



Pacific Centre for Renewable Energy and Energy Efficiency

SE4ALL Centre of Excellence to Promote Sustainable Energy Markets, Industries and Innovation

PCREEE Progress Report

January – June 2022

Abbreviations

ADA	Austrian Development Agency
BRANTV	Barrier Removal for Achieving the National Energy Road Map Targets of Vanuatu (GEF-funded)
CAMCO	Specialist Climate and Impact Fund Manager
EV	Electric Vehicle
FESRIP	Framework for Energy Security and Resilience in the Pacific
GHG	GreenHouse Gas
ISA	International Solar Alliance
LEDS	Low emission development strategy
MoU	Memorandum of Understanding
NDC	Nationally Determined Contributions
PacTVET	The European Union's Pacific Technical and Vocational Education and Training on Sustainable Energy and Climate Change Adaptation (PacTVET)
PCREEE	Pacific Centre for Renewable Energy and Energy Efficiency
PICs	Pacific Island Countries
PNG	Papua New Guinea
PRIF	Pacific Regional Infrastructure Facility (PRIF)
ProDoc	Project Document
SPC	Pacific Community
TA	Technical Assistance
TERM	Tonga Energy Road Map

Date of report: 1st January – 30th June 2022

1. General overview on all the activities conducted and achievements in the reporting period

A. Overall progress in the implementation of the annual work plan:

The overall progress during the reporting period was generally satisfactory even though the challenges of the pandemic were still prevalent and new challenges arose due to a volcanic eruption and a tsunami in the host country. These were mainly in the internet blackout in Tonga that lasted for more than 2 weeks and the diversion of attention and priorities to the recovery and the rebuilding of the affected communities.

A summary of PCREEE's achievements in its five Outcome Areas are highlighted below¹:

Outcome A: Effective and Efficient Management and Operation of PCREEE

- Circulated the draft minutes of the 5th PCREEE Steering Committee Meeting – **A 3.2**.
- Produced monthly progress reports to the management team of SPC's Georesources and Energy Programme. (monthly) – **A3.3**
- Maintained regular updates of the PCREEE Asset Register and Petty Cash and introduced a Payment Tracking Framework to address vendors' concerns with delayed payments. (monthly) – **A2.2**
- Completed a soft celebration of the PCREEE 5th Anniversary and launched PCREEE's 5th Annual Report and awareness materials – **A1.3 & A3.1**
- Completed the fabrication of the PCREEE conference room and the installation of a video conference facility, Manager's office and a server / storage room. **A 1.1, A.1.2**
- Started the process of recruiting 2 Pacific Islands Energy Professionals to replace the current incumbent in October and the Programme Delivery Officer. **A 2.1**
- Terminated the contract of the Programme Assistant in March, extended the contract of the Programme Delivery Officer until September 2022, completed the contract of the Sustainable Energy Coordinator in the Cook Islands in February and signed a contract for a Sustainable Energy Coordinator in Papua New Guinea [Jan]. **A2.1**
- Worked on an Addendum to the August 2021-signed SPC-ADA Contribution Agreement **A.2**
- Worked on a new SPC-UNIDO agreement as the original umbrella agreement expired in April 2021 **A.2**

Outcome 1: RE&EE Business Start-Up and Entrepreneurship Support

- Worked to accredit the Tonga Institute of Science and Technology to deliver the registered National Certificate on Sustainable Energy Levels 1 & 2. **1.4.3**
- Participated in the UNIDO / CIEMAT online training of trainers: 30 May – 17 June **1.1.2**
- Began the joint PCREEE-TEC bridging training workshop at Tongatapu **1.2.1**
- Jointly prepare with CAMCO a paper on a Regional Sustainable Energy Facility for the Pacific Energy Officials meeting in July. **2.3**

¹ The corresponding Output and Activity from the PCREEE Work Plan and Budget for 2022 is included in red.

