of the Centre in line with SPC				
1.4.3 Develop and implement a monitoring and evaluation system including indicators measuring the PCREEE progress and impact				
Output	**Indicators**	**Baseline**	**Means of verification**	**Risks and assumptions**
Output 1.5 The core activities and functions of PCREEE are implemented and sustainability of the organization is reached	- Number of established internal procedures and technical programs - Number of NIFs and Thematic Hubs (TH) nominated - Number of meetings of the Steering Committee	**Baseline:** no regional RE&EE promotion agency in existence in PICTs; **Target(s):**	- Meeting minutes - Project documents - Annual work plans and progress reports of PCREEE	- The Centre has enough resources to develop the projects and to organise the meetings

	- % of business plan and annual work plans are implemented at the end of the first operational phase of PCREEE - Volume of co-funding for the technical program of the centre raised	- Number of established internal procedures and technical programs - 22 NIFs and at least 5 Thematic Hubs (TH) nominated - At least 3 meetings of the Steering Committee - At least 70% of the business plan and annual work plans are implemented - At least 5 million USD co-funding for the technical program of the centre raised		
Activities				
1.5.1 Mobilize and sign a funding agreement with at least one additional PCREEE donor				
1.5.2 Sign at least 5 technical cooperation agreements with local (e.g. universities, institutions, training centres) and international partners				
1.5.3 Develop at least 2 RE&EE PCREEE program/project proposals to be submitted for financing to international partners (e.g. GEF, GCF, CTCN)				
1.5.4 Represent PCREEE in regional and international key events (travel costs)				
Output 1.6 A special programme on gender and sustainable energy is established and integrated to the activities of the centre and the network of regional sustainable energy centres	- gender programme is approved to be included in the Business Plan by the Committee	**<u>Baseline:</u>** No gender programme in the energy sector of the PICs. **<u>Target(s):</u>** - a gender programme become a permanent fixture in the business plan of the centre	- Business Plan - Annual work plans - Monitoring and evaluation framework	- The Committee reaches a consensus regarding the business plan and annual work plans

1.6.1 Develop the energy-gender programme of the PCREEE in the context of the “Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations”				
1.6.2 Submit the energy-gender programme to be endorsed by the SC				
1.6.3 Develop funding proposals for the energy-gender programme				
1.6.4 Implement and continuously review to ensure consistency with the regional gender programme of SPC’s Social Development Programme and the “Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations”				
Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified training and applied research programs and mechanisms				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 2.1 A multi-year framework to strengthen the local RE&EE capacities of key institutions and stakeholder groups is developed, adopted and under implementation	- Regional capacity development Strategy - Implementation progress of the regional capacity development strategy in % of total	**Baseline**: No regional capacity development strategy on RE&EE is in place; very weak implementation of **Target(s)**: - Capacity development strategy is validated by key stakeholder groups (incl. women groups) and gender mainstreaming mechanisms are incorporated - At least 30% of the activities of the regional capacity development strategy are implemented by end of the first operational phase of PCREEE.	1. Capacity development strategy document 2. Mid-term review on program implementation	- The capacity development strategy is well accepted
Activities				
2.1.1 Conduct a regional capacity needs assessment particularly reflecting the needs of the governments and local technology industry and business using existing studies and in cooperation with the NFIs (to be done in combination with activity 4.2.1 under output 4.2)				
2.1.2 Develop a regional multi-year capacity development strategy particularly reflecting the needs of local public and private stakeholders (to be done in combination with activity 4.2.1 under output 4.2)				

2.1.3 Produce tailored training and certification modules covering various RE&EE issues and tools in coordination with local business and industry groups (also in local language)				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 2.2 Pacific certification / accreditation scheme for individuals, organisations and products is created (in collaboration with SEIAPI) and operational	- Number of training competency standards are operational - Number of training standards adopted by the centre - Number of trainers certified across 22 PICTs - Number of training institutions and universities adopt the competency standards	**Baseline:** No regional competency standards, certification and accreditation schemes for trainers and training institutions are in place; no regional gender mainstreaming standards in place; **Target(s):** - At least 5 training standards adopted by the centre (at least on is dedicated to gender mainstreaming) - At least 80 trainers are certified across at least15 islands (at least 30% are female) - At least 5 training institutions and universities adopt the competency standards	- Competency standards documents - Records of certified trainers	- Involved organisations show interest to cooperate with the Centre
Activities				
2.2.1 Act as the secretariat for developing the training competency standards on RE&EE which was already started by USP/SEIAPI				
2.2.2 Act as the body accrediting training centres and certifying trainers				
2.2.3 Act as the secretariat for co-coordinating installation and products standards/guidelines				

Output	Indicators	Baseline and Targets	Means of verification	Risks and assumptions
Output 2.3 Key stakeholders are trained by the certified trainers on RE&EE aspects of high relevance for the local business and industry sector	- Number of key stakeholders across 22 PICTs are trained by the certified trainers and/or institutions - Number of the trained experts apply their received skills in the energy sector of PICTs	**Baseline:** Weak capacities of key institutions and stakeholders in the energy sector (e.g. public institutions, utilities, banks, companies, consultants educational and research institutions); very weak mainstreaming of gender aspects; **Target(s):** - At least 800 key stakeholders across 22 islands are trained by the certified trainers and/or institutions (being at least 30% are female) - At least 40% of the trained experts apply their received skills in the energy sector of PICTs (at least 30% are female)	- Attendance sheets and questionnaires - Lists of participants - Workshop documents	- The target audience show interest for the training courses

Activities
2.3.1 Train key policy makers in sustainable energy policy planning and incentive mechanisms (including sustainable cooking and transport, equal access to renewable energy and the impacts of renewable energy installations on the environment)
2.3.2 Train utilities and regulators regarding RE integration/grid stability and energy efficiency (e.g. demand side management)
2.3.3 Provide targeted RE&EE business development training for clean-tech SMEs and entrepreneurs (e.g. energy auditors, equipment installers, RE service providers)
2.3.4 Increase the capacity of stakeholders to mainstream gender and climate resilience into RE&EE policies and projects
2.3.5 Increase the capacity of technical private-sector experts and start-ups to develop, install and maintain RE&EE projects and systems (including training on climate resilient energy infrastructure).

2.3.6 Train experts on the financial structuring, design and planning of RE&EE projects (e.g. climate finance, RETScreen, HOMER)				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 2.4 Applied science research networks and technology transfer with high relevance for the local business and industry sector are promoted	- Number of applied research programs receive funding and are under execution - Number of RE&EE technology transfer projects are under implementation	**Baseline:** No major regional applied research programs and technology transfer projects on RE&EE are under implementation; **Target(s):** - At least seven national research institutions are involved in the execution of at least (3) regional applied research programs on RE&EE - At least two innovative technology transfer projects are under implementation (e.g. waste to energy, sustainable transport)	- Research reports - Program documents - Progress reports	- New technologies are well accepted by users
Activities				
2.4.1 Conduct a baseline study on the research priority needs of the Pacific RE&EE industry and business sectors				
2.4.2 Create a regional incentive model for the establishment of regional research programmes with high relevance for the local industry (e.g. call for proposals)				
2.4.3 Promote south-south and north-south technology transfer programs and projects				
Outcome 3: The awareness and knowledge base of local key institutions and stakeholder groups on RE&EE are strengthened				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 3.1 An effective online RE&EE information management system addressing the needs of	- Number of national institutions in 22 PICTs provide updated RE&EE data to the system on an annual basis	**Baseline:** The current regional RE&EE information	- web statistics	- Developed content for the website is interesting for the target audience

investors, private sector and industry is created and operating	- Number of documents, files and data-sets are available in the database - Number of registered users visit the data system regularly and download data - % of the responding users confirm their satisfaction with the quality and reliability of the data in annual online surveys	system is inadequate and lacks of reliability and relevance for the private sector and industry; currently there exists no systematic collection of sex-disaggregated baseline data; **Target(s):** - At least 22 institutions in 22 PICTs provide updated RE&EE baseline data to the system on an annual basis (sex-disaggregated data) - At least 500 documents, files and data-sets are available in the system by end of the first operational phase - At least 200 registered users (at least 50% of it from PICTs and represent private sector) visit the data system regularly and download data - At least 70% of the responding users confirm their satisfaction with the quality and reliability of the data in annual online surveys		
Activities				
3.1.1 Establishment of the interactive PCREEE website (www.pcreee.org) and link it to the Global Network of Centres and the Pacific Regional Data Repository for SE4ALL				
3.1.2 Compile an inventory of relevant experiences/projects and papers/study reports/research reports and documents on best practices, skills, know-how, knowledge, technology suppliers in each PICT (disseminated through the information system)				

3.1.3 Create a database of RE&EE stakeholders, including governments, training institutes, industry and NGO's (to be disseminated through the information system)				
3.1.4 Develop guidelines on energy data verification, quality and harmonisation in cooperation with the NFIs				
3.1.5 Create a database of RE&EE standard investment opportunities for the region to facilitate matching available funds to real projects (particularly in alignment with the activities under outcome 4)				
3.1.6 Produce and publish and RE&EE resource atlas and facilitate resource mapping in the PICTs (data to be disseminated through the information system)				
3.1.7 Map existing sustainable energy projects including their key information (manufacturer, installer, status of operation, generated energy, etc) and disseminate information through the information system				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 3.2 Awareness and knowledge base of key stakeholder groups on various RE&EE aspects are strengthened	- Number of experts from the Pacific region participates in PCREEE RE&EE conferences by end of the first operational phase (at least 30% of the invited panellists are female) - Number of PCREEE conferences with focus on the gender-RE&E nexus - % of the population in 22 countries is reached by regional awareness RE&EE campaigns supported by PCREEE	**Baseline:** Awareness of key stakeholders on RE&EE varies considerably across the Pacific islands; there is lack of awareness on gender-RE&EE issues; **Target(s):** - At least 400 experts from the Pacific region participate in PCREEE RE&EE conferences by end of the first operational phase (at least 30% of the invited panellists are female) - At least one PCREEE conference will have a special focus on the gender-RE&EE nexus - At least 25% of the population in 15 countries is reached by regional awareness campaigns	- Reports and statistics of audio-visual awareness raising campaigns - Lists of conference participants	- The public and private sector continue to show interest for RE&EE themes

Activities				
3.2.1 Organize at least one major annual conference on different RE&EE aspects				
3.2.2 Contribute to the production a RE&EE Industry report in cooperation with REN-21 and link the Pacific to the Asia-Pacific portal as well as the global tracking framework to the SE4ALL initiative				
3.2.3 Design and implement at least one regional RE&EE awareness campaign targeting the residential, commercial or industrial sectors				
3.2.4 Provide technical policy implementation to CROP agencies, especially to SPC, as well as Member States and the private sector and industry (task to be delegated by the SPC Energy Programme)				
Outcome 4: Increased RE&EE business opportunities for local companies and industry through the development and implementation of regional investment promotion programs and tailored financial schemes				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 4.1 Investments in RE&EE projects are promoted	- Volume of investments (in USD) for the execution of the SIDS DOCK project pipeline mobilized - Number of small to medium-scale RE&EE projects co-funded by national institutions (e.g. banks) with the support of newly created regional support schemes - Investment volume (in USD) of developed (pre-)feasibility studies/energy audits for innovative RE&EE projects addressing industrial key sectors (e.g. tourism, agriculture, fishery, creative industry); - Number of regional key programs to promote investments in innovative technology areas developed and under	**Baseline:** Insufficient levels of RE&EE investments to reach the set SIDS DOCK and PICTs RE&EE targets by 2033.[33] Lack of technical assistance and financing for the SIDS DOCK RE&EE project pipeline of USD 617 million; lack of tailored RE&EE financing instruments for small and medium sized RE projects and EE solutions; lack of RE&EE programs which target key industries in PICTs (e.g. food processing, fishery, manufacturing, tourism); **Target(s):**	- Documents on support schemes (incl. environmental safeguard standards, gender mainstreaming) - (Pre-)Feasibility studies - Project documents - Project progress reports - Signed contracts - Minutes of investment forums	- The Centre is able to identify a significant number of RE&EE projects - The private sector demonstrates interest in the regional RE&EE market opportunities

[33] SIDS DOCK Goals by 2033: increase EE by 25 percent; generate a minimum of 50 percent of electric power from RE sources; 20-30 percent decrease in liquid petroleum transportation fuel use;

	implementation (e.g. waste to energy, efficient transport);	- At least 100 million USD for the execution of the SIDS DOCK project pipeline are mobilized by end of the first operational phase of PCREEE. - National institutions (e.g. banks) in at least 7 countries co-fund 80 small to medium-scale RE&EE projects with support of newly created regional support schemes (schemes consider mainstreaming of gender and environmental safeguard standards) - (Pre-)feasibility studies and energy audits for innovative RE&EE projects addressing industrial key sectors (e.g. tourism, agriculture, fishery, creative industry) with an investment volume of at least 60 million USD are developed and in the SIDS DOCK project pipeline included (considering environmental safeguard standards and gender mainstreaming) - At least two (2) regional key programs to promote investments in innovative technology areas are developed and under implementation (e.g.		

		waste to energy, efficient transport);		
Activities				
4.1.1 Establish a database of RE&EE priority investment projects in the residential, commercial and industry sectors presenting relevant project data (to be published through the Centre website)				
4.1.2 Organize annual investment and business forums (e.g. trade fare) to present the project pipeline to interested financiers and investors				
4.1.3 Raise funding for the pool of bankable RE&EE investment projects and provide preparatory and investment support for new projects (e.g. feasibility studies, elaboration of project proposals) in cooperation with existing mechanisms (e.g. SPREP, IUCN, ADB)				
4.1.4 Design and testing of innovative RE financing schemes and business models for off-grid projects in cooperation with local banks (e.g. micro-credits)				
Output	**Indicators**	**Baseline and Targets**	**Means of verification**	**Risks and assumptions**
Output 4.2 The local sustainable energy industry is strengthened	- Adopted gender-sensitive PICTs strategy to promote local sustainable energy industry and entrepreneurship - At least 150 local sustainable energy hardware and service companies in 22 PICTs receive financial support from the newly created regional facility (at least 30% are in the manufacturing sector).	**Baseline:** Low local added value of RE&EE investments due to a lack of PICTs sustainable energy businesses and industry; lack of opportunities for local entrepreneurs due to the absence of tailored support instruments; **Target(s):** - Adopted gender-sensitive PICTs strategy to promote local sustainable energy industry and entrepreneurship - At least 150 local sustainable energy hardware and service companies in 22 PICTs receive financial support from the newly created regional facility (at least	- PICTs strategy document - Supported business plans of companies - Financial documentation - Project progress reports - Documentation of call for proposals	- There is greater private sector interest in investment projects in the region.

		30% are in the manufacturing sector, at least 30% start-up companies). - At least 20 companies in the sustainable energy sector are awarded through the established clean tech innovation program.		

Activities
4.2.1 Undertake a baseline assessment and develop a PICTs strategy for the promotion of local sustainable energy businesses and industries in cooperation with PFAN and SEIAPI / the activity includes at least two private sector technical staff exchange and training visits
4.2.2 Work with PFAN and other partners on the potential opening of a call for proposal window for PICTS (e.g. to promote local RE&EE businesses and start-ups, investments) (to be implemented in combination with activity 2.3.3 under output 2.3)
4.2.3 Develop and execute a clean-tech program to promote RE&EE business innovations (including prize competition for the most innovative business idea) - (to be implemented in combination with activity 2.3.3 under output 2.3 and output 3.1)
4.2.4 Collect lessons learned and develop a manual for sustainable energy start-up companies (to be used in the trainings under output 2.3)

Annex 2a: MOU of SPC and the Government of Tonga on co-funding contributions

ADDENDUM to
Memorandum of Understanding
between
The Government of Tonga
and the
Pacific Community

Background

On the 9th of September 2011, a Host Agreement was signed between the government of the Kingdom of Tonga (GoT) and the Pacific Community (SPC) to establish a country office of the SPC in Nuku'alofa, Tongatapu.

On the 9th of September 2015, a Memorandum of Understanding (MoU) was signed between the GoT and the SPC to jointly strengthen mutual cooperation and to clearly articulate priority areas that Tonga wishes SPC to engage in across the technical sectors it works in. In the Economic Development sector, SPC is to support Tonga's effort for the SPC-hosted Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) to be based in Tonga.

Article 1 – Purpose

1(1) The purpose of this Addendum is to articulate the respective responsibilities and commitments of the GoT and the SPC in the establishment and operationalisation of the PCREEE, with due regards to the signed Host Agreement and the MoU, referred to above.

Article 2 – Policies and Procedures

2(1) The Centre will operate under the rules and procedures of the SPC unless there are special agreements entered into with SPC where these rules and procedures are relaxed and special exemptions apply.

Article 3 – Premises and Property

3(1) The GoT shall provide reasonable and appropriate office space for the PCREEE, free of charge. This has been identified as part of the Third Floor of the Sanft Building, corner of Taufa'ahau and Wellington Roads at Nuku'alofa, with a total floor space of approximately 190 square meters.

3(2) The GoT shall ensure the security of the tenancy agreement for the office space for the next 6 years (end of 2022) and shall cover the costs of c services such as electricity, water, waste disposal, telephone and internet at the premises.

3(3) The GoT shall assist the SPC in getting the Landlord's and government authorities' approval for the installation of signage and notices at the premises that would promote the visibility of the SPC, PCREEE, UNIDO and the supporting partners.

3(4) SPC will be responsible for the initial fabrication and furnishing of the PCREEE.

3(5) Should the location of the PCREEE change, the GoT will be responsible for the removal costs and the fabrication and furnishing of the new office space.

Article 4 – Staffing of the PCREEE

4(1) The initial staffing of the PCREEE will be as in Annex 1.

