

INDEPENDENT TERMINAL EVALUATION

Terminal Evaluation Report of the UNIDO Project “First Operational Phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)”

Project ID: 140276



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Distr. GENERAL

EIO/IEU/22/R.10

July 2023

Original: English

This evaluation was managed
by the responsible
UNIDO Evaluation Officer
with quality assurance by the
Independent Evaluation Unit

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of company names and commercial products does not imply the endorsement of UNIDO. The views and opinions of the team do not necessarily reflect the views of the involved Governments and of UNIDO.

This document has not been formally edited.

Table of Contents

Table of contents.....	iii
Abbreviations and acronyms.....	iv
Glossary of evaluation-related terms	vi
Acknowledgments.....	vii
Executive summary	viii
1. Introduction	1
1.1 Evaluation objectives and scope.....	1
1.2 The project context.....	1
1.3 Evaluation methodology.....	3
1.4 Challenges and limitations of the evaluation	7
2. The project's contribution to development results.....	9
2.1 Effectiveness.....	9
2.2 Progress towards impact.....	15
3. Project's quality and performance.....	20
3.1 Project design and logframe.....	20
3.2.Relevance	22
3.3.Coherence	25
3.4.Efficiency.....	26
3.5. Sustainability and external risks	28
3.6. Cross-cutting issues.....	29
4. Performance of partners	32
4.1 Executing agencies: unido, spc, government of tonga and sids dock.....	33
4.2 National focal institutions (nfis).....	34
4.3 Other donors	35
4.2. National, regional and international counterparts	35
5. Factors facilitating or limiting the achievement of results.....	38
5.1. Monitoring & evaluation	38
5.2 Results-based management (rbm)	39
5.3 Overarching assessment and rating table	40
6. Conclusions, recommendations & lessons learned.....	43
6.1 Conclusions	43
6.2 Recommendations	44
6.3 Lessons learned	46
Annex 1: Logframe	47
Annex 2: List of documents revised	67
Annex 3: List of consulted stakeholders.....	74
Annex 4: Details on project effectiveness and progress towards overall impact	76

Abbreviations and Acronyms

Acronyms	Definition
ADA	Austrian Development Agency
ADB	Asian Development Bank
AIFFP	Australian Infrastructure Financing Facility for the Pacific
BP	Business Plan
BMeiA	Austrian Federal Ministry for European and International Affairs (BMeiA)
CCM	Climate Change Mitigation
CROPS	Council of Regional Organisation of the Pacific
CTCN	Climate Technology Centre and Network
EB	European Bank
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ESWG	Energy Security Working Group
ET	Evaluation Team
FAESP	Framework for Energy Security in the Pacific 2010 - 2020
FFA	Pacific Islands Forum Fisheries Agency
FSEC	Fiji Sustainable Energy Consortium
GGGI	Global Green Growth Institute
GHG	Greenhouse Gases
GN-SEC	Global Network of Regional Sustainable Energy Centres
IPESP	Implementation Plan for Energy Security in the Pacific
IPP	Independent power producers
IRENA	International Renewable Energy Agency
ISA	International Solar Alliance
IUCN	International Union for the Conservation of Nature
IWON	Island Women Open Network
JICA	Japan International Cooperation Agency
MBO	Management by Objective
M&E	Monitoring and Evaluation
M&E	Monitoring and Evaluation
MEIDECC	Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications
MFA	Ministry of Foreign Affairs
NECAT	National Electrical Contractors Association of Tonga
NFI	National Focal Institutions
NORAD	Norwegian Agency for Development Cooperation
OT	Outcomes
PASO	Pacific Aviation Safety Office
PC	Project Components
PCCC	Pacific Centre for Climate Change
PCREEE	Pacific Centre for Renewable Energy and Energy Efficiency
PEAG	Pacific Energy Security Advisory Group
PEGSAP	Pacific Energy and Gender Strategic Action Plan
PEOG	Pacific Energy Oversight Group

Acronyms	Definition
PFAN	Private Financing Advisory Network
PICTs	Pacific Island Countries and Territories
PIDF	Pacific Islands Development Forum
PIDP	Pacific Islands Development Programme at the East-West Centre in Hawaii
PIFS	Pacific Islands Forum Secretariat
PPA	Pacific Power Association
PRF	Project Results Framework
PSC	Project Steering Committee
PSC	Project Steering Committee
R&D	Research and Development
RBM	Results-Based Management
SDG	Sustainable Development Goal
SDGs	Sustainable Development Goals
SEIAPI	Sustainable Energy Industry Association for Pacific Islands
SEAP	Solar Energy Association of Papua New Guinea
SEAV	Sustainable Energy Association of Vanuatu
SEforALL	UN Sustainable Energy for All
SIDS DOCK	Small Island Sustainable Energy and Climate Resilience Organisation
SINU	Solomon Islands National University
SMART	specific, measurable, attainable, reachable and timebound
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
SPTO	South Pacific Tourism Organisation
SUNGO	Samoa Umbrella for Non-Governmental Organisation
TE	Terminal Evaluation
TER	Terminal Evaluation Report
TERM	Tonga Energy Roadmap
TH	Thematic Hubs
TOC	Theory of change
UNEP	United Nations Environmental Program
UNFCCC	UN Framework Convention in Climate Change
UNIDO	United Nations Industrial Development Organisation
USAID	United States Agency for International Development
USP	University of the South Pacific

Glossary of Evaluation-related Terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change due, directly or indirectly, to an intervention.
Effectiveness	The extent to which the development objectives of an intervention were or are expected to be achieved.
Efficiency	A measure of how economically inputs (through activities) are converted into outputs.
Impact	Positive and negative, intended and un-intended, directly and indirectly, long term effects produced by a development intervention.
Indicator	Quantitative or qualitative factor that provides a means to measure the changes caused by an intervention.
Intervention	An external action to assist a national effort to achieve specific development goals.
Lessons learned	Generalizations based on evaluation experiences that abstract from specific to broader circumstances.
Logframe or Project Results Framework (logical framework approach)	Management tool used to guide the planning, implementation and evaluation of an intervention. System based on MBO (management by objectives) also called RBM (results-based management) principles.
Outcome	The likely or achieved effect of an intervention's outputs.
Outputs	The products in terms of physical and human capacities that result from an intervention.
Relevance	The extent to which the objectives of an intervention are consistent with the requirements of the end-users, and policies of governments and donors.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed.
Target groups	The specific individuals or organizations for whose benefit an intervention is undertaken.

Acknowledgments

The Evaluation Team, made up of Ms. Claudia Raimundo and Ms. Apisake Soakai, would like to thank the UNIDO Office of Evaluation and Internal Oversight, the Department of Energy of the Climate, Technology and Innovation Division, and all UNIDO staff who participated in the evaluation. We are also thankful to the Manager and staff of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), who supported the evaluation process diligently. In particular, we would like to thank all the stakeholders for their engagement and participation. A special thanks is due to Mr. Gentjan Sema, Mr. Martin Lugmayr, Mr. Solomone Fifita and Mr. Francesco Cuda, who remained available and continuously supported the successful execution of this evaluation.

Executive Summary

Introduction

This Terminal Evaluation (TE) assesses the United Nations Industrial Development Organisation (UNIDO) project entitled “First Operational Phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)”. The establishment of the PCREEE under the Global Network of Regional Sustainable Energy Centres (GN-SEC) platform materialised through a partnership between UNIDO and the Pacific Community (SPC)¹.

The PCREEE was inaugurated on 26th April 2017 in Nuku’alofa, Tonga following the endorsement of the Ministers of Energy of the Pacific Island Countries and Territories (PICTs) within the SPC and extensive stakeholder consultations by UNIDO with all stakeholders in the region. The objective of the PCREEE is to strengthen the regional institutional capacities for the promotion of sustainable energy investments, markets, and industries in the Pacific. The Centre aims to fill gaps and 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 First Operational Phase of the PCREEE was mainly financed by the Royal Norwegian Ministry of Foreign Affairs (from herein referred as Royal Norwegian MFA), Austrian Development Agency (ADA) and Austrian Federal Ministry for European and International Affairs (Austria MFA/BMeiA). It has been executed by the SPC, the Government of Tonga (PCREEE host country) and Small Island Sustainable Energy and Climate Resilience Organisation (SIDS DOCK); and implemented by UNIDO. The First Operational Phase of the PCREEE was initially planned to last for four (4) years (September 2016 – August 2020). However, it was extended for two (2) more years (until the end of December 2022) due to increased funding from Austria to UNIDO during project implementation and the COVID-19 pandemic.

This report contains the findings of the TE of the First Operational Phase of the PCREEE. This TE aims to help UNIDO improve performance and results of ongoing and future programmes and projects, through the pursuit of two main objectives:

- Assess the project’s performance in terms of its relevance, effectiveness, efficiency, sustainability, and progress to impact (the accountability objective); and
- Develop a series of findings, identify lessons learned, and provide recommendations for further development of PCREEE Project (Second Operational Phase) as well as enhance the design of new and implementation of ongoing projects by UNIDO related to institution building and technology centres (the learning objective).

The TE was carried out between December 2022 and May 2023, in accordance with the UNIDO Evaluation Policy, and covers the whole duration of the project from its starting date on 1 September 2016 to its completion date of 31 December 2022 (75 months of project implementation).

In summary the TE found the First Operational Phase of the PCREEE to be overall Satisfactory.

Key Findings of the PCREEE TE

The following are the key findings of the TE.

Progress to Impact	Progress to impact was considered Satisfactory. The ET found that in terms of its overall aim, the Centre has been strengthening the regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific by creating an efficiently managed and financially sustainable PCREEE. It is recognised by national, regional, and international institutions as an agency strengthening institutional capacities for promotion and implementation of sustainable energy projects in the region. The Centre is considered efficiently managed, although not yet sustainable.
--------------------	---

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)

	<p>With regards to the Centre’s expected development impacts, these were estimated by the ET to be 50% achieved, as the expected impact related to overall electricity access, increase in renewable energy share in the electricity mix, investment in renewable energy were all fully achieved and the one related to the decrease in GHG emissions through the implementation of renewable energy projects was partially achieved.</p> <p>The impacts and benefits of PCREEE are recognised by the different actors involved in sustainable energy in the PICTs. The following have been highlighted as PCREEE’s main benefits:</p> <ul style="list-style-type: none"> • has provided the region with a framework for renewable energy and energy efficiency; • has supported the implementation of that framework through the deployment of renewable energy solutions (e.g., E-mobility) on the ground through the involvement of the private sector; • supported the creation of private sector associations and supported the development of PPAs for IPPs; • built the capacity of SPC and other institutions in the region on renewable energy and energy efficiency topics; and • has brought together the actors in the Pacific to work on renewable energy and energy efficiency topics. <p>Going forward, in order for the Centre to yield better results in the future, the following areas need to be improved: fund mobilization, human resources, implementation of pilots/ concrete innovative projects, and expansion of the engagement with the PICTs NFIs.</p> <p>Based on feedback from the consulted stakeholders, the ET believes that a big part of PCREEE programmes and activities can be replicated across the PICTs, other SIDS and by other GN-SEC centres. This is the case of the E-Mobility Programme (specially the pilot projects), the Mini-grid programme as well as the activities that PCREEE has implemented with the private sector, including the establishment of renewable energy associations, training on Power Purchase Agreements and Benchmark of EE with utilities.</p> <p>Although the stakeholders recognise the positive impact that the PCREEE has been having throughout the implementation of its programmes, the strength of the Centre lies for a big majority of the stakeholders in the establishment of partnerships / mobilising investment in support of the private sector. The Centre has been very successful in creating synergies with on-going actions in the PICTs. An example of this is the approach taken to conduct events/workshops, in which the PCREEE joins and/or adds to events promoted by other actors in the sustainable energy area, which is especially important due to the fragmentation of the PICTs. This brings benefits: (i) to the stakeholders participating in the events (adding more value to the stakeholders and avoiding additional travel), (ii) to the events (ensuring higher participation and cost-efficiency), and (iii) to the environment (saving on carbon emissions), just to name a few.</p>
Design	<p>Overall, the PCREEE design was considered Satisfactory.</p> <p>PCREEE Project Document clearly identified the problem, needs and barriers/gaps to be addressed. The project was adequately designed to mitigate the identified barriers/gaps at the same time that it met the needs of the Pacific region, its PICTs and of the several target groups ensuring sustainability and avoiding duplication of efforts. The activities included in the PCREEE Project Document are sound, appropriate and consistent with the project’s stated objective. The project design in terms of institutional and implementation arrangement is valid and relevant. The project design also included a section on Monitoring, Reporting and Evaluation (M&E) detailing how M&E activities should be carried out. However, this M&E did not include a specific budget and the logframe (main tool to be used in the M&E activities) could have been better designed.</p>
Relevance	<p>The relevance of PCREEE was considered Highly Satisfactory.</p> <p>The Centre is clearly aligned with national, regional and international priorities. Internationally, it is aligned with the UN Framework Convention on Climate Change; the UN Sustainable Energy for All initiative; the SIDS DOCK initiative as well as the Sustainable Development Goals. Being hosted by SPC it is fully integrated into the decision-making process under the regional frameworks of the FAESP 2020 and FESRIP 2030 and its role has been highlighted in these policy documents. The PCREEE has been able to identify and address the needs and gaps in the region to remain relevant. The relevance of PCREEE was</p>

	<p>further confirmed by the stakeholders that see the centre, its activities, and outputs as “relevant” or “very relevant”.</p> <p>The PCREEE First Operational Phase is aligned with UNIDO strategies and the GN-SEC as well as the programmes and strategies of the contributing donors (e.g., ADA, Austria MFA and Royal Norwegian MFA, Korea).</p>
Coherence	<p>Coherence was considered Highly Satisfactory.</p> <p>The PCREEE is clearly aligned with national, regional, and international interventions thus creating synergy and avoiding duplication. The Centre has been very successful in creating synergies with on-going actions in the PICTs. An example of this is the approach taken to conduct events/workshops, in which the PCREEE joins and/or adds to events promoted by other actors in the sustainable energy area, which is especially important due to the fragmentation of the PICTs.</p>
Effectiveness	<p>Effectiveness of the Centre was considered Satisfactory.</p> <p>The results of the PCREEE programme (both outputs and outcomes) were mostly achieved. Most of the Outcomes of the PCREEE were positively achieved (Outcome 1, Outcome 2 and Outcome 3). Outcome 4 was the only one with a reduced progress in implementation, and remains the only one that was partially achieved.</p> <p>The advent of COVID-19 strongly impacted the level of achievement of the activities, as with the pandemic the Centre personnel got reduced delaying and impacting the implementation of the PCREEE activities, across the different PCs.</p> <p><u>Outcome 1:</u> Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable PCREEE, was fully achieved, as the core functions and activities of the Centre were successfully launched.</p> <p>Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the upscaling and replication of certified training and applied research programmes and mechanisms, was moderately achieved. In addition, PCREEE was also very successful in promoting innovative technology transfer to the PICTs. However, the objective related to the adoption of the competency targets was only partially achieved or not achieved.</p> <p>Outcome 3: Enhanced awareness of key stakeholder groups on renewable energy and energy efficiency opportunities through the upscaling of regional mechanisms for data and knowledge management and advocacy, was mostly achieved. PCREEE has made information and knowledge available on renewable energy and energy efficiency through its website (where more than 1,500 documents are available), through conferences and regional awareness campaigns.</p> <p>Outcome 4: Increased renewable energy and energy efficiency business opportunities for local companies and industry through the execution of regional investment promotion programmes and tailored financial schemes, was partially achieved.</p>
Efficiency	<p>Overall, efficiency was considered Satisfactory.</p> <p>The PCREEE project got extended for two additional years due to an increase in funding from Austria to UNIDO as well as the Covid-19 pandemic. In terms of mobilization of co-finance, the PCREEE - with UNIDO’s assistance - was able to mobilize approximately 77% of its total budget. The Centre has used its resources efficiently, as with 77% of the total budget raised the centre achieved 73% of outputs and outcomes.</p> <p>The PCREEE would benefit from having a financial reporting system to track the total amount of co-finance (cash and in-kind) raised / spent, as well as to use it to report on that.</p>
Sustainability and External Risks/ Factors	<p>Sustainability was found Moderately Satisfactory.</p> <p>Sustainability actions were considered in the project design although only parts were implemented. The Centre is not yet financially sustainable, continuing to mainly rely on donor funding for its implementation. Also, there is a risk to PCREEE’s financial sustainability, as the project has only raised 9% of its financial needs until 2025.</p> <p>Although strategically the Centre has been building and maintaining strong relationships with partners across the region to sustain its delivery, and PCREEE’s active collaboration has been its strength, there is a strong need to mobilize funding (core funding and funding for implementation of the technical programmes) and to diversify the sources of funding, so that the Centre becomes sustainable.</p>

Partners Performance	<p>Partners' performance was considered overall Highly Satisfactory.</p> <p>UNIDO was a key agency in facilitating the Centre's design and establishment, as well as in supporting its operationalization through the provision of technical input support, partnership facilitation', core funding, and mobilization for the implementation of PCREEE's First Operational Phase of the Centre. UNIDO has performed all its roles as anticipated and was key in the mobilization of funding for the Centre. In addition, the donors were satisfied with the completeness and quality of UNIDO's reports.</p> <p>SPC, Government of Tonga, and SIDS DOCK (other executing agencies apart from UNIDO), were instrumental in the operation of the Centre by investing significant funding, actively engaging through mentoring, and participating in the governance of the PCREEE.</p> <p>The significant investment and confidence of the key donors' (ADA, Austria MFA, Royal Norwegian MFA, UNIDO, SPC and the Government of Tonga) in the Centre was the catalyst to strengthening the industry and gradually moving the region from fossil fuel to clean energy. All key donors provided their funds on time for the Centre to implement its activities.</p> <p>The partnership between the PCREEE and the National, Regional, and International Counterparts has been one of the successes of the project. Regional and international agencies mobilised around the synergy and resource sharing with the Centre. National governments were proactive in implementing their renewable energy and energy efficiency targets, which were aligned with the mandate of the Centre. The contribution of these partners should be highlighted because it demonstrated the support and acceptance of having the PCREEE in the region.</p>

Challenges identified in the implementation of the PCREEE First Operational Phase:

Monitoring & Evaluation (M&E)	<p>Overall, the M&E was considered moderately unsatisfactory. The Centre has been using the Logframe as set up in the PCREEE Project Document for the M&E activities. The Logframe has some issues in terms of design and was never adjusted to better reflect the activities of the Centre. PCREEE progress reports covered activities achieved but impact and outcomes of these activities were not always reflected in the reporting. Additionally, some periods were not covered in the progress reports (July to December 2018 and July to December 2019).</p> <p>Progress reports and annual reports submitted by UNIDO to donors were complete and of good quality, although sometimes not submitted on time.</p>
-------------------------------	--

Conclusions

C1. Overall, the ET found the implementation of the PCREEE First Operational Phase to be Satisfactory (S).

The regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific have been strengthened by the institutionalisation and implementation of the PCREEE First Operational Phase.

The Centre's design in terms of institutional and implementation arrangements was valid and relevant and remains valid for the Centre going forward.

The donors and executing entities seemed to be satisfied that the Centre achieved its main objectives although some of them believed that the Centre could have been more ambitious and achieved more.

C2. The PCREEE is clearly aligned with national, regional and international priorities and interventions; and it has been and continues to be relevant for the region.