Outcome 2: RE and EE for Sustainable Mobility

- Received SPC Management's approval to purchase an electric car for a demonstration project [2.4.1](#)
- Issued the RFP for the purchase of an E-car for the demo project [2.4.1](#)
- Provided TA support to the establishment of the LEAF Capital e-charging business in Fiji [2.1](#)
- Participate in the GGGI Electric Mobility in Fiji – Towards Decarbonization of Land Transport workshop [2.3](#)
- Discussed WB / PPA e-mobility study to design regional EV and Energy Storage System (ESS) deployment roadmap in 5 members of the Pacific Power Association (PPA). [2.1](#)
- Completed an introductory webinar on emobility with the Public Utilities Board of Kiribati. [2.3](#)
- Developed a Concept Note for a EV webinar for Tuvalu. [2.3](#)
- Conducted conference calls with consultants conducting transport consultancy studies in PNG and Vanuatu [2.3](#)
- Prepared paper on the progress with the emobility programme for the Pacific Energy Officials meeting in July. [2.3](#)

Outcome 3: Sustainable mini-grid systems

- Conducted mini-grids webinar in Palau, attended by 25 people . Training featured not only on the PCREEE website but also on the Pacific Power Association's Magazine [PPA-Magazine-Vol-30-Issue-2-FINAL-220622-1.pdf](#) [3.2](#)
- Continued liaising with ISA on the ISA CARE funding proposal to provide 24 hour power supply to a health centre in the Haápai Group of Tonga. [3.2](#)

Outcome 4: Energy Efficiency Investment

- Followed up on Vanuatu's delivery on the signed a Letter of Agreement with the Navara Savings & Credit Cooperative Society Limited (NSCL) of Vanuatu to promote widespread use of renewable energy systems and energy efficient appliances in their communities. [1.2.1 & 4.3.1](#)
- Continued discussions with the Private Finance Advisory Network (PFAN), GET Invest and Sunergise on possible collaborations on promoting and identifying investment opportunities in the energy sector of PICs. [4.3](#)

B. Progress concerning the establishment of the institutional set-up

Business Plan and e-Mobility Programme

The PCREEE's activities for the reporting period were in accordance with the PCREEE Business Plan.

There has been a lot of interests on the e-mobility programme since its launch in 2021. PCREEE prepared a meeting paper on the PCREEE EMOBILITY Programme to be presented to the Pacific Energy Officials Meeting in July.

Staff Regulations and Manual of Staff Policies

SPC continued to update and modernize its policies and regulations relating its staff and their employment conditions.

Staffing

The contract of the Programme Assistant was terminated in March due to non-performance and prolonged non-authorised absence from the office.

In-country national coordinators were trialled in the Cook Is, PNG and the Solomon Is to see whether it can improve in-country deliveries of the PCREEE's work plan and budget for 2022. No marked improvements were observed and therefore the PCREEE reverted to the recruitment of Pacific Islands Energy Professionals [SPC Band 8] as compared to the 3 years Programme Delivery Officer [Band 11].

Given the importance of accredited qualifications and training, as directed by Pacific Energy Ministers and the focus of the UNIDO-ISA STAR-C Programme – a Sustainable Energy Instructor was recruited on a 12 months consultancy to work on accrediting a Technical Institute in Tonga and to deliver NCSE Levels 1 & 2 and also to start developing Levels 3 & 4.

The recruitment of two Pacific Islands Junior Professionals to replace the one who will complete his contract in October and the Programme Delivery Officer began during the reporting period. The new staff are expected to come on board in October.

Partnerships

No new MoU was signed during the reporting period. Continued to liaise with ISA on a possible solar PV for health centre project from the ISA CARE programme and on the STAR-C.

The PCREEE was invited to deliver a presentation to a SPREP Pacific Climate Change Centre webinar on the findings of the IPCC 6th Assessment Report [particularly Working Group III Report on Mitigation].

Banking

PCREEE continued to work under the Suva-centralised banking systems and its petty cash fund – so far so good.

National Focal Institutions and Thematic Hubs

The PCREEE continued to work through the NFIs, noting the varying efficiencies and responsiveness. The SPC Suva office is planning on convening a Pacific Energy Officials meeting in July 2022 where an update on the PCREEE, particularly on its e-mobility programme, will be provided to a larger audience.

PCREEE continued to liaise with the thematic hubs, especially the Pacific NDC Hub, SPREP and the Pacific Islands Development Forum where it has established joint activities with them. PPA and USP are mostly liaising with the Suva-based team of the SPC Georesources and Energy Programme where they cover the broader energy agenda and including the PCREEE too.