4(2) SPC will pay for the salary of the Head of the PCREEE and two local positions of Administrative Assistant and Administration / Finance Officer for the next 6 years (2016 -2022).

4(3) GoT will pay the salary and station two of its energy experts at the PCREEE in the next six (6) years (2016 – 2022). GoT will also top up the salary of its two officers, so that all salaries are in accordance with SPC's HR policies and procedures.

4(4) National Coordinators of regional energy projects managed by SPC will be recruited and stationed as part of the staff of the PCREEE.

4(5) The GoT can second additional experts to work for the PCREEE for capacity building purposes but based on the needs of the PCREEE and on terms and conditions to be agreed to with the SPC. Additional staff by both or either party can work for the centre based upon mutual agreement by both parties.

Article 5 – Work Programme of the PCREEE

5(1) The GoT can contribute to the work programme of the PCREEE through the implementation and delivery of its relevant national, bi-lateral, regional and multilateral projects through the PCREEE, based on terms and conditions to be agreed to by both parties.

5(2) The GoT will make available its projects on the ground for the training and research purposes of the PCREEE.

Article 6 – Promotion of the PCREEE

6(1) The GoT will work collaboratively with SPC in promoting and obtaining support to the PCREEE and its objective of accelerating the increased access to modern, affordable and reliable energy services, energy security and mitigation of negative externalities of the energy system by creating an enabling environment for renewable energy and energy efficiency markets and investments.

6(2) The GoT and SPC will support each other to participate in relevant fora to promote support to the PCREEE.

6(3) The GoT and SPC will jointly develop funding proposals, and lobby for support from other PICTs and partners, to support the objective and mission of the PCREEE.

Article 7 – Amendment

7(1) This Addendum may be amended only by written agreement of the Parties, in accordance with their respective rules and regulations.

Done at Nuku'alofa in Tonga in two originals in the English language, one for the Government of Tonga and one for the Pacific Community.

For the Government of the Kingdom of Tonga	For the Pacific Community
Name: Hon. Samiuela 'Akilisi Pohiva	Name: Dr. Colin Tukuitonga
Position: Prime Minister	Position: Director-General, Pacific Community (SPC)
Signature:	Signature:
Date:	Date:

Annex 2b: Draft Project Implementation Agreement

PROJECT IMPLEMENTATION AGREEMENT BETWEEN

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

AND

THE PACIFIC COMMUNITY

FOR THE PROJECT OF

XXXXX

TO BE EXECUTED BY:

XXXXX

Funded by XXXXX

PROJECT SUMMARY

UNIDO Project number:	SAP ID: XXXX	
Project title:	XXXXX	
Project Approval date:	October 2014	
Duration:	4 years	
Project site:	XXXX	
Government Executing agency:	XXXX	
Project Executing Unit	XXXX	
Implementing agency:	UNIDO	
Project Inputs: grant:	**US$**	**XXXX**
Support costs (%):	US$	XXXX
Co-financing:		
SPC inputs (cash):	US$	XXX
(in-kind):	US$	XXX
Counterpart inputs (in cash and in-kind):	US$	XXXX

The signing of this Project Implementation Agreement will be concluded by the XXXXXX, legally represented by the representative of XXX, and the United Nations Industrial Development Organization (UNIDO), legally represented by XXXX, XXXX, in accordance with the following terms:

The Project is described in more detail in the Project Document, a copy of which is attached to this Project Implementation Agreement as **Annex A** and made an integral part hereof.

Reference is also made to the Standard Basic Assistance Agreement concluded on 29 June 1979 between UNDP and XXXXX (the "Basic Cooperation Agreement"), a copy of which is attached to this Project Implementation Agreement as **Annex B** and made an integral part hereof.

The aim of this Project Implementation Agreement is to confirm the commitment of the parties for the successful implementation of the Project and define the terms and conditions for cooperation in connection with the Project.

UNIDO is implementing the project with funding of the XXXXXX Government and as such has the overall supervision and oversight function over the Project and is accountable towards the donor for the contribution of US$ XXXX (as per Project Document in Annex A) as grant funding to the Project.

UNIDO will establish a Project Execution Agreement with SPC, which shall be in accordance with the terms of this Project Implementation Agreement and the respective rules, regulations and policies of UNIDO.

SPC will execute the Project in accordance with the Project Execution Agreement and the Project Document, and as per the roles of various stakeholders mentioned therein including UNIDO. A Project Execution Agreement Template is attached to this Project Implementation Agreement as **Annex C** and made an integral part hereof. The Project Execution Agreement Outline shall guide the arrangements between UNIDO and SPC.

SPC shall open and maintain a designated account into which UNIDO will transfer the disbursements for purposes of the Project. This account shall be opened in a financial institution acceptable to UNIDO, and on terms and conditions acceptable to UNIDO.

The Parties shall take all necessary measures and cooperate in the successful implementation of the Project, in accordance with this Project Implementation Agreement and the Project Execution Agreement between UNIDO and SPC.

Amendments to the arrangements mentioned herein shall be by mutual written agreement between the Parties. The Project duration is four years. Any extension of time over the Completion Date shall be subject to agreement by both Parties and the donor.

The parties agree to apply to the present Project, *mutatis mutandis*, the provisions of the Basic Cooperation Agreement. Any circumstance not specifically covered by this Project Implementation Agreement, including any amendments or adjustments thereto, shall be resolved by reference to the relevant provisions of the Basic Cooperation Agreement.

All subsequent correspondence regarding the execution of the Project, other than amendments thereto, shall be directed to XXXXXX, UNIDO, at PO Box 300, A-1400 Vienna, Austria, using the reference XXXX.

For and on behalf of SPC:

Agreed on (Day) (Month), 2016

For and on behalf of UNIDO:

XXXXXX

Agreed on (Day) (Month), 2016

Annex 3: Documentation on the selection process of the host organization

PACIFIC ISLANDS FORUM SECRETARIAT
Excelling Together for the People of the Pacific

CIRCULAR
PACIFIC ISLANDS FORUM SECRETARIAT
Address Private Mail Bag, Suva, Fiji
Telephone (679) 331 2600 | Facsimile (679) 322 0266
Email info@forumsec.org.fj | Website www.forumsec.org

PACIFIC ISLANDS FORUM
40th Anniversary 1971-2011

CIRCULAR NO: 157/14

EP/33/1

27 November 2014

TO : OFFICIAL CONTACTS OF FORUM MEMBER GOVERNMENTS
[Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu]

FORUM ASSOCIATE MEMBERS
[French Polynesia, New Caledonia, Tokelau]

FORUM OBSERVERS
[American Samoa, CNMI, Guam, Timor-Leste, Wallis & Futuna, ACP Group, ADB, ComSec, IOM, UN, WCPFC, World Bank]

OFFICIAL CONTACTS OF POST-FORUM DIALOGUE PARTNERS
[Canada, Cuba, European Commission, France, India, Indonesia, Italy, Japan, Korea, Malaysia, Philippines, People's Republic of China (PRC), Spain, Thailand, United Kingdom, United States of America]

FROM : CRISTELLE PRATT, ACTING SECRETARY GENERAL

SUBJECT : **A TENDER FOR THE HOSTING OF THE PACIFIC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY – A SUSTAINABLE ENERGY FOR ALL CENTRE OF EXCELLENCE**

On 4 April 2014, at the Meeting of Energy and Transport Ministers in Nadi, Ministers agreed to the establishment of the Pacific Centre for Renewable Energy and Energy Efficiency – A Sustainable Energy for All Centre of Excellence (the Centre) that would be progressed through a competitive tender process to determine the host for the Centre. Ministers further agreed that the selection process involve a panel comprising Pacific Island Countries and Territories, and development partners. This panel would make a recommendation on the hosting arrangements to be circulated for consideration by Ministers. The Ministers requested that the Pacific Islands Forum Secretariat work with the concept proponent and funder, the United Nations Industrial Development Organization (UNIDO), and the tender panel to facilitate the process.

2. This Circular serves to inform Members and prospective organisations of the tender process for the Centre. Pacific-based organisations with demonstrated regional outreach on energy issues are invited to review the relevant material and consider making a submission.

3. The focus of the Centre is to strengthen the region's capacity to progress a sustainable energy agenda. The proposal for the development of the Centre is under the umbrella of the Framework for Action on Energy Security in the Pacific (FAESP) and its associated Implementation Plan for Energy Security in the Pacific. It is part of a global request made under the Small Island Developing States Sustainable Energy Initiative (SIDS DOCK), which requested UNIDO to support the establishment of regional sustainable energy centres for SIDS.

4. We attach a project document that provides a comprehensive planning and implementation framework for the proposed institutional design of the Centre. It was presented at a validation regional workshop on 12-13 March 2014, in Nadi, Fiji, and contains valuable information on the key objectives, outcomes and outputs for the start-up and first operational phase of the Centre. Please note that the financing of the Centre remains indicative. To date pledges having been received from UNIDO and the Government of Austria.

5. We also attach a Terms of Reference for the proponents that would have to be addressed in the design, submission and assessment process. Interested and qualified regional and national organisations are invited to submit their applications in electronic form at the latest **by 30 January 2015 at 18.00, FJT – Fiji Time**, to the e-mail address: application@prcreee.org. Applicants are asked to use this attached form to submit their applications.

6. Applications shall include: a.) the application form filled and signed by the applying host organisation; b) a signed support letter from the Government of the host country; c) description and photos of the offered office space and building; and, d) description of the host organisation and CVs of its sustainable energy expert staff. Incomplete submissions cannot be considered.

7. Applications will be assessed by a Technical Evaluation Group (TEG). Membership of the TEG will be drawn from PICTs and development partners that have relevant and specific experience at working on energy issues in the Pacific, managing/coordinating energy projects and have made a declaration of their willingness to act independently in the process. The TEG will be established after the close of the tender.

8. The narrow timeframes necessitates a short turnaround for clarification and comments. For any clarification on the tender process and guidance on nominations, please contact Mr Scott Hook, Economic Infrastructure Adviser on email: scotth@forumsec.org or phone (+679) 331 2600.

Cristelle Pratt
Acting Secretary General

Attach.

c.c. FSM Embassy, Suva
Kiribati High Commission, Suva
Nauru High Commission, Suva
Republic of the Marshall Islands Embassy, Suva
Solomon Islands High Commission, Suva
Tuvalu High Commission, Suva
Vanuatu High Commission, Suva
CROP Agencies [PASO, PIDP, PIFFA, PPA, SPC, SPREP, SPTO, USP]

Submission form for applications regarding the hosting of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)

At the Second Meeting of the Pacific Ministers of Energy and Transport held from 2 to 4 April 2014 in Nadi, Fiji, it was decided to establish the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). It was agreed to select the host organisation of the centre through a competitive application process.

Interested and qualified regional and national organisations are invited to ***submit their applications in electronic form at latest by 30 January 2015 at 18.00, FJT – Fiji Time, to the e-mail address: application@prcreee.org****. Applicants are asked to use this form to submit their applications. Applications shall include a.) the application form filled and signed by the applying host organisation b.) a signed support letter from the Government of the host country, c.) description and photos of the offered office space and building d.) description of the host organisation and CVs of its sustainable energy expert staff. Incomplete submissions cannot be not considered. The evaluation of the applications will be done by a panel comprising PICTs and development partners in accordance with the institutional and sustainable energy criteria in this form.*

Information that is relevant to prospective bidders is available at: http://www.pcreee.org. It is recommended that potential bidders review this information prior to contacting the tender managers. Requests shall be sent in written form by e-mail to application@pcreee.org.

Information requested	Explanation by the applicant
Quality Criteria (40% weight)	
1. Quality of the physical office space provided by the host government to the PCREEE Secretariat	
Name and GIS coordinates of the proposed office location where the Centre will be housed; provide a short description and photos of the offered office space and building (inside and outside); confirm immediate availability of office space;	
Describe furniture (e.g. desks, tables, meeting room) and equipment (e.g. IT equipment, video conference) to be made available free of charge to the PCREEE Secretariat;	
Indication of area of usable office space in square meters (m^2), number of office rooms, and potential scope for expansion;	
Availability and description of facilities for PCREEE meetings and training workshops (including IT training facilities);	

Availability of information and telecommunications technology in the office (particularly high-speed internet connection);	
Renewable energy and energy efficiency components integrated in the office building (or to be installed in near future);	
2. Conditions and privileges offered by the host organisation to the PCREEE Secretariat and its staff	
Scope of autonomy granted by the host organisation to the PCREEE Secretariat (ability to sign contracts and receive funding, execution of procurements and recruitments);	
Explain which operating and running costs for the office and training facilities (e.g. water, electricity, rent, repair costs) would be covered by the host organisation for which period of time.	
Explain which extras would be provided to the centre on a cost-free basis (e.g. residence to the Director, guest house, and official cars of the centre). Which privileges will be offered to the staff of the centre (e.g. tax exemption, permanent residence for staff and family members, work permits for family members); Access and conditions of staff members to health facilities and medical insurance;	
3. Comparative advantage of the office location	
Distance to airport and availability of flight connections to countries in the Pacific and to other international locations (Europe, Asia, Oceania, etc)	
Proximity of office to the main business, public administration and diplomatic districts	
Presence of national, regional or international organisations with energy or environmental mandate in the host city	
Availability of suitable conference facilities and hotels at affordable rates in the host city	
4. Additional cash and in-kind contributions of the host organisation to the administrative and/or operational budget of the centre:	

Financial contributions to the administrative and technical program budget of the centre for which period of time;	
In-kind contributions to the centre (e.g. seconded administrative or technical staff, co-funding through other programs or projects available) for which time period;	
Sustainable Energy Criteria (40% weight)	
Information requested	**Explanation by the applicant**
5. Leadership, commitment, achievements and capacities of the host organisation and host country in renewable energy and energy efficiency on national level	
Leadership and years of experience of the host organisation in RE&EE; track-record of implemented RE&EE programs and projects; Provide information on the technical staff currently working on renewable energy and energy efficiency in the host organisation (please provide short CV and current position/project)	
Describe the leadership of the host country through adopted RE&EE targets, laws, incentives, standards; status of implementation; achievements in promoting EE in buildings, industry, transport, lighting, appliances and generation and distribution (e.g. grid losses);	
6. Regional outreach of the host organisation and country concerning RE&EE in the Pacific	
Regional outreach of the host organisation to other Pacific islands and their institutions in the sustainable energy sector; leadership of the host organisation and country in previous and ongoing regional RE&EE programs and projects;	
Potential for creating synergies between ongoing national RE&EE projects and the regional activities of the centre; national RE&EE capacities in the host country (e.g. research and training institutions and local companies) allow knowledge and technology transfer to other Pacific countries; existence of innovative RE&EE demonstration projects with the potential for replication in the Pacific region;	
Purpose and Sustainable Programme Criteria (20% weight)	

Information requested	Explanation by the applicant
7. Describe the main purpose for the institution to host the Centre.	
8. Discuss the ways in which the Centre will be made sustainable and identify some of the associated risks for the Centre going forward.	

SPC Headquarters
BP D5
98848 Noumea Cedex
New Caledonia
Telephone: +687 26 20 00
Fax: +687 26 38 18

SECRETARIAT OF THE PACIFIC COMMUNITY
SECRÉTARIAT GÉNÉRAL DE LA COMMUNAUTÉ DU PACIFIQUE

Siège de la CPS
BP D5
98848 Nouméa Cedex
Nouvelle-Calédonie
Téléphone : +687 26 20 00
Télécopieur : +687 26 38 18

SPC file no.: PRO 135/3/4

8 September 2015

CIRCULAR LETTER TO :

ENERGY MINISTERS OF THE PACIFIC ISLAND COUNTRIES AND TERRITORIES

Dear Honourable Ministers,

Follow-up to the Second Regional Meeting of the Pacific Ministers of Energy and Transport (Aviation and Maritime), Nadi, Fiji, 2-4 April 2014

It would be recalled that two of the outstanding matters from the Second Regional Meeting of the Pacific Ministers of Energy and Transport (Aviation and Maritime) in Nadi, Fiji, 2-4 April 2014 were:

i) the permanent host of the Pacific Regional Data Repository (PRDR), and
ii) the host of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE).

The PRDR

1. With regards the PRDR, Ministers welcomed the PRDR initiative and commended UNESCAP for leading the initial work. Further, Ministers welcomed the decision for the Secretariat of the Pacific Community (SPC) to host the PRDR for 12 months, on an interim basis, noting that a review of the arrangement would be conducted after 12 months. Ministers agreed that the outcome of the review and its recommendations on the long-term hosting arrangement for the PRDR would need to be circulated to Ministers out-of-session, for decision. Ministers also agreed for a steering committee to be established to provide an oversight and support role to SPC during the 12-months interim period.

2. Since these ministerial decisions, the PRDR Steering Committee has met four times: it held three meetings before the successful launch of the PRDR at the Third Small Island Developing States (SIDS) Conference held in Samoa in September 2014; and, held a fourth meeting during the meeting of the Pacific Energy Advisory Group (PEAG) in Suva in December 2014, to discuss future directions of the PRDR in 2015 and beyond.

3. Their fourth meeting highlighted the immediacy and urgency of identifying a permanent host for the PRDR and the importance of giving some confidence and certainty to the permanent host as soon as practicable, and in respect of this they:

   i) acknowledged SPC's effort and commitment of internal financial, staff and office resources to the PRDR development noting the considerable progress achieved which had resulted in positive momentum, awareness and support;
   ii) Noted the need for security, continuity and confidence for SPC as the host, and for development partners to continue to dedicate and / or commit resources to the ongoing development of the PRDR, given that some assistance is likely to be delayed or withheld until the permanent hosting arrangement is agreed and established;

iii) Noted the need, for the viewpoint of governments, to have a sense of certainty and continued ownership of the PRDR, irrespective of where it would be hosted;
iv) Unanimously agreed therefore that in the absence of any firm alternative interest and given SPC's unique position on the PRDR, that **SPC be recommended to be the permanent host of the PRDR**; and,
v) Agreed that the Steering Committee be disestablished and that its PRDR oversight role be now taken up by the meeting of the SPC-convened Pacific Energy Advisory Group (PEAG).