The centre has been relevant to the region and is recognized for bringing sustainable energy to the political agenda of the PICTs, for its engagement with the private sector entities, for its innovative projects and programmes in the field of E-mobility, training and capacity building of renewable energy and energy efficiency actors, business development and entrepreneurship, and above all, for its capacity to coordinate activities and build partnerships for project implementation. The Centre has been implementing its programme in alignment with the national, regional and international interventions and making use of existing synergies while avoiding duplication of efforts, as per its mandate.

C3. The PCREEE managed its resources efficiently, however it is not yet financially sustainable.

The centre has been strongly dependent on donor funding and has not yet diversified its revenue/core funding sources, which has implications on its programmatic activities as well as its ability to retain good technical staff.

The Centre does not currently have the financial resources to implement its programmes as reflected in its business plan (BP), requiring a revision of the BP as well as stronger financial mobilization to execute its projects and programmes.

In addition, going forward, the needs for the implementation of the BP exceeds by far the financial resources already raised. There is a need to re-assess the actions on the BP and revise and re-prioritise its programmes, as possibly those need to be re-designed and the necessary financing for their implementation would need to be reviewed to be achievable in the short to medium terms. In addition to this, there is a need for the centre to mobilize financing towards the implementation of its projects and programmes, as well as to be able to contract on a long-term basis qualified technical staff able to support the Centre.

C4. The Centre should improve its M&E system and make use of the RBS mechanism to ensure that Centre's performance and impact are being adequately measured and to have that information readily available to provide to stakeholders.

If RBM mechanisms would have been used, target indicators and impact indicators would have been reviewed to be directly related to activities implemented by the Centre. That would enable the Centre to easily track its progress towards achievement of the given targets and to report on that. Additionally, it would have yielded better results in terms of effectiveness and progress towards impact in this TE.

If the Centre would have a person assigned to develop a proper M&E reporting system and to use it continuously, it would have been easier for the Centre to report on its progress as well as to support the TE.

Also this would have help in communicating and disclosing the Centres programmatic and impact to the stakeholders in the region, probably attracting more financing, more cooperation and request for support.

Recommendations

R1. PCREEE should strengthen the engagement across the PICTs and make the PICTs more aware of its programmes, possibilities for engagement and observed impact.

R2. The Centre should revise the BP and adjust its programme going forward (including its Logframe).

R3. Strengthen the current M&E system in the PCREEE to make it more useful and responsive to the monitoring needs of the Centre.

R4. Implement a fund mobilization strategy to allow the PCREEE to implement its BP as well as for the Centre to become financially sustainable.

R5. Continue to cooperate with GN-SEC global and SIDS-SIDS initiatives and make use of training courses and information for the region.

R6. UNIDO should conduct training on M&E development and use with the Project Management Units / Centres to ensure the correct use of these systems and the RBS mechanisms during the project implementation.

Lessons Learned

L1. The fact that the Centre was institutionalized within a well-established institution, facilitated and sped up the process of creation and initial operationalization of the Centre.

L2. Business Plans should be realistic in order to address the present needs and achieve future objectives.

L3. Early adoption of a simple, flexible and effective M&E tool that responds to the needs of donors and the Centre is key to make use of RBS methods and to track and disclose information about the implementation of programmes and projects and their impact.

L4. Leadership of the Centre is very important.

L5. Lessons learnt from the COVID-19 pandemic. COVID-19 pandemic showed that combining virtual and physical means of communication can enable projects to have a wider reach while increasing efficiencies.

Introduction

This Terminal Evaluation (TE) assesses a United Nations Industrial Development Organisation (UNIDO) project entitled “First Operational Phase of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). The establishment of the PCREEE under the Global Network of Regional Sustainable Energy Centres (GN-SEC) platform was materialised through a partnership between UNIDO and the Pacific Community (SPC)². The First Operational Phase of the PCREEE was initially planned to last for four (4) years (September 2016 – August 2020). However, it was extended for two (2) more years (until the end of December 2022), due to increased funding from Norway to UNIDO during project implementation and the occurrence of the COVID-19 pandemic.

1.1 Evaluation Objectives and Scope

The evaluation’s objective is to help UNIDO improve performance and results of ongoing and future programmes and projects. This TE pursues two main objectives:

- To assess the project’s performance in terms of its relevance, effectiveness, efficiency, sustainability and progress to impact (the accountability objective); and
- To develop a series of findings, identify lessons learned and provide recommendations for further development of PCREEE Project (Second Operational Phase) as well as enhancing the design of new and implementation of ongoing projects by UNIDO related to institution building and technology centres (the learning objective).

These were elaborated further into more detailed evaluation questions that guided the assessment process (see **Error! Reference source not found.**).

The TE covers the whole duration of the project from its starting date on 1 September 2016 to its completion date of 31 December 2022 (75 months of project implementation).

1.2 The Project Context

The PCREEE was established under the umbrella of the GN-SEC and in line with decisions of the Ministers of Energy of the Pacific Island Countries and Territories (PICTs) within the SPC. The process of the design, validation and selection of the host of the PCREEE Secretariat, which is the SPC, was carried out between 2014-2015. In 2016, it was decided that the PCREEE would be established in Nuku’alofa, Tonga, side by side with the Ministry for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) and that the Government of Tonga would provide support (office space and a number of staff) to the Centre. A six (6) years MoU was signed between SPC and the Government of Tonga in 2017 to articulate the respective responsibilities and commitments of both parties to the establishment, operationalisation and sustainability of the PCREEE. PCREEE First Operational Phase started in September 2016, and the Centre was inaugurated on 26th April 2017 in Nuku’alofa, Tonga.

The objective of the PCREEE is to strengthen the regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific. The Centre should fill gaps and 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 First Operational Phase of the PCREEE was mainly financed by the Austrian Development Agency (ADA), the Austrian Federal Ministry for European and International Affairs (Austria MFA/BMeiA), the Royal Norwegian Ministry of Foreign Affairs (from herein referred as Royal Norwegian MFA) and UNIDO. The project also received a smaller grant from the Government of Korea for the development of mini-grid activities. The project has been executed by the SPC, the Government of Tonga (PCREEE host country) and Small Island Sustainable Energy and Climate Resilience Organisation (SIDS DOCK); and implemented by UNIDO.

² 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)

The PCREEE First Operational Phase project's expected outcomes are summarised by the ET as follows:

- Outcome 1: Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable PCREEE.
- Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the upscaling and replication of certified training and applied research programs and mechanisms.
- Outcome 3: Enhanced awareness of key stakeholder groups on renewable energy and energy efficiency opportunities through the upscaling of regional mechanisms for data and knowledge management and advocacy.
- Outcome 4: Increased renewable energy and energy efficiency business opportunities for local companies and industry through the execution of regional investment promotion programmes and tailored financial schemes.

These expected outcomes were to be achieved through the production of fourteen (14) outputs described in the PCREEE Project Document / Project's Logframe (see Annex 1: Logframe). Figure 1 provides an overview of key project information and Figure 2 summarises the project's timeline and approval dates.

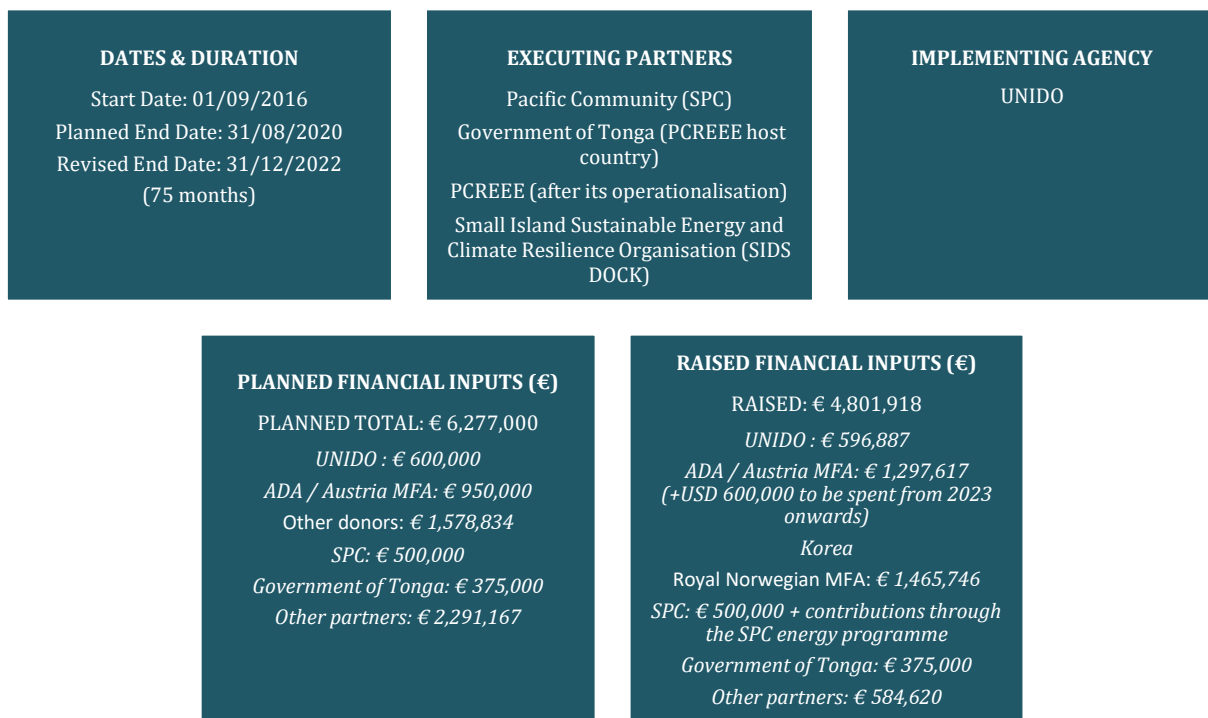


Figure 1: First Operational Phase Project Factsheet

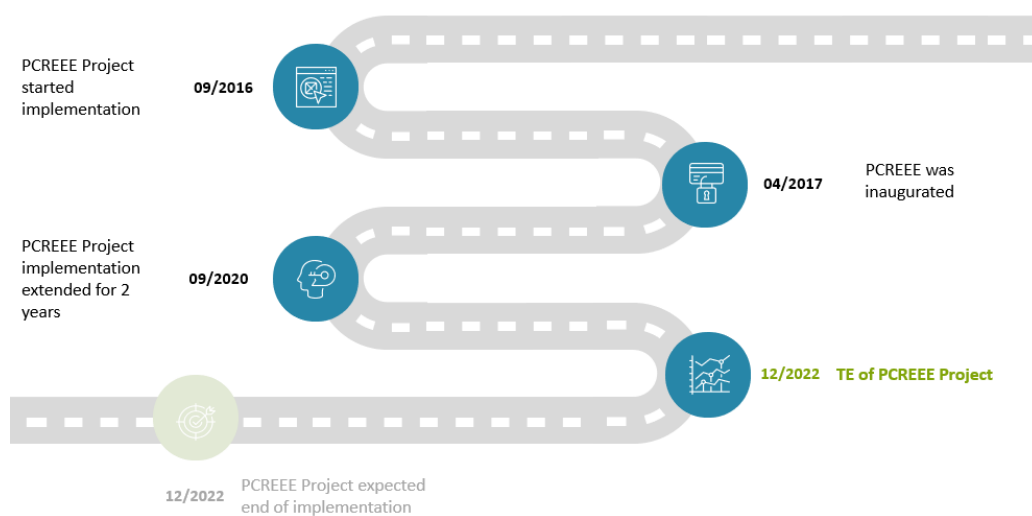


Figure 2: PCREEE project development/implementation timeline

1.3 Evaluation Methodology

This TE complies with UNIDO Evaluation Policy³, UNIDO Evaluation Manual⁴, UNEG Norms and Standards for Evaluation⁵ and the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle⁶. The UNIDO Evaluation Policy and Manual establish the criteria, questions and methods that should be applied during UNIDO reviews/evaluations. UNIDO's Evaluation Policy (i) assures accountability, (ii) supports management, and (iii) drives learning and evaluation.

The TE applies a mixed methods approach using an online questionnaire and focus/individual interviews to collect data on stakeholders' perceptions of the project's activities and complementing this with an extensive review of project documentation. An evaluation matrix provided guiding questions to determine findings and extract both lessons and recommendations for the stakeholders. The analysis, however, is based on an assessment of eight (8) evaluation criteria, namely:

1. Design – analysis of the design of PCREEE activities as well as indicators and targets included in the Logframe against the expected impacts.
2. Relevance - analysis of the relevance of the PCREEE against UNIDO and GN-SEC priorities as well as regional and national priorities.
3. Coherence – analysis of the coherence of the PCREEE against the interventions of other actors in the region and thematic fields (complementarity and synergies).
4. Effectiveness – analysis of the PCREEE against the achievement and probability of reaching the final results (if not fully achieved).
5. Efficiency – analysis of the balance between impact and financial resources.
6. Project impact and results – identification of direct results obtained from the implementation of the PCREEE and expected longer-term impacts.
7. Sustainability – analysis and identification of the permanence potential and increase of the positive impacts of the PCREEE after the completion of the First Operational Phase.
8. Cross-cutting issues including gender mainstreaming, climate change mitigation and environmental sustainability – analysis of how the PCREEE includes gender, climate change mitigation and environmental sustainability issues in its implementation.

1.3.1 Theory of Change of the PCREEE

This evaluation used a Theory of Change (TOC) to assess the PCREEE First Operational Phase contributions toward the expected impacts. The PCREEE Project Document did not have an explicit TOC but contained all the elements that together with information from key people involved in the project design allowed the ET to develop a TOC for the purposes of this evaluation.

TOCs are commonly used by evaluators to determine the rationale behind a development intervention. They chart out how the outcomes that an intervention aims to achieve contribute to its longer-term impacts and the main assumptions behind the intervention's approach. Figure 3 depicts the TOC developed for the PCREEE, stating the main problem the PCREEE seeks to address and providing information on PCREEE's main objective, main outputs and outcomes as well as the expected impacts. The TOC also presents the main risks and assumptions for PCREEE interventions.

³ https://www.unido.org/sites/default/files/files/2018-06/Evaluation_Policy_DGB-2018-08.pdf

⁴ <https://www.unido.org/sites/default/files/files/2018-04/Evaluation%20Manual%20e-book.pdf>

⁵ <https://www.betterevaluation.org/en/resources/example/UNEG-evaluation-standards-2016>

⁶ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

PCREEE THEORY OF CHANGE

PROBLEM

Weak regional institutional capacities hindering the promotion and development of sustainable energy investments, markets and industries in the Pacific region

RISKS:

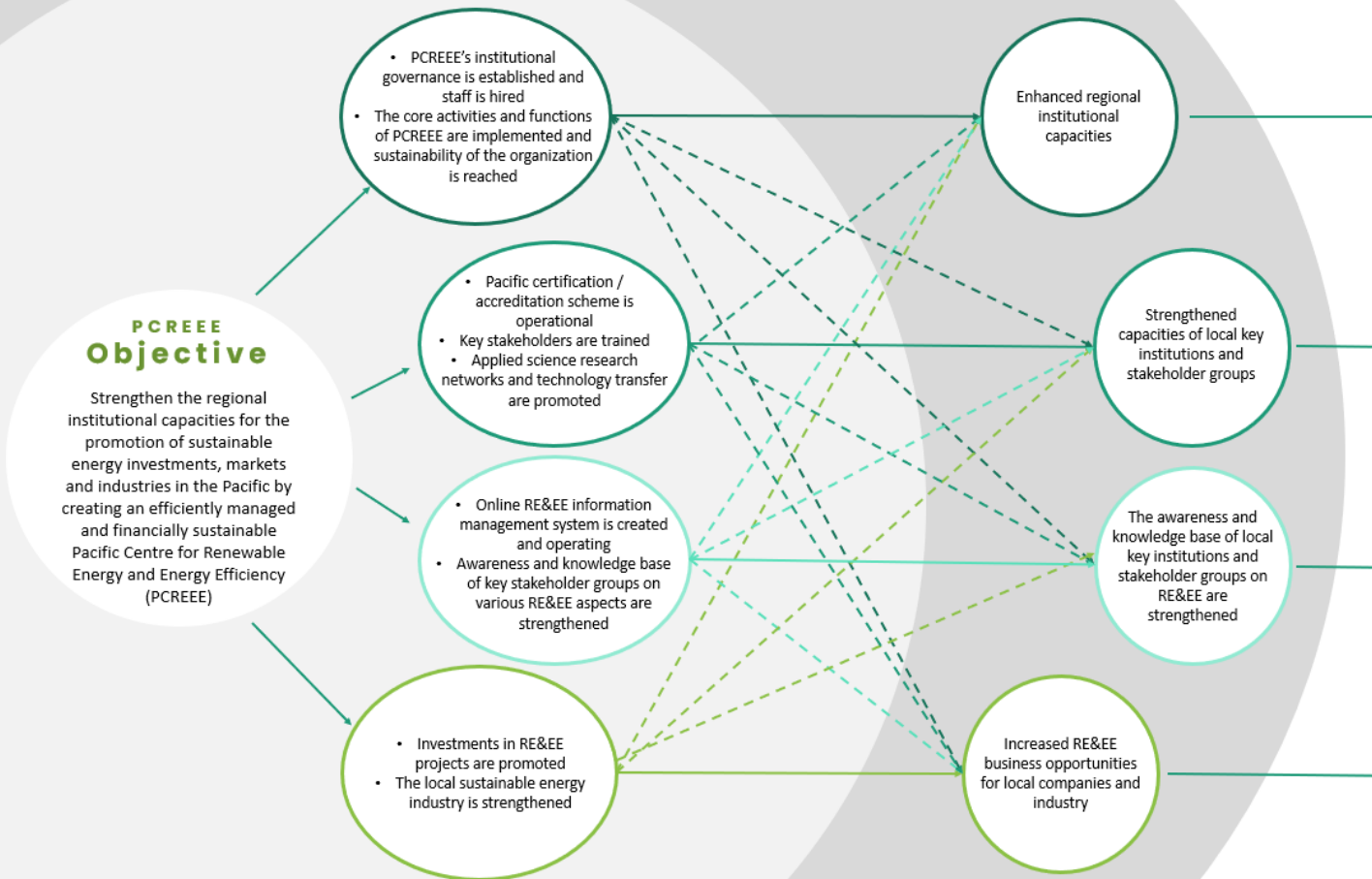
- Limited resources to implement the activities of the Centre
- Lack of commitment from involved stakeholders
- Information and capacity constraints (political instability in Pacific Island Countries and Territories (PICTs))

ASSUMPTIONS:

- There is interest from national institutions to become an NFI
- Investments in RE&EE projects continue to be and perceived as feasible options
- The Centre has enough resources to implement planned activities
- Activities developed by the Centre are well received by actors in the Pacific energy sector

MAIN OUTPUTS:

MAIN OUTCOMES:



IMPACTS

- Improved access to modern, affordable and reliable energy services which are adapted to the local environment and social factors.
- Improved energy security in PICTs.
- Enhanced productivity and competitiveness of island industries with high value and job creation potential (e.g. agriculture, tourism, fishery, manufacturing, creative industry)
- GHG emissions and local pollution reductions through integrated renewable energy and energy efficiency development
- Social, economic and environmental benefits from sustainable energy projects development

Figure 3: PCREEE Theory of Change

1.3.2 Evaluation Tools

The TE was conducted through the application of theory-based evaluation methods (quantitative and qualitative) and made use of the following tools:

- Theory of Change (described previously in 1.3.1): that identified how the PCREEE project aimed at strengthening the regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific by creating an efficiently managed and financially sustainable Centre. This was important to identify the causalities between the adoption of renewable energy and energy efficiency solutions within the Pacific energy sector and PCREEE Project's interventions and the envisaged impacts as stated in the Project Document. The TOC also enabled the ET to build the impact evaluation matrix and identify appropriate indicators to carry out the evaluation.
- Evaluation Matrix: based on the TOC and the PCREEE Project Logframe and the indicators there contained, an Evaluation Matrix with SMART indicators was developed by the ET and used as a basis to elicit information for the evaluation. The Evaluation Matrix addresses several evaluation criteria: project design and relevance; coherence; efficiency; effectiveness; progress to impact; sustainability and cross-cutting issues such as gender mainstreaming. The PCREEE project activities are then evaluated and graded against these criteria.
- Project Document Implementation Matrix: developed to substantiate the evaluation of the criteria "Progress to Impact". This matrix was built using the PCREEE Project Logframe (attached in Annex 1: Logframe), and used to track if there was qualitative and quantitative evidence on the progress towards the overall goal of the project, as per the Project Document (i.e. tracking the progress of the achievement of all the outcomes/outputs).
- An online questionnaire to get a general overview on PCREEE project actions on the ground and its impact as well as to collect feedback on what to improve in the project going forward as well as possible follow-up activities that can be developed during the Second Operational Phase of the PCREEE Project (see **Error! Reference source not found.**).
- Interviews: Individual and focus group interviews were held with key stakeholders via teleconference or similar communication means.
- Desk review: A comprehensive desk/literature review was conducted to analyse all relevant documentation, such as, progress reports, meeting minutes, etc., among other (the list of documents is in Annex 2: List of documents revised during TE). In addition to documents, the PCREEE website (<https://www.pcreee.org/>) and the details of the project in UNIDO's website were also reviewed.
- UNIDO ratings: All UNIDO project evaluations are required to rate a series of evaluation and project criteria against a six-point Likert scale, ranging from 'highly unsatisfactory' to 'highly satisfactory'⁷.