Regular progress reporting to SPC

Monthly reports were produced for the monthly meetings of the Georesources and Energy Programme and enabled PCREEE activities to be coordinated with the other events of the Programme. Key highlights of each programme are presented on bi-weekly reports [weekly before] to the Director General.

C. Progress concerning the technical program of the Centre

The PCREEE continues to focus its effort on empowering the private sector through the following initiatives:

Business Start-ups and Mentoring

PCREEE's support in this KRA were in these strategic areas:

Support to Energy Regulators to create the enabling environment for investment

- Continued working with the Energy Regulator in Tonga (Tonga Electricity Commission-TEC) to raise awareness about its work and responsibilities and to support trained electricians to be accredited and registered with the TEC so they can be able to start an electrical business in the country. Started with the training during the reporting period and it will be completed on the second half of 2022.

Establishment of Sustainable Energy Industry Associations

- No further works on the establishment of the Sustainable Energy Associations and this is largely due to the travel restrictions. Since the borders started opening up in March, liaised with the associations in Fiji, Tonga, Papua New Guinea and Vanuatu on possible follow up assistance to their respective association and members.
- Started discussing with the Solomon Is on their proposal to establish an umbrella SI Sustainable Energy Industry Organisation (SISEIO). This SISEIO will be responsible for the accreditation of technicians to participate in the Sustainable Energy Industry. The technicians will either be from the Refrigeration and Air Condition Association, the Solar Installers and Designers Association or the Electricians Association. It has been extremely difficult to maintain continuity in the discussions and translate the concept note into reality.

PCREEE Sustainable Energy Entrepreneurship Fund

- There were no new takers other than the Navara Savings & Credit Cooperative Society Limited (NSCL) of Vanuatu. Vanuatu implementation is rather slow.

Adoption of accredited qualifications on Sustainable Energy

- Worked on accrediting the Tonga Institute of Science and Technology to deliver NCSE Levels 1 & 2 while developing Levels 3 & 4.
- Discussed the same support with Vanuatu, Solomon Is and PNG but no firm commitment from these PICs.

E-mobility

Most the work completed in this KRA were:

- TA to a EV charging business in Fiji
- Prepared for a EV demonstration project in Tonga
- Conducted EV webinar for Kiribati
- Compiled EV related developments and studies in the region and prepared for a regional e-mobility workshop in late November

Sustainable Mini-grids

- Completed a workshop for the staff of the Paalau Public Utilities Board
- Continued liaising with ISA on a solar mini-grid system for a health centre in Tonga and plans for STAR-C

Energy Efficiency Investment

- Navara Savings & Credit Cooperative Society Limited (NSCL) of Vanuatu signed a Subsidy Implementation Agreement with 2 NGEF-approved vendors in order to speed up implementation and use of the funds advanced.
- Discussed with CAMCO about submitting a paper on a regional renewable energy facility to the energy officials meeting in July.
- Continued discussions with the Private Finance Advisory Network (PFAN), GET Invest and Sunergise on possible collaborations on promoting and identifying investment opportunities in the energy sector of PICs.

2. Detailed overview on outcome and output level based on the results framework in the project document (later business plan)

See next page

PCREEE Results Framework

Development Impact (ultimate outcome)	Indicators	Baseline and targets	Means of verification	Risks and assumptions	Progress / Comments
<p>Improved access to modern, affordable, and reliable energy services, energy security, and mitigation of negative externalities of the energy system by promoting renewable energy and energy efficiency investments, markets, and industries in PICTs.</p>	<ul style="list-style-type: none"> - % increase of people with access to modern, reliable, and affordable energy services provided by RE technologies baseline 2017 - % increase of the RE and contribution to the electricity and transport mix of the PICTs (baseline 2017) - Increase of investments in RE&EE projects in PICTs baseline 2017 in USD - declining growth of fossil fuel use in power generation and land transport compared to BaU scenario. baseline 2017 - % decrease of GHG tCO₂ 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 	<p>Baseline:</p> <p>High energy costs and non-access hamper the socio-economic and industrial development in PICTs; rapid growth in fossil fuel use; 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 service companies;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 10% increase of people with access to modern, reliable, and affordable energy services provided by RE technologies (baseline 2017) - 10% increase of the RE contribution to the electricity and transport mix in PICTs (baseline 2017) - USD 100 million of additional investments in RE&EE projects (at least 25% of it are addressing key productive sectors in PICTs (baseline 2017) - 2% decline in the growth of fossil 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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 	