The PCREEE

4. On the PCREEE, Ministers supported mechanisms that promote private sector involvement and interactions, including the proposed *PCREEE - A Sustainable Energy for All (SE4ALL) Centre of Excellence* that would be progressed through a competitive tender process to consider bids to host the regional centre. Ministers further agreed that the selection process would involve a panel comprising PICTs and development partners; this group would make a recommendation on the hosting arrangements to be circulated for consideration by Ministers out of session. Ministers further requested that the Pacific Islands Forum Secretariat (PIFS) work with the concept proponent and funder – the United Nations Industrial Development Organization (UNIDO) – and the tender panel to facilitate the process.

5. After criteria for assessment was developed by UNIDO, the tender process was launched in November 2014 by PIFS through its Circular: 157/14. The deadline for submissions was 30 January 2015. By the deadline, one submission had been received. It was a joint submission by members of the Council of Regional Organisations in the Pacific (CROP) - led by the Secretariat of the Pacific Community (SPC), and including the Pacific Power Association (PPA), Secretariat of the Pacific Regional Environment Programme (SPREP), University of the South Pacific (USP) and PIFS. The submission proposed that SPC would be the hub/host of the PCREEE and would be supported by the partner agencies [PPA, SPREP, USP and PIFS], which would be the spokes for various initiatives such as capacity building and financing.

6. To ensure an open and transparent process, UNIDO engaged a consultant to undertake an independent evaluation of the submission. The consultant gave the submission a score of 75.5% out of 100%.

7. PIFS convened an evaluation panel comprising representatives from UNIDO (as the proponent of the PCREEE proposal), SIDS Dock, EU (a long-term development partner in the Pacific, with experience in energy projects in the region), Palau and Tonga (both countries represented by officials with vast experience in the energy sector). Each panel member had to declare any conflicts of interest. The panel individually commented on the submission and the consultant's evaluation. Overall, the panel members were supportive of the submission and agreed with the consultant's assessment.

8. The panel also suggested some steps to strengthen the proposal. These were mainly in the areas of:

i) The need for a MoU between the partners to specifically define their roles and responsibilities;
ii) The need for Funds received and spent in the name of PCREEE to be kept and managed separately, under the control of the Director of the Centre;
iii) Ensuring that the impact for the countries should be maximised and measured;
iv) The need for external stakeholders to participate in the recruitment process of staff for the Centre;
v) The need for the Centre to eventually have some autonomy to ensure its independence, and not to be in the corporate spine of the SPC (e.g. ability to sign contracts, recruit staff by using flexible and cost-effective employment models for staff);
vi) The need for the role of the Pacific Energy Advisory Group and Pacific Energy Oversight Group in providing oversight to the centre to be clearly defined and articulated; and,
vii) The need for the Centre to work closely with the newly established regional sustainable energy centres for SIDS in the Caribbean and Africa.

9. It is proposed that these matters would be addressed during the establishment phase of the Centre. SPC has proposed that the Pacific Energy Advisory Group (PEAG) would take on the oversight and monitoring role in this context. SPC will convene a meeting of the PEAG in November this year.

Recommendations for the Energy Ministers to Endorse

10. Given the above discussions and developments in respect of the PRDR and PCREEE, since Ministers' decisions in April 2014, the PRDR Steering Committee and the PCREEE Evaluation Panel provide the following recommendations for Ministers' kind consideration:

    i) Agree that the SPC become the permanent host of the Pacific Regional Data Repository (PRDR);
    ii) Note the recommendations of the independent evaluation panel and agree to accept the joint proposal of SPC, USP, SPREP, PPA and PIFS to establish the Pacific Centre for Renewable Energy and Energy Efficiency: A Sustainable Energy for All (SE4ALL) Centre of Excellence;
    iii) Further, note that SPC will be the hub/host of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), in cooperation with PIFS, PPA, SPREP and USP who would be responsible for supporting areas such as capacity building and applied research, renewable energy and energy efficiency, knowledge management, investment and business promotion; and,
    iv) Direct the Pacific Energy Advisory Group (PEAG) to oversee and monitor the establishment and operationalization of the PCREEE.

11. I, the undersigned give you my undertaking that the potential risks raised during the evaluation process will be addressed during the establishment phase of the Centre, and that the Pacific Energy Advisory Group (PEAG) will undertake the oversight and monitoring role in this context.

12. The hosting of PRDR and PCREEE in the SPC will allow the creation of very useful synergies and efficiencies to be realised.

13. We request that you forward any comments and, or objections that you may have on the recommendations outlined in paragraph 11, to Mr Solomone Fifita of SPC [solomonef@spc.int], before 5.00 p.m. on Tuesday, 22 September 2015 (Suva time). As is the usual practice, silence would be taken as consent.

We look forward to your kind support and consideration.

Yours sincerely,

Dr Colin Tukuitonga
Director-General

Annex 4: Terms of Reference for the PCREEE National Focal Institutions (NFIs)

A. Background

In line with the existing structure of the SPC regional energy programme, the PCREEE Secretariat undertakes its activities in coordination and cooperation with its established network of National Focal Institutions (NFIs) in each PICT. The purpose of this network is to increase the impact and effectiveness of programmes, projects and activities developed, coordinated, co-funded and/or implemented under the leadership of the Centre. Moreover, it will avoid duplication of activities and alignment with the individual needs of the PICTs.

B. Selection Process and Eligibility Criteria

After its creation, the PCREEE Secretariat will request the Officer in charge of Energy in each Partner State to nominate one permanent PCREEE National Focal Institution (NFI) which will coordinate all PCREEE activities in the respective country/territory. The NFI should meet the following eligibility requirements:

- In the optimum case the NFI should be either the Office itself or a technical agency close to the Office (e.g. energy department).
- The institution shall have a clear mandate for renewable energy and energy efficiency (RE&EE) and related expertise, reputation and capacities.
- The institution shall have the ability to influence and contribute effectively to the improvement of RE&EE frameworks in the country (e.g. policy, capacity building, investment promotion).
- The institution shall have the adequate IT and internet facilities to implement its duties
- In each of the institutions two experts, the focal points, will be appointed. The two experts (chief and alternate) shall have adequate knowledge and experience in matters of RE&EE and have his current engagement directly related to this field. The selected person shall have a well established position in the institution.

C. Responsibilities for the PCREEE-NFIs

The NFI represents the country on all PCREEE activities. It will:

I. advise the Minister and the Permanent Secretary on matters relating to PCREEE and renewable energy and energy efficiency developments and trends in the region;

II. oversee the coordination of PCREEE activities in the respective country.

III. participate in the annual NFI coordination meetings of the Centre and suggest activities for its annual work plans; participate in other technical meetings and workshops of PCREEE;

IV. create awareness on PCREEE and its activities in the respective country; engage relevant stakeholders in renewable energy and energy efficiency policy dialogue including public institutions, civil society and private sector; develop and maintain a contact network of RE&EE key stakeholders, in order to make publicity and to promote the achievements in the field of renewable energy and energy efficiency;

V. take responsibility to collect national data and news on RE&EE for PCREEE and contribute to the strengthening of the PCREEE RE&EE knowledge base (e.g. provide national studies, news, contact lists, etc); provide regularly energy data for dissemination via the Centre.

VI. support PCREEE to organize capacity building, awareness raising workshops and trainings in the respective country and participate in PCREEE train-the-trainers and advocacy activities;

VII. participate in the procurement of consultancy services if required, the identification of project sites and other national activities that are to be executed by the PCREEE secretariat; supervise and monitor the works of consultants appointed by PCREEE to ensure that the assignment is conducted effectively and efficiently;

VIII. monitor, appraise and evaluate projects and programmes, as may be agreed between PCREEE and the focal institution; the focal institution ensures adequate appraisal and quality assurance of projects and programmes; ensure that PCREEE projects and programmes are in line with national policies, strategies and legislation; avoid duplication of activities implemented by other actors or donors;

IX. make suggestions for the further development of the PCREEE structure, strategy and annual work plan; Contribute to the further development of the PCREEE quality assurance and project appraisal policy;

D. RESPONSIBILITIES OF THE PCREEE Secretariat

The PCREEE-SECRETARIAT shall endeavour to:

I. ensure regular dialogue with the national focal institutions and ensure efficient coordination of the activities implemented by the NFIs ; provide information on recent developments in RE&EE;

II. provide an adequate monitoring and reporting framework and practical guidelines for the national focal institutions (e.g. appraisal criteria for projects, templates, forms, financial accountability rules and guidelines);

III. invite the focal institutions to participate in PCREEE activities, events and capacity building programmes;

IV. provide equipment and other facilities to enhance the work of the focal institutions;

V. cover travel costs and per diem for NFI experts to attend PCREEE events; and

VI. provide support for further development of skills and qualifications of the focal institutions.

Annex 5: Selected Job Descriptions

PACIFIC COMMUNITY (SPC)
POSITION DESCRIPTION

TITLE OF POSITION: DEPUTY DIRECTOR (ENERGY) OF THE ECONOMIC DEVELOPMENT DIVISION / ACTING DIRECTOR OF THE PACIFIC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY

(Female candidates are encouraged to apply)

RESPONSIBLE TO: DIRECTOR ECONOMIC DEVELOPMENT DIVISION

BACKGROUND

The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947. It is an international development organisation owned and governed by its 26 countries and territory members. SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures. Its vision is for a region of peace, harmony, security, social inclusion and prosperity, so that all Pacific people can lead free, healthy and productive lives. This is a shared vision for the Pacific under the Framework for Pacific Regionalism.

Economic Development Division

The **Economic Development Division** is comprised of two programmes: Energy and Transport. The Energy Programme leads and coordinates the implementation of the regional Framework for Action on Energy Security in the Pacific and its Implementation Plan. It works in the areas of: (i) leadership and coordination; (ii) energy planning, policy and legislative frameworks; (iii) petroleum; (iv) renewable energy; (v) energy efficiency and (vi) energy data and statistics. The Transport Programme has a major regional role to play in ensuring Pacific Island Countries and Territories (PICTs) comply with international and regional instruments and that there are systems and structures in place to align national frameworks with these ratified requirements.

SPC's Transport Programme deals with maritime matters in the Pacific Islands region and it is the implementing body for IMO technical cooperation division activities. The activities of the Transport Programme are intended to complement PICTs effort in the following areas: i) Coordination, partnerships, communication & information; ii) Maritime safety and security; iii) Environmental impact, technology & energy; iv) improved access to transport and trade facilitation; and v) Capacity development.

THE POSITION

The Deputy Director (Energy) of the Economic Development Division is accountable to the Director. The position is also part of the extended SPC executive management team headed by the Director-General and is the principal focal point within the SPC executive for the regional energy sector and is open to both male and female applicants. Specifically, the Deputy Director is the head of the Energy Programme of the division and provides overall leadership and management oversight of the regional energy sector programme and the development of the programme's strategic direction, work programme, staffing and financial resources.

The Deputy Director (Energy) will also serve as Acting Director of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). The centre is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the Ministry for Meteorology, Energy, Information,

Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with the SPC's effort to strengthen its in-country presence in its members. The centre aims at upscaling the national efforts to create sustainable energy markets, industries and innovation.

Duty station

At least 50% of the time, the Deputy Director (Energy) will be physically located at the Secretariat of the Pacific Centre for Renewable Energy and Energy Efficiency Centre (PCREEE) in Nuku'alofa, Tonga and 50% at the EDD is Suva, Fiji.

Key focus for the position

At their 2009, 2011 and 2014 meetings, Pacific Energy Ministers articulated the role they envisaged for the lead regional agency in energy (SPC) and the position that leads this work as that of providing leadership for, and improving the profile of energy as a key priority sector in the Pacific islands region. The major areas of focus for the regional energy sector will include: (i) leadership and coordination; (ii) energy planning, policy, legislative framework; (iii) petroleum; (iv) renewable energy; (v) energy efficiency and (vi) energy data and statistics.

Duties and Responsibilities

- Provide leadership, management and technical oversight of the work programme of the energy programme within the EDD and the regional energy sector.
- Provide leadership, management and technical oversight for the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) throughout the first operational phase (2016 – 2020).
- Operationalise the decision making and coordination mechanisms in the energy sector, viz, the CROP Energy Security Working Group, the Pacific Energy Advisory Group, the PCREEE Steering CommitteeSteering Committee and the regional meetings of Energy Officials and Ministers.
- Lead and coordinate the implementation of the Framework for Action on Energy Security, the formulation of annual work / business plans and monitoring and evaluation frameworks and the preparation of progress and status reports; establish the PCREEE business plan;
- Foster and identify opportunities for the strategic engagement of the region at national, regional and global processes and networks such as the national energy roadmaps, Micronesia Energy Challenge, Asia-Pacific Energy Forum, the Sustainable Energy for all Initiative, SIDS Dock and the UNIDO global network of regional sustainable energy centres. Cooperate closely with CCREEE and ECREEE on SIDS-SIDS sustainable energy and climate resilience issues;
- Lead / coordinate work on the Pacific Regional Data Repository with a shared approach to data collection, analysis and dissemination and the analysis of trends in the energy sector, issues and challenges.
- Be proactive in coordinating social, economic and policy research and analysis on the energy sector (petroleum, transportation, renewable energy, energy efficiency and energy conservation, energy infrastructure, power) and provide options for policy responses and strategic solutions to members and key stakeholders to inform their own decision-making processes.
- Coordinate the development of funding proposals, the recruitment of staff and the engagement of various national, regional and international stakeholders to effectively implement the regional energy security framework and its implementation plan.
- Act as the principal focal point for development partner interaction, resource mobilisation and allocation in the delivery of regional energy services.
- Establish and facilitate mechanisms that will involve key energy stakeholders in strategic analysis of emerging challenges and opportunities, and oversight, decision-making and/or management of issues relating to the energy sector.
- Provide strategic sectoral advice to SPC member countries and territories, the Director-General and other members of SPC's executive team on issues relevant to the regional energy sector.

- Contribute to the research and policy work of SPC's newly established multi-sectoral team of senior advisers.
- As a member of the executive team, contribute to the overall management of the organisation, including the generation, implementation and evaluation of SPC's policy programme, and provide and provide input on divisional and sectoral policies.
- Regularly update SIDS DOCK, UNIDO and other key partners on PCREEE issues and development;

QUALIFICATIONS AND EXPERIENCE

Essential

- Tertiary qualification in any of the key areas in the energy sector or an equivalent field, with proven leadership, management, strategic and organisational expertise and experience.
- At least 5 years demonstrated management experience, including human resource, project and financial management.
- At least 10 years of work experience directly relevant to the position.
- Good understanding of environment and climate change issues and their interaction with the energy sector.
- Highly developed leadership and planning skills.
- Demonstrated experience in policy analysis and the development and provision of policy advice.
- Effective communication, networking and coordination skills.
- Demonstrated ability to operate effectively at national, regional and international levels.
- Good knowledge of the socio-political situations in Pacific Island countries and territories.
- Excellent cross-cultural skills and the ability to work with team members from different cultural backgrounds.
- Highly developed interpersonal skills and ability to work effectively in a multi-cultural environment.

Desirable

- Demonstrated experience in raising external funding.
- Experience in representation at regional or international meetings.
- Well-established networks, regionally or internationally, with sector peers.
- For English speakers, a good working knowledge of French, or for French speakers, a good working knowledge of English.
- Work experience in a developing country, preferably in the Pacific region.

UNIDO Job Description

Sustainable Energy Private Sector Expert at the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)

(Female candidates are encouraged to apply)

Post title:	Sustainable Energy Private Sector Expert at the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)[34]
Duty station:	Nuku'alofa, Tonga (incl. regional and international travel)
Duration:	One (1) year (with the possibility for extension throughout the first operational phase of PCREEE)
Starting date:	in the course of 2016

Background

The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947. It is an international development organisation owned and governed by its 26 country and territory members. SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures. Its vision is for a region of peace, harmony, security, social inclusion and prosperity, so that all Pacific people can lead free, healthy and productive lives. This is a shared vision for the Pacific under the Framework for Pacific Regionalism.

In line with the decisions of the Ministers of Energy of the Pacific Island States and Territories (PICTs), the position aims at supporting the establishment and implementation of the first operational phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) and is open to both male and female applicants. The centre represents an innovative fusion of regional and international efforts and capabilities. Its design allows for the leveraging of a network of intra and extra regional partnerships, thereby serving as a "hub" for knowledge and technical expertise on matters related to sustainable energy project implementation. It will also serve as a facilitator for innovative partnerships with the private sector.

PCREEE addresses gaps in the current effort to address existing barriers and strengthen drivers for sustainable energy markets, industries and innovation through regional methodologies and tools. The centre focuses on the up-scaling and replication of national efforts in the areas of capacity development, knowledge management and innovation, awareness raising, as well as investment and business promotion. The centre has a strong private sector and industry focus and will support targeted RE&EE programs 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.

The centre is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with the SPC's effort to strengthen its in-country presence in its members. UNIDO provides technical services and mentoring throughout the first operational phase of the centre.

The centre is part of wider UNIDO supported post-2015 multi-stakeholder and triangular partnership directed to implement the SAMOA Pathway, SDG 7, SDG 9 and the Nationally Determined Contributions under the Paris Agreement (SDG 13). The partnership aims at the creation of a network of regional sustainable energy centres for SIDS in Africa, Caribbean, Pacific and Indian Ocean. In October 2015, the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) was formally established in Bridgetown, Barbados. The ECOWAS Centre for

[34] classified as UNIDO International Consultant

Renewable Energy and Energy Efficiency (ECREEE) based in Praia, Cape Verde, acts as SIDS DOCK hub for African SIDS.