1.3.3 Key Stakeholders

The following groups and/or representatives of these groups were identified as key evaluation stakeholders (see list in Annex 3: List of consulted stakeholders):

- Implementing agency: UNIDO
- Executing agencies: SPC, Government of Tonga (PCREEE host country), PCREEE once it was fully operational, and SIDS DOCK
- PCREEE National Focal Institutions (NFIs)⁸: National institutions in 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

⁷ See page 24, UNIDO Evaluation Manual, 2018.

⁸ There were no focal points established in French Polynesia, New Caledonia, Northern Mariana Islands, Papua New Guinea, Tokelau and Wallis & Futuna.

- Core Donors: Austrian Development Agency (ADA), Austrian Federal Ministry for European and International Affairs (BMeiA) and Royal Norwegian Ministry of Foreign Affairs, Government of Korea, SPC and Government of Tonga.
- Technical donors for activities: Australia, New Zealand, GGI, GIZ and IRENA.
- Thematic Hubs (THs) and Project Steering Committee of the project: including University of the South Pacific (USP); Secretariat of the Pacific Regional Environment Programme (SPREP); Pacific Power Association (PPA); Sustainable Energy Industry Association of Pacific Islands (SEIAPI); Pacific Islands Forum Secretariat (PIFS) and Asian Development Bank (ADB)
- Main Partners / Industry Representatives / Beneficiaries: Solar Energy Association of Papua New Guinea (SEAP); National Electrical Contractor Association of Tonga (NECAT); Fiji Sustainable Energy Consortium (FSEC); Sustainable Energy Association of Vanuatu (SEAV); Samoa Umbrella for Non-Government Organisations (SUNGO); Navara Savings and Credit Cooperative Society of Vanuatu; and Leaf Capital/Connect Switch; One Energy Island and CAMCO
- Other stakeholders and beneficiaries of PCREEE activities: including Papua New Guinea University of Technology; Solomon Islands National University (SINU); World Bank (WB); European Union Suva Office; Climate Technology Centre and Network (CTCN); Global Green Growth Institute (GGGI); Japan International Cooperation Agency (JICA); United States Agency for International Development (USAID); International Renewable Energy Agency (IRENA); United Nations Economic and Social Commission for Asia and the Pacific (ESCAP); Pacific Centre for Climate Change (PCCC); International Union for the Conservation of Nature (IUCN) as well as stakeholders that participated in the capacity building, awareness raising workshops and trainings actions of the project

Stakeholders' consultation was carried out by: (i) an online questionnaire distributed to 88 stakeholders of 52 organizations; and (ii) focus groups and individual interviews carried out to 39 stakeholders from 30 organizations. The ET received answers to the electronic questionnaire from 28 stakeholders (32% stakeholders response rate) that belong to 25 different organizations (48% organization response rate). The interviews were carried out with most of the key stakeholders involved in the project development and implementation as well as beneficiaries. The summary of the results of the questionnaire can be found in Annex 5.

As it can be seen in Figure 4, most of the responses to the online questionnaire came from National Government / Government Institutions (29%), followed by International Organizations (21%), and Regional Organizations in the Pacific Region (14%). Of the 28 responses, 18 came from 11 PICTs (Cook Island, Fiji, Kiribati, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) and 10 came from outside the PICTs (Austria, Belize, Germany, New Zealand, Norway and the United Arab Emirates).

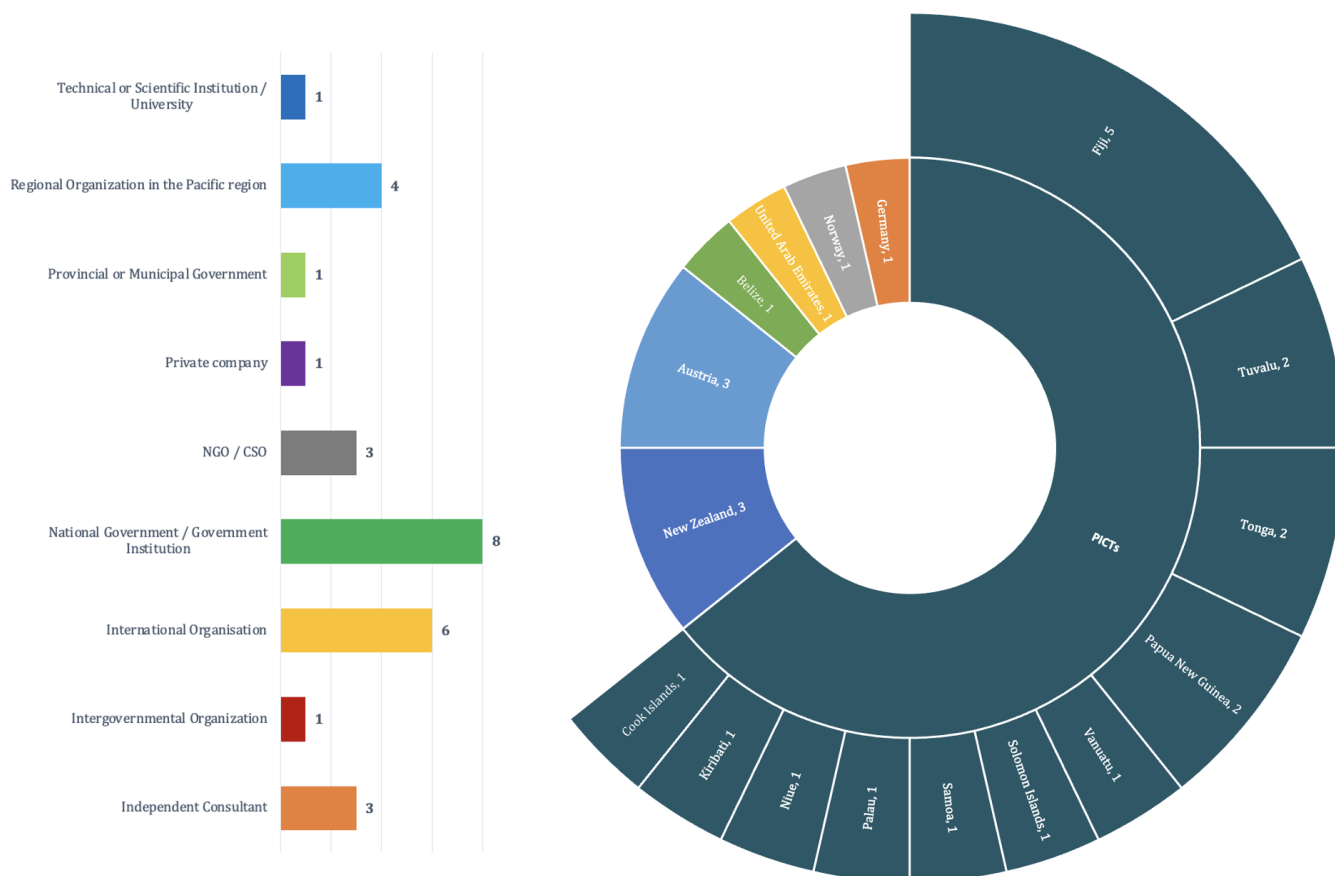


Figure 4: Responses to the online questionnaire by stakeholder type (left) and per country (right)

In terms of gender participation, 75% of the stakeholders that answered to the online questionnaire were male, 18% were women and 7% preferred not to disclose their gender. In relation to the interviews, 92% of the interviewees were male and 8% women.

1.4 Challenges and Limitations of the Evaluation

This TE faced the following challenges and limitations:

- As with many reviews/evaluations, a considerable amount of the analysis (particularly qualitative data) was based on individual perceptions and opinions. To mitigate any subjective bias, findings were – as far as possible – triangulated across sources using the above referred evaluation tools. Where a potentially important finding was identified but it has not been possible to triangulate (e.g., data/finding provided by a single source) this was explicitly noted within the TER.
- Although Progress Reports exist covering almost all the evaluation period, the PCREEE’s team has not always used the Project Document Logframe to report on progress. There is also a lack of consistency with reporting progress along the years – the template used to report progress kept changing and the PCREEE team has not always reported on the specific target indicators of the Project Document. In addition to this, reporting on the progress of achievement of the impact target indicators was inconsistently during the reporting period. To mitigate any unfair ratings on the Effectiveness evaluation criteria by the ET, achievements were estimated by the ET and confirmed with the PCREEE team along the evaluation through interviews and email exchanges.
- Although Financial Reports exist for the donors that provided its contribution through UNIDO (ADA, Austria MFA, Royal Norwegian MFA, Korea) and some financial reports of the PCREEE were provided to UNIDO by SPC, there was no financial tracking system for the contributions of other donors, especially the in-kind ones. The ET used MoU and contracts to make an estimate for the in-kind contributions to the PCREEE during the evaluation period.

- Due to the limited timeframe for this evaluation and the availability of the stakeholders, it was not possible to interview all key stakeholders, despite all the efforts made to engage with them and the flexibility offered by the ET.
- Online interviews carried by the ET brought some challenges related to internet connection issues. To mitigate it, the ET had to reschedule meetings with key stakeholders that faced challenges with poor internet connectivity in order to gather as much as possible the stakeholder's insights regarding the implementation of the project activities.
- The projects Logframe was not properly designed, as it mixes indicators and targets⁹, , sometimes does not present baselines, etc. This has led to confusion and implied extra effort by the ET to build the effectiveness matrix that was used to understand what the actual targets were and how those were tracked, and if any deviations occurred from the initial targets. As the baseline was not included for some of the indicators in the Logframe, the ET had to identify and develop the respective baseline to be able to assess the achievement of certain targets of the PCREEE.

It is important to highlight that some challenges and limitations noted in the list above can also be identified as areas of potential improvement going forward for the PCREEE, thus allowing any future evaluations to be more effective as well as improving how the PCREEE operates on a day-to-day basis.

⁹ Example: The indicator and target for Output 1.1 reads exactly the same: "Office with appropriate space and equipment to accommodate the staff of the Secretariat".

- The indicator should read: *(Yes/No) Office with appropriate space and equipment to accommodate the staff of the Secretariat* – providing an indication of how it would be measured "(Yes/No)".
- And the target should read: *(Yes) Office with appropriate space and equipment to accommodate the staff of the Secretariat*, as this is what the PCREEE was aiming at achieving with the implementation of the activities under Output 1.1.

2. The Project's Contribution to Development Results

This section looks at both the effectiveness of project implementation as well as the impacts generated by the project activities. This analysis is based on the Logframe, TOC, complemented by our review of documents and the information gathered through the online questionnaire and interviews. Annex 6 provides a detailed analysis of the of the achievement of the impact and output target indicators, as specified in the Logframe.

2.1 Effectiveness

Figure 5 summarises the overall achievement of the PCREEE First Operational Phase, and the achievement of the targets per project component (PC)/ outcome. As it can be seen, overall, the PCREEE First Operational Phase target outcomes/outputs were mostly achieved (73% of them¹⁰) through the implementation of its activities, as per the Logframe. Most of the PC / Outcomes of the PCREEE were positively achieved (PC1, PC2 and PC3). PC4/Outcome 4 was the only one with a reduced progress in implementation, and remains the only one that was partially achieved.

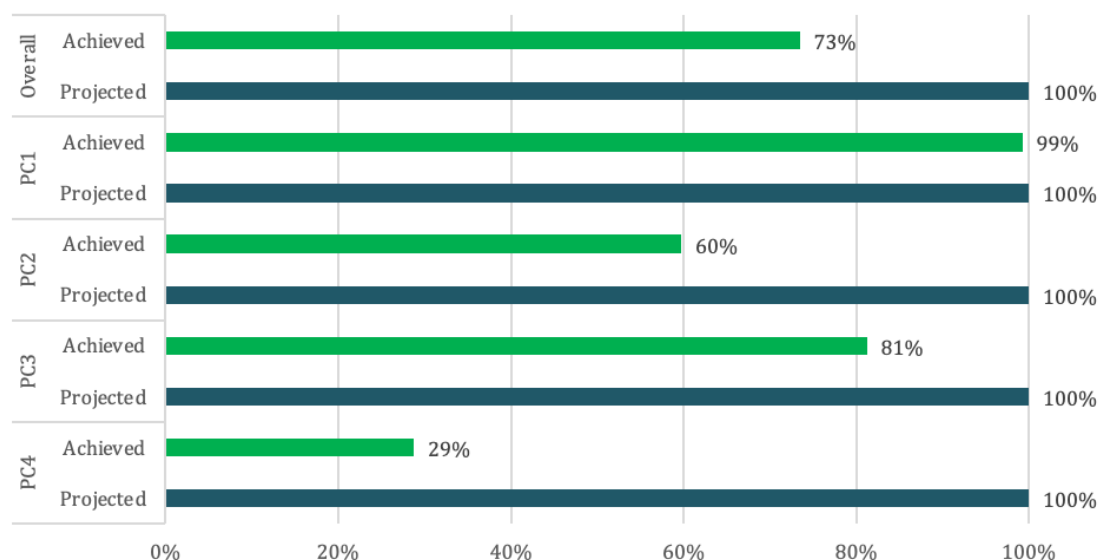


Figure 5: Overall effectiveness and achievement of results

The advent of COVID-19 strongly impacted the level of achievement of the activities, as with the pandemic the Centre personnel got reduced delaying and impacting the implementation of the PCREEE activities, across the different PCs. The Centre tried to adapt the activities to the COVID-19 restrictions, by providing virtual webinars, workshops and trainings as well as by recruiting local coordinators to implement activities in specific PICTs. However, these efforts were not sufficient to compensate for the delay and impact.

PC1/ Outcome 1 - Enhanced regional institutional capacities through the creation of the efficiently managed and financially sustainable PCREEE

PC1 / Outcome 1, of the PCREEE First Operational Phase was Fully Achieved (99%).

The Centre's core functions and activities were successfully launched. The PCREEE was inaugurated on 26th April 2017 in Nuku'alofa, Tonga, at the margins of the Third Pacific Regional Energy and Transport Ministers' Meeting. Its secretariat was officially established in July 2017 and Mr. Fifita appointed the Centre's Manager in August 2017. The establishment of the PCREEE centre was quite fast if compared with the other Centres of the GN-SEC as it was established within the SPC and adopted the SPC rules and procedures (which were approved by the Project Steering Committee (PSC)). This was mainly the case as no intergovernmental agreements needed to be signed and no new institution needed to be set up. The centre could immediately start working within the framework of the SPC.

¹⁰ This was calculated by adding up the achievement scores for each output and by dividing it by the number of outputs.

In terms of its institutional structure:

- the PSC was successfully appointed and performed its functions as expected. During the evaluation period the PSC met seven (7) times (which was above the target of having three (3) meetings) – for its inauguration and at the end of each year –, and carried out its functions of reviewing the PCREEE activities' outputs, and approving its annual workplans and budgets.
- the NFI /TH network was put in place and was operational during the implementation period. By the end of 2022, the NFI network had 16 NFIs nominated (instead of the expected 22); and at a certain point during the implementation period, an additional NFI was included. Although the Centre lagged a bit behind in terms of appointed NFIs, it surpassed the target in relation to the appointment of THs. By the end 2022, it counted with 9 THs on its institutional structure (TH target was 5).

The PCREEE has fully achieved its targets with regards to planning and monitoring as it has: (i) developed annual workplans that were presented and approved in the PSC meetings; (ii) has developed the PCREEE Business Plan (BP) 2020-2030 which was approved on November 2020 at the 5th PSC Meeting; (iii) has put in place a monitoring and evaluation framework to track progress of implementation of its activities and has compiled progress reports.

The Centre performed very well in terms of the number of technical procedures and technical programmes. It has adopted the SPC technical procedures, and it has established four (4) technical programmes in its BP: (i) renewable energy and energy efficiency Business Start-Up and Entrepreneurship Support; (ii) E-vehicles (EV) Readiness Programme; (iii) Renewable Energy Mini-grid Programme for the PICTs (REMPP); and (iv) Energy Efficiency Investments.

In terms volume of co-funding for the Centre's technical programmes, the PCREEE has raised at least EUR 5.8 million (equivalent to ~USD 6.3 million), which was above the expected target of co-funding to be raised. The ET recognises that the Centre has indeed raised more, as it was referenced by the Centre and its partners, however the ET could not account for all the in-kind co-funding provided to the Centre.

One of the targets of Outcome 1 was that the Centre should have at least 70% of its BP implemented. The ET reviewed this taking into account what would be the percentage of the BP activities that could be implemented within the period of the evaluation ranging from November 2020 to December 2022. According to the ET estimates, the PCREEE has been doing well in the implementation of its activities, having even surpassed what was expected to be implemented of the BP by the end of 2022. According to ET estimates, the PCREEE had already implemented 33% of its entire BP when 20% was what was expected to have been implemented. It shall be mentioned that the centre has operated by 2020 on the basis of the project documents, which is usually its first Business Plan.

Although the Centre did not establish a special programme on gender in sustainable energy, the ET considered that this output was fully achieved as: (i) Gender within the PCREEE activities/interventions follows the SPC Gender Policy and guidelines; (ii) gender mainstreaming strategy has been included in the BP; (iii) the centre has been supporting SPC to reactivate the Pacific Energy Gender Network; and (iv) has been engaged with SIDS DOCK on Island Women Open Network (IWON) at the international level.

PC2 /Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the upscaling and replication of certified training and applied research programmes and mechanisms

PC2 / Outcome 2, of the PCREEE First Operational Phase was Moderately Achieved (60%).

The Centre has developed and validated with the PSC in 2019 the PCREEE Capacity Building Framework & Strategy: 2019 to 2021. However due to lack of funding the strategy was not implemented.

The Centre did very well in terms of the activities related with the development and adoption of training competency standards and on the actual training of the stakeholders. The Centre fully achieved and even surpassed:

- The targets associated with the development and implementation of training competency standards and of training standards being adopted by the Centre. The PCREEE worked closely with regional partners (USP and SPC's Education Quality and Assessment Programme) in the development of eight (8) training standards (Sustainable Energy qualifications (Levels 1-4) accredited in Fiji / Sustainable Energy qualifications (Levels 1-2) accredited in Tonga / Refrigeration and Air Conditioning (Certificate 4) for the Solomon Islands National University / Global Small Hydropower Guideline. These were adopted by the Centre as well as by regional institutions, and the PCREEE is recognised for it by the consulted stakeholders.