		<p>fuel use in PICTs due to the introduction of RE&EE technologies and solutions (baseline 2017)</p> <ul style="list-style-type: none">- 2% decrease of GHG tCO₂ emissions through implemented RE&EE projects- At least 100 additionally (directly or indirectly) created local jobs in the RE&EE sector (baseline 2017)- 10% increase of registered local companies in the RE&EE sector (at least 25% of them are in the manufacturing sector)			
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Outcome 1: RE&EE Business Start-Up and Entrepreneurship Support

Objective: To provide differentiated support to entrepreneurial RE&EE businesses across the enterprise development life cycle (start-up, early-stage, growth, and maturity).

Outputs	Indicators	Baseline and Targets	Means of verification	Risks and assumptions	Progress / Comments
Output 1.1 Project preparation Technical Assistance (TA) to support companies (A -start-up, B - early-stage, C- growth, and maturity). to progress until financial closure.	<p>- No. of TAs targeting specific needs of Type A, B & C businesses</p> <p>- No. of successful local businesses (Type -C) that are operating in non-RE&EE industries that have entered the RE&EE industry.</p>	<p><u>Baseline:</u> Absence of TAs targeting specific needs of Type A, B & C businesses.</p> <p><u>Target(s):</u> At least 1 Type A, B & C businesses are supported by PCREEE annually.</p> <p><u>Baseline:</u> Existing businesses consider energy as high risk and unprofitable.</p> <p><u>Target:</u> At least 2 existing businesses per year extend their portfolio to include sustainable energy.</p>	<p>- TA reports</p> <p>- Training documents</p> <p>- Business Registration</p>	<p>- The technical support facility is framed within the PCREEE Sustainable Energy Entrepreneurship Facility (PSEEF).</p> <p>- All the TA and advisory work are implemented by PCREEE in partnership with selected organizations.</p> <p>- There is private sector interest in investing in RE&EE projects in the region</p>	<p>Continued to review the GCF-submitted GCF SAP on Leveraging the National Green Energy Fund (NGEF) to Achieve Rural Electrification in Vanuatu.</p> <p>Commenced the joint energy business start up training workshops in 4 island groups in Tonga.</p>
Output 1.2 Financial support in the PICTs to increase RE&EE business opportunities for local companies and industry.	Value of loans and co-financing grants provided to local SMEs and NGOs	<p><u>Baseline:</u> Inability of local businesses to comply with the credit criteria of financing institutions, PSEEF, etc.</p> <p><u>Target(s):</u> At least 10 million USD of new loans and co-financing grants to local SMEs and NGOs in 2004</p>	<p>- Loan documents</p> <p>- Annual reports of financing and grant institutions</p>	<p>- The PCREEE Sustainable Energy Entrepreneurship Facility, PSEEF is well resourced and widely known in the region.</p> <p>- There is private sector interest in investing in RE&EE projects in the region</p> <p>- Regional development of policies and legal frameworks for energy continues and creates a favourable environment for sustainable energies.</p> <p>- Investments in RE&EE projects continue to be and perceived as</p>	Continued to follow up with the Navara Savings & Credit Cooperative Society Ltd of Vanuatu's use of PCREEE funds to empower entrepreneurs in the rural and remote areas of Vanuatu.