Duties and responsibilities

The UNDO funded expert is to assist the Acting Director in focussing the activities of the PCREEE on the identified gaps in regional energy service deliveries, particularly on strengthening the capacity of the private sector, promoting business opportunities and innovation, as well as facilitating increased investments on RE and EE. The expert supports SPC as integrated expert throughout the establishment and first operational phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). The energy expert will assist the Acting Director also in technical and strategic issues of the Centre and will contribute to its recognition in the PICTs region and on international level. The expert will directly report to the PCREEE Acting Director who will then update the UNIDO project manager and SIDS DOCK on his / her performance and deliveries:

- Assist the Acting Director in strategic and technical issues;
- Consult and identify the priority technical and capacity building needs of the private sector and the business community Take the lead in the preparation of the PCREEE Business Plan, annual Work Plans and Status Reports;
- Prepare complex procurements for services and RE&EE consultancies;
- Take leadership in the development and implementation of the technical program of the center in close cooperation with the Acting Director and the other experts; execute activities/projects of the Centre as agreed in the annual work plans of PCREEE and assigned by the Acting Director;
- Assist the Acting Director in creating innovative partnerships with private sector and industry with the focus on a.) mainstreaming RE&EE into non-energy industries and SMEs and b.) promoting a local sustainable energy servicing and manufacturing industry (e.g. ESCOs, RESCOs);
- Assist the Acting Director in developing fund raising and contribute to the preparation of project proposals to be co-funded by the European Union or other financiers.
- Take the lead in the development of GEF and GCF RE&EE projects for the PICTs region.
- Contribute to the development of a PCREEE website and the public relation and visibility activities of the Centre (e.g. regular newsletters); take action to strengthen the visibility of the center regionally and internationally;
- Assist the Acting Director in building collaborative partnerships between the center, the private sector and other international and regional partners. Coordinate closely with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) in Tonga and other industry groupings such as the electrical contractors, building contractors association, etc on a daily basis.
- Coordinate closely with the technical programmes of other centers of the Global Network of Regional Sustainable Energy Centers; develop common and joint initiatives in cooperation with the UNIDO network coordinator.
- Participate in key meetings at the PCREEE Secretariat, the PICTs region or international level on request of the Acting Director;
- Coordinate closely and in strong partnership with the other related regional associations in the Pacific, e.g., the Pacific Power Association, SEIAPI, Association of Development Banks, etc;
- Seek good relations and facilitate a common united PCREEE approach with the supporters of PCREEE (e.g. , European Union, UN); ensure good team work with other PCREEE and SPC experts;
- Assist the Acting Director in regularly updating UNIDO on the progress of PCREEE activities and achievements;

General and requirements, qualification and experience:

- Citizen of one of the 22 PICTs countries[35] of SPC

[35] 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

- Postgraduate university degree at Masters Level with focus on engineering in renewable energy or energy efficiency; additional academic degrees in business or finance are an added value;
- At least 3 years work experience in a technical capacity on environment, climate change and sustainable energy in the private sector or a power utility or in a commercial environment;
- Proven track record of supervised, managed and coordinated on-the-ground projects and activities;
- Proven knowledge of the sustainable energy sector in the PICTs region. Work experience in the environment, climate change and energy sector in the PICTs region is an added value.
- Good analytical writing, communication skills and experience in the diplomatic field;
- Experience in international development cooperation and the management of development partners are a prerequisite; knowledge and good relations to the main actors of the energy sector are an added value;
- Ability to work under pressure and handle politically and culturally sensitive issues.
- Languages: Proficiency in English; French is an added value.

1	**Job Title: PCREEE Renewable Energy Expert** seconded by the Government of Tonga (Female candidates are encouraged to apply)	
2	**Level:** 9	**Location:** At the PCREEE office in Nuku'alofa
3	**Purpose(s):** • Work partly for the Energy Department of the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication (50%) and partly for the Pacific Centre for Renewable Energy and Energy Efficiency (50%) • Participate in the national, regional, international and PCREEE-supported energy dialogue/conferences to assist in the sustainable development of the Kingdom.	

1. RESULT AREAS

Key Result Areas	Main Activities	Performance Indicators
Strategic Planning	Contribute to the development of the PCREEE annual work plans, status reports and business plan	• Written contributions to the PCREEE documents
	Assist in coordinating national/regional energy development projects and national/regional initiatives that are implemented under, or have an impact on the energy sector activities of the Ministry or PCREEE.	• % of projects developed and initiated • Accurate information and materials presented to donors, Division and stakeholders • No complaints
	Assist in developing educational materials such as brochures, posters and publications for dissemination in the nation and PICTs region and for all levels of school curriculum. Move forward the PCREEE capacity development program.	• Timely published and dissemination of publications • % of relevant materials uploaded to the website • Accurate data collected and published • Integration of CC Mitigation in School Curriculum • No Complaints
	Assist with the development and coordination of the Regional Earth Day, Environmental Weeks programme in the Country in particular targeting school students and the general public; Contribute to regional awareness and knowledge management activities of PCREEE in PICTs;	• Timely plan and develop activities for earth day and Environmental weeks • Plan accepted by head of energy section • Plan implemented timely and cost effective • % of schools participate • No complaints
Technical Duties	Contribute to the development and implementation of the technical program of PCREEE in close cooperation with the Acting Director and the other experts; execute activities/projects of the Centre as agreed in the annual work plans of PCREEE and assigned by the Acting Director; develop regional/national GEF and GCF RE&EE projects to be executed in partnership with PCREEE;	• Developed project or program documents • Successful implemented projects and activities

	Monitor, appraising and provide assistance rural/remote incorporated RESCOs on its daily operation and AGM. Report to HoD through Energy Planners;	• Successful intervention in the field • % of technological progress in renewable and conventional energy technologies evaluated • Progress report on RE intervention to Energy Planner RE
	Coordinate all RE resource monitoring and assessment exercise of the Division and assist to carry out preliminary analysis	• Quality data is available at all time ready for analysis
	Collect and analyse technical and financial reports from RESCOs set up in the remote islands and report to Energy Planner RE	• Accurate data reporting • Means of responding to critical issues and how problems were being successfully solved.
	Request funds to Energy Planner RE for monitoring, evaluation, auditing and rehabilitation and to assist incorporated remote/rural RESCOs operation.	• Successful operation of RESCOs • No complaints from RESCOs or electricity users. • Number of request made and amount requested • Number of reports submitted to HoD
	Assist in the analysis of energy and renewable resource data to support the Energy Division in establishing renewable energy targets; contribute with data to the PCREEE RE&EE information system;	• % of renewable energy target identify and proposed • % of renewable data collected
	Assist in evaluating and reviewing the socio-economic and technical merits of activities, studies, consultation and initiatives in the renewable energy sector of Tonga and PICTs;	• % of socio-economic, technical merits activities evaluate and reviewed • % evaluation report documented • Number of studies engaged • Number of consultation carried out
	Provide support in conducting, facilitating and coordinating national and regional energy related training activities, seminars and workshops	• Successful completion of training, seminars and workshops • % of training, seminars and workshops activities participated • No complaints
	Conduct, inspect and commissioning of RE equipment installation according to standards procedures.	• Successful operation of the systems
	Carryout community consultation on RE related issues.	• Number of consultation took place
	Collect, analyse and publish national, regional and international RE information and advice general public with strategies to promote RE.	• Reliable data collected • Number of publications • Number of public awareness program conducted
	Contribute to SIDS-SIDS activities undertaken in partnership with SIDS DOCK and the other regional sustainable energy centres in Cabo Verde and Barbados (ECREEE and PCREEE)	• Number of activities implemented
Reporting	Report to the PCREEE Acting Director and the EE Energy Planner on RESCOs achievements, PCREEE RE activities and lessons learned in RE sector and on emerging critical issues in the field of RE.	• Number of reports received on timely manner

	Fulfil reporting obligation of the Ministry and PCREEE	• Number of reports produced on timely manner
Capacity Development	Organize RESCOs annual meetings and ensure that skills are strengthened at all times and sufficient knowledge is in place at all times;	• Number of meeting and training is conducted
	Assist in the organization of PCREEE workshops and events	• Number of meeting and training is conducted
	Participate in RE related national, regional and international training, workshops and meetings and report to Energy Planner [EE]	• Number of trainings, workshops and meeting attended.
	Develop training materials in Tongan and in English for RESCOs; make it available as guideline in other PICTs;	• Number of Publications
Others	Attend to internal and public requests	• % of requests attended • Timely attend to requests • No complaints • Accurate information provided
	Coordinate closely and in strong partnership with the other related regional associations in the Pacific, e.g., the Pacific Power Association, SEIAPI, Association of Development Banks, etc.;	• No complaints
	Seek good relations and facilitate a common united PCREEE approach with the supporters of PCREEE (e.g. SIDS DOCK, Austria, European Union, UN); ensure good team work with other PCREEE and SPC experts;	• No complaints
	Participate in key meetings at the PCREEE Secretariat, the PICTs region or international level on request of the PCREEE Acting Director;	• Meeting and travel reports
	Other duties appropriate to skills and qualifications as required from time to time;	• No complaints

2. JOB DIMENSIONS

Post holder reports directly to:	**PCREEE Energy Planner [EE] and Acting PCREEE Director**
Number of staff directly supervised /managed by post holder	8 including RESCOs Office Managers in the communities
Size of budget for which post holder is accountable	~TOP$1,000,000+
Posts inside the Ministry frequently contacted by the post holder	Energy Planner and Head of Division
Posts outside the department frequently contacted by the post holder	Government Offices and Energy Section Stakeholders, NGOs and the PCREEE.
Impact of decisions made by the post holder	Direct influence Energy Section services and the Division

State any special or unusual conditions that apply to the post	Assist TPL, TERM, PCREEE and other line Ministries if directed by Head of Division. Attend local meetings, workshop and trainings
Post Holder is expected to;	Read and comply with Policy Manual, Code of Conduct and any relevant Ministry Policies. Adhere to the Code of Conduct for the Public Service, the primary principals of which are; Fulfill his lawful obligations to the Government with professionalism and integrity Perform his official duties honestly, faithfully and efficiently, respecting the rights of the public Contribute to consultative and harmonious work and environment and relationships to their colleagues; and Not bring the Public Service in to disrepute through their private actions.

3. SKILL PROFILE

Experience of the post holder: Essential Desirable	* At least 5 years of appropriate work experience in the public service and energy institution. Must have a good background in environment, climate change, energy efficiency technology, project management, principles of sustainable development, rural electrification and community participation. * Aptitude for the provision of high quality service and demonstrated ability to take initiative and work under limited supervision.
Special skills of the post holder Essential Desirable	* Must be required to provide timely and relevant assistance on a wide range of issues within renewable energy with strong analytical and problem solving skills and should be capable of carrying out work in the areas of designated responsibility under limited supervision. * At least 3 year of experience with technical skills and management.
Formal education of the post holder Essential Desirable	* Relevant tertiary qualification(s) in Engineering or Science and Economics/ Management with technical knowledge in one or more areas in energy technologies * Degree or/ and additional qualifications at a relevant field
Communication skills	* Must be bilingual (fluent in Tongan and English) and can communicate effectively orally and written. * Strong PC based computer skills, preferably with Microsoft programmes [Word, Excel, PowerPoint] and ability to use e-mail and the Internet;
Personal attributes	* A confident, mature and personable approach is expected along with gender and cultural sensitivity. * Diligent and sociable * Highly motivated and pro-active * Responsible and organized *A flexible approach and a willingness to assist with a variety of other tasks within the Secretariat and a willingness to work outside normal hours if required.

1	**Job Title: PCREEE Principal Energy Planner on Energy Efficiency seconded by the Government of Tonga** **(Female candidates are encouraged to apply)**	
2	Level: 5	Location: At the PCREEE office in Nuku'alofa
3	Purpose(s): Work partly for the Energy Department of the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication (50%) and partly for the Pacific Centre for Renewable Energy and Energy Efficiency (50%)	
	Assist and advice the Head of the Energy Department (ED) and PCREEE Acting Director on regulating, managing and enforcing of the Energy Efficiency and Conservation legislations and policies, and the sustainable energy development of the country. Assist Head of Energy Department and PCREEE Acting Director with Policy and Legislation's development, revision and amendment. Provide adequate advice and support to the Head of the Energy Department and the PCREEE Acting Director on Energy but highly focus on Energy Efficiency and Conservation development matters, financial initiatives, administration and planning of the Energy Department. Ensure that the staffs of the Energy Department are well coordinated in order to achieve the visions of the Ministry as well as the National Energy target. Ensure close coordination with the PCREEE staff. Ensure that national and regional Energy and Energy Efficiency and Conservation Legislation and Policy are developed and effectively enforced. Monitor and coordinate energy development projects with those of the Pacific Centre for Renewable Energy and Energy Efficiency, donors, government agencies, private sectors, NGOs, regional energy Institutions, education institute and local communities. Provide technical advices, and skills on designing and implementation of energy development projects and sharing of Tonga's best practices and lessons learnt with the region. Assist in designing, and monitoring of institutional, technical, social, economic aspects of all sustainable energy development project in regards to Energy Efficiency and Conservation. Participate in the national, regional, international and PCREEE-supported energy dialogue/conferences to assist in the sustainable development of the Kingdom. Contribute to SIDS-SIDS activities undertaken in partnership with SIDS DOCK and the other regional sustainable energy centres in Cabo Verde and Barbados (ECREEE and PCREEE)	
4	Key Results Area	Performance Indicators

4.1	Planning Assist in developing of Energy Department's and PCREEE annual plans/reports and business plan Assist in the budget plans for the Energy Department and PCREEE Assist with Energy and Energy Efficiency policy and legislation development Plan and implement energy activities, including those of the PCREEE, for the Energy Department Plan, manage and monitor Energy Efficiency Development Projects in the region and apply to the work of PCREEE and the Energy Department; develop regional/national GEF and GCF RE&EE projects to be executed in partnership with PCREEE; Plan and implement capacity building activities, including those of the PCREEE, for staff, private sector and local communities	Plans approved by the Head of the Energy Department and PCREEE Acting Director. 100% compliance with Corporate Planning/work schedule 100% timeliness Compliance of proposed energy projects with strategic national framework Increase in number of completed activities per month Improvement in achieving the national energy target Number of capacity building activities implemented. Enforcement of Energy Efficiency policies and regulations Public are aware of the Energy Department's roles
4.2	Organizing Assisting Head of Energy Department and the PCREEE Acting Director with the Institutional Arrangements Continuous organizing and enforcement of staff's roles. Continuous update of the Head of the Energy Department and PCREEE Acting Director regarding all activities at all level, including those of the PCREEE Ensure that all administrative work and process is to date	Institutional Arrangements finalized and approved by the Head of the Energy Department and PCREEE Acting Director at the beginning of calendar year; Institutional Arrangements of Staff reflects core functions of the Energy Department and PCREEE, their strategic roles to achieve national and regional energy targets. 100% compliance of staff roles with Public Service policies. 100% timeliness with all administrative process. Head of the Energy and Acting PCREEE Director aware of all activities occurs at all level.
4.3	Leading Ensure that the team understand, support and implement the organization's vision, mission and objectives. Empower the team to feel motivated in order to effectively deliver the direction from the Head of the Energy Department and PCREEE. Influence strong and effective channels of communication amongst the staff and between the PCREEE and the Energy Department. Motivates and Inspire the PCREEE and Department team not to just follow but to become a leaders and role model for junior staff. Maintain and ensure that the team is performing well.	Operate in a customer friendly and timely manner. Staff are more productive and creative No. of output achieved in timely manner Staff are self-driven and adaptive to any changes or challenges Weekly report from the staff collected on time Staff being punctual
4.4	**Controlling** Monitoring Evaluating Correcting	Weekly reports on Department and PCREEE activities and compliance. Monthly report to the Head of the Energy Department and PCREEE Director Quarterly reports are submitted to the CEO on time. Quarterly reports are submitted to donor partners regarding Energy Projects.