- The target related with the number of key stakeholders to be trained in the PICTs on sustainable energy aspects with high relevance for the local business and the industry sector. The PCREEE trained more than 800 stakeholders in in this field through workshops and meetings implemented in the SIDS and in support of actions in its thematic fields.

Not only the PCREEE was very successful in building the capacity of the PICTs stakeholders on renewable energy and energy efficiency as well as on setting up the national capacity qualification standards, but it has done so with high quality. As shown in Figure 6, 82% of the consulted stakeholders that participated in workshops, training programmes and on national qualifications classified their quality as “Very good” or “Good”, and only 12% referred to it as “Fair”. No stakeholder referred the quality of these as “Weak” or “Very weak”.

The PCREEE was very successful in promoting innovative technology transfer to the PICTs through its participation in several south-south and north-south technology transfer programmes and projects, having even surpassed its target concerning the implementation of this type of programmes/projects. Examples of this are the: (i) Online Capacity Building Programme on Sustainable Energy for Islands; (ii) PCREEE mini-grid programme developed in partnership with the Korean Energy Agency; (iii) the cooperation of the Centre with the other GN-SEC Centres in the SDG-7 multi-stakeholders partnership of the SAMOA pathways; (iv) training provided under the NZ-supported South-South capacity building exchange and the PCREEE’s capacity development support to the private sector, on the Promotion of Sustainable Energy Entrepreneurship; (v) participation of the PCREEE in the project launched by UNIDO the International Solar Alliance that aims at structuring and operationalizing an International Network of Solar Technology and Application Resource Centres (STAR C).

In terms of applied research programmes, the PCREEE implemented a Sustainable Energy Research Support Fund/ Programme through which it supported university students research towards their thesis. Through it, a Fijian student from USP graduated with its Masters, and the current Director of Energy in Tonga conducted its PhD thesis.

Nevertheless, there were targets under this Outcome that were only partially achieved or not achieved (or for which information was not made available to account for their achievement). This is the case of the targets related to the end of the First Operational Phase:

- At least five (5) training institutions adopting the developed competency standards. The ET only found that two (2) training institutions have adopted them.
- At least 80 trainers certified through train the trainers’ courses across the PICTs. Little information is available in terms of these numbers, and the ET found that at least 31 people were trained under the PNG-FREAGER-PCREEE SECTM TVET Training of Trainers that took place in June 2021.
- All least 40% of the trained experts are applying the received skills in the energy sectors. The ET could not find any information about this.

The consulted stakeholders involved in the PCREEE activities related with development of regional frameworks and strategies, development of projects and programmes and applied science research networks and technology transfer rate them mostly as “Good” or “Very Good” (see Figure 7). A reduced percentage of the stakeholders – in the case of the development of projects and programmes, 10 %, and in the case of the applied science research networks 20% –referred that the support provided by the Centre on those activities was “Weak”, representing topics that the Centre should improve going forward.

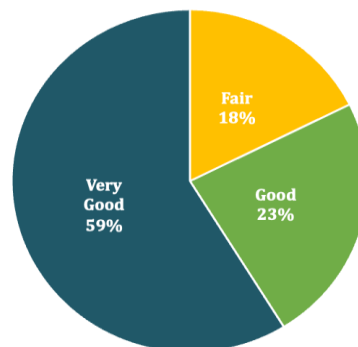


Figure 6: Quality of workshops, trainings and of the national qualifications

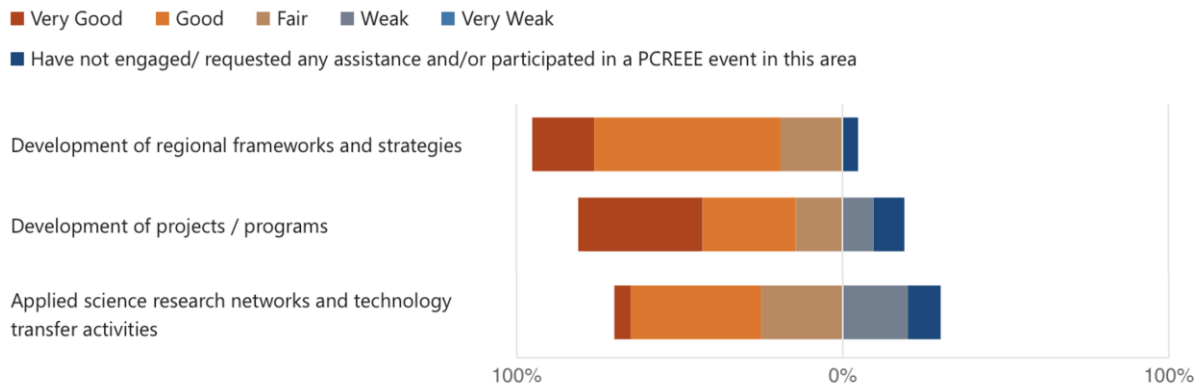


Figure 7: Stakeholders opinions on the quality of PCREEE Output 2 activities

PC3 / Outcome 3: Enhanced awareness of key stakeholder groups on renewable energy and energy efficiency opportunities through the upscaling of regional mechanisms for data and knowledge management and advocacy

PC3 / Outcome 3, of the PCREEE First Operational Phase was Mostly Achieved (81%).

This output was focused on making information and knowledge on renewable energy and energy efficiency available for stakeholders in the region and disseminate that information and knowledge through the website, in conferences and through regional awareness raising campaigns.

The PCREEE website (<https://pcreee.org/>) is fully functional and regularly updated, to which more than 22 institutions from the PICTs provide data to be made available. The website is fully integrated within the GN-SEC data platform, has a total of 55,000 registered users and provides access to more than 1,500 documents related with sustainable energy topics.

Through the online questionnaire, the ET assessed (i) how often the consulted stakeholders used the PCREEE website, (ii) how useful the stakeholders found it, and (iii) how complete the information made available is. As it can be seen in Figure 8, the majority of the consulted stakeholders (82%) have referred that they have used the website a “Few times” or “Frequently”, while 18% reported that they have never used it. No stakeholder referred to have used it “Only once” demonstrating that the website content seems to be good/relevant enough for the person that uses it to visit it again. In terms of usefulness of the website, in general the consulted stakeholders have found it to be mostly “Useful” or “Very Useful” (93% of the stakeholders) with a minority (7%) referring that it is “sometimes useful”. No stakeholder referred that it was “Not useful at all”. It is important to highlight that the stakeholders found the information useful for both the private and public sectors. With regards to the completeness of the information, 71% of the stakeholders that used the portal find that the information was “Thorough/ complete” and the remaining 29% that it is “Limited/scarce”. No stakeholder referred that the information was “Poor/insufficient”.

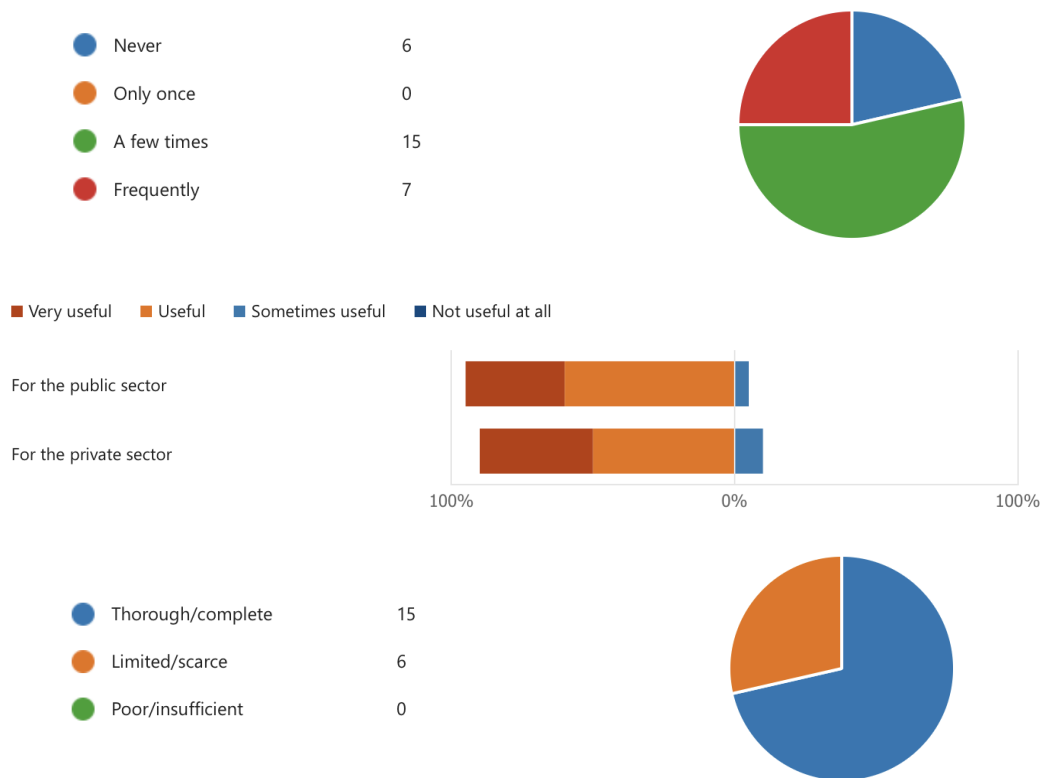


Figure 8: Frequency of use (top), usefulness (centre) and completeness of information (bottom) of the PCREEE website

On promoting awareness and strengthening the knowledge base of key stakeholders' groups on various aspects of renewable energy and energy efficiency, the PCREEE achieved two (2) of its three (3) targets:

- The Centre fully achieved the target related with having at least 400 experts from the Pacific participating in PCREEE organized and/or co-organized conferences by the end of the First Operational Phase. This target has been surpassed by: (i) co-organizing the CTCN Regional Forum for Pacific Countries in partnership with UNIDO and UNEP; (ii) co-organizing the Fourth Pacific Regional Energy and Transport Ministers' meeting in 2019 in partnership with SPC; and (iii) by organizing the webinar series "Accelerating Investments in Renewable Energy, Energy Efficiency and Smart Mobility in the Pacific Islands", in partnership with the Carbon and Energy Professionals (CEP) in 2020.
- The ET considered that the PCREEE moderately achieved the target relative to having at least one (1) conference with a special focus on the gender- renewable energy and energy efficiency nexus. Although the PCREEE did not organize a specific conference on the subject, the nexus gender- renewable energy and energy efficiency was addressed in conferences / workshops organized and co-organized by the Centre.

The ET considered that the target of reaching 25% of the population in 15 PICTs by awareness raising campaigns was not achieved. As per the ET estimates it seems that ~ 0.5% of the PICTs have been reached¹¹. It is important to refer that no targeted awareness raising campaigns were put in place, and awareness raising resulted from the conferences, trainings, meetings, webinars that the Centre organized and/or participated.

It is the general perception of the contacted stakeholders that the activities implemented under PC3 / Outcome 3 were:

¹¹ Details on the estimate provided in Annex 6.

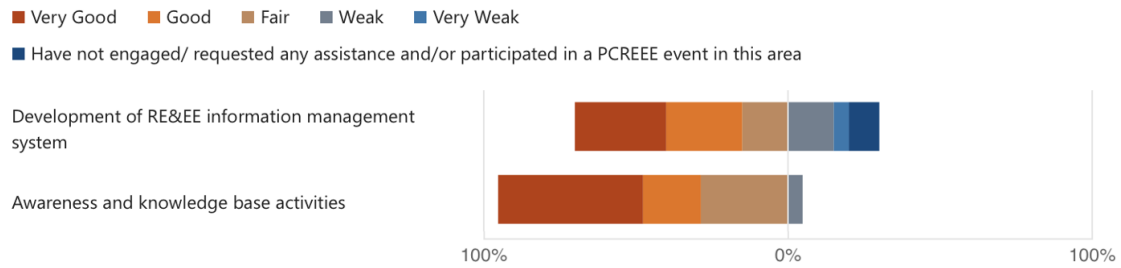


Figure 9: Stakeholders opinions on the quality of PCREEE Output 3 activities

PC4 / Outcome 4: Increased renewable energy and energy efficiency business opportunities for local companies and industry through the execution of regional investment promotion programmes and tailored financial schemes

PC4 / Outcome 4, of the PCREEE First Operational Phase was Partially Achieved (29%).

In this outcome only two (2) out of the seven (7) targets were achieved, namely the targets relative to:

- Having at least two (2) regional key programmes to promote investments in innovative technology areas developed and implemented. The PCREEE surpassed this target, as it developed and implemented activities in three (3) programmatic areas of the BP: (i) renewable energy and energy efficiency for Sustainable Mobility / E-Mobility Programme; (ii) RE mini-grids programme; and (iii) renewable energy and energy efficiency Business Start-up and Entrepreneurship programme.
- Adopting a gender sensitive PICTs strategy to promote local sustainable energy industry and entrepreneurship. The PCREEE follows the SPC gender policy and implements a gender mainstreaming strategy in all its activities and interventions (as defined in its BP), following the regional policy and its guidelines. In addition to this, the PCREEE has Commented on a Mainstreaming gender in energy – a joint workstream by the GN-SEC and GWNENET, the Global Women’s Network for the Energy Transition and in 2017 Mr. Fifita received the SIDS DOCK IWON Excellency in Leadership Award for Outstanding Service to the Establishment of the SIDS DOCK Organisation, and also the SIDS DOCK IWON.

Little to no progress was found by the ET in terms of the other expected outputs of this outcome. It is important to refer that some of the target indicators considered in this Outcome were dependent on other institutions and these have not been tracked/ accounted for by the PCREEE (e.g., having at least 100 million USD for the execution of the SIDS DOCK project pipeline mobilized by end of the first operational phase of PCREEE; having national institutions (e.g. banks) in at least 7 countries co-fund 80 small to medium-scale renewable energy and energy efficiency projects with support of newly created regional support schemes, just to name a few). Nonetheless, the ET considers that the PCREEE should improve its tracking and reporting system as well as use the Results-Based Management (RBS) more often, especially when it identifies that the indicators/targets being used are not associated with direct activities of the centre and/there are no data sources that can be used to monitor them.

According to UNIDO, it was difficult to mobilize funding for the investment related activities. It shall be also mentioned that since the start of the project, the investment landscape has very much changed and now other programs and financiers are in place (e.g. GCF), which cover this space much better than a regional centres. Therefore, in line with adaptive management, lower emphasis was put on this component. However, it shall be mentioned that PCREEE organised several investment forums and promoted calls jointly with the UNIDO hosted Private Infrastructure Advisory Network (PFAN) also co-financed by Australia. In the context of the program, currently a Fiji Rural Electrification Fund Support Programme is being formulated, where PCREEE will be one of the partners. It is planned to bring the national approach to a regional one under the PCREEE mini-grid program. Unfortunately, a developed Pacific Clean Tech Innovation Program proposal, developed by UNIDO and PCREEE, did not find sufficient support.

The stakeholder’s opinion on the activities implemented by the PCREEE under Outcome 4 were perceived as mostly “Good” and the stakeholders associated the development of the renewable energy and energy efficiency cleantech programme, with E-mobility programme implemented by the PCREEE,

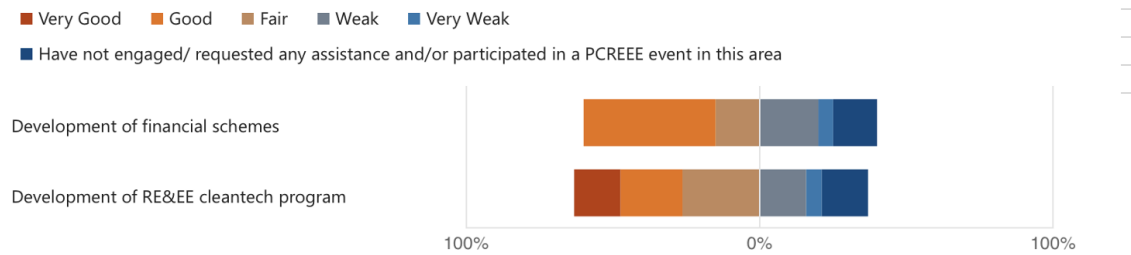


Figure 10: Stakeholders opinions on the quality of PCREEE Output 3 activities

2.2 Progress Towards Impact

The PCREEE was created with the overall aim of strengthening the regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific by creating and efficiently managed and financially sustainable PCREEE.

In terms of its overall aim, the Centre is recognised by national, regional and international institutions as a key body strengthening the institutional capacities for the promotion and implementation of sustainable energy projects in the region. The Centre is well recognised by the consulted stakeholders that referred that the centre is “the SPC focal point in terms of sustainable energy for the PICTs”; “has built capacity on renewable energy and energy efficiency of SPC and other institutions in the PICTs through collaboration, training, workshops and for the implementation of the training certification”; “has been having a key role in bringing the sector actors (private and public) together to implement concrete actions in the sustainable energy space”; “the Centre has carried out ground work for the deployment of E-Mobility solutions and is recognised by it”; and “the Centre has brought renewable energy and energy efficiency to the political agenda of the region and has provided the region with a framework for sustainable energy”.

When asked about the capacity of the Centre to fulfil its role as a regional entity functioning as the arm of SPC Energy Programme and providing support to the PICTs, more than 75% of the stakeholders noted that the Centre’s capacity is “Good” or “Very Good”, with the remaining 25% referring to it as “Fair” (see Figure 11). None of the consulted stakeholders think that the Centre capacity was “Poor” or “Very Poor”.

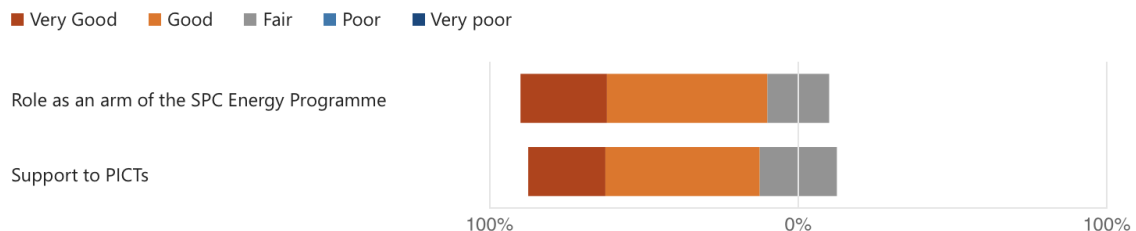


Figure 11: PCREEE capacity to fulfil its role as a regional entity functioning as the arm of SPC Energy Programme and providing support to the PICTs

The efficiency of the Centre management is recognised by the stakeholders, who think that the Centre has been doing very well with the resources that it has. Several stakeholders indeed pointed out that the Centre needs more human resources including technical ones, to ensure the delivery of the Centre’s programme as well as to ensure the technical quality of the deliveries. However, the Centre cannot be yet considered financially sustainable since it is largely dependent on donor funding (ADA, SPC, Government of Tonga), and the implementation of the Centre’s technical programme as well as its number of staff varies and are dictated by the available budget.

With regards to the expected development impacts of the PCREEE (identified in the TOC in Section 1.3.1), the ET would like to recognise that the impacts expected from the PCREEE First Operational Phase were not defined to be directly attributed (associated directly) to activities implemented by the Centre, but more as “impacts the Centre would contribute to” through the implementation of its activities. The extent to which the Centre has or has not contributed to them has been assessed by the ET through the analysis of the percentage of achievement of the impacts indicated in the Logframe. As per the ET, these have been moderately achieved (50%).