Outputs	Indicators	Baseline and Targets	Means of verification	Risks and assumptions	
Output 1.3 access to finance via different instruments, including connecting with existing financing facilities (i.e. local development banks, targeted local stimulus packages, local environment/energy funds, or ADB).	- No. of investment forums conducted and Commercial financial institutions engaged in the financing of RE&EE companies.	<u>Baseline:</u> the absence of a regular forum to match investors, project developers, and financiers. <u>Target(s):</u> At least 1 investment forum is conducted annually.	- Investment Forum reports.	- The Financial Institutions are interested in extending providing term loans to private sector service providers for RE&EE services. - There is private sector interest in investing in RE&EE projects in the region	Working with CAMCO to develop a public-private blend of funding for the private sector.
Output 1.4 Support to improvement of the policy and regulatory frameworks and business-enabling environment both at the regional and national levels.	- No. of inputs from the national industry associations and related businesses to the review and drafting of the sustainable energy policy and regulatory frameworks. - No. of Promotions of income-generating activities and productive uses of energy.	<u>Baseline:</u> Lack of and inactive participation of the national industry associations in shaping the sustainable energy business environment in PICs. <u>Target(s):</u> At least 3 TAs conducted to support inputs from national industry associations to the policy and regulatory framework regarding the national sustainable energy business environment.	- Training reports - Minutes of investment forums	- Involved organisations accept and assist the support to the improvement of the policy and regulatory frameworks and business-enabling environment both at the regional and national levels. - There is private sector interest in investing in RE&EE projects in the region	Joined the industry association in Tonga in reviewing Tonga's TERM Plus framework. Liaised with the industry associations in Fiji, PNG and Vanuatu on possible PCREEE-supported follow TA.
Outcome 2: RE&EE for Sustainable Mobility					Progress / Comments
Objective: A comprehensive e-mobility readiness programme that best prepares PICTs for their respective sustainable mobility futures.					
Output	Indicators	Baseline and Targets	Means of verification	Risks and assumptions	
Output 2.1 Adopted Sustainable e-mobility Policy and Regulatory Frameworks	- No. of High-level energy and GHG targets and mandates that include RE and EE in the promotion of low carbon mobility	<u>Baseline:</u> Absence of EE and GHG targets on low carbon mobility, including EVs <u>Target:</u> 5 PICTs include low carbon mobility / EV targets in	- National Energy and GHG roadmaps and policies - NDCs - LEDS	- PICs continue to push for urgent and ambitious energy / GHG targets	E-mobility featured more prominently in the second / enhanced NDCs as well as in the regional energy framework

	<p>- No. of PICs with adopted regulatory frameworks and policies that consider exploring the feasibility of EVs for low carbon mobility</p> <p>- A Project Document with a monitoring and evaluation system for promoting the understanding and familiarity with EVs</p>	<p>their Energy / GHG targets by 2025</p> <p><u>Baseline:</u> EE in transport, including EVs are missing from the energy roadmaps, NDCs, and Low Emissions Development Strategies</p> <p><u>Target:</u> 5 PICs include EE in transport and EV in their energy roadmaps, NDCs, and Low Emissions Development Strategies by 2025</p> <p><u>Baseline:</u> Absence of a regional Project Document with an M&E system for promoting the understanding and familiarity with EVs</p> <p><u>Target</u> A regional EV Project Document is adopted by the PCREEE Steering Committee in 2021</p>	- Regional EV Project Document		<p>(FESRIP) that was adopted by Forum Leaders in July.</p> <p>Currently liaising and supporting the CTCN-funded development of EV policy and roadmap in PNG by HEAT International.</p> <p>Currently supporting Tonga in requesting a TA from NREL to draft its Policy for the promotion of EE in the Transport Sector & an Electric Mobility Transition Strategy.</p>
Output 2.2 Adopted Standards and Guidelines	<p>- No. of model Standards and Guidelines developed for aspects of EVs retirement of EVs, low-voltage vehicles, mobility batteries, standards for “EV-ready” new constructions</p> <p>- No. of other model Guidelines and Standards set for other aspects</p>	<p><u>Baseline:</u> Absence of any model standards and guidelines on EVs</p> <p><u>Target:</u> At least 5 PICs have adopted EV standards and guidelines relating to the retirement of EVs, low-voltage vehicles, mobility batteries, standards for “EV-ready” new constructions by 2025 Programmes</p> <p><u>Baseline:</u> Absence of any model standards and guidelines on EVs</p>	- National energy standards and guidelines	-There is political will to adopt standards, guidelines, and training on EVs.	<p>Conducted webinars on EVs and emphasized the need to have standards at the beginning of importing EVs.</p> <p>First draft of EV guidelines produced and circulated internally for comments.</p>