	Reporting	Satisfactory staff performance and output. 100% timeliness; 100% compliance with internal system deadlines. 100% completeness and accuracy of reports submitted.
4.5	Technical Organizational Development (OD) Responsible for the following:	
	Support the Head of the Energy Department of the MEIDECC and the PCREEE Acting Director in the management, strategic leadership, coordination and implementation of the energy activities	**Ensure accuracy and timeliness of coordination, scheduling and monitoring.** 100 % support and advice given 100% timeliness 100% adherence to internal timelines and activities
	Facilitate, Coordinate, and Monitor Project with appropriate quarterly reports provided (as necessary).	100% adherence to Procurement Policies and Processes; Report on Donor funding utilized accordingly and balance reported to the Head of Energy Department; Quarterly report submits to Head of the Energy Department on time. 100% timeliness
	Work collaboratively with line Ministries and stakeholders, including the PCREEE to implement Energy Development activities and enforce Energy legislations and regulations but not limit to Energy Efficiency and Conservation areas.	**100% accuracy** **100% relevancy** 100% timeliness Healthy relationship with stakeholders No. of complaints received
	Coordinate, facilitate and implement training programs as may be required for the Energy development initiatives	100% compliance with approved internal timeline and Corporate/AMP timeline; 100% timeliness 100% relevancy of training provided Improve quality of energy sector services to the public No. of complaints received
	Report to the Head of the Energy Departments on the status and progress of the Energy Development activities, including those of the PCREEE	**100% accuracy** **100% relevancy** 100% timeliness Satisfactory status of completed activities Contribution to the achievement of the national target Lessoned learnt for future development
	Design and implement strategies to build a committed and effective Energy Sector workforce	% of staff commitment in accordance with Employee outputs Increase in the number of communication channels with employees 100% timelines 100% relevancy
	Develop ToR's for Technical consultants and Contractors for implementation of energy projects	Concise and complete ToRs 100% relevancy to energy project implementation Timely advertisement and engagement of TA
	Conduct shortlist and interview of Technical Personnel.	100% Compliance with Procurement regulations & procedures on recruitment. 100% timeliness No. Complaint

	Assist in managing ToR of Technical personnel(s) contracted	100% timeliness Clear and concise role and expected output
	Propose and develop new project initiatives for operation of the Energy Department and PCREEE, especially the technical aspects of project proposals	At least three (3) new project initiative proposed to the Head of the Energy Department 100% relevancy 60% feasibility if implemented
	Coordinate closely and in strong partnership with the other related regional associations in the Pacific, e.g., the Pacific Power Association, SEIAPI, Association of Development Banks, etc.;	No complaints
	Seek good relations and facilitate a common united PCREEE approach with the supporters of PCREEE (e.g. SIDS DOCK, Austria, European Union, UN); ensure good team work with other PCREEE and SPC experts;	No complaints
	<u>Other Reform Projects</u> Provide assistance on the Reform Institutional Structure as required for the new Ministry (i.e. identification of key energy development areas, staff needed for key areas and identification of posts etc).	100 % appropriateness of assistance 100% timeliness of assistance provided 100% accuracy of the assistance provided
	<u>General Human Resource Management</u> Assist the Head of the Energy Department with advice and contribution for the Ministry Executive team to provide policy advice to the line Ministries, CEOs, PSC, Cabinet and Higher authorities on the Energy Service policies, procedures and regulations	100% relevancy of input provided 100% timeliness of contribution provided **Timely reporting to Head of Department on policy concerns raised by employees/line Ministries;** **Timeliness** **100% Accuracy of advice given** **Referrals to CEO <2 per quarter** Complaints < 2 per quarter
	Assist the Head of the Department in interview selection panels and prepare papers on HR related matters for the consideration of PSC, Cabinet & Privy Council.	**100% timeliness of representation in the selection panel.** 100% completeness 100% accuracy 100% compliance with internal procedures No. of incomplete submissions submitted for pre-screen <3 per quarter.
	Represent the Head of the Energy Department in Energy Committee meetings	100% timeliness 100% accuracy 100% proactive
	Comply with file management procedures and good records keeping procedures.	100% compliance Nil complaints received

	And any other duties that may be directed by the Head of the Energy Department of the MEIDECC.	Timeliness and accuracy of carrying out other tasks as directed by the CEO of the MEIDECC.
5	**Reports Directly to:**	Head of the Energy Department
6	**Frequent Internal Personal Contacts with….**	Heads of Energy Department Acting Director of the PCREE
7	**Frequent External Personal Contacts with…**	Staff and colleagues in other ministries, PCREEE and the region.
8	**Impact of Decisions**	The decisions made by the post holder will have substantial impacts on the output and the vision of the Energy Department.
9	**PERSON SPECIFICATION FOR THIS POST**	
9.1	**Qualification and Experience**	Essential: A relevant First Degree from a recognized tertiary Institution and at least 10 years work experience in Environment, Climate Change, Energy and/or Energy Efficiency in Tonga and the Pacific OR a relevant Master degree from a recognized tertiary institution with at least 4 years work experience in Energy and/or Energy Efficiency development in Tonga and the Pacific Region. Demonstrated experience in a senior leadership position; Strong foundation in environmental and climate change mitigation knowledge, research design/analysis, qualitative/quantitative evaluation, and policy formulation; Desirable: Experience and knowledge of the energy policy, national energy priority, energy leadership, professional skills in project planning, project management, and energy leadership in Tonga and the Pacific region would be an asset.
9.2	**Special Skills**	**Essential:** Firm interpersonal, communication, facilitation, presentation, analytical and problem solving skills; Proficiency in developing initiatives in an innovative manner for effective resolution; Ability to coordinate project activities effectively with diverse groups and individuals; Excellent computer skills and ability to communicate effectively in both English and Tongan; Ability, adaptability and confidence to engage in complex issues; Capacity to work independently and proactive at all times; Potential to maintain healthy relationships with key stakeholders. Must have strong managerial and good leadership skill in executing projects on time and on budget; Sound program management skills with supporting skills in finance management, contract management, communication, negotiation and representation.
9.3	**Personal Attributes**	Essential: Must have sense of integrity, innovative attitudes, congruence, accolades, empathy, clear sense of direction, honesty, integrity, loyalty, high motivation and diligence to

		his team, the Energy Department, the government, and the public.

TERMS OF REFERENCE

IN-COUNTRY COORDINATOR OF THE EU-PACTVET PROJECT – TONGA / PCREEE CAPACITY DEVELOPMENT EXPERT

(Female candidates are encouraged to apply)

B. Project Description

Background

The European Union Pacific Technical and Vocational Education and Training on Sustainable Energy and Climate Change Adaptation (PACTVET) project is the component three within the broader Adapting to Climate Change and Sustainable Energy (ACSE) programme. The Project builds on the recognition that energy security and climate change are major issues that are currently hindering the social, environmental and economic development of Pacific African Caribbean and Pacific (P-ACP) countries. Despite efforts to reduce their reliance on fossil fuels and improved energy security, many P-ACP countries remain almost 100% dependent on imported petroleum products for power generation and transportation. Around the region, the price of fuel oil and electricity tariffs rank amongst the highest in the world and this is supported by the significant scale of inefficiencies in power generation and consumption and in the transport sector too. While there are promising renewable energy opportunities, about 7 million people out of the region's 10 million people still do not have access to electricity. Transport comprises some 70% of the regions use of imported fuel.

The Pacific region is among the most vulnerable to climate change. These countries are hardest hit by the adverse effect of climate change while they have little to contribute to the cause – producing less than 0.03% of the current global greenhouse gas emissions – they also have the least capacity to react and adapt to changes in climate.

Arguably one of the key barriers to improving P-ACP countries' energy security status and resilience to climate change impacts is the lack of local and regional capacity and expertise which results in the absence of sustainable training programmes and the absence of trained staff and well-resourced and equipped training institutions to deliver on the required training programmes.

The significance of capacity building on sustainable energy and climate change to the sustainable development of the P-ACP countries can be seen by the endorsement by the Forum Leaders on the Framework for Action on Energy Security in the Pacific (FAESP) and the Pacific Islands Framework Action on Climate Change (PIFFAC). Both frameworks have themes on Capacity Building, Training and Awareness with outcomes of:

- Increased awareness and understanding of sustainable energy and climate change issues among communities and other stakeholders.
- Strengthened capacity to monitor and assess impacts of sustainable energy and climate change.
- Strengthened capacity to identify, design and implement effective sustainable energy and climate change measures.

The project will be implemented by the Secretariat of the Pacific Community (SPC) in partnership with the University of the South Pacific (USP) over a period of 53 months, from July 2014 with funding provided by the European Union. Close links to the newly established Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) are created. The centre is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC), in conjunction with the SPC's effort to strengthen its in-country presence in its members. The centre aims at upscaling the national efforts to create sustainable energy markets, industries and innovation.

The general objective of the project is to enhance sustainable livelihoods in PACPs. Sustainable livelihoods are a high priority for P-ACP communities and governments alike. The purpose of the project is to enhance and/or create P-ACP's regional and national capacity and technical expertise to respond to climate change adaptation (CCA) and sustainable energy (SE) challenges.

The project completed its first phase having undertaken and shared results of its Training Needs and Gap Analysis to provide the baseline for the development of or tailoring of each P-ACP countries' SE and CCA training requirements that are appropriately accredited. With countries now having identified their priority needs for SE and CCA, and implementation plans developed, in-country focal points are needed to coordinate activities on the ground and to continue to build partnerships and networks with stakeholders.

C. Scope of Work

The scope of work for the consultant is generally to ensure effective, efficient and a coordinated implementation and reporting of Tonga's PACTVET Implementation Plan and to contribute to the development and implementation of the technical program of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). It will include, but not necessarily be limited to the following activities:

- Build the relationships/linkages on behalf of the project with key stakeholders in-country and the technical program of PCREEE;
- Coordinate with the Tonga PACTVET coordination committee (Energy, Climate Change, Education, Industry reps, etc.) on the ground implementation of project activities in-country.
- Contribute to the PCREEE annual work plans, status reports and business plan particularly regarding the capacity development component;
- Develop and execute PCREEE programs, projects and activities (particularly concerning the capacity development component)
- Facilitate consultations with key stakeholders to confirm partner training providers and key priority areas for Tonga.
- In coordination with the Project Management Unit, oversee financial spending and reporting of the project in-country.
- Provide quarterly reporting on project progress in-country highlighting issues and constraints to the Project Management Unit.
- Coordinate the development of regional qualifications on CCA and SE with relevant government authorities in Tonga.
- Coordinate the partnership agreement development between the project and training provider(s).
- Coordinate the in-country liaison for the procurement of equipment for training provider(s).
- Liaise with PMU to identify potential Trainers in-country;
- Organise Training of Trainers (ToT) in-country, as well as in other PICTs under the PCREEE framework.
- Ensure visibility of all project activities in-country, as well as on PCREEE level.
- Establish and maintain a network of TVET practitioners for CCA and SE in Tonga, as well on reginal level.
- Assist with the monitoring and evaluation activities in-country.
- Assist with any other activities that the Project Management Unit may request within the contract period.

D. Expected Outputs

The incumbent will produce the following deliverables during the assignment:

1. An updated national contact list of stakeholders/network (training/education institutions, relevant government agencies, private sector and civil society institutions) involved in TVET, SE and CCA/DRM.
2. A list of key focal points in the Education, SE and CCA sectors.

3. Signed agreements with partner institutions before June 2016.
4. Provision of equipment list from training provider(s) before June 2016.
5. Provision of list of potential trainers
6. An established network of CCA, SE and Education practitioners for Tonga.
7. PCREEE Project and Training Materials, as well as workshop reports
8. An established network of national Trainers for SE and CCA qualifications.
9. Monthly reports to PMU on activities.
10. Quarterly reports to the PMU on project progress including highlights of issues and constraints along the way.

E. Institutional Arrangement

i. The consultant will be directly responsible to the Team Leader of the PacTVET team through the Regional Coordinator PacTVET. In this case the reporting and any matter relating to the consultancy work should be referred to the PacTVET Team Leader through the Regional Coordinator PacTVET. The consultant will closely coordinate with the PCREEE Acting Director.

ii. The Reports are due as specified in section 3.

iii. The consultant is expected to consult/interact or collaborate with the following institutions in Tonga as well as in each of the P-ACP countries:

- Ministry of Foreign Affairs
- Ministry of Meteorology, Energy, Information, Disaster Management, Climate Change & Communications.
- Ministry of Education
- Technical training institutions (formal and non-formal)
- Development Partners
- University of the South Pacific
- Other CROP agencies
- TVET Associations
- Industry / professional associations
- Representative(s) of industries chosen at random in-country, if required
- In-country Coordinators/ National Representatives from the 14 other P-ACP countries.
- Other regional sustainable energy centres in the Caribbean and Africa (ECREEE, CCREEE) on SIDS-SIDS training issues

iv. The consultant would be working very closely with the Energy Department, the Climate Change Office and the Ministry of Education, including the Technical training institutions in Tonga.

F. Duration of the Work

The consultancy work will begin anytime between the 1st of June and the 1st August 2016, and will commence up to the end of the project period, December, 2018. Reports should be submitted on a quarterly basis with monthly summaries of activities. Phasing of the consultancy work is at the Consultant's discretion and is based on the work methodology that forms the part of the bidding document.

G. Duty Station

The Consultant will be based within the Energy Department of the Ministry of Environment, Information, Disaster Management, Energy and Climate Change (MEIDECC), Nuku'alofa, Tonga in the first instance and at the Pacific Centre for Renewable Energy and Energy Efficiency office at Nuku'alofa when it is fully established and operationalized . Any project related travel will have to be adequately justified and approved by the Project Team

Leader. The consultant, depending on the work plan, will have to report or liaise with the PACTVET team through the Team Leader on any matters that need the team's attention during the course of the consultancy work.

Evaluation Criteria

1. Qualifications of the Successful Contractor
The Consultant should have a bachelor's degree in a related discipline, and must have substantial experience in either the Adult/ Tertiary Education, Energy or Climate Change sectors.

Experience required
- 3 years relevant experience in a related sector, including the environment, climate change and energy;
- Project management experience in a related field will be considered a significant advantage;
- Experience in conducting and contributing to workshops or professional training exercises.
- Strong coordination and networking skills;

Other required skills:
- Possess good oral and written communication, organizational/administrative, data analysis and reporting skills;
- Be able to effectively represent the PacTVET Project in stakeholder meetings and show confidence in imparting knowledge to industry and other stakeholders;
- Demonstrated ability to organize work, manage time, determine priorities and meet deadlines;
- Demonstrated ability to work independently and flexibly, as well as being part of a team;
- Excellent computer skills including MS Excel.

TERMS OF REFERENCE

(Female candidates are encouraged to apply)

A. Project Position: **PALS National Coordinator (PNC) and PCREEE Energy Efficiency Expert**

B. Location: PCREEE office in Nuku'alofa

C. Project Title: Pacific Appliance Labelling and Standard Programme

D. Project Description

In 2011, a study of the costs and benefits of introducing standards and labels for electrical appliances in Pacific Island Countries projected a saving of about 12%, or 359 GWh per year. The monetary benefits of the energy savings were estimated at between USD 582 million and USD 895 million (undiscounted) over the period 2010 to 2025, depending on the oil price. This study led to the implementation of the Pacific Appliance Labelling and Standards Programme (PALS) in 2012, funded by the Government of Australia and implemented by the Pacific Community.

The PALS is assisting Pacific Island Countries and Territories (PICTs) to implement minimum energy performance standards and labelling (S&L) for energy using equipment such as refrigerators, air conditioners and lighting. Tonga is a Tier 2 country in the PALS in that it has developed a draft legislation and some awareness raising has been carried out. Tier 1 countries are those whose S&L legislation has been enacted by Parliament and have implemented S&L for at least one product. Fiji is the only Tier 1 country in the PALS.

Close links to the newly established Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) are to be created. The centre is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the **Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC),** in conjunction with the SPC's effort to strengthen its in-country presence in its members. The centre aims at upscaling the national efforts to create sustainable energy markets, industries and innovation. In line with the PCREEE mandate, the objectives of the PALS are to:

1. To analyse the appliance markets in the PICTs to inform the development of the appropriate S&L approach in each participating PICT.
2. To build the knowledge and capacity to deliver S&L programmes within SPC and among the officials of participating PICTs.
3. To facilitate Cabinet approval to adopt a S&L Programme and develop regulatory frameworks in participating PICTs.
4. Once PICTs approve the development of regulatory framework, to review their regulatory options and engage in-country legal expertise to draft the necessary legislation and regulations.
5. To assist with draft of legislation, stakeholder engagement and communication materials.

These objectives are in turn expected to result in energy savings, improved trade and gender equality.

E. Scope of Work

Working with the Director of Energy in Tonga, the PALS Project Manager as well as with the Acting Director of the Pacific Centre for Renewable Energy and Energy Efficiency, the PNC will assist with the delivery of the PALS so as to lift Tonga to a Tier 1 country, as well as to assist the Project Manager with the general delivery of the PALS. The PNC will contribute substantially to the delivery of the following:

1. Provide day-to-day management and implementation of the Tonga and regional project activities in accordance with the approved specific annual and quarterly work plans;
2. Provide effective coordination with key stakeholders including other energy efficiency related programmes and projects in the country and in the region;

3. Coordinate and monitor the national activities described in the work plan and provide quarterly financial and physical progress reports to the Energy Division of the Ministry of Environment, Information, Disaster Management, Energy and Climate Change and Communications (MEIDECC), the PALS Project Manager at SPC and the Acting Director of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE);
4. Coordinate project consultation meetings including the coordination of labelling and standards working group meetings;
5. Act as the primary contact point for stakeholder enquiries or concerns relating to the standards and labelling project and serve as the national representative to meetings required by the PALS Programme;
6. Coordinate nationally-managed contracts and consultancies under the project, including reviewing consultancy reports.
7. Contribute to the PCREEE annual work plans, status reports and business plan particularly regarding the energy efficiency component;
8. Develop and execute PCREEE programs, projects and activities (particularly concerning the energy efficiency component)
9. Coordinate with other regional sustainable energy centres in the Caribbean and Africa (PCREEE, CCREEE) on common SIDS-SIDS issues related to energy efficient appliances.

F. Expected Outputs

The following outputs are expected of the PNC:

1. Drafted and reviewed draft legislation and regulation for selected electrical appliances using Australia and New Zealand minimum energy performance standards
2. Drafted ToRs and contracts for legal consultants and/or other contracts that will be required under this project
3. Researched and collected data and information regarding legislations and regulations relating to energy efficiency, particularly minimum energy performance labelling and standards
4. Reviewed consultancy reports, particularly the draft legislations and regulations
5. Comparative analysis of the labelling and standard legislations drafted through the PALS programme conducted
6. Awareness publications for the PALS drafted and conducted awareness raising activities to enable the public and school children to understand minimum energy performance standards and energy rating labels and their benefits
7. Newspaper / newsletter articles and press releases about the PALS's activities and deliverables achieved
8. Training activities under the PALS drafted and training programmes for key stakeholders such as Customs, Consumer Affairs, suppliers/retailers and government energy officials conducted
9. All training activities, regional and national, carried out under the PALS compiled
10. Administrative structure for the administration of the labelling and standards legislations drafted
11. MOUs between Energy Department and key stakeholders such as Customs Department and Consumer Affairs Division of the Ministry of Labour, Commerce and Industry drafted
12. Product registration forms and guideline to assist supplier/retailers/importers drafted

G. Institutional Arrangement

1. The PNC will be directly responsible to the Director of Energy and the Project Manager of the PALS and will be stationed at the PCREEE office at Nuku'alofa. The PNC will closely coordinate with the PCREEE Acting Director.
2. The PNC will be working very closely with the Energy Department of the MEIDECC, the, Consumer Affairs Division, Climate Change Division (MEIDECC), Tonga Power Ltd, Customs and Border Control and the consumer and the business community.