The analysis and reporting on progress of achievement of the impact indicators was part of the PCREEE Monitoring and Evaluation (M&E) and was envisioned to be carried out as a joint effort along with the NFIs. It is the perception

of the ET, that the NFIs did not contribute much with information to allow the PCREEE to report on that. Thus, reporting on these indicators was found to be difficult and the Centre did not report on some of them.

Out of the seven (7) impact targets, the ET could only estimate the percentage of achievement of four (4) of them: (i) 10% increase of people with access to modern, reliable and affordable energy services provided by RE technologies (compared with 2013 baseline); (ii) 10% increase of the renewable energy contribution to the electricity mix in PICTs (baseline 2013); (iii) USD 100 million of additional investments in renewable energy and energy efficiency projects (compared with 2013 baseline) and (iv) 15% decrease of carbon emissions through implemented renewable energy and energy efficiency projects (compared with 2013 baseline). As it can be seen these targets are regional targets and were assessed through the analysis of publicly available reports, energy databases (e.g., IRENA, World Bank portal) as well as data made available in the SPC Energy Hub.

The ET found that the targets related to overall electricity access, increase in renewable energy share in the electricity mix, investment in renewable energy were all fully achieved and the one related to the decrease in GHG emissions through the implementation of renewable energy projects was moderately achieved.

According to the analysis carried out by the ET using World Bank data¹² overall electricity access in the PICTs increased from 73% in 2013 to 88% in 2020, correspondent to an increase of 15 percentage points, meaning that the impact related to 10% increase in energy access was met and even surpassed. In the same period, urban population electricity access increased from 91% to 95% (4 percentage points increase) and rural population electricity access increased from 62% to 83% (correspondent to 21%).

Electricity access data disaggregated by PICT for 18 out of the 22 PICTs was available on the SPC database for the period between 2016 and 2020 (see Figure 12). At the end of 2020, 10 out of the 18 PICTs had reached universal access to electricity (100%). From the analysis of the data, the increases in electricity access varied from PICT to PICT, with the biggest increase registered for Solomon Islands (18 percentage points) and Vanuatu (10 percentage points). PICTs such as Cook Islands, French Polynesia, Guam, New Caledonia and Northern Mariana Islands had already 100% of the population with access to electricity in 2016.

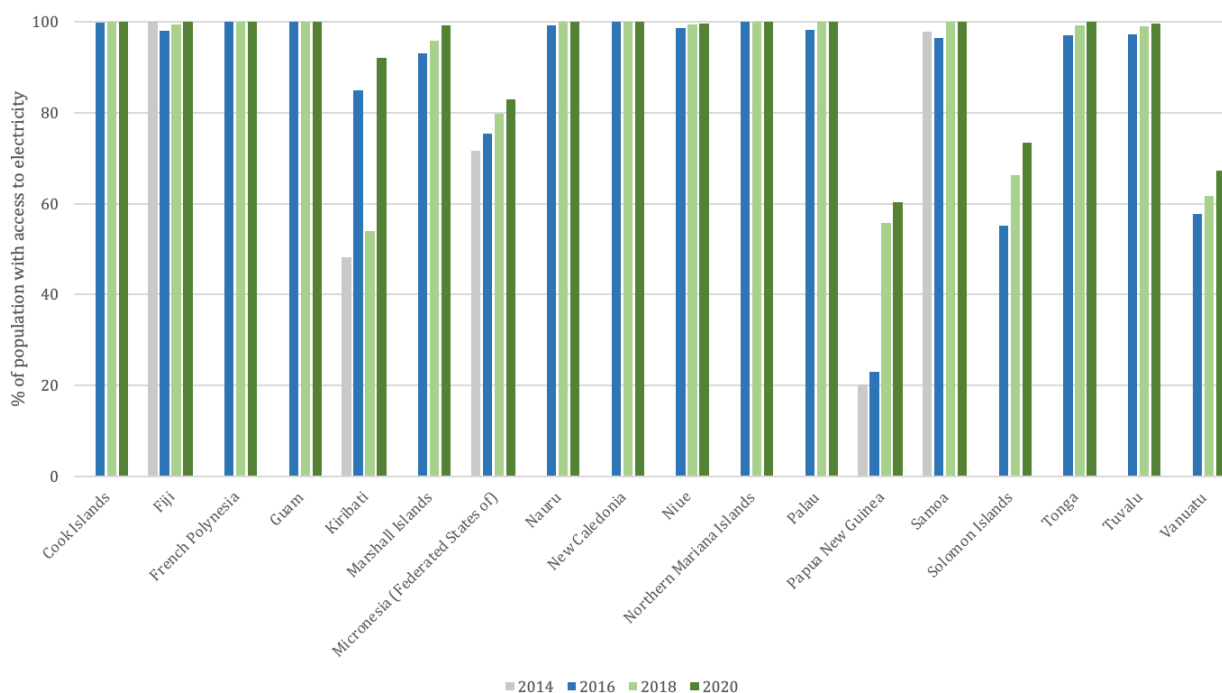


Figure 12: Access to electricity in 18 PICTs between 2014 and 2020 (using data from the SPC energy hub)

¹² Electricity access data for the pacific islands as a whole was only found for the baseline year of 2013 in the World Bank portal. Electricity access data for 18 out of the 22 PICT was available in the SPC Portal starting in 2016.

As it can be seen in Figure 13, the renewable energy installed capacity in the PICTs was estimated to have increased 46% between 2013 and 2022¹³, from a total of 712 MW to 1,037 MW. With regards to the increase of the renewable energy contribution to the electricity mix in the PICTs, that was estimated to have grown 12% between 2013 and 2022. Renewable energy investments between 2013 and 2020 added up USD 0.79 billion¹⁴ (and thus above the 100 million), with most of the investment done in the Solomon Islands.

With regards to the GHG emissions avoided through the implementation of renewable energy projects between 2013 and 2020, those have been estimated to have increased 8%.

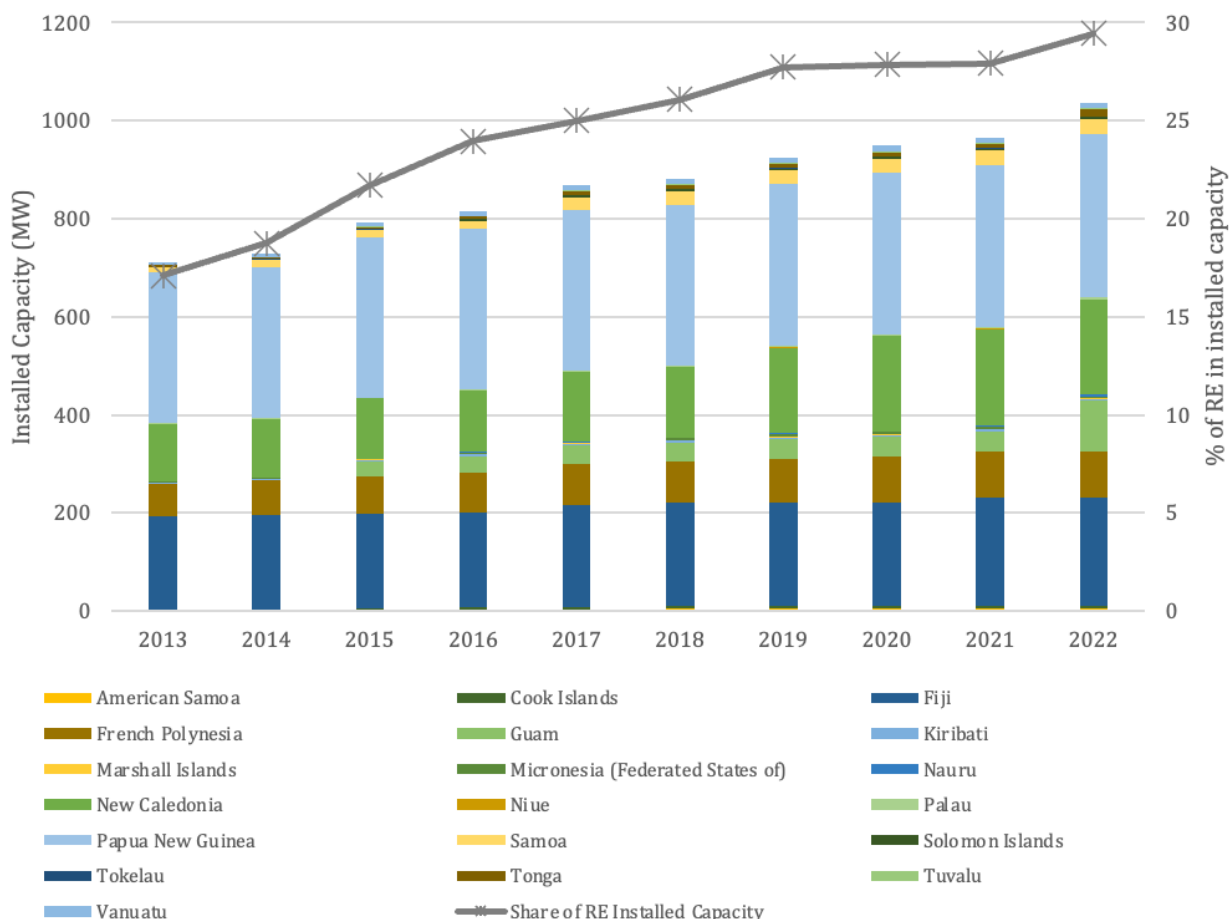


Figure 13: Installed capacity across the PICTs (MW) and average share of renewable energy (RE) installed capacity across the PICTs¹⁵

Several are the benefits and recognised impacts of PCREEE in the region and on its actors:

- To the beneficiaries in the PICTs:
 - Changed policies and the regions' energy framework: the PCREEE brought sustainable energy into the region's energy framework. Before the PCREEE's establishment, the energy framework and programme of SPC were fossil fuelled oriented, and now it is based on the use and development of sustainable energy. The PCREEE changed policies and has been helping the region in the delivery of those policies through the implementation of its programmes.
 - The PCREEE brought innovative technologies to support delivering on the energy programme/policies. The Centre introduced E-Mobility in the region having conducted the initial

¹³ Estimates carried out by the ET using information retrieved from the IRENA RE Statistics 2023 for 19 out of the 22 PICTs.

¹⁴ <https://www.irena.org/Data/View-data-by-topic/Finance-and-Investment/Renewable-Energy-Finance-Flows>

¹⁵ Estimates carried out by the ET with data available on IRENA RE Statistics 2023

assessment, and is recognised for doing so, and now the region counts with the PCREEE and other donors supporting E-Mobility development.

- It was the first established organization focused on renewable energy and energy efficiency and has become an important coordinating hub for the region. While there were several organizations installing/implementing renewable energy and energy efficiency projects in the region before the PCREEE, they never established a regional presence, and this ad hoc approach never translated into the implementation of meaningful changes. The PCREEE was the first organization established in the region dealing exclusively with sustainable energy and supporting the private sector in this field. The PCREEE got key actors in the sector working on renewable energy and energy efficiency and brought them together to deliver results in these fields. The Centre is driving the partnership in renewable energy and energy efficiency and is recognised as instrumental in managing competing projects and initiatives. In addition, the Centre supported the establishment of several sustainable energy industry associations in the PICTs that are now supporting policy development decisions in their countries.
- It has built capacity of the regional stakeholders in sustainable energy, through the implementation of the Regional Qualifications; the provision of scholarships in research for experts in the PICTs; and by facilitating workshops and trainings. It is important to refer that the current Director of Energy in Tonga was supported through the research scholarships provided by the Centre.
- To SPC: the Centre has been significant to SPC's energy intervention, as it changed SPC's energy programme to be more focused on renewable energy and energy efficiency and contributed to the expansion of its scope in terms of looking into the private sector investment and entrepreneurship aspects of sustainable energy. Additionally, the PCREEE has been supporting SPC in the implementation of its Energy Programme through the coordination of events and meetings; implementing projects and securing funding towards their implementation; forging partnerships; connecting the private sector with the public sector etc. The PCREEE expanded the role of SPC, contributed to its decentralization with the Centre's office being established in Tonga, ensured the sustainability of SPC programmes that were coming to an end (e.g., PACTVET) and brought more visibility and funding to the organization.
- To the Government of Tonga: an honour for hosting and supporting the Centre as well as the recognition for hosting the Centre. The Tonga Government has benefited a lot from the Centre, The PCREEE has been supporting the Tonga University with the incorporation of the Regional Qualifications and in the near future the University will be able to offer a complete degree in Sustainable Energy. In addition, it has benefited economically by the fact that the personnel in the PCREEE is located in the island, and during the Covid-19 Pandemic benefited more from the training and awareness activities, that continued to happen in Tonga. In addition to this, the existence of PCREEE with experience dealing with SPC made Tonga to be chosen to host the SPC Polynesian Regional Office.
- To UNIDO: the PCREEE represented and opportunity for integrating the PICTs in their GN-SEC network and contributed to UNIDO's ambition of having a truly global network, as well as to support the delivery of energy related projects in the SIDS. The centre was part of a SAMOA Pathway partnership of the United Nations. Further information is available in the footnote.¹⁶ The partnership is currently under nomination for the ongoing SAMOA Pathway Partnership Award. Moreover, it was included as important result of the SAMOA Pathway Mid-Term Review of the UN.
- To ADA: as ADA is interested in continuing supporting renewable energy and energy efficiency in the PICTs the PCREEE is a good way to do it.

Several weaknesses of the PCREEE were highlighted by the consulted stakeholders:

- Lack of in-house financial and technology specific expertise. Funding / fund mobilization is critical for the centre to be able to hire and retain staff as well as ensure the delivery of its activities/programme. Several stakeholders pointed out that lack of in-house financial and technology specific expertise was a weakness of the Centre with impact on the development of financial proposals and on service delivery to counterparts.

¹⁶ <https://sdgs.un.org/partnerships/network-regional-sustainable-energy-centers-small-island-developing-states-sids> and <https://sdgs.un.org/partnerships/pacific-centre-renewable-energy-and-energy-efficiency-pcreee>

- Not pushing the innovation boundaries. The Centre should be more innovative and come up with new ideas and innovative technologies and approaches to deliver on its field of action, as this will not only allow the Centre to be recognised as a Centre of Excellence in its field but also to attract more finance for its operations.
- Not enough active NFIs.
- Lack of clear expectation, milestones, and timelines. When working with regional organizations, making sure that contracts are clear with regards to expectations from the different parties, as well as disbursement of funds is carried out in a timely manner. Several regional stakeholders pointed out that the working relationship with PCREEE was sometimes challenging. Concerns were raised regarding payment delays when funds were disbursed, project requirements were often unclear with guidelines missing leading to the need to redraft proposals and financial reports to meet the Centre's requirement.
- Few demonstration projects implemented. The Centre should implement more demonstration projects in the PICTs and in different islands than the ones already targeted, as a way to build more capacity and promote more sustainable energy investments, markets and industries in the region.
- Lack of information on the Centre's activities and status of implementation. Provide more information on the Centre's activities and the status of their implementation to the different stakeholders in the region, as well as on how those complement other on-going actions. This could be key in attracting more NFI's to become active and more organizations to work with the PCREEE.

In terms of replicability of PCREEE programmes and activities, it is the ET and the consulted stakeholders' opinion, that a big part of them can be replicated across the PICTs, other SIDS and by other GN-SEC centres. This is the case of the E-Mobility Programme (specially the pilot projects), the Mini-grid programme as well as the activities that PCREEE has implemented with the private sector – support the establishment of renewable energy associations, training on Power Purchase Agreements and Benchmark of EE with utilities. Moreover, there is also the intention to replicate BLOOM Cleantech Cluster Project implemented in Barbados in the Pacific. The Regional BLOOM Cleantech Cluster Program was recently adopted by the GN-SEC Steering Committee.

It is important to refer that although the stakeholders recognise the positive impact that the PCREEE has been having throughout the implementation of its programmes, the major strength of the Centre lies for a big majority of the stakeholders in the establishment of partnerships / mobilising investment in support of the private sector. The Centre has been very successful in creating synergies with on-going actions in the PICTs. Example of this is the approach taken to conduct events/workshops, in which the PCREEE joins and/or adds to events promoted by other actors in the sustainable energy area, which is especially important due to the fragmentation of the PICTs. This brings benefits: (i) to the stakeholders participating in the events (adding more value to the stakeholders and avoiding additional travel), (ii) to the events (ensuring higher participation and cost-efficiency), and (iii) to the environment (saving on carbon emissions), just to name a few. Nevertheless, there are some stakeholders that in fact pointed out that the Centre could improve and be more proactive in engaging with the regional actors, clearly referring that the Centre did not reach enough to forge a partnership.

Thus, the overall progress towards impact has been found Satisfactory (S).

3. Project's quality and performance

3.1. Project Design and Logframe

The PCREEE Project Document was prepared between 2014 and 2015 through a consultative development process which included the execution of a needs assessment, analysis of relevant studies, and the specification of the technical and institutional design of the project. PCREEE Project Document was developed by UNIDO with support from the SIDS DOCK and in line with the decisions of the Ministers of Energy of the PICTs under the umbrella of the Framework for Energy Security in the Pacific (FAESP) and its associated Implementation Plan for Energy Security in the Pacific (IPESP). The Project Document was validated during a joint SPC-UNIDO Regional Workshop held the 12-13 March 2014, and endorsed in the Second Meeting of the Pacific Ministers of Energy and Transport held the 2-4 April 2014, both in Nadi, Fiji.

The main objective of the project was to “strengthen the regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific by creating an efficiently managed and financially sustainable PCREEE”. This was to be achieved through the implementation of four (4) substantive project outcomes (OT1, OT2, OT3 & OT4) that guide the implementation of project activities envisaged 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, research and development (R&D), quality infrastructure and standards, qualification, support to independent power producers (IPPs), cluster building).

The PCREEE Project Document clearly identified the problem, needs and barriers/gaps to be addressed. The project was adequately designed to mitigate the identified barriers/gaps at the same time that it met the needs of the Pacific region, its PICTs and of the several target groups ensuring sustainability and avoiding duplication of efforts. At the time of project design, it was identified that there were already several agencies that belong to the Council of Regional Organisations of the Pacific (CROP)¹⁷ active in the energy sector (such as SPC, the Pacific Power Association (PPA), the Secretariat of the Pacific Regional Environment Programme (SPREP), the University of the South Pacific (USP) and the Pacific Island Forum Secretariat (PIFS)), that were effectively assisting the PICTs in addressing the identified barriers through various projects and activities. However, it was clearly identified by the PICTs that there was a need to strengthen regional technical capacities to promote human resources, awareness and knowledge management as well as business and industry in the sustainable energy sector, as well as to have a specialised institution to coordinate on-going activities in the region concerning access to energy and capacity building. PCREEE was designed as a specialized regional entity with an exclusive technical character in the context of the existing SPC framework to fill in the gaps regarding capacity development, knowledge management, awareness raising and promotion of investments in the sustainable energy business and industry, which were not sufficiently covered by existing CROP agencies.