	<p>of EVs including charging connectors, use of V2H and on-site management charging, e-mobility security, and available options</p> <p>- No. of Technical courses developed and introduced on EVs</p>	<p><u>Target:</u> At least 5 PICTs have adopted EV standards and guidelines relating to charging connectors, use of V2H and on-site management charging, e-mobility security, and available options by 2025</p> <p><u>Baseline:</u> Absence of EVs from technical courses related to mechanical/electrical engineering</p> <p><u>Target:</u> At least 3 technical institutes in the PICTs deliver technical courses that cover EVs</p>			
Output 2.3 Effective Awareness Raising and Promotion	<p>- No. of Social marketing research is undertaken</p> <p>- No. of EV awareness, information, and promotion campaign developed and delivered</p> <p>- No. of Guidelines on EV purchase, charging, servicing, and support developed, published, and promoted</p>	<p><u>Baseline:</u> No social marketing research on EVs</p> <p><u>Target:</u> A social and marketing research on EV is completed in at least 3 PICTs by 2025</p> <p><u>Baseline:</u> No targeted awareness and promotion campaign on EVs in the region</p> <p><u>Target:</u> At least 5 awareness and promotion campaigns on EVs completed by 2025</p> <p><u>Baseline:</u> No. Guidelines on EV purchase, charging, servicing, and support developed, published, and promoted</p> <p><u>Target:</u> There is a model guideline on EV purchase, charging, servicing, and support developed, published, and promoted by 2022</p>	<p>- Social marketing research document</p> <p>- Report of Campaign and awareness</p> <p>- Model Guidelines on EV purchase, charging, servicing, and support</p>	<p>- PICTs buy into the concept that sustainable mobility offers an alternative to reduce fossil fuel dependency, increase energy security, mitigate climate change effects, and underpin PICTs domestic economies without further harming the environment.</p>	<p>Completed awareness event at Samoa on sustainable transport but with an emphasis on EVs.</p> <p>Prepared EV awareness materials to support EV awareness events in PICTs.</p>

<p>Output 2.4 Successful Demonstration and Upscale</p>	<p>- Quality products and services system supported and developed, published and promoted</p> <p>- No. of Demonstrations of technologies and business services (i.e. small marine vessels, electric bus, e-mobility charging facilities, and batter swapping, among others)</p> <p>- No. of Public charging infrastructure installed and/or co-investment promoted</p>	<p><u>Baseline:</u> Very little EV-related demo of quality EV products and services</p> <p><u>Target:</u> At least 2 demo EV projects by 2025</p> <p><u>Baseline:</u> No Demonstrations of technologies and business services (i.e. small marine vessels, electric bus, e-mobility charging facilities, among others)</p> <p><u>Target:</u> There is a demo of EV technologies and services, including Battery swapping for low-voltage mobility use is available on a commercial scale in the marketplace</p> <p><u>Baseline:</u> Hardly a public charging infrastrucrue for EVs in the PICs</p> <p><u>Target:</u> 50% of all mainstream EVs are charged through devices that are managed-charging enabled by 2030</p>	<p>- Demonstration projects´ reports</p> <p>- Managed charging stations reports</p>	<p>- PICTs buy into the concept that sustainable mobility offers an alternative to reduce fossil fuel dependency, increase energy security, mitigate climate change effects and underpin PICTs</p> <p>- There is private sector interest in investing in RE&EE projects in the region</p>	<p>Discussed and developed Concept Notes for EV demo projects in the Cook Is, Tonga and Vanuatu.</p> <p>Supported an EV taxi project and EV shuttle buses projects in Fiji.</p> <p>Conducted a webinar on EVs for the Kiribati Public Utilities Board.</p>
<p>Outcome 3: RE mini-grids</p>					<p>Progress / Comments</p>
<p>Objective: Increased clean energy access and improved livelihoods for communities through technically sound mini-grid systems</p>					
<p>Output</p>	<p>Indicators</p>	<p>Baseline and Targets</p>	<p>Means of verification</p>	<p>Risks and assumptions</p>	
<p>Output 3.1 Market Intelligence: Enhanced awareness of mini-grid market and strengthen market knowledge through market intelligence development.</p>	<p>A Web-based market knowledge platform is established</p>	<p><u>Baseline:</u> Limited market knowledge and data about RE mini-grids</p> <p><u>Target:</u> A regional Web-based knowledge platform for mini-grids is fully functional and hosted by the PCREEE by end of 2022,</p>	<p>Web-based platform available</p> <p>No. of hits/visits to the platform</p> <p>Data collection sheets</p>	<p>The willingness of the PICT and project developers to share data and information.</p> <p>Risk that lack of ICT connection may hinder</p>	<p>Data collection and market research are on-going.</p>