H. Duration of the Work

The assignment will initially be for 12 months between 1st April 2016 and 30th March 2017 and may be extended depending on the availability of funding and performance.

I. Duty Station

The PNC will be stationed at the at the PCREEE office at Nuku'alofa.

J. Qualifications

The PNC should have a bachelor's degree preferably in Science/Engineering or Economics and Management and any other related discipline.

K. Experience required

- 3 years relevant experience in the environment, climate change and the energy sector or a related sector;
- Project management experience will be considered a significant advantage;
- Experience in reviewing consultancy reports, research and data collection as well as conducting and contributing to awareness activities;
- Experience in conducting and contributing to workshops or professional training exercises.
- Experience in energy efficiency technologies and applications

L. Other skills required

1. Possess good oral and written communication, organizational/administrative, data analysis and reporting skills;
2. Be able to effectively represent PALS in stakeholder meetings and show confidence in imparting knowledge to industry and other stakeholders;
3. Demonstrated ability to organize work, manage time, determine priorities and meet deadlines;
4. Demonstrated ability to work independently and flexibly, as well as being part of a team;
5. Excellent computer skills including MS Excel.

M. Reporting

The NPC reports directly to the Director of Energy at MEIDECC. The PNC will closely coordinate with the PCREEE Acting Director.

N. Remuneration

1. The NPC will be paid based on the Tonga PSC salary scale for Project Coordinator - Energy Resources, which is at Level 9 salary range of Tonga's 2015 classification of posts, T$18,314 – T$27,606 per year.
2. The starting salary can be commensurate based on qualification and experience.
3. National retirement fund contribution by employer will be paid by PALS.

O. Deliverables

The PNC is expected to provide the following in a reporting template to be drafted.

Fortnightly progress reports covering the following to be submitted to the Energy Department:

1. Type and number of public awareness activities conducted
2. Type and number of public awareness activities conducted in schools
3. Research and data collection activities conducted
4. One-to-one, group and consultation meetings attended
5. Reports drafted and reviews conducted
6. Stock take of supplies and equipment bought with PALS resources
7. Monthly financial report on PALS advance and acquittals
8. Work Plans for the remaining weeks of the Quarter

Quarterly progress reports covering the following to be submitted to PALS Project Manager:

1. Type and number of public awareness activities conducted
2. Type and number of public awareness activities conducted in schools
3. Research and data collection activities conducted
4. One-to-one, group and consultation meetings attended
5. Reports drafted and reviews conducted
6. Stock take of supplies and equipment bought with PALS resources
7. Monthly financial report on PALS advance and acquittals
8. Work Plans for the remaining weeks of the Quarter

PACIFIC COMMUNITY

JOB DESCRIPTION

(Female candidates are encouraged to apply)

Job Reference:	
Job Title:	**PCREEE ADMINISTRATION AND FINANCE OFFICER – EDD**
Work Unit:	Energy Programme, Economic Development Division
Responsible To:	Deputy Director (Energy) and Acting Director of PCREEE
Responsible For:	None
Job Purpose:	Management of the administration and financial affairs of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)
Date:	As soon as possible
Duty station:	At the PCREEE Secretariat in Nuku'alofa, Tonga

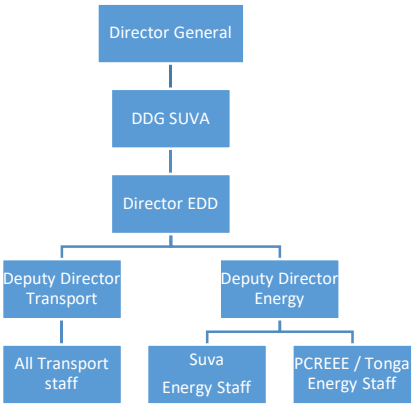
Vision:

Our vision for the region is for a region of peace, harmony, security, social inclusion and prosperity, so that all Pacific people can lead free, healthy and productive lives. This is a shared vision for the Pacific under the Framework for Pacific Regionalism. Our mission is to work for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures.

Organisation Context:

The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947. It is an international development organisation owned and governed by its 26 country and territory members. SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures. The **Economic Development Division** is comprised of two programmes: Energy and Transport. The Energy Programme leads and coordinates the implementation of the regional Framework for Action on Energy Security in the Pacific and its Implementation Plan. It works in the areas of: (i) leadership and coordination; (ii) energy planning, policy and legislative frameworks; (iii) petroleum; (iv) renewable energy; (v) energy efficiency and (vi) energy data and statistics. The Transport Programme has a major regional role to play in ensuring Pacific Island Countries and Territories (PICTs) comply with international and regional instruments and that there are systems and structures in place to align national frameworks with these ratified requirements. SPC's Transport Programme deals with maritime matters in the Pacific Islands region and it is the implementing body for IMO technical cooperation division activities. The activities of the Transport Programme are intended to complement PICTs effort in the following areas: i) Coordination, partnerships, communication & information; ii) Maritime safety and security; iii) Environmental impact, technology & energy; iv) Improved access to transport and trade facilitation; and v) Capacity development.

The Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)is hosted by the Pacific Community (SPC) and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific – the Pacific Energy Oversight Group (PEOG)[36] and the Pacific Energy Advisory Group (PEAG). It was decided to establish the PCREEE Secretariat in Nuku'alofa, Tonga, side by side with the **Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC),** in conjunction with the SPC's effort to strengthen its in-country presence in its members.



Key Result Areas:

The position of Administrative Assistant encompasses the following major functions or Key Result Areas specifically for the PCREEE:

- Administrative Office Management and Services
- Management of Secretarial Services
- Quality Assurance of Administrative Processes
- Financial Management and Services
- Project Cycle Management Related Services

The requirements in the above Key Result Areas are broadly identified below.

Jobholder is accountable for	Jobholder is successful when
Administrative Office Management and Services Ensure the timely establishment of the fully equipped and staffed and resourced PCREEE office and whose inventory of assets and supplies are recorded; Monitor the implementation of the host country commitments concerning cost coverage for the facilities, utilities and equipment; Contribute to the finalization of agreements between the key partners to the PCREEE;	The PCREEE is a fully functional office, staffed and resourced and its assets are properly recorded; Host Country commitments are respected and honoured in a timely manner; Collaborations on the PCREEE are documented in formal signed agreements; The Administration and Financial procedures of the PCREEE are complying the SPC's corporate

[36] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.

Ensure compliance of the PCREEE with SPC's financial and administrative policies and procedures (e.g. staff and recruitment, procurement, financial accounting, staff performance review, rules for cost-effective travel bookings and staff compensation, leave policy, work ethics, anti-fraud); and Assist in the organization of the PCREEE Steering CommitteeSteering Committee and Technical Committee Meetings and required documents (e.g. annual work plans, status reports).	policies and procedures as well as the EDD culture and practices. Meetings of the Steering CommitteeSteering Committee and Technical Committees are carried out cost effectively.
Management of Secretarial Services Supervise the Administrative Assistant (AA) in the execution of his / her responsibilities.	Correspondence, records and office filing systems are place; A PCREEE contact database is established and regularly updated; Templates and coding system for official communications are established; Articles on the PCREEE are published on the SPC website; Calendar of Events for the PCREEE is established and regularly updated; Standard Operating Procedures and an Office Manual for the PCREEE is in place and used.
Quality Assurance of Administrative Processes Ensure the overall implementation, oversight and quality assurance of all PCREEE administrative and financial proceedings; Ensure that PREEE meets and maintains all fiduciary standards (financial, administrative, procurement, internal controls, and project cycle management) required to manage international donor funding (e.g. European Commission, GEF, GCF, UN). Ensure financial accountability and recommend internal control mechanisms to prevent misuse of funds; Implement the recommendations and direction of the SPC CRGA and Conference, the Steering CommitteeSteering Committee as well as of external auditors and evaluators.	PCREEE operates in an open, transparent and accountable manner; Timely and accurate reporting to PCREEE donors and partners; Misuse and unaccountable utilisation of funds are avoided; and The PCREEE is responsive to the directions of its members, partners and the Steering CommitteeSteering Committee.
Financial Management and Services Provide strategic inputs for the annual work plan and budgeting of the PCREEE; Prepares bank deposit for all revenue of the PCREEE; Ensure the correct and timely processing of payments by the PCREEE and that claims / invoices are complete in all respects; Prepare the annual financial audited statements (template) of PCREEE and present it to the Executive Board; Prepare financial project reports for international donors and partners, and Organize and maintains up to date financial records.	A balanced annual budget and work plan for the PCREEE; All revenue to the PCREEE are accurately captured and reported; Correct and timely processing of PCREEE payments; Timely preparations of the PCREEE's audited reports for the Steering CommitteeSteering Committee meetings; Regular and timely preparations of project financial reports for PCREEE projects, and Accurate and up to date financial records on all the operations of the PCREEE.
Project Cycle Management Related Services Organization of workshops and conferences (e.g. payment of per diem, booking of flight tickets, payment of contractors);	PCREEE conferences, workshops and events are efficiency and cost effectively organised;

Give inputs to improve the project cycle management procedures of PCREEE (e.g. contract templates, monitoring and reporting requirements, quality requirements for project implementers, appraisal); Provide administrative services to projects jointly developed and implemented by UNIDO and PCREEE (e.g. GEF, GCF); Any other responsibilities/functions deemed necessary or as delegated by the ED;	An effective project management procedures for the PCREEE is adopted and used; Joint projects are effectively implemented, and Other responsibilities and activities of the PCREEE are adequately covered and taken care of.

Note

The above performance standards are provided as a guide only. The precise performance measures for this position will need further discussion between the jobholder and supervisor as part of the performance development process.

Work Complexity:

Most challenging duties typically undertaken:
Assisting with multiple events that occur simultaneously within the PCREEE while attending to administrative and clerical duties. Meeting deadlines under pressure while attending to the finer details of delivering quality service that continually improves.

Functional Relationships & Relationship Skills:

Key internal and/or external contacts	Nature of the contact most typical
External - ▪ CROP agencies ▪ National Energy Offices ▪ Consultants ▪ UNIDO as core partner	Giving and receiving information Providing feedback and clarifying needs in line with SPC policies and EDD requirements
Internal – ▪ Energy and Transport Programmes at EDD ▪ Administration ▪ Finance	Giving and receiving information Providing feedback and receiving guidance on SPC policies and EDD requirements Providing information and guidance on travel reconciliation

Level of Delegation:

The position holder:

- does not manage an Operational budget
- cannot authorise costs
- cannot sign standard letters.

Person Specification:

This section is designed to capture the expertise required for the role at the 100% fully effective level. (This does not necessarily reflect what the current position holder has.) This may be a combination of knowledge / experience, qualifications or equivalent level of learning through experience or key skills, attributes or job specific competencies.

Qualifications

Essential:	Desirable:
▪ Advanced university degree in Business Administration or equivalent study. ▪ Professional qualification in accounting and/or finance is a strong added value.	▪ Minimum of 5 years of relevant job experience as administrative and financial officer in public institutions, and ▪ Additional experience in private sector is an added value.

Knowledge / Experience

Essential:	Desirable:
▪ Experience with inter-governmental organizations is a strong added value; ▪ Ability to familiarize quickly with the administrative procedures and protocol of SPC and the government of Tonga; ▪ Proficient use of processing tools (Word, Excel, PowerPoint and Access) Internet, electronic mail and financial/administrative systems. ▪ Experience with content management systems of websites is desirable; ▪ Working knowledge of an accounting software and international accounting standards with some knowledge of the environment, climate change and energy.	▪ Experience in a multi-cultural, international environment, coordinating the administration and personal management; ▪ Strong communication skills; ▪ Proven inter-personal skills; ▪ Flexibility to adapt to all situations and work varied hours; possibly work weekends or evenings; ▪ Excellent written and oral communication skills. ▪ Familiarity with development issues in the Pacific islands region ▪ Practical working knowledge of SPC's official languages (English and French). ▪ Experience of working within a commercial environment. ▪ Demonstrated capacity to work in a team of people from different cultural backgrounds ▪ Ability to multitask and work under pressure

Key Skills /Attributes / Job Specific Competencies
The following levels would typically be expected for the 100% fully effective level:

Expert level	▪ Attention to detail ▪ Efficiency and courtesy
Advanced level	▪ Interpersonal skills ▪ Collaboration
Working Knowledge	▪ Customer focus ▪ Safety awareness

Awareness	▪ Adaptability ▪ Effective communicator

Key Behaviors

*All employees are measured against the following **Key Behaviours** as part of Performance Development:*

- Change and Innovation
- Interpersonal Skills
- Teamwork
- Promotion of Equity and Equality
- Judgement
- Building Individual Capacity

Personal Attributes

- Physically fit and ability to work unsupervised
- Clear and effective communicator
- Ability to think and act on initiative
- Strong client orientation and continuous improvement mindset
- Highly motivated and strong affinity to teamwork
- Analytical and smart thinking – solutions oriented
- High work standards, good work ethic and positive attitude to work
- Proactive with creative ability to work to deadlines and achieve objectives
- Accountability
- Dependability
- Discrete and maintain confidentiality

PACIFIC COMMUNITY

JOB DESCRIPTION

(Female candidates are encouraged to apply)

Job Reference:	
Job Title:	**PCREEE ADMINISTRATIVE ASSISTANT – EDD**
Work Unit:	Energy Programme, Economic Development Division
Responsible To:	Deputy Director (Energy)
Responsible For:	None
Job Purpose:	Provision of administrative, secretarial and clerical support to the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)
Date:	As soon as possible
Duty station:	At the PCREEE Secretariat in Nuku'alofa, Tonga

Vision:

Our vision for the region is for a region of peace, harmony, security, social inclusion and prosperity, so that all Pacific people can lead free, healthy and productive lives. This is a shared vision for the Pacific under the Framework for Pacific Regionalism. Our mission is to work for the well-being of Pacific people through the effective and innovative application of science and knowledge, guided by a deep understanding of Pacific Island contexts and cultures.

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partnerships, communication & information; ii) Maritime safety and security; iii) Environmental impact, technology & energy; iv) Improved access to transport and trade facilitation; and v) Capacity development

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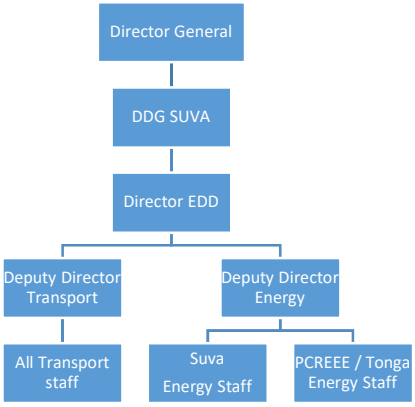


Key Result Areas:

The position of Administrative Assistant encompasses the following major functions or Key Result Areas specifically for the PCREEE:

- Management
- Data Entry
- Communication
- Monitoring and evaluation

The requirements in the above Key Result Areas are broadly identified below.

Jobholder is accounta	Jobholder is successful when
Management ▪ Put in place a safe and accurate record keeping system for the PCREEE, including keeping a registry of all assets purchased and kept by the Centre ▪ Organize meetings, trainings and including the PCREEE Steering CommitteeSteering Committee meetings and ensure logistics are in place for these events ▪ Prepare travels of the PCREEE team and those of others sponsored and covered by the SPC and PCREEE	▪ Appropriate filing and record systems are in place ▪ Events of the project are efficiently carried out and in a cost effective manner ▪ All travels sponsored by the PCREEE are prepared according to the travel policies of SPC and USP
Data Entry	

[37] CROP Executives approved in late 2015 that the PEOG be renamed the CROP Energy Security Working Group.

▪ Conduct the entry of PCREEE data and info into the Pacific Regional Data Repository, IRIS and similar database for the PCREEE	▪ Data and information from the PCREEE are readily available online and entered into relevant databases.
Communication ▪ Act as the receptionist and first point of contact for visitors and callers to the PCREEE	▪ Efficient, friendly and respectable presentation of the PCREEE to visitors and callers ▪ Efficient connection of callers and staff of the PCREEE
Monitoring and Evaluation ▪ Assist with the reconciliation of the PCREEE staff travels ▪ Provide technical assistance to recipients of PCREEE assistance on how to effectively and efficiently meet their reporting requirements. ▪ Assist in the organisation and facilitation of M&E activities of the PCREEE.	▪ Travel receipts and boarding passes are collected and filed ▪ Up to date and complete progress reports are produced ▪ Monitoring and Evaluation of the PCREEE are efficiently carried out

Note

The above performance standards are provided as a guide only. The precise performance measures for this position will need further discussion between the jobholder and supervisor as part of the performance development process.

Work Complexity:

Most challenging duties typically undertaken:
Assisting with multiple events that occur simultaneously within the PCREEE while attending to administrative and clerical duties. Meeting deadlines under pressure while attending to the finer details of delivering quality service that continually improves.

Functional Relationships & Relationship Skills:

Key internal and/or external contacts	Nature of the contact most typical
External - ▪ CROP agencies ▪ National Energy Offices ▪ Consultants	Giving and receiving information Providing feedback and clarifying needs in line with SPC policies and EDD requirements

Internal – ▪ Energy and Transport Programmes at EDD ▪ Administration ▪ Finance	Giving and receiving information Providing feedback and receiving guidance on SPC policies and EDD requirements Providing information and guidance on travel reconciliation

Level of Delegation:

The position holder:

- does not manage an Operational budget
- cannot authorise costs
- cannot sign standard letters.