The activities included in the PCREEE Project Document are sound, appropriate and consistent with the project's stated objective. Although the majority of the quantitative goals included in the project's logframe are applicable to the project, it is the opinion of some stakeholders that some of them were very ambitious, especially in terms of the indicators related with GHG emissions and mobilisation of investments. Also, at activity level the ET found that there are some issues related to the baselines that should be used to track these indicators as well as issues related to the means of verification to be used for tracking them. For example, there is no baseline indicated in the Logframe for the “number of people or % of population with access to modern, reliable and affordable energy services provided by renewable energy technologies in 2013 (urban and rural population, sex-disaggregated)” and one of the targets is that there is a “10% increase of people with access to modern, reliable and affordable energy services provided by renewable energy technologies in 2013 (urban and rural population, sex-disaggregated)”. Another example is that not all the indicators associated with Outcome 4 can be measured through the website. It is very hard to measure through the PCREEE website what the “% of the population in the 22 PICTs that is reached through regional renewable energy and energy efficiency campaigns supported by PCREEE” is. With regards to the assumptions indicated in the Project Document, they hold true. In fact, the no fulfilment of some of those assumptions (lack of Centre resources, lack of interest from stakeholders) has had an impact on the % of

¹⁷ The CROP agencies are: Pacific Islands Forum Secretariat (PIFS); Pacific Islands Forum Fisheries Agency (FFA); 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).

achievement of some of the PCREEE outputs/outcomes (e.g., not many applications were received within the entrepreneur financing facility programme, which impacted the achievement of Outcome 4).

Risks considered at design stage in the PCREEE Project Document, related with financial, socio-political, institutional, environmental and implementation aspects (including the coherence with other regional programmes being implemented by CROP agencies) were clearly identified and assessed and, for those, mitigation measures have been identified. The identified risks at Project Document stage were and are still adequate.

The project design in terms of institutional and implementation arrangements is valid and relevant. The design contemplated to engage different types of stakeholders:

- UNIDO as implementing agency.
- SPC, the Government of Tonga and SIDS DOCK as executing partners, PCREEE after it become operational
- ADA, Austria MFA, Royal Norwegian Ministry of Foreign Affairs, UNIDO, SPC and the Government of Tonga as donors.
- New Zealand, Australia, Korea, IRENA providing earmarked financing towards the implementation of specific activities with and for the Centre. There was also co-funding from the SPC Energy Program for specific activities.
- Regional and international stakeholders including:
 - Twenty-two (22) PICTs including 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, with institutions acting as National Focal Institutions (NFIs) of PCREEE, providing the links between the secretariat and all the PICTs.
 - CROP agencies (SPC, USP, PPA, PIFS and SPREP) and other regional industry associations (e.g., SEAPI) acting as THs of the PCREEE.
 - The Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG), that are the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific, providing oversight and strategic guidance for the operation of PCREEE.
 - Other regional stakeholders acting in the public and private sector in the PICTs.

The implementation arrangement also contemplated a PSC composed by (i) representatives from the Micronesia/Melanesia/Polynesia regions (on a rotating basis), (ii) CROP agencies (on a rotating basis), (iii) representatives from regional industry associations, core donor partners, and (iv) PCREEE Director, providing technical review and approval of major planning and executing documents (including budgets, work plans, business plan and technical documents). The implementation arrangement worked well for the project.

The PCREEE Project Document integrates a section on Monitoring, Reporting and Evaluation (M&E) that details how M&E should be carried throughout the project and how and when reporting should take place. However, the document does not specify the budget associated to the M&E activities. The M&E system in place is further analysed in Section 0.

Although the PCREEE Project Document was revised in 2018 to include funding, no changes were made to the Centre activities at that time or during the period covered by this evaluation.

The project overall design is considered Satisfactory (S).

The Logframe includes an adequate structure, outcomes and outputs and specific, measurable, attainable, achievable and timebound (SMART) indicators as well as assumptions. However:

- Some of the indicators, especially the ones that refer to development impact, are not directly related to the activities of the Centre.
- It lacks information on the baseline against which some target indicators should be measured at the outcome/output level.
- Some indicators and targets are either missing or not directly connected with the proposed activities.
- Some indicators and targets are poorly formulated, with indicators and targets often being used interchangeably.
- Some indicators could be further disaggregated by sex.

- For some of the indicators, the appointed sources of verification/data are not enough to enable verification and triangulation of information, and in some cases, the sources of verification/data are not well specified.

The Logframe is considered Moderately Unsatisfactory (MU).

3.2. Relevance

The relevance is a two-fold concept: on the one hand it is a measure of the consistency of the project with priorities established at various levels (national, regional and international), and on the other hand it relates to the extent to which the action was in line with existing priorities.

The PCREEE is clearly aligned with national, regional and international priorities. PCREEE implements its activities in cooperation and alignment with many national, regional and international stakeholders, including the regional centres under the GN-SEC. This is done by the Centre through maintenance of open and regular communication channels with the different stakeholders in the field and by ensuring its activities contribute, are coordinated and developed alongside and /or complement others planned and taking place in the PICTs (e.g. actions being implemented by the CROP agencies as well as other donors). The centre was part of a SAMOA Pathway partnership of the United Nations. Further information is available in the footnote.¹⁸ The partnership is currently under nomination for the ongoing SAMOA Pathway Partnership Award. Moreover, it was included as important result of the SAMOA Pathway Mid-Term Review of the UN.

Internationally, PCREEE activities are very much aligned with the UN Framework Convention in Climate Change (UNFCCC); the UN Sustainable Energy for All (SEforAll) initiative; and the SIDS DOCK initiative objectives to improve energy efficiency by 25% (2005 baselines), to increase renewable energy share in power generation to a minimum of 50% and to reduce fuel use in conventional transportation by 20-30% by 2033. In addition, PCREEE is committed towards the Sustainable Development Goals (SDGs) as the Centre activities contribute to the achievement of the global targets and goals, especially the ones related with SDG 4, 7, 9, 12, 13 and 17. In fact, the design of the Centre creates on the one hand an important link between international climate, energy and development cooperation policy and on the other hand a key entry point for the implementation of international funding to mitigate the GHG emissions and adapt the Pacific energy sector to climate change.

The work carried out by PCREEE contributes to several global initiatives. The PCREEE is a member of the GN-SEC, and it has been actively engaged in all activities promoted by the network. Through the GN-SEC the PCREEE works with other regional centres on an innovative south-south and triangular multi-stakeholders' partnership to accelerate the energy and climate transformation in developing countries. The PCREEE activities are very much in line with the GN-SEC objectives, mandate and activities.

Regionally, the Centre is hosted by the SPC and is fully integrated into the regional energy decision processes, as it operates under two coordinating mechanisms of the FAESP – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Security Advisory Group (PEAG). The role of the PCREEE is highlighted in both the old and the new FAESP. The PCREEE, hosted by the SPC Geoscience, Energy and Maritime Division, supports SPC in the implementation of the SPC Energy Programme with regards to policy, regulation and technical assistance to energy regulators and provides technical services as delegated by SPC (with a focus on policies and legislation specific to the private sector and investment). It is recognised that the Centre has had significant positive contributions to SPC and has been an “engine of change”, since it has contributed to improve the regional energy framework from fossil fuel oriented to sustainable energy sources. It has expanded the role of SPC and contributed towards its decentralization, has been key in the engagement of the private sector, and has been increasing PICTs visibility internationally and strengthening SPC cooperation with donors and international organizations.

At a national level, the PCREEE works with NFIs and THs (CROPS and regional industry associations) in the implementation of its activities at country level. By working with the NFIs, nominated by the respective PICTs Energy Ministers, and based either at the Ministry or at a relevant agency in the country, the PCREEE complements and accelerates national efforts in terms of private sector policy and regulation (as mandated by SPC), capacity development, knowledge management and awareness as well as investment and business promotion, that will ultimately contribute to the achievement of the regional ones. The PCREEE supported the development and adoption of policies and regulatory frameworks in Fiji, Marshall Islands, Papua New Guinea and Solomon Islands.

¹⁸ <https://sdgs.un.org/partnerships/network-regional-sustainable-energy-centers-small-island-developing-states-sids> and <https://sdgs.un.org/partnerships/pacific-centre-renewable-energy-and-energy-efficiency-pcreee>

These policies and regulatory frameworks were based on the regional electric mobility policy and programme developed by the PCREEE for the PICTs. Thus, the PCREEE is also aligned with national priorities.

In terms of addressing the needs of the region, the ET considers that the PCREEE clearly tackles the identified needs/gaps of the region that remain relevant nowadays. The Centre was created to address the “*weak regional institutional capacities hindering the promotion and development of sustainable energy investments, markets and industries in the Pacific region*” and is recognised to be doing so through the implementation of its activities. This is confirmed by the consulted stakeholders, with 79% of them stating that the Centre has strengthened SPC’s capacities and the regional institutional capacity in general, for the promotion of sustainable investments, markets and industries in the Pacific and 21% stating that the Centre may have done so (see Figure 14).

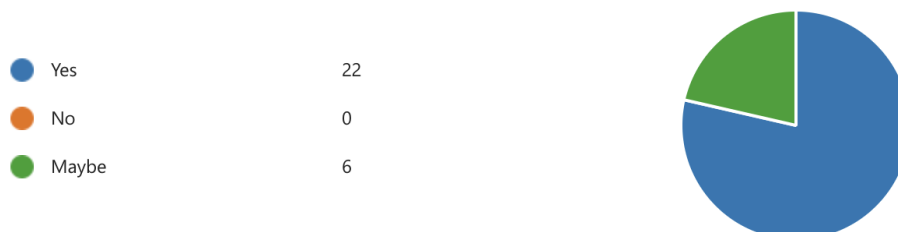


Figure 14: Stakeholders opinion about if the PCREEE has strengthened the SPC’s capacities and the regional institutional capacity in general, for the promotion of sustainable investments, markets and industries in the Pacific

The PCREEE tackles the needs/gaps identified in the region through the coordination, execution and co-funding of programmes, projects and activities in four areas: private sector policy advisory (as delegated by SPC), capacity development, knowledge management & awareness, and investment and business promotion. The Centre and its activities are considered by the big majority of the consulted stakeholders (93%) as “Very Relevant” or “Relevant” as depicted in Figure 15.

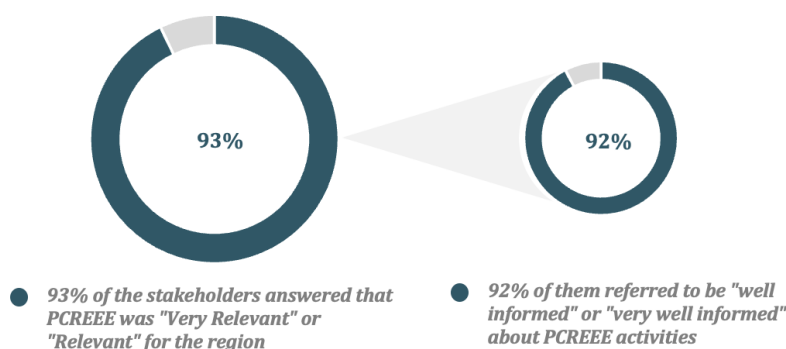


Figure 15: PCREEE overall relevance to the consulted stakeholders

For SPC, the PCREEE is considered very relevant as:

- (i) Brought and continues to bring more visibility to SPC and the Pacific region through its active participation in the GN-SEC, and has attracted more financing/different donors to the region.
- (ii) Adds capacity to the implementation of the SPC Energy Programme by adding resources, developing specific implementation capacity, and has extended the geographical presence of SPC to Tonga.
- (iii) Supports the decentralization of SPC, by having its Secretariat in Tonga.
- (iv) Brought innovative programmes to SPC Energy Programme, such as programmes on the renewable energy and energy efficiency field, like the E-Mobility one, for which PCREEE and SPC are recognised as pioneers in the region.
- (v) Ensured sustainability of projects in the energy field that were coming to an end by continuing their implementation in the region (e.g. EU PACTVET).

For the NFIs, the Centre is considered mostly as “Relevant” or “Very Relevant”. It is the general opinion that the centre is fulfilling its mandate with regards to the objective for which it was established, and it is recognised in terms of its contribution to increasing capacity on sustainable energy in the region. The NFIs regard the PCREEE as the most significant agent of renewable energy and energy efficiency regional change and thus regional organisations must afford it same level of recognition. The NFIs embraced the Centre’s objective in leveraging support from similar Centres where knowledge and experience are shared thus creating opportunities for inter-

regional collaboration in nexus sectors such as tourism, agriculture and fisheries, water and waste management. It is important to refer that, out of the 22 PICTs, only 15 (68% of the PICTs) have assigned focal points and, of these, 8 (53% of the assigned focal points) responded to the online questionnaire and/or participated in interviews, revealing that there is a need to further strengthen the engagement of PCREEE with the PICTs. This is also supported by the information retrieved from the interviews in which the stakeholders referred that there are territories more involved and/or more “active” with the PCREEE than others.

For the Regional Organisations the Centre is also considered “Very Relevant”. Strong synergies were created between the Centre and the CROP agencies key parties – SPC (lead), PPA (representing power utilities), SPREP (dealing with environmental aspects and climate change), PIFS (regional policy alignment), and USP (education, training and research) – including sharing of resources, expertise and experience. The PCREEE mandate was very relevant to their ongoing initiatives to increase energy access (mainly for the Melanesian countries), reduce reliance on costly fossil fuels and pursuing national renewable energy and energy efficiency targets for the PICTs. As a new partner, PCREEE was uniquely focused on industry support considering the limited assistance currently available to the private sector operators and the industry associations. The existing infrastructure, network of external partners, coordination mechanisms were available to PCREEE enabling a smooth transition for the Centre. Through SPC, the Centre became part of the advisory mechanism, the Energy Security Working Group (ESWG) previously known as the Energy Technical Working Group. The Centre has consulted and engaged with the Regional Organisations on programme design, but delivery tended to be slow due to resource constraints and ongoing changing priorities. Responses from interviewed CROP agencies members confirmed great reservation against the formation of a new agency such as the PCREEE because the region was already crowded with many organisations operating on bilateral and regional levels. However, it was included on the PCREEE mandate that its focus was on areas not being addressed by the CROP agencies and other regional partners, their reservations were addressed. Some of the consulted stakeholders expressed that active partnership between the Centre and a few of the regional organisations is lacking since it was institutionalised in Tonga and that it could be improved by increasing the Centre efforts in reaching out to the Regional Organisations to improve synergy.

For UNIDO the Centre is “Very Relevant”. In the region PCREEE was the first established organization explicitly focused on renewable energy and energy efficiency; was key in including sustainable energy into the SPC energy programme and in supporting the PICTs in its adoption (before PCREEE, SPC Energy Programme was very focused on fossil fuels and not so much in sustainable energy, and now they have their own e-mobility programme for which they are recognized for); and has been functioning as a coordination hub, bringing the sector actors together towards the implementation of renewable energy and energy efficiency projects/actions. In addition, the PCREEE project is very much aligned with UNIDO’s energy strategy and objectives. The Centre was the first GN-SEC centre established in the SIDS, and since it was established, it has been one of the most active members of the network and the first one to “adopt” a capacity building training course facilitated by GN-SEC and SIDS DOCK and introducing it as part of the curriculum of the University of Tonga. PCREEE and the GN-SEC angle in SIDS is prominently mentioned in the UNIDO SIDS Strategy to be implemented by 2025.

For the Government of Tonga, the PCREEE is also “Very Relevant”. Not only the PCREEE is part of the SPC Energy Programme, but it is also part of a GN-SEC which strengthens SPC's capacities in general, as well as the capacities of the different actors in the region. The PCREEE is well aligned with Tonga priorities and national goals as well as with the PICTs. In fact, the presence of the Centre in Tonga has added value to local entities performance through direct access to support and mentoring opportunities. The Centre played an important role in the implementation of the Tonga Energy Roadmap including the development of the Tonga Energy Roadmap (TERM) Plus Strategy where PCREEE collaborated with Tonga’s network of partners to deliver capacity building initiatives, develop the sector’s regulatory framework.

On a broader macro-economic context, the Centre indirectly raises the profile of Tonga as a capable host and through the Centre’s regional RE and EE activities, economic benefits have flowed into the country. Tonga has used its hosting experience to leverage support through the Centre’s network and demonstrated leadership in regional and international forums (such as the International Solar Alliance (ISA)). The Centre’s relevance to Tonga is considered a win-win collaboration.

The other donors of the Centre also see the centre as “Relevant” or “Very Relevant”. The PCREEE is aligned with their strategies in relation to supporting the development of renewable energy and energy efficiency, as well as with their programmatic areas (capacity building, private sector development, investment facilitation etc.). The IRENA considered the Centre a good match of development goals and the SIDS Lighthouse Initiatives (SIDSLI) providing support to the Pacific SIDS on renewable energy and energy efficiency development and deployment.

As it can be seen in Figure 16 most of the PCREEE functions are relevant to the consulted stakeholders, especially the ones related with the inputs towards the development of national and regional policies, promotion of renewable energy and energy efficiency in various public and private spheres, capacity building and knowledge management, facilitation of information on renewable energy and energy efficiency in the region, and awareness

raising and promotion of financial mechanisms. In terms of outputs and outcomes, as it can be seen in Figure 17, the development of renewable energy and energy efficiency projects and programmes, and the training for the different renewable energy and energy efficiency market players are seen as the most relevant.

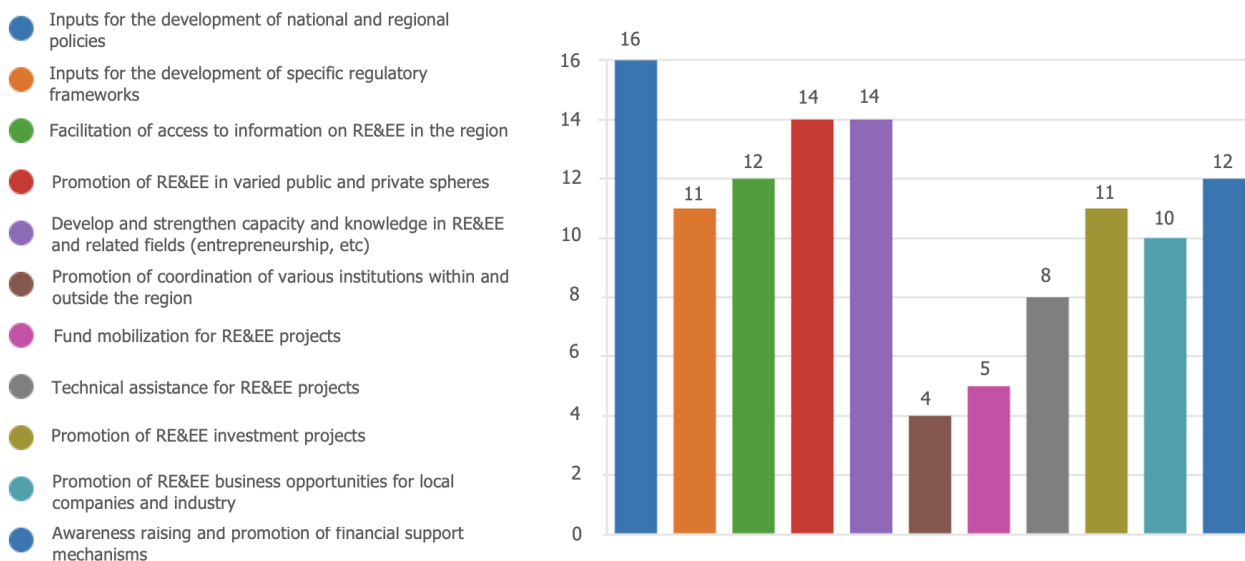


Figure 16: Relevance of PCREEE functions

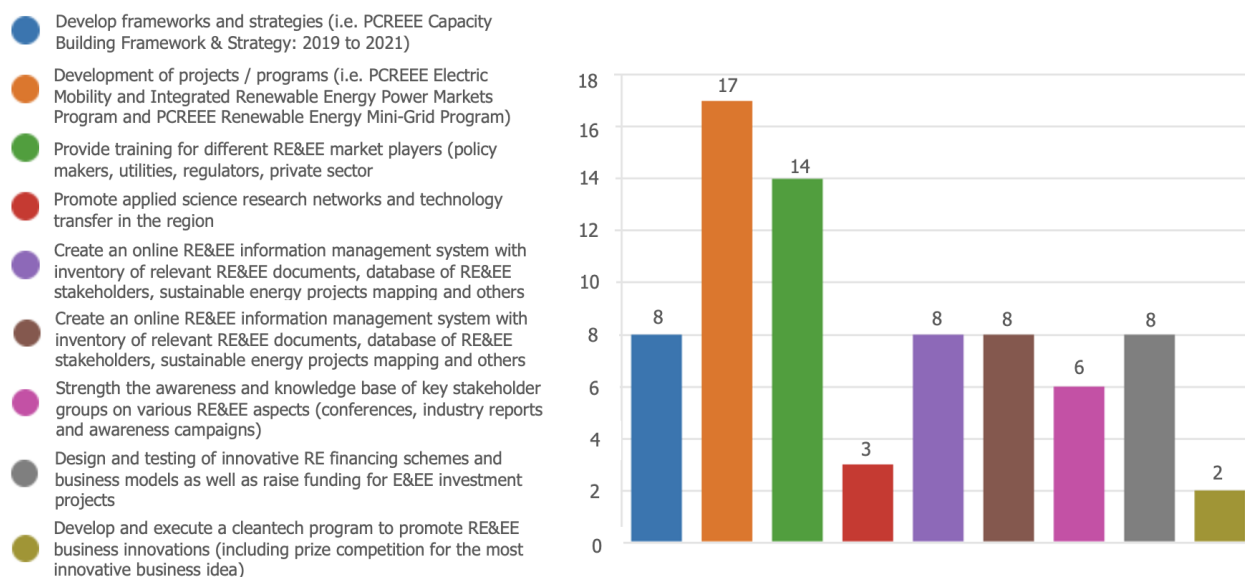


Figure 17: Relevance of PCREEE outputs/ outcomes

Overall, the centre is recognized by bringing sustainable energy to the political agenda of the PICTs, by their involvement and work with the private sector entities, by their innovative projects and programmes in the field of E-mobility, training and capacity building of renewable energy and energy efficiency actors, business development and entrepreneurship, and above all, by its capacity to coordinate activities and build partnerships for project implementation.