	<p>Up-to-date market information are published and shared on the platform</p> <p>A Database of Mini-grid projects in PICTs</p>	<p><u>Baseline:</u> No sharing of market information and data on RE mini-grids</p> <p><u>Target:</u> Updated market information about mini-grids are shared on a regular/monthly basis from the platform, commencing in 2023</p> <p><u>Baseline:</u> No database and Little data available on RE mini-grids</p> <p><u>Target:</u> A fully functional database with key data is available on the platform by end of 2022</p>	<p>Database available</p>	<p>access to the knowledge database</p>	
<p>Output 3.2 Capacity Building, Public and Private Partnerships: Empowered local institutions and private sector and increased project developments through capacity building and reinforced networks and partnerships between stakeholders.</p>	<p>A Pro-Poor Public-Private Partnership (5P) business model is developed for mini-grids</p> <p>A Capacity building program on mini-grids is delivered</p> <p>No. of Promotion of mini-grid and public-private partnerships conducted</p> <p>No. of national sustainable energy industry associations established to</p>	<p><u>Baseline:</u> - Unclear pro-poor business model for mini-grids</p> <p><u>Target:</u> A 5P business model is developed to assist in sustainably managing mini-grid systems in the PICT.</p> <p><u>Baseline:</u> Ad-hoc delivery of capacity building services in mini-grids</p> <p><u>Target:</u> A regional capacity building programme on mini-grids is adopted by end of 2021</p> <p><u>Baseline:</u> No promotion of mini-grid and PPP conducted</p> <p><u>Target:</u> At least 3 PPPs on mini-grid signed by end of 2024</p> <p><u>Baseline:</u> 3 national industry associations have been established</p>	<p>PCREEE Progress Reports Minutes of the PCREEE Steering Committee meetings Annual Report of the PIC national energy offices Reports of capacity building events PPP signed [if not confidential]</p>	<p>Energy access remains a high priority in the PICT Governments</p> <p>Governments are pro-poor and support private sector-led developments</p>	<p>Completed mini-grid workshops in Tonga and Palau jointly with INES and ISA.</p>

	support mini-grids	<u>Target:</u> An additional 5 national industry associations are established by end of 2024 (i)			
Output 3.3 Increased entrepreneurship through productive uses of energy.	No. of micro and SMEs established due to the improved reliable supply of energy Increased jobs and income-generating activities due to the improved reliable supply of energy	<u>Baseline:</u> Unknown number of new micro and SMEs established <u>Target:</u> At least 5 new micro and SMEs established by end of 2023 <u>Baseline:</u> Unknown number of new jobs and income-generating activities <u>Target:</u> At least 50 additional jobs and USD 100k of additional income due to new micro and SMEs	Business Registration and Licenses Tax records Business tax returns and salary slips	Other supporting incentives from govt empower people with the confidence to start new micro and SME.	
Outcome 4: Energy Efficiency Investment					
Objective: To enhance the competitiveness of manufacturing and service industries in the Pacific Region while reducing Greenhouse Gas (GHG) emissions by mobilising additional investment for public institutions and private sector organisations in the market of domestic, industrial, and commercial EE.					
Output	Indicators	Baseline and Targets	Means of verification	Risks and assumptions	
Output 4.1 International standards (ASHRAE, ISO, ANZ, etc) adopted for lighting and thermal efficiency and potentially included in building codes.	- No. of Validation workshops and TA support for PICTs on appliance labelling and standards	<u>Baseline:</u> 5 PICs have adopted legislation on labelling and standards for refrigerators and freezers and are enforcing their legislations <u>Target:</u> An additional 5 PICs adopt legislations on labelling and standards by 2025.	- Cabinet Decisions Parliamentary records	There is a commitment from governments to remove inferior products from the market.	Drafted the operational manual for Tonga's MEPSL, subject to the adoption of the Tonga Energy Bill. Discussed with the Pacific NDC Hub the delivery of the same assistance to Kiribati.
Output	Indicators	Baseline and Targets	Means of verification	Risks and assumptions	
Output 4.2 Assistance provided to PICTs for adopting energy conservation practices for the design, construction, and utilization of	- Conservation practices guidelines, mandatory consumption reporting, energy saving plans, maintenance	<u>Baseline:</u> EE practices are not integrated into the design of infrastructure and public facilities <u>Target:</u> At least 5 PICs incorporate EE	Building codes Transport costs Work Safety codes	Involved organisations accept and implement the practices.	EE effort and activities were mostly focused on EE in land transport.