Person Specification:

This section is designed to capture the expertise required for the role at the 100% fully effective level. (This does not necessarily reflect what the current position holder has.) This may be a combination of knowledge / experience, qualifications or equivalent level of learning through experience or key skills, attributes or job specific competencies.

Qualifications

Essential:	Desirable:
▪ Certificate or Diploma in business / administrative discipline, or equivalent work experience that is both relevant and current.	▪ Formal training in office management and computer use

Knowledge / Experience

Essential:	Desirable:
▪ At least three years of experience in an office performing functions in the capacity of responsibilities outlined above. ▪ Experience with working in the Pacific Islands region with some knowledge of the environment, climate change and energy. ▪ Demonstrated organisational skills with ability to prioritise workload and complete work under deadlines. ▪ Demonstrated ability to work effectively without constant supervision.	▪ Excellent written and oral communication skills. ▪ Familiarity with development issues in the Pacific islands region ▪ Practical working knowledge of SPC's official languages (English and French). ▪ Experience of working within a commercial environment. ▪ Demonstrated capacity to work in a team of people from different cultural backgrounds ▪ Ability to multitask and work under pressure

▪ Demonstrated ability to successfully organise and assist with administrative functions of training courses, workshops, seminars and meetings ▪ Experience with computing environment used in SPC including Windows XP/Vista/7 workstation platforms and Microsoft Office 2007 applications	

Key Skills /Attributes / Job Specific Competencies
The following levels would typically be expected for the 100% fully effective level:

Expert level	▪ Attention to detail ▪ Efficiency and courtesy
Advanced level	▪ Interpersonal skills ▪ Collaboration
Working Knowledge	▪ Customer focus ▪ Safety awareness
Awareness	▪ Adaptability ▪ Effective communicator

Key Behaviors

*All employees are measured against the following **Key Behaviours** as part of Performance Development:*

- Change and Innovation
- Interpersonal Skills
- Teamwork
- Promotion of Equity and Equality
- Judgement
- Building Individual Capacity

Personal Attributes

- Physically fit and ability to work unsupervised
- Clear and effective communicator
- Ability to think and act on initiative
- Strong client orientation and continuous improvement mindset
- Highly motivated and strong affinity to teamwork
- Analytical and smart thinking – solutions oriented
- High work standards, good work ethic and positive attitude to work
- Proactive with creative ability to work to deadlines and achieve objectives
- Accountability
- Dependability
- Discrete and maintain confidentiality

Annex 6: Needs Assessment Report
see below

Establishment and First Operational Phase of the Pacific Centre for Renewable Energy and Energy Efficiency

Results of the Needs Assessment

March 2014

Introduction

Under the umbrella of the Framework for Action on Energy Security in the Pacific (FAESP) and its associated Implementation Plan for Energy Security in the Pacific (IPESP) the Pacific Community (SPC) and the United Nations Industrial Development Organization (UNIDO) are assisting the Pacific Island Countries and Territories (PICTs) to establish the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). In 2013 UNIDO was officially requested by the SIDS DOCK Initiative to assist in the establishment of such a regional centre based on its experiences in Africa and other parts of the world. The consultative preparatory process as launched at the Fourth Meeting of the Pacific Energy Advisory Group (PEAG), held at SPC in Suva from 3 to 4 December 2013. The process is supported by the Austrian Development Cooperation.

As a follow-up to the PEAG meeting, UNIDO hired the international consultant company AETS to assist in the execution of a needs assessment on the institutional set-up and technical design of such a centre. The outcomes will form the basis for developing a programme for the first operational phase of the PCREEE.

Objectives

The overall objective of the PCREEE is to contribute towards increased 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 creating an enabling environment for local renewable energy and energy efficiency markets and investments in the Pacific region.

The primary objectives of the needs assessment are:

- to document the methodology used in carrying out the needs assessment (TNA); and
- to report on the outcomes of the needs assessment, interviews and make preliminary recommendations on a possible programme for the first operational phase of the PCREEE.

Methodology

In order to identify the need for the PCREEE in the region, the project team conducted a survey as part of a needs assessment among the RE&EE stakeholders in PICTs to ascertain the Centre mandate, priority activities and issues that should be addressed by the Centre. The project team consisted of local consultants with an excellent regional understating of the RE&EE market in the Pacific. The project team has undertaken the needs assessment by consulting government institutions, the private sector, training and research institutions and the donor community.

Method

Desk research

Desk research stressed the need to collate as much information as possible prior to any fieldwork. Country profiles, energy project reports, energy policies, government development plans were some documents that provided valuable background information

Survey

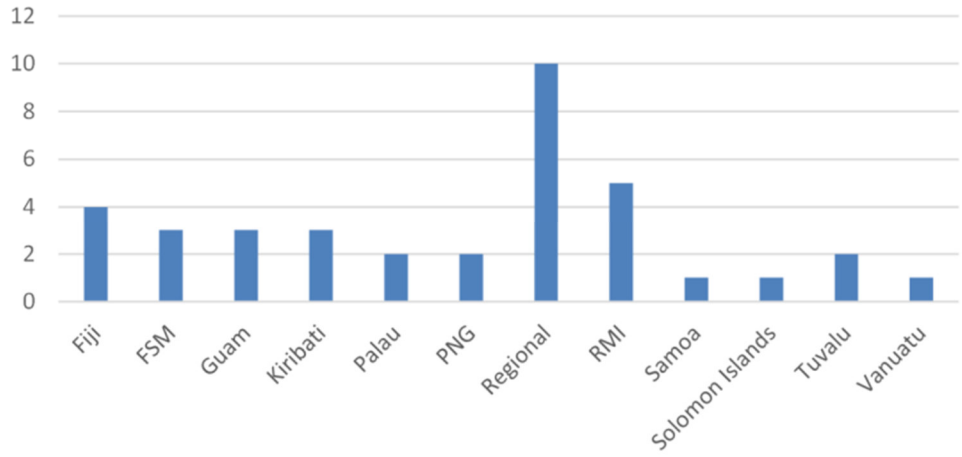
Respondents were sent an e-mail requesting their assistance in the survey, along with a questionnaire. Telephone and in-person interviews were then conducted, with the outcome being registered by the project team. However, the majority of the respondents filled in and sent the questionnaires by email.

The questionnaire (see Annex I) focused on four major questions:

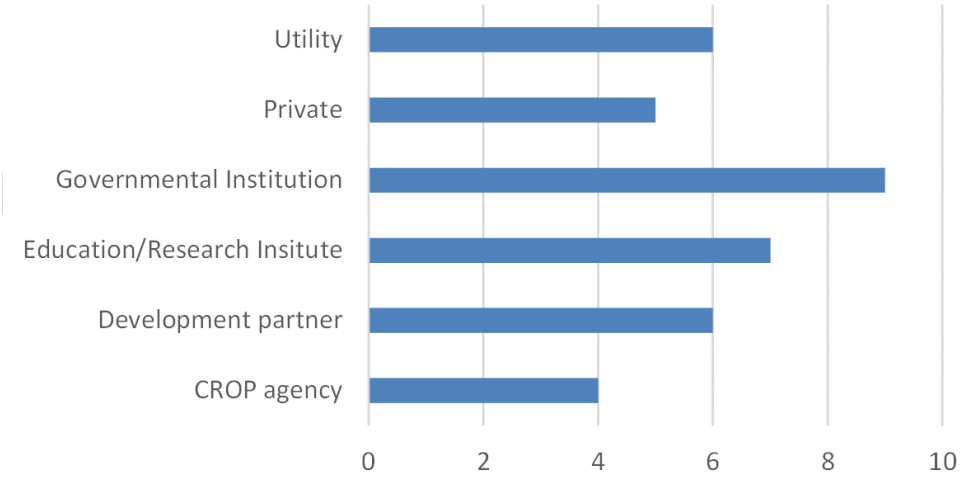
1. Design of the Centre
2. Recommendations for an effective Centre
3. Information regarding Country/Territory situation
4. Identification of synergies with existing efforts to promote sustainable energies

Results

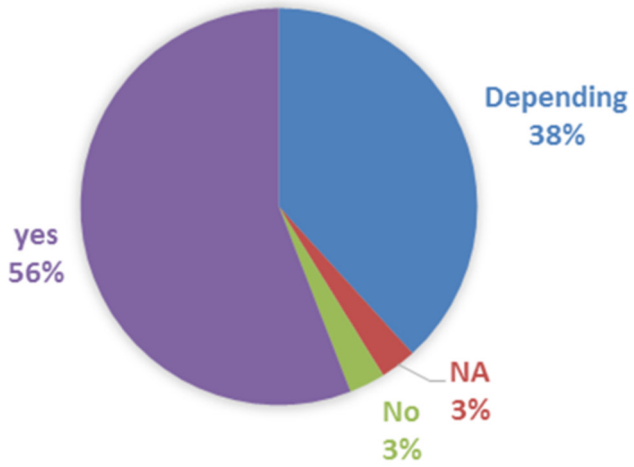
A total of 37 respondents answered the questionnaire.



The respondents represented the following groups.



The majority of the respondents are in favour to having a centre to promote renewable energies and energy efficiency; however, almost 40% mentioned that the relevance of having the centre would strongly depend on its mandate.



Respondents justified their choice with the following arguments.

Why **Yes**?

- A "one stop shop" for research, policy support, capacity building and practical trials of projects
- PICTs needs assistance for rural energy developments
- Facilitate additional technical and financial assistance
- Assist private sector development
- Promote jointly RE&EE approaches
- Adapt technologies to the region
- Bring together similar activities under one roof
- Fill in the gaps in maintenance training
- Improve standards of equipment being used
- The centre should focus on energy security
- The centre mandate should also include petroleum products

Why **"Depending on the Mandate"**? Only if the Centre provides:

- A coordination role on sustainable energy
- Development and dissemination of information
- Strengthen and promote awareness and advocacy in renewable energy
- Integration of existing initiatives under "one roof"
- Accreditation body for renewable energy professionals
- Sub-regional training programmes for similar projects

Why **"No"**?

- There are already regional institutions covering RE&EE
- There are other priorities in the energy sector

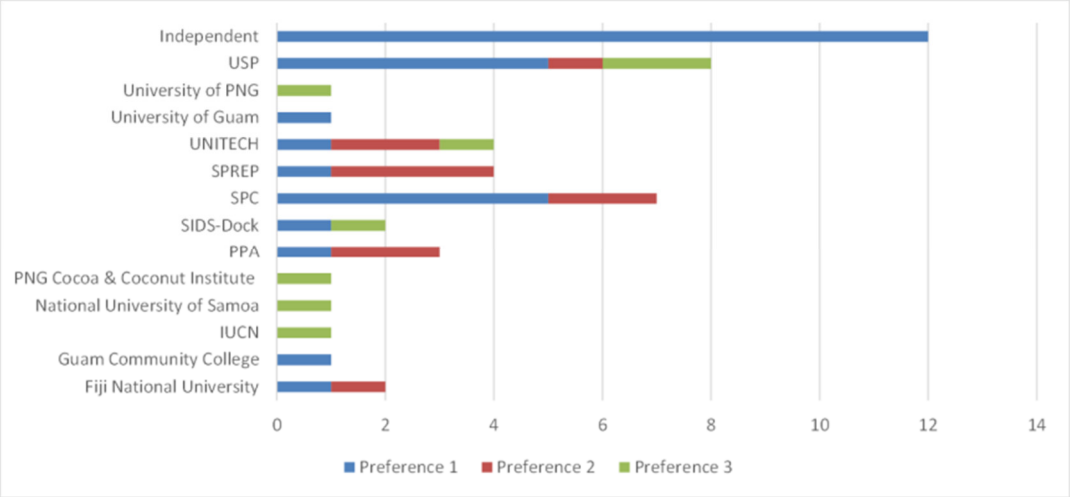
Some respondents, however, were concerned with the **potential duplication** of efforts between the centre and existing institutions with specific energy mandates or that are active in specific energy sectors. In summary, their recommendations were for the centre to partner with:

- Database development and dissemination mechanisms: SPC
- Standards and certification for RE and EE installations: SEIAPI
- Supply side energy efficiency: PPA
- Capacity building at graduate / postgraduate level & e-learning: USP and other universities in the region
- Training in sustainable energy at vocational level: strong support for national institutions, with curriculum development by USP and UNITECH

Respondents were invited to suggest which characteristic the host institution of the PCREEE should have. In summary, their suggestions were:

- Research institute
- Organisation with close ties to academia and research
- An institution that understands the needs in PICTs
- Good track record of community activities
- Previous reputation, related experience, regional contacts, independence within host organization/institution
- Currently supporting frameworks for regulatory/legal & energy efficiency labelling
- Have capacity to expand as required
- Have a good IT infrastructure with training facilities"

They also suggested potential institutions to host the PCREEE. A significant proportion of respondents suggested that centre should be an independent institution. Through the interviews, the project team understood that stakeholders would prefer that the Centre could maintain a high degree of autonomy regarding the host institution. They were concerned that if the PCREEE is hosted by an existing organisation, its activities and resources would be used towards meeting the host objectives rather than the PCREEE ones.



Regarding the prioritisation of sectors, respondents had the following suggestions:

1. Commercial Sector
2. Residential sector
3. Industrial sector
4. Transport sector
5. Household and cooking energy sector
6. Agricultural sector

They also recommended measures for each sector for promoting the use of sustainable energies:

- Awareness raising
- Energy audits
- Better monitoring of energy use
- Adoption of standards and labelling schemes

On the prioritisation of activities, the results of the survey were:

1. Improvement of the legal and regulatory framework for RE & EE
2. Creation of financial mechanisms
3. Awareness raising and information

4. Capacity development of various stakeholders
5. Definition of standards, labelling and certification of equipment and skills
6. Develop and execute regional RE & EE project
7. Facilitate cooperation for knowledge and technology transfer
8. Promotion of local companies in the sustainable energy sector)
9. Institutional set-up / change
10. Development of pilot projects
11. Reduction of market distortion barriers
12. Development of a regional market / industry for RE & EE
13. Applied RE/EE research

Respondents were also asked to suggest immediate activities for the Centre that could assist them directly in their activities.

For governments

- Reduce bureaucracy for PICs when requesting TA
- Create mechanisms to facilitate countries in evaluating and implementing projects
- Assist in developing enabling legislation/regulation to promote inclusion of the private sector"
- Provide independent opinion
- Assist countries in applying to donor programmes

For industry and private sector

- Capacity building combined with hands on training in-country and in local languages
- Capacity building to ensure proper maintenance and sustainability
- Assist local project developers to access finance
- Guidance and technical advice to local private sectors
- Hub for training and certification
- Share success stories
- Provide independent opinion and due diligence for new technologies
- Assist in market research
- Assist financial institutions to set up micro credit schemes for rural/remote communities to get loans to purchase RE equipment

For education and research

- Support standardisation and use of tried and tested approaches
- Integrate sustainable energy in the educational system (across all levels)
- Guidance and technical advice to local private sectors
- Hub for training and certification
- Share success stories
- Assist countries in applying to donor programmes
- Assist in energy modelling
- Awareness raising for quality equipment

Conclusions

The target groups of this survey were all the stakeholders in the renewable energy sector of the PICTs. The response to the survey questionnaire however, was limited to the energy offices, power utilities, other government departments and non-governmental organisations from only eleven Pacific island countries plus from organisations operating at regional level (CROP agencies, multilateral and bilateral organisations, etc). The other countries did not respond to the survey questionnaire.

It was evident from the responses and the discussions that the PICTS do have a wide range of needs in the renewable energy and energy efficiency sectors.

The undertaken needs assessment revealed that some PICTs have made considerable progress in the creation of enabling national environments for the promotion of renewable energy (RE) and energy efficiency (EE). However, in some of the areas the developments are still in the initial stage and have not transformed into real investments and the creation of a vibrant market and business sector.

The assessment revealed the CROP agencies are assisting PICTs already effectively in addressing parts of these barriers through various projects and activities (e.g. coordination, policy advisory, (pre-) investment support for projects). However, PICTs expressed an urgent need for enforced regional technical capacities to promote local human resources, awareness and knowledge management, as well as businesses and industry in the sustainable energy sector.

There is the impression that the local private sector and industry do not take advantage of the growing sustainable energy market and job opportunities. These developments endanger the long-term sustainability of existing investments as they are usually conducted by enterprises from outside without local representations. It was also pointed out that in most cases RE&EE are treated separately and not in an integrated way.

Following the needs assessment and the consultation, the following specific areas were identified as immediate needs for the Pacific region:

- Focus on integrated RE&EE projects
- Improve access to energy services which are adapted to the local environment and social factors
- Identify sources of finance for RE&EE projects that directly benefit local companies
- Train local experts and companies in the installation and maintenance of RE&EE systems and equipment

Annex 7: Minutes of the Validation Workshop

MINUTES ON THE SPC-UNIDO VALIDATION WORKSHOP ON THE PACIFIC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY – A SE4ALL CENTRE OF EXCELLENCE

12–13 March 2014, Tanoa International Hotel, Nadi, Fiji

1. Summary

The technical design and institutional set-up of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) was successfully validated in a regional workshop, organized by the Pacific Community (SPC) and the United Nations Industrial Development Organization (UNIDO) with support of the Government of Austria and SIDS DOCK. The workshop took place from 12 to 13 March 2014 in Nadi, Fiji, and was attended by 30 participants from the region's energy sector, governments, private sector, universities and training institutes. The meeting concluded with a general agreement to send the validated PCREEE project document for consideration by the regional meeting of Energy Officials and Energy Ministers, scheduled to take place between 31 March and 4 April 2014.