The overall project relevance is rated Highly Satisfactory.

3.3. Coherence

PCREEE’s mandate clearly highlights that its scope of action is to complement activities in the region and avoid their duplication. The PCREEE seeks to be aligned with other national, regional and international interventions within the sustainable energy market in the region, being focused on addressing existing gaps/barriers, facilitating and introducing new programmes and projects and bringing the different actors together in a concerted way, thus creating synergies and avoiding duplication of efforts. The Centre has been doing so by:

- Acting as a regional hub and “one-stop-shop” for sustainable and reliable energy solution for the PICTs.
- Developing projects/programmes in areas that were not tackled by other donors, such as the E-Mobility programme and now the Mini-Grids programme.
- providing support and engaging the private and commercial sectors in the implementation of the PICTs Energy programme.
- building capacity of the different actors in the region on renewable energy and energy efficiency topics.
- bringing together the actors in the region and supporting the establishment of partnerships for the implementation of its own projects and of projects in its area of action implemented by other actors.
- Supporting project developers in the development and implementation of their renewable energy and energy efficiency projects.
- Establishing partnerships with other similar centres around the world through the GN-SEC.

The Centre has been very successful in creating synergies with on-going actions in the PICTs. Example of this is the approach taken to conduct events/workshops, in which the PCREEE joins and/or adds to events promoted by other actors in the sustainable energy area, which is especially important due to the fragmentation of the PICTs.

The overall project coherence is rated as Highly Satisfactory.

3.4. Efficiency

Efficiency considers several aspects of the project: (i) cost of the project and value for money; (ii) mobilization of co-finance; (iii) use of inputs by PCREEE (if more results could have been achieved with the same inputs – human resources, financial); and (iv) production of results, outputs and outcomes in a timely manner and if those were of good quality and accuracy.

PCREEE’s First Operational Phase started in September 2016 and was supposed to last until August 2020 (48 months). Due to an increase in funding from Norway to UNIDO as well as the Covid-19 pandemic the PCREEE’s First Operational Phase got extended until the end of December 2022 (additional 27 months). This extension enabled the project to utilize the additional budget and reschedule and implement activities that were affected by the pandemic (i.e., implement activities virtually instead of physically). It shall be mentioned, that for most GN-SEC centres, the core funding provide by UNIDO is a programmable “strategic reserve”, which most of the centres would like to build on as long as possible.

Table 1 shows the expected contribution as stated in the PCREEE Project Document and the financing raised during the period under evaluation. According to the information provided, the PCREEE was able to raise overall 77% of the expected total contribution as per the PCREEE Project Document. The ET believes that it was able to raise more, as there were experts paid by donors and provided for the PCREEE to conduct assignments in the PICTs, who were not accounted for as in-kind co-finance in the PCREEE co-finance tracking tools as well as in progress reports.

Table 1: Expected contribution and financing raised¹⁹

	Expected Contributions	Raised Co-finance	Share
	EUR	EUR	%
(a) PCREEE Running Costs (Outcome 1)	2,395,721	1,751,542	73%
Government of Tonga	357,000	375,000	100%
SPC & joint activities with the SPC Energy Programme	500,000	>500,000	>100%
ADA/MFA (through UNIDO)	252,212	221,428	88%
Royal Norwegian MFA (through UNIDO)	419,159	447,502	107%

¹⁹ Information retrieved from financial reports, contracts, concept notes, MoUs, information provided by PCREEE, Government of Tonga and UNIDO etc.

UNIDO	180,000	225,611	125%
Funding to be mobilized (EU, Sweden, Australia, New Zealand, etc)	687,350	-	0%
(b) PCREEE Technical Programme (Outcome 2, 3 & 4)	3,881,281	2,906,952	79%
ADA/MFA (through UNIDO and SPC)	697,788	1,076,189	154%
Royal Norwegian MFA (through UNIDO)	1,159,676	1,018,292	88%
UNIDO funding for PCREEE & co-funding for technical activities (e.g. PFAN, GN-SEC SIDS activities)	420,000	371,276	88%
Funding to be mobilized (EU, Sweden, Australia, New Zealand, Korea, etc)	1,603,817	>584,620*	28%
TOTAL	6,277,002	4,801,918	77%

Note: * Estimated based on contracts and information provided by the PCREEE

Looking in more detail into the financial resources expected to go towards the PCREEE running costs (item (a) in Table 1), the Centre raised 73% of the expected contributions: The Government of Tonga, SPC, ADA/ Austria MFA, Norway and UNIDO all provided the expected contributions on time, and some of them even more. However, the expected contributions to be mobilized from other donors were not fully realised, or at least evidence of those was not available. The raised funding has been used as planned in the management and operation of the Centre – as the centre exist and has been and is fully operational, although with some restrictions in terms of fixed human resources.

With regards to the PCREEE Technical Programme (item (b) in Table 1), the expected contributions from the Royal Norwegian MFA, ADA/Austria MFA and UNIDO were fulfilled. ADA contribution surpassed the expected contributions expected for the First Operational Phase, as in 2021, ADA signed a funding agreement and addendum with SPC providing EUR 1,000,000 for the PCREEE programme 2021- 2025²⁰. Overall, although, PCREEE did not raise all the expected contributions for the implementation of its technical programme at the end of its First Operational Phase it had raised at least 79% of it, according to evidence provided by the Centre. However, the ET recognises that it is likely more has been raised in terms of the funding to be mobilized from other partners, as Australia and New Zealand as well as regional partners provided in-kind co-finance for the implementation of some of the PCREEE activities, that could not be sustained with evidence during the evaluation. The PCREEE would benefit from having a financial reporting system to track the total amount of co-finance (cash and in-kind) raised / spent, and report on it.

In terms of ratio of budget raised and % of activities implemented, it can be said that the Centre has been quite efficient as with 77% of the total budget, it has achieved 73% of its outcomes/outputs (see Section 2.1: Effectiveness). It is the opinion of the ET that the Centre made good use of the inputs and produced in general good quality outputs.

It is a common opinion of the stakeholders that the PCREEE has used its resources wisely. It has created partnerships and explored synergies with other on-going initiatives to conduct workshops/training activities; used the contributions of SPC resources to support the Centre on procurement, financial reporting and gender mainstreaming actions, expanding in this way its team; welcomed seconded experts and trainees from out of the region to act as PCREEE resources; and made use of contributions of partners for the implementation of some of its activities (like the in-kind contributions above referred from Australia and New Zealand), just to name a few. Several stakeholders referred that the PCREEE “*made every euro count*”, in the sense that it tried to make the best use of the money that it had for the implementation of its activities. Nonetheless, it is also the opinion of the consulted stakeholders that the Centre and its actions have been limited by not having enough resources – financing, human and long-term technical resources – that could ensure continuity of project implementation.

COVID-19 impacted the implementation of the First Operational Phase of the PCREEE, as when COVID-19 pandemic hit, the experts seconded at the PCREEE had to return to their countries of origin, and the activities related with meetings, workshops, capacity building had to be adapted to virtual means, which took time and

²⁰ Of the EUR 1,000,000 raised from ADA through the SPC for PCREEE, only 2/5 were considered as raised co-finance for the 1st Phase of the PCREEE, as those are the ones considered for 2021 and 2022.

impacted the delivery of a series of activities. The PICTs were on strict lock-down during the pandemic and were severely affected, and the PCREEE activities suffered a delay because of that.

Efficiency is rated as Satisfactory (S).

3.5. Sustainability and External Risks

The sustainability analysis assesses: (i) how sustainability issues have been integrated into the design and implementation of the PCREEE First Operational Phase; (ii) the likelihood that the PCREEE activities will continue after the end of the First Operational Phase; (iii) how effective the Centre has been in building partnerships to achieve its objectives; and (iv) if the project activities may have a multiplying / replication effect.

The ET considers that sustainability actions were considered in the project design since:

- The PCREEE Project Document included a strategy to raise the necessary financial resources to implement its activities and for the Centre to reach financial sustainability. The Centre was envisioned to reach financial sustainability through core funding from donor partners, SPC and the host country, mobilized project funding and provision of remunerated services. Core donor funding was agreed at the design stage; the MoU with the host country organization was signed for 10 years (more than the First Operational Phase) for the provision of space, IT services and other office facilities; and within the BP development, a resource mobilization strategy would be further elaborated. Also, with PCREEE being part of SPC, SPC would ensure the coverage of part of the salaries of the Centre's personnel as well as provide support through its office in Suva concerning procurement, financial accounting, etc.
- The PCREEE Project Document set up a governance structure for the centre to ensure sustainability of its operation, as the Centre was envisioned to work with the NFIs and in synergy with the CROP agencies (THs), which were to support the Centre in identifying the needs and driving action at PICTs level, ensuring regional ownership, avoiding duplication of actions and creating synergies with ongoing actions.
- Included a strong capacity building component as well as the provision of support to the private and public sector for the development of policies, identification and implementation of projects which aim at ensuring the sustainability of the sector as well as of the supported actions.

With the regards to the actual implementation of the referred sustainability actions it is the ET opinion that a part of them have been implemented.

- Although the Centre has received all the donor funding agreed at the design stage (UNIDO, ADA/Austria MFA, Norway MFA), more financing should have been raised from additional partners, ensuring diversification of donor funding and increasing the resilience/sustainability of the Centre. In addition, the fee-for-service highlighted as one of the actions to ensure financial sustainability in both the PCREEE Project Document and the PCREEE Business Plan 2019-2030, was not yet put in place yet. This situation may change in the future as the PCREEE has been engaged with the NDC Hub to deliver services on energy efficiency and will get a fee-for-service from it and it has obtained its accreditation to support the implementation of projects funded by the Green Climate Fund, from which it may get a fee-for-service or administrative fee too.
- In fact, according to the ET analysis of the funding raised/funding requirement and needs for funding going forward: the Centre completely relied and continues to depend on donor funding for its operations (ADA funding received in 2021, SPC, Government of Tonga). There is a strong need to raise financing towards the implementation of its BP, and at the end of 2022, the PCREEE was not financially sustainable. This is also confirmed by the consulted stakeholders, who referred that the PCREEE is not yet financially sustainable and needs to explore alternative sources of funding to the ones it has relied on. Moreover, to face the BP implementation needs from 2023 onwards, the PCREEE should have raised at least enough budget for the implementation of its programme between 2023 – 2025 estimated in the order of ~€ 12 million²¹; as far as the ET knows it has only raised ~€ 1 million to date (assuming Government of Tonga contribution of € 84,000/year; SPC contribution of € 62,500/year and the € 600,000 from ADA²² to be used between 2023-2025), corresponding to 9% of that period needs. A stronger resource mobilization strategy needs to be put

²¹ Estimated by the ET from the PCREEE BP 2019-2030

²² The ET was considered that from the €1,000,000 provided by ADA in 2021 to the PCREEE (via SPC) €400,000 were used towards the implementation of the PCREEE First Operational Phase / BP 2021-2022; and the remaining €600,000 left for the implementation of actions between 2023-2025.

in place, to ensure the implementation of the BP. Moreover, the BP should be revised in terms of strategy, programme and the necessary financial resources to attain it.

- Regarding the governance structure, although the PCREEE has been very successful in appointing and working with THs, it has been less successful in appointing NFIs and even less successful in actually working and cooperating with them (some of the NFIs are considered inactive, as although they have a NFI appointed they show little engagement with the PCREEE). There is a need to foster more dynamic interactions with the NFIs and to encourage those who are not very engaged to get actively involved in the Centre's activities.
- Regarding the activities for the creation of capacities to implement and manage renewable energy and energy efficiency projects, the Centre has been very successful in delivering them and is recognised by the stakeholders for this. In addition, the PCREEE has also been involved in the development of the sustainable energy framework for the PICTs as well as energy policies for specific PICTs, contributing to ensuring the development and sustainability of the sector it supports and where it operates.

Moreover, the Centre has been key in ensuring the sustainability of actions implemented by other partners. This has been the case of the EU PACTVET project, for which PCREEE ensured its continuation and the implementation of its activities, by supporting Tonga to develop Level 1 and Level 2 of these qualifications and is now working with them to move to Level 5, after which Tonga will have a complete renewable energy diploma. In this context PCREEE works also with UNIDO on the integration of the Online Capacity Building Program on Sustainable Energy for SIDS and the STAR C initiative. In addition, the Centre has been providing back-up support to Kiribati on the operationalization of their recently adopted Minimum Energy Performance Standards and Labelling (MEPSL) by linking them to the database established during the Australian funded Pacific Appliance Labelling and Standards Programme (PALS) project that has been completed.

One of the strongest attributes of the PCREEE is its strong relationship building capacity across the region and its ability to build and develop partnerships for the implementation of its activities as well as to support the actors in the sustainable energy sector in the delivery of its actions and projects. This was confirmed by the number of MoU signed by the Centre and by the consulted stakeholders that referred that the Centre has been very successful in doing that. The PCREEE has been key in providing targeted assistance to some of the PICTs in establishing industry associations (Solar Energy Association of Papua New Guinea, Sustainable Energy Association of Vanuatu (SEAV) in Vanuatu, National Electrical Contractors Association of Tonga (NECAT) in Tonga, Fiji Sustainable Energy Consortium (FSEC) to improve networking and coordination between public and private sector entities. The Centre has been having a key role in bringing the sector actors together to implement concrete actions on renewable energy and energy efficiency (e.g., work PCREEE did with PPA on benchmarking energy efficiency with the utilities, where the PCREEE was fundamental in bringing all utilities to the table).

In terms of replicability of results, several of PCREEE results and projects are replicable in the region as well as by other GN-SEC centres. Examples of these are the: (i) E-Mobility programme – development of standards for E-Mobility; implementation of pilot projects and scale up of successful pilots; replication of the associated tested business models; (ii) the Mini-grids Programme – this programme and its actions can be replicable in other PICTs islands and in other SIDS; and (iii) Project regarding the provision of seed funds for the installation of solar energy systems for rural communities. Also, the competency standards developed and adopted by Tonga and Solomon Islands can also be expanded and replicated to other islands in the region as well as to other SIDS.

Sustainability is rated by the ET as Moderately Satisfactory (MS).

3.6. Cross-Cutting issues

1.4.1 Gender Mainstreaming

Gender and gender mainstreaming have been considered in the PCREEE design, in its mandate, in its activities, programmes and projects. As the PCREEE is part of the SPC, it follows the SPC Gender Equality Policy and the gender guide in all activities, projects and programmes that it implements. At the design stage, it was envisioned that the Centre would develop a specific gender programme within its BP, would have a specific gender focal point to mainstream gender throughout the PCREEE structure and that it would cooperate with the "Island Women Open Network (IWON) for Sustainable Energy & Climate Resilience in Island Nations". In addition, the PCREEE Project Document included indicators and targets for inclusion of women on its management and technical staff (30% women participation target) and in workshops / events (30% women participation target).

In terms of implementation, in practical terms:

- Gender dimensions were taken into consideration in the selection processes:
 - Project Steering Committee: the Committee Members included a representative from a women group – SIDS DOCK (including IWON).

- All ToRs for recruitment of PCREEE staff, encouraged women to apply. PCREEE staff counted throughout the years during the evaluation period with an average 38% female staff.
- The Centre complied with the SPC’s Gender Policy, and a Gender Advisor was appointed by SPC (in Suva) to provide support to PCREEE on gender mainstreaming into the Centres’ interventions as needed. Although the BP did not include a specific gender plan, it includes a Gender Mainstreaming Section that highlights that the Centre contributed towards the definition of the regional gender action plan – Pacific Energy and Gender Strategic Action Plan (PEGSAP) 2020-2030 –, it has adhere to it and is contributing towards its implementation.
- Women participation was encouraged in all the PCREEE activities and events and there were some activities that specifically targeted women (productive uses of energy and entrepreneurial skills). According to the information provided training/workshops/events counted on average with approximately 30% women participation (27% to be exact). Although there were no dedicated capacity building events specifically targeted at women, gender was always a topic considered as part of the workshops/training’s curricula provided by the PCREEE.
- The PCREEE is part and a recognised active participant of the GN-SEC Global Gender Energy Programme.

It is the opinion of the stakeholders that the PCREEE has incorporated gender equality into its management and service delivery. As it can be seen in Figure 18 out of the 27 stakeholders that answered this question through the online questionnaire, 16 (59%) answered “Yes”, and 11 (41%) answered “Maybe”. No stakeholder answered “No”. When asked how, the stakeholders referred that: “*gender balance has been observed during sessions/panels and in participation in the PCREEE events*”; “*all projects have gender mainstreaming*”; “*centre encourages women participation*”; “*although with no specific gender programme gender aspects are constantly considered*”.

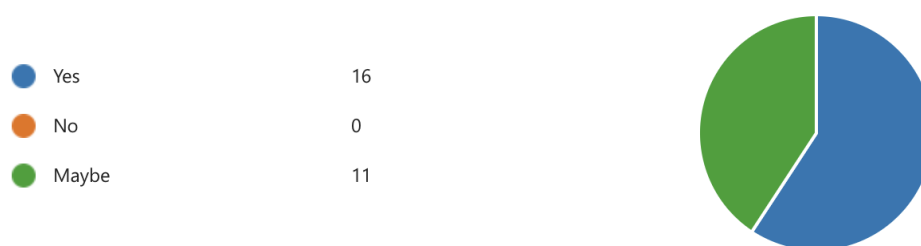


Figure 18: Stakeholders view on the incorporation of gender into the PCREEE management and service delivery.

In addition, PCREEE Manager – Mr. Solomon Fifita – is a recognized gender champion in developing relationships between men and women through the PCREEE activities, and in 2017 received the SIDS DOCK IWON Excellency in Leadership Award for Outstanding Service to the Establishment of the SIDS DOCK Organization, and also the SIDS DOCK IWON.

Although the ET recognises that gender mainstreaming follows the SPC gender policy and the PEGSAP and that the Centre has been promoting and tracking women participation on its activities/interventions, more could have been done on gender, such as having a better and more structured approach to monitor gender participation on workshops/ events and find other means to encourage participation to ensure 30% participation is reached; have a publication on the impact of the Centre’s activity on women in the PICTs; include a deeper gender analysis on Centres reports; have more specific actions targeting women in the PICTs.

Gender is considered Satisfactory.

1.4.2 Climate Change Mitigation and Environmental Sustainability

Climate Change Mitigation and Environmental Sustainability are at the heart of the PCREEE’s activities/intervention. The Centre intervention aims to contribute to environmental sustainability of the PICTs through promoting the use of renewable energy and energy efficiency as a way to provide access to energy as well as to mitigate the impacts of climate change, when compared with the use of traditional fuels. The Centre has been doing so through the development of policies, training/ capacity building, awareness raising, implementation of renewable energy and energy efficiency projects – e.g., E-mobility pilots – and through its support to the private sector.

It is important to acknowledge that the Centre was the one that brought the sustainable energy topic to the region – as before the PCREEE the SPC Energy Programme was focused on fossil fuels and not so much on renewable energy and energy efficiency. The old FAESP was still very fossil fuel oriented. The new regional energy framework reflects the new renewable energy and energy efficiency ambition in PICTs. Once the topic was brought to the region, not only SPC and the PCREEE started to work on that but several other agencies acting the PICTs started

working on it as well. In fact, the Centre is seen by the stakeholders as a “one-stop-shop” and/or the “coordinator hub” for the actions in the PICTs related with renewable energy and energy efficiency.

This has also been recognised by the consulted stakeholders, as some referred that *“the PCREEE through its activities in supporting sustainable energy development is promoting environmental sustainability in the region”*. However, some of them referred that they would like to see more actual projects being implemented in the region, and thus accounting, and directly contributing towards climate change mitigation.

To track the contribution to climate change mitigation, the Centre had an impact target indicator set up at the design stage of 15% decrease of GHG emissions through implemented renewable energy and energy efficiency projects. This indicator was associated with the development of sustainable energy projects in the region and not fully related to the delivery of specific projects / activities in the region, and therefore it was a bit ambiguous in relation to the baseline year that should be considered for comparison (the ET considered 2013 in its analysis). Although the ET has estimated that contribution based on publicly available data from IRENA, the indicator was not tracked or reported on by the PCREEE. As per the ET estimate, there was an 8% decrease on GHG emissions through the implementation of sustainable energy projects in the region between 2013 and 2020.

Climate Change Mitigation and Environmental Sustainability is considered Satisfactory.

4. Performance of Partners

The PCREEE Project Document was developed by UNIDO, in close cooperation with SIDS DOCK and SPC and in consultation with international, regional and national counterparts. In parallel, UNIDO, SIDS DOCK and CARICOM worked on the establishment of the CCREEE in the Caribbean.

To provide guidance on the implementation of the Centre’s activities and ensure that the centre was delivering on the proposed outputs/outcomes with the necessary quality and on a timely manner, a PSC was formed comprising representatives of the UNIDO, ADA, Norway, SPC, SIDS DOCK (including IWON), representatives of the CROP agencies, representatives from the Pacific regions (Micronesia/Melanesia/Polynesia), and representatives from regional industry associations and networks.

The Centre’s network of partners is extensive, complex and multi-layered. Each partner / stakeholder is searching for synergy, sharing goals, vision, and mutual support to achieve the optimum benefits from the partnership. Figure 19 shows how the PCREEE is perceived by its partners: by forming the anchor for renewable energy and energy efficiency topics in the region.

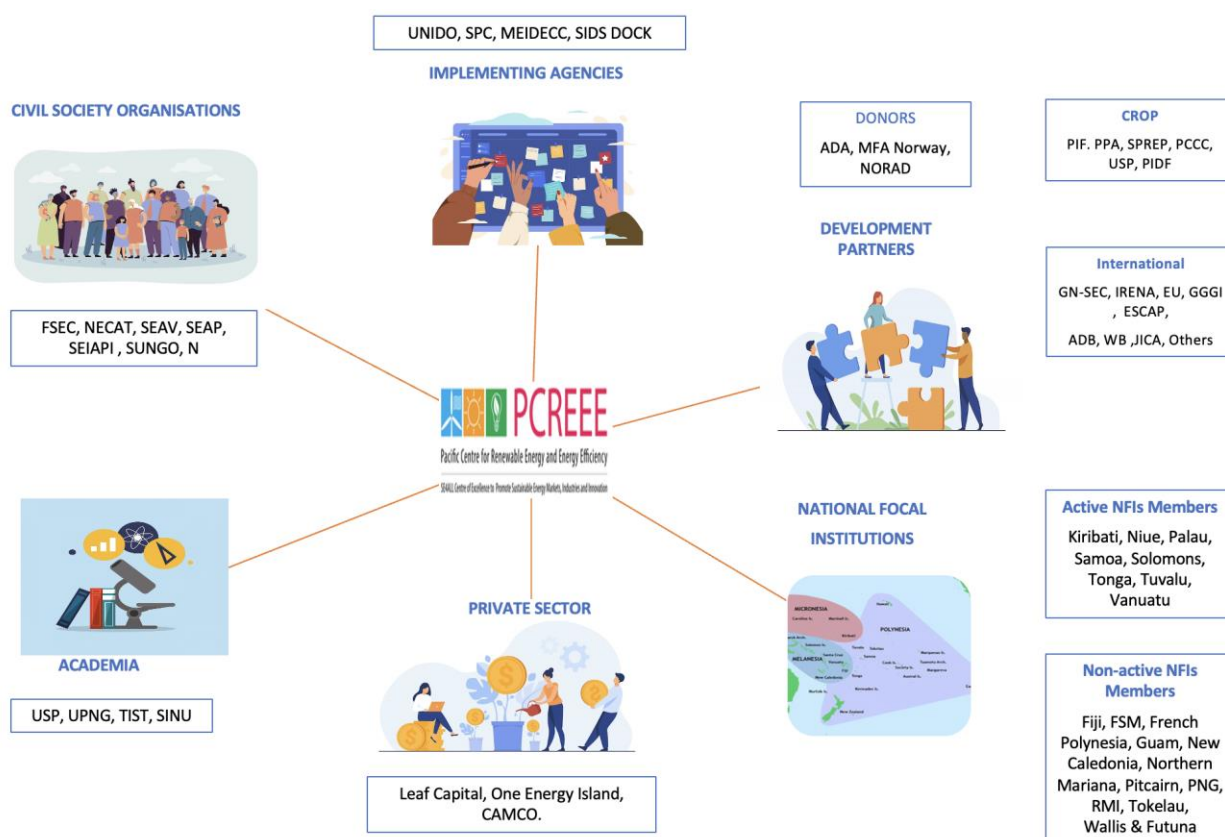


Figure 19: the PCREEE Partners

A series of consultations took place to forge the partnership between the Centre and its partners, and the formalisation of such relationship was confirmed at different levels. At the highest level, a MOU is signed, and evidence confirmed that the PCREEE has signed several MOUs with partners: with donors (such as SPC, Government of Tonga, UNIDO, ADA, Royal Norwegian MFA); relevant regional and international partners (such as IRENA); industry associations (such as SEIAPI); and private sector entities (AIFFP, CAMCO, EcoCARE). Also, the Centre contributed to the establishment of several associations in the field - Solar Energy Association of Papua New Guinea, SEAV in Vanuatu, NECAT in Tonga, FSEC in Fiji – added to the PCREEE’s partner list. Clearly, the Centre cannot exist in a vacuum, rather it has been working with and through partners to achieve its goals. PCREEE is part of the GN-SEC and participates in the joint annual GN-SEC meetings. Today, the Global Network of Regional Sustainable Energy Centres (GN-SEC) is covering thirty-four (34) of thirty-eight (38) SIDS in Africa, the Caribbean, Pacific and Indian Ocean.

4.1 Executing agencies: UNIDO, SPC, Government of Tonga and SIDS DOCK

The executing agencies were UNIDO, SIDS DOCK, SPC, Government of Tonga and PCREEE. Their role was to guide the implementation of the PCREEE First Operational Phase by ensuring the resources needed were met, the appropriate infrastructure and network were established, the programme delivery was effective, efficient and brought added value to the region's renewable energy and energy efficiency industry. Each of the executing agencies brought a set of unique competencies to the project where their strengths were optimised, and limitations addressed to ensure that the Centre operated successfully. UNIDO was strategically placed to support PCREEE by bringing its expertise in inclusive industrial development and innovation, GN-SEC multi-stakeholder coordination experience, a record in establishing similar centres (such as South-South Cooperation in India) including the establishment of the Climate Technology Centre and Network (CTCN) in partnership with UNEP. The SPC, acting as the coordinating agency for the Pacific region, brought 22 member countries, a network of development partners and corporate resources, infrastructure, and expertise which were and are essential for the day-to-day operation of the PCREEE. The SIDS DOCK with the aim to support the SIDS transition to low carbon economies through renewable energy development and deployment including energy efficiency promotion, was also well placed to support the PCREEE.

UNIDO was a key agency in facilitating the Centre's design and establishment, as well as in supporting its operationalization through the provision of technical input, partnership facilitation and core funding provision and mobilization for the implementation of its First Operational Phase. It leveraged financial support and mobilised technical assistance (from its network) to assist the Centre and such contributions added value to the capacity of the PCREEE to deliver its own work programme. UNIDO participated in all PSC Meetings throughout the duration of the project and guided the delivery of the work programmes through mentoring discussions with the Centre's team and its partners.

One of UNIDO's significant contributions was initiating the E-Mobility Assessment to determine the opportunities for regional uptake and this momentum was evidenced in national e-mobility strategies and roadmaps developed for the region, in the Solomon Islands, Papua New Guinea, and Tonga. UNIDO is regarded as a catalyst for e-mobility in the region. Development agencies (such as EU, GGGI) have also prioritised e-mobility and are assisting PICTs to develop and implement their e-mobility agenda based on the initial assessments carried out by UNIDO. UNIDO has also been committed to bringing knowledge and technology to the Centre and facilitated the discussions and knowledge sharing through the GN-SEC. During the 5th meeting of Pacific Ministers of Energy and Transport, held in Vanuatu from 08 to 12 May 2023, UNIDO facilitated the adoption of a decision towards the development of a regional ocean energy program.

UNIDO has performed all its activities effectively and efficiently and has made available all its financial contributions and the donors' as planned and on time. UNIDO has also carried out all the necessary reporting activities to the other donor agencies (ADA/Austria MFA, Norway Norwegian MFA). All those reports were found to be complete and have good quality. However, the consulted donors referred that UNIDO could improve with regards to setting expectations on the delivery dates of the reports. The importance of the guidance and support provided by UNIDO is seen and acknowledged by the Centre and the regional counterparts, as without UNIDO the Centre as is would not exist. UNIDO performance is rated as Highly Satisfactory.

The SPC hosted the Centre within its Energy Programme and has been a key agency in supporting the Centre establishment, design and the implementation of its activities. It provided significant support by enabling the Centre to access its corporate structural policy and processes, human resources and financial expertise, alignment of technical programmes (e.g., gender, transport, climate change) with the Centre's activities, and allowing access to infrastructural resources where the Centre can host its website. Through the SPC the Centre signed partnership agreements with the executing agencies, and key players in the regional and international renewable energy and energy efficiency space. Despite ongoing support to the Centre, one of the concerns raised by regional partners is the lack of clarity and distinction between the SPC Energy Program and the PCREEE. This perception, however, did not affect the Centre's programme delivery. There were several joint actions of the SPC Energy Program and PCREEE, including the regional energy information repository. SPC performance is rated as Highly Satisfactory.

The Host Country Tonga / Government of Tonga contributed immensely to the overall function and security of the Centre where provision of infrastructure gave a physical identification and reference location for the project. Hosting the Centre provides the political and economic support necessary for the smooth day-to-day operation and the Tonga Government met all these requirements. The ongoing political support to the Centre lifted its profile nationally to the extent it was perceived as a leadership success. The Government of Tonga has honoured its commitment by providing free office space and taking care of maintenance costs. It is the chair of the PCREEE PSC meetings, and it has actively participated in every meeting of the Centre. The secondment of local expertise to the Centre was a mutual value adding mentoring initiative for both parties. The Government of Tonga embraced the

project and at times provided opportunities for the Centre to take a leadership role in the development partner's dialogue held annually in Tonga. The new University of Tonga is developing the renewable energy curriculum and the University relied and will continue to rely on the PCREEE for guidance and technical expertise to upskill existing staff knowledge enabling them to deliver the curriculum effectively. Additionally, the Centre benefited from the support provided by the Tonga Government in the recruitment and hosting expatriate staff. A safe and secure environment for expatriate staff is critical and the Centre received the necessary support from the Tonga Government to ensure that. Government of Tonga support is rated as Highly Satisfactory.

The SIDS DOCK shares mutual goals and objectives with the PCREEE and was also one of the partners facilitating the establishment of the PCREEE. It engaged with the centre through advocacy initiatives to promote renewable energy and energy efficiency in SIDS in addition to resource mobilisation support and fundraising for the establishment of the Centre. SIDS DOCK held various discussions with Austria, UNIDO and other partners to ensure capacity needs were met. Although SIDS DOCK is not directly involved in the implementation of the PCREEE activities it provided feedback and recommendations on the preparation of the M&E framework. SIDS DOCK is confident in the management of the Centre and believes that the delivery of outputs have been achieved, and recognises the Centre as a working success. The SIDS DOCK support is rated as Highly Satisfactory.

4.2. National Focal Institutions (NFIs)

The NFIs were nominated from the SPC membership (22 in total) through a consultative approach. The nomination was voluntary, and each of the NFIs proposed the government agency responsible for Energy. Despite the expectation for full support from the SPC NFIs, five countries were unable to nominate a focal point (French Polynesia, New Caledonia, Northern Marianas, Papua New Guinea, Tokelau, Wallis & Futuna). Furthermore, of the nominated NFIs, a significant proportion of the group were not active due to reasons varying from lack of commitment, limited capacity in-country to manage additional projects, lack of synergy with the Centre's First Operational Phase and/or because they were already receiving support from other entities in the region.

The NFIs constitute the largest group of partners who were owners and recipients of the PCREEE activities, engaging on various levels to ensure governance and management requirements were and are satisfied and work programmes are achieved. The NFIs are diverse in political structure, culture, and economic performance and the NFIs are grouped into the following three main categories: Polynesia, Melanesia, and Micronesia. Each category would require a customised approach to ensure maximum effectiveness and through efforts, the Centre was able to customise its activities to match the NFIs needs. As in Figure 19, seven NFIs expressed gratitude to the Centre for raising the profile of renewable energy and energy efficiency in the region.

The role of the NFIs has been critical to the uptake of the Centre's programme and the majority of the NFIs embraced the establishment of the Centre regarding it as the renewable energy and energy efficiency knowledge sharing hub, networking platform, and research and development leadership in the region. In this context, the PCREEE has been able to replicate, across the region, good practices. The Centre and the NFIs' support to forming industry associations (in Papua New Guinea, Tonga, Vanuatu) has been gaining momentum and through this relationship, the NFIs' governments will have access to industry knowledge and expertise from which appropriate renewable energy and energy efficiency policy can be developed, revised, and widely shared. The recently established industry associations bridged the gap between the policy, capacity building, technology application, energy access and energy services, and they are the National Electrical Contractors Association of Tonga (NECAT) that brings together registered electrical contractors to share ideas and knowledge and sets the standards for safety energy practices; and the Sustainable Energy Association of Vanuatu (SEAV) that has open membership for all industry stakeholders, such as government agencies, training institutions, businesses sectors and interested individuals, and has been working in raising the industry professional standards and creating a knowledge sharing and networking platform for Vanuatu energy actors.

Selected NFIs became members of the PCREEE PSC, an important role for the success of the Centre's operation. These NFIs were provided with full access to the inner workings of the Centre, a better understanding of the Centre's benefits and limitations, and were provided with the opportunity to guide the implementation of the Centre's work programme.

However, despite the strong support for the Centre to become a regional hub for renewable energy and energy efficiency, only a limited number of PICTs were actively engaged in the Centre's activities possibly due to lack of resources (both human and financial) and lack of the Centre physical presence/representation across the territories, as appointed out by some of the consulted stakeholders. It is important to refer that the NFIs were responsible for providing the Centre with information to report on the impact indicators (thus impacting the Centre's ability to report on some of those indicators), and that seems to be an area that needs to be improved. Nonetheless, and although the inactive group was larger, it did not hinder the Centre's ability to implement awareness raising, capacity building, and relevant activities across the region. For the Centre to expand its

activities to other PICTs and be able to track impact on the sustainable energy, it will need to engage more with the inactive NFIs.

The performance of the NFIs is rated as Satisfactory.

4.3. Other Donors

The Centre's core donor partners include ADA, Austria MFA, Royal Norwegian MFA, UNIDO, SPC and the Government of Tonga. Their role was instrumental in instituting the Centre and ensuring that the work programme was delivered to effectively achieve the project's outcomes. As the performance of UNIDO, Government of Tonga and SPC were already analysed in Sub-section 4.1, in this sub-section the ET reviews the performance of ADA, Austria MFA and Royal Norwegian MFA.

The ADA / Austria MFA invested significantly in the Centre, having invested in the First Operational Phase of the Centre, and is continuing its support in the Second Operational Phase through the provision of funding directly to PCREEE through SPC. The PCREEE programme was and is aligned with ADA's renewable energy and energy efficiency programmatic focus. ADA and the Austria MFA have provided the project funds on time for the Centre to implement its activities.

The Royal Norwegian Ministry of Foreign Affairs donated generously to the Centre for the implementation of the PCREEE First Operational Phase € 1.5 million covering around 80% of the Centres' resources. The funds were all provided to the Centre on time.

The performance of donors is rated Highly Satisfactory.

4.4. National, Regional and International Counterparts

The engagement of national, regional, and international counterparts with the Centre has been supportive. The multitude of counterparts are shown in Figure 19. Each of these entities offered opportunities to share resources, expertise, and infrastructure to minimise costs and ensure maximum participation. International partners, such as IRENA, signed MOUs with SPC/PCREEE to define their terms of engagement and joint activities which have been implemented.

National counterparts: The Centre engaged with national counterparts who played an important role in achieving the PCREEE outputs. The national counterparts are recipients of assistance from the Centre and this assistance is country specific. Selected members were active project decision makers during their term in the PSC.

As project beneficiaries of the Centre, national counterparts shared resources (co-financing), expertise (local experts), and infrastructure (meeting venues, IT services) to ensure project delivery was effectively achieved. National counterparts held appropriate authorities and responsibilities to enable activities to progress through various stages of introduction to completion. Table 2 depicts the function, competency and PCREEE engagement with the national counterparts.

Table 2: National Counterparts Engagement Matrix

Name of entity	Function/Competency/PCREEE Engagement	Location
Fiji Sustainable Energy Consortium (FSEC)	Industry association/Advisory, Association set up support. Workshop. Identification of TA needs.	Fiji
National Electrical Contractors