energy-efficient facilities.	plans, TA, and forums to support PICTs and encourage the private sector to step in.	considerations in their building, transport, and work safety codes by 2024.			
Output 4:3. Access to financing via different instruments facilitated.	- No. of EE financing instruments, research study, consultation workshops with relevant institutions, TA support to public and private organisations, and seed-funding grant provision.	<u>Baseline:</u> Limited financing available for EE investments <u>Target:</u> at least USD 10 million is available for EE investment in the PICT by end of 2024	- Donor reports - Financing Institutions reports	Availability of a credit risk facility to safeguard investors.	EE funding are included in the investment forums and funding discussions with CAMCO, etc

4. Main problems and constraints encountered and counter measures taken:

- **COVID-19 Panedemic**

The pandemic has been a challenge in terms of delivering the work programme. Border lockdowns began in March 2020 and started opening up in March 2022. Despite the opening up in some PICs, movements were still restricted.

The pandemic offered an opportunity to do business differently by way of virtual meetings and trainings, such as the Palau mini-grid and Kiribati e-mobility webinars.

- **Competing Priorities of the National Focal Institutions and Thematic Hubs arrangement**

The energy landscape of the Pacific Islands is rapidly changing and is quite different to the environment during the development of the PCREEE ProDoc. Other related entities such as the Pacific's Maritime Technical Cooperation Centre, the Pacific NDC Hub, the Pacific Climate Change Centre at SPREP, the Global Green Growth Institute and the International Solar Alliance have all emerged and will contribute, in one way or the other, to renewable energy and energy efficiency in the region. Each of these are operating in relation to an international, regional and national framework regarding either transport, energy and climate change.

The National Coordinators and national focal institutions in some are just the same with the PCREEE NFIs and Thematic Hubs, there is certainly a lot of work expected of these officials and institutions with their limited capacity. The NFI and THs arrangement for the PCREEE is working but could be working better and more effectively because of the competing demands from closely related institutions that the member countries and institutions are working with. People therefore become very selective on who they work with according to their own respective criteria and preferences. On the other hand, some positives have been achieved due to the ability of some NFIs and THs to link PCREEE to the work of other institutions that they are working with.

- **Need to better align the PCREEE to SPC's Georesources and Energy Programme (GEP) and the new SPC Strategic Plan 2022 – 2031.**

SPC's governing body adopted SPC's strategic plan 2022-2031 and the Division's and PCREEE's Business Plans will be reviewed to ensure they are consistent and aligned well with the corporate strategic plan.

- **The PCREEE is understaffed in terms of numbers and the levels of expertise and experiences.**

PCREEE tried to strengthen its in-country presence and trialled the engagement of three in-country coordinators in the Cook Is, PNG and the Solomon Is to strengthen its in-country presence. This 6 months trial has not proven to be effective and there are mixed results.

- **Heavy focus on the host country**

The host country / Tonga has the most number of activities delivered on the ground. This is mainly due to their proactiveness and being next door to the PCREEE. This does not bode well with the PCREEE as a regional entity.

5. Proposed way forward:

It will take at least until the end of 2022 for the world to return to pre-COVID normal. The PCREEE has prepared to deliver most of its services virtually by fabricating a conference room and furnished with a video conference facility. The challenge now is to get the local counterparts [thematic hubs and national coordinators energized and motivated to effectively coordinate local events with PCREEE's.

PCREEE needs to be more aggressive in promoting its support to the PICs and empowering local officials to be able to convene and deliver more in-country activities that are aligned with national priorities.

Furthermore, PCREEE is going to open its virtual national events to others from the region who may be interested in the same event, where it is technically possible to do so.

6. Attachments:

- Signed Financial Report [earlier submitted by Shanu].

Report prepared by:
Manager - PCREEE:



Tonga, 27th September 2022