2. Background

SPC and UNIDO are working on a regional project on Strategic programme for scaling up renewable energy (RE) markets in targeted Small Island Developing States (SIDS) in the Pacific Island region. The project proposal has been developed based on the experience gained and lessons learned under an earlier SPC-UNIDO collaboration on an earlier project entitled "Renewable Energy and Energy Efficiency Development for Electricity generation and productive uses in selected Pacific Island states'', which was operationally completed by end 2011 and was also funded by Austria.

Under the umbrella of the *Framework for Action on Energy Security in the Pacific* (FAESP) and its associated *Implementation Plan for Energy Security in the Pacific* (IPESP), SPC and UNIDO, with support of the Austrian Government, are assisting the Pacific Island Countries and Territories (PICTs) to establish the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) within the framework of the above scaled up project.

The process was inspired with the achievements of the Global Network of Sustainable Energy Centres in Africa and with UNIDO's established renewable energy and energy efficiency centre at ECOWAS. It therefore supported an official request of the Small Island Developing States Sustainable Energy Initiative (SIDS DOCK) to UNIDO for supporting the creation of regional sustainable energy centres for SIDS in the Caribbean, Pacific, Africa and the Indian Ocean.
The concept of PCREEE was discussed at the Fourth Meeting of the Pacific Energy Advisory Group (PEAG), held at SPC in Suva from 3 to 4 December 2013. The meeting highlighted the promising renewable energy and energy efficiency developments in PICTs. On the other hand, concerns about the mid-term and long-term sustainability of these investments were raised at the meeting. The hardware investments and introduction of complex regulations and standards need urgent investments in local human resources to plan, design, implement and maintain renewable energy and energy efficiency projects and measures. This goes hand in hand with the empowerment of the local private sector and industry to take advantage of the growing sustainable energy market and job opportunities.

By considering the commonly shared capacity challenges and the scare available resources in all PICTs the added value and the cost-effectiveness of such a specialised regional centre of excellence was underlined. After the PEAG meeting a consultative preparatory process for the development of a needs assessment and the project document on the centre was launched. The process was led by SPC in cooperation with UNIDO.

To verify the findings of the needs assessment and the proposed options for the institutional and technical

design of the centre, SPC and UNIDO organized a validation workshop which took place from 12 to 13 March 2014 in Fiji, Nadi. The received inputs were incorporated in the needs assessment and the final project document of the centre. It was recommended to send the validated PCREEE project document for consideration by the Energy Officials and Ministers during the regional meeting, scheduled to take place between 31 March and 4 April 2014.

The validation workshop was attended by about 30 participants, including region's energy sector, government, private sector, universities and training institutes. PICTs present at the workshop were from Cook Islands, Fiji, Kiribati, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga and Tuvalu. Representatives of the following key stakeholders were also in attendance: AETS, Clean Energy Solutions, Environmental & Energy Consultants Fiji, Fiji National University (FNU), National University of Samoa, Papua New Guinea University of Technology, Pacific Power Association (PPA), Pacific Islands Forum Secretariat (PIFS), Secretariat of the Pacific Regional Environment Programme (SPREP), SPC, Sustainable Energy Industry Association of the Pacific Islands (SEIAPI), Solomon Islands National University (SINU), Tonga Institute of Science and Technology, UNIDO, University of Fiji, University of the South Pacific (USP), and Willies Electrical and Solar Power.

A list of participants is attached as Annex 1.

3. Objectives of the Workshop

The main objective of the stakeholder validation workshop was to:

I. Verify and complete the results of the undertaken needs assessment;
II. Discuss and validate the institutional set-up and technical program of the centre;
III. Recommend procedures and criteria for the selection of the host of the centre
IV. Improve the draft project document and provide recommendations for the upcoming Pacific Regional Energy and Transport Meeting, to be held from 31st March 2014 to 4 April 2014

4. Proceedings of the meeting

Session 1: Words of welcome

Solomone Fifita, Deputy Director (Energy) with the Energy Programme of SPC's Economic Development Division (EDD), welcomed all delegates followed by an opening prayer from David Iro of Yumi Solar from the Solomon Islands.

Solomone Fifita of SPC delivered a welcome statement. The welcome statement is attached as Annex 2. Martin Lugmayr, Sustainable Energy Expert of UNIDO, also welcomed all participants and provided an overview on the achieved mile-stones such as the development of the needs assessment, draft project document and the organization of the validation meeting.

Adoption of agenda, explanation of workshop objectives

Solomone Fifita of SPC delivered a presentation on agenda, workshop objectives and logistics. The objectives of the workshop were determined as follows:

1. Assess the need, demand and added value of PCREEE
2. Agreement on the institutional set-up and integration in existing regional/national structures

3. Agreement on the main pillars of the technical program
4. Agreement on the selection process and criteria for the host country
5. Validation of the draft project document
6. Instructions for the upcoming Energy Officials and Ministers Meeting

The agenda was adopted and Solomone Fifita of SPC delivered the house keeping rules followed by self-introduction of participants.

Update on regional sustainable energy centres in other regions

Martin Lugmayr from UNIDO delivered a presentation on the status and lessons learned of the Global Network of Regional Sustainable Energy Centres. The following centres are currently part of the network:

- ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) in West Africa
- Renewable Centre for Renewable Energy and Energy Efficiency (RCREEE) for the Arab region
- Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE)
- East African Centre for Renewable Energy and Energy Efficiency (EACREEE)

The new centres to be established for SIDS countries in the Pacific, Caribbean and Indian Ocean would join the south-south partnership network. The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), based in Cape Verde, will coordinate the activities in African SIDS. Mr. Lugmayr, presented on the achievements and lessons learned of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) in West Africa. The specific objectives of the centre are:

1. Policy, legal and incentive frameworks to promote RE&EE investments and markets are developed and implemented;
2. Capacities of local industry and the business sector on various RE&EE aspects are strengthened and applied;
3. Availability of investment and market data, awareness and advocacy on RE&EE are strengthened; and
4. Investments in RE&EE infrastructure, services and businesses are mobilized and implemented.

Mr. Lugmayr presented the major achievements of the centre such as the development and implementation of the ECOWAS Renewable Energy Policy (EREP) and ECOWAS Energy Efficiency Policy (EEEP), the establishment of the ECOWREX (The ECOWAS Observatory for Renewable Energy and energy Efficiency) and the ECOWAS Renewable Energy Facility (EREF). The ECOWREX provides decision makers, project developers, investors and other stakeholders with tailored information and planning strategies (http://ecowrex.org).

Mr. Lugmayr highlighted the importance that the design of the different centres responds to the individual needs of the respective regions. The meeting highlighted that Pacific environment is very different when compared with the West African region and the concept has to be adapted to the needs and situation of the region. In light of the fact that several regional agencies already exist in the PICTs, PCREEE should avoid duplication and focus on high-impact areas so far not covered sufficiently by others (to fill the gaps).

The participating countries highlighted the importance that the centre responds effectively to their needs. The linking to countries and technical authorities should be a crucial component in establishing the centre and local capacities (high quality staff with technical background) are critical for the sustainability and

effectiveness of the centre. The centre should work closely with National Focal Institutions to address the needs of the country effectively. To achieve country responsiveness some countries stressed the need for some sort of independence of such a centre from the existing regional structures.

Moreover, Mr. Lugmayr underlined that contributions from the local counterparts (cash or in-kind) are important for the ownership and sustainability of such centres. To attract external funding it is important that the centre acts as an open platform for all interested partners from the very beginning. The centre should start with a small staff base and expand in relation to raised funding. Fund raising should be an important performance criterion for the Director of the centre.

Session 2: RE & EE needs assessment on PCREEE

Jose Mestre, consultant at AETS presented the results of the survey. The survey highlighted majority people are in favour of having such a centre; however, almost 40% mentioned that it would depend on the mandate. The survey highlighted the following possible functions of the centre:

- A 'one stop shop' for policy support, capacity building, research, practical trials of projects and promotion of local companies
- PICTs needs assistance for rural energy developments
- Facilitate additional technical and financial assistance
- Assist private sector development and local sustainable energy businesses
- Promote jointly RE&EE approaches
- Adapt technologies to the region
- Bring together similar activities under one roof
- Fill in the gaps in maintenance training
- Improve standards of equipment being used
- The centre should focus on energy security
- The centre mandate should also include petroleum products

The following aspects should be considered in the design of the centre:

- There are already regional institutions covering RE&EE and duplication should be avoided
- There are also other priorities in the energy sector (e.g. diesel generation)

During the meeting the need for a more systematic approach addressing renewable energy and energy efficiency in PICTs was pointed out. Therefore the PCREEE initiative is very welcome. The individual needs of the different countries should be reflected in the mandate and work plans of the centre. The centre should implement the majority of its activities in cooperation with existing national institutions and local stakeholders (e.g. companies, experts). It should strengthen existing capacities and not compete. Duplication with ongoing programs should be avoided. For the finalization of the needs assessment the consultant was requested to include a matrix to show the linkages on what other agencies (including national organisations/institutes) are doing in relation to the needs identified in the PCREEE project document. This will reveal existing gaps.

The meeting raised concern on how soon the centre could be established to provide services to local communities. A quick establishment phase would be crucial. The meeting noted that USP, the University of Fiji and Papua New Guinea University of Technology were interested in hosting the PCREEE centre. FNU, National University of Samoa, Papua New Guinea University of Technology, SINU, Tonga Institute of

Science and Technology and USP highlighted on their institutions various renewable energy and energy efficiency programmes and courses.

SPREP mentioned the importance that the centre is also dealing with climate change adaptation in the energy sector (e.g. impacts on energy planning and energy infrastructure). In the context, SPREP underlined the synergies to the climate change adaptation centre currently under development. Also SPREP expressed strong interest in hosting the centre.

Session 3: Presentation on the technical mandate and programme options for PCREEE

Jose Mestre of AETS delivered a presentation on proposed mandate and technical programme for PCREEE. The outcomes of the centre, which needs to be achieved, are:

1. Effective regional RE&EE promotion agency created and efficiently managed
2. Capacities of the public and private sectors on various RE&EE aspects strengthened and applied
3. Availability of investment and market data, awareness and advocacy on sustainable energy are strengthened
4. Investment and business opportunities for local companies and industry are created and implemented

Further, under each of these outcomes a list of activities was proposed for consideration of the participants and prioritization. The following discussion revealed different views on which areas the centre should prioritize. Some stressed the importance of all proposed outcome areas. Others underlined particularly the importance of capacity building and applied research. Some of the countries and institutions stressed the importance of a fund raising function of the centre. Potential assistance of the centre to national institutions or countries to develop project proposals and raise funding for them was highlighted (e.g. regional research projects). Since PICTs are widely located, it was suggested to provide ICT capacity, whereby people could network with each other. Too many activities were listed under capacity building section. The query of whether the centre will be implementing all activities was highlighted.

Session 4: Presentation on the institutional design options for PCREEE

Jose Mestre of AETS presented on the proposed institutional set-up and legal status of the centre. Two options were proposed for establishing the centre inside a CROP agency/national institute:

1. As a project
2. As a centre/office

The organisational structure under each option was explained. During the discussion consensus in favour of the centre concept was reached (particularly to ensure the long-term sustainability). A discussion on the best hosting set-up took place. It was agreed that individual countries as well as regional organizations should be considered as possible host organisations. Both options could have advantages and disadvantages. The importance that the host has regional outreach and can create synergies to ongoing activities was stressed. It was noted that during the 2009 Forum Leaders Meeting, the leaders were very reluctant to create new centres outside of the existing regional institutions. However, there was an agreement that in both hosting scenarios the centre would need some sort of independence (e.g. legal identity, ability to recruit staff and sign contracts). Furthermore, the following issues were discussed:

1. No need for a separate executive officer – the renewable energy expert can do that job. The organisational chart of the centre needed to re-looked, current structure was too bulky.
2. The institutional structure should ensure responsiveness to the needs of the countries. Sustainability and autonomy of the centre was mentioned as crucial in this context.
3. It was stressed that in some cases the centre would act as facilitator and in some cases as implementer

Session 5: Financial sustainability and budget requirement for the first operational phase of the centre

Martin Lugmayr of UNIDO delivered a presentation on the financial sustainability and budget requirements for the first operational phase of the centre. To reach economies of scale it is estimated that a budget of around 6.5 million Euros would be required for the activities of the centre during the first operational phase. However, this would not be required at the beginning and the centre can start with small funding base in the beginning. First funding pledges from the Government of Austria and UNIDO have been received. He explained that in the other regional centres the local counterparts contribute to the financial framework (cash, or in-kind). That would be also a sign of ownership. Fund raising would be an important activity of the centre and crucial performance criteria for the potential Director. The ECREEE centre reached sustainability through a broad partnership base, own contributions, raised project funding and "fee for service" activities.

Session 6: Discussion on the needs and technical mandate of the centre

Participants were divided into four groups: universities, energy officials, private sector, and CROP agencies group and they discussed on the: (i) needs and technical mandate of the centre; (ii) technical priority activities and efficient institutional set-up of the centre; and (iii) indicative budget and financial sustainability strategy of the centre. Some of the summaries of the working groups are attached in the annex.

Working Group of Private Sector:
In the Pacific, there is no specific body looking after training and standards. Therefore the group's suggestion for the centre was two concentrate on these two areas – training and standards with high relevance to the private sector and industry. The capacities of local companies and businesses should be strengthened in order to ensure the long-term sustainability of investments. The centre could works closely with SEIAPI on this. It could act also as secretariat for the standards and guidelines for products.

Working Group of Institutes (Universities):
The group proposed that the centre should act as coordinator and promoter of training and applied research activities and networks. It should closely work with the national institutions and develop a concept of comparative advantages for the network. Some institutions could focus on specific technologies or aspects. Moreover, it should help to raise funding for such capacity building and research activities. The centre can act as project coordinator and monitor the works of the national institutions and link-up to international partners. Adaptation research could be an interesting working area. Support for the establishment of hands-on laboratories or the vocational approaches, and train-the-trainer activities were mentioned. The network should include the possibility of exchange of researchers. Institutions group discussion is attached as Annex 4.

Working Group of Government Officials:

Mandate of centre: Support, accommodate country needs. Provide directions and looking at clear needs for PICTs. Government officials' group discussion is attached as Annex 5.

Working Group of Regional Organizations (CROPs):
The centre should focus on the continuity of project funding when the projects are over. It should ensure that projects results are disseminated and made available in the long-term. The usefulness of an RE&EE Observatory was mentioned. Transport is an important area to look at. Government should provide tax rebates to the private sector. CROP organisations group discussion is attached as Annex 6.

Session 7: Presentation of options for the selection procedure and qualification criteria for the host organisation

Mr. Martin Lugmayr from UNIDO highlighted the importance of a transparent procedure for the selection of the host of the centre. He explained that in other regions it included a competitive process where countries/institutions got the opportunity to provide bids in accordance with provided selection criteria. The meeting recommended giving regional organizations as well as national countries and their institutions the opportunity to put forward bids. A commission to evaluate the bids could be created. UNIDO could act as a neutral coordinator of the commission. The importance of regional outreach of the host was highlighted. Moreover, the aspects of good flight connections as well as contributions of the host to the centre (in-kind or cash, office space and rent) were underlined. Mr. Lugmayr presented the proposed selection criteria for the appraisal of such bids. They are included in the project document and found agreement by the participants. The meeting reflected also on the successful PPA example which was created as new body.

Session 8: Presentation of the workshop minutes

The participants went through the draft minutes for this workshop. It was agreed to finalize the minutes and project document (including gap matrix) by 24 March to be submitted to the Ministers meeting.

5. Outcomes of the meeting

The meeting considered the following;

I. the need and added value for PCREEE
II. the scope of mandate and objectives of the Centre
III. the proposed institutional set-up of the Centre
IV. the level of authority and competencies of the Centre and its bodies
V. the proposed governance structure, TORs and composition of the bodies (Steering Committee, Secretariat), their functions and how these bodies will work in the implementation of the activities of the centre
VI. the TORs of the National Focal Institutions (NFIs) and their activities
VII. the indicative organizational chart of the Centre
VIII. the selection criteria and selection process of the host institution/country
IX. the main intervention areas of the centre (e.g. capacity development, applied research, knowledge management and awareness raising, business promotion)
X. RE&EE priority activities of the Centre
XI. the indicative budget of the Centre, funding strategy to be adopted and possible contributions from donors and the PICTs

The active participation of all involved partners led to the achievement of all set meeting objectives. The participants of the validation workshop:

i. took note of the laudable progress achieved by SPC, UNIDO and SIDS DOCK to establish Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE);
ii. expressed support and commitment of the Partners States and all attending stakeholders to the proposed establishment process of the Centre;
iii. validated the project document and recommended it for consideration by the Ministers of Energy of the PICTs at the Pacific Regional Energy and Transport Meeting which will be held from 31st March 2014 to 4 April 2014 in Fiji. This would finally lead to further processes of establishment of the Centre by end of 2014;
iv. expressed the urgency to promote renewable energy and energy efficiency to address the challenges of energy security, energy poverty and climate change mitigation and adaptation in SIDS simultaneously;
v. highlighted the added value of a regional approach for the establishment of regional renewable energy and energy markets;
vi. took note of the valuable technical support of UNIDO and its role to assist in the establishment of the first operational phase of the Centre;
vii. took note of the pledge of the Austrian Government to support the first operational phase of the Centre;
viii. stressed the importance of further donor partnerships and actives fund raising of the Centre was highlighted.

Workshop closing

Andrew Daka facilitated this session and thanked SPC and UNIDO for organising this workshop. Martin Lugmayr and Solomone Fifita thanked all participants for their active contributions followed by a closing prayer from David Iro Fuluga.

List of participants

VALIDATION WORKSHOP ON THE PACIFIC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY (PCREEE) – A SE4ALL CENTRE OF EXCELLENCE
TANOA INTERNATIONAL HOTEL
NADI - FIJI
12 - 13 MARCH 2014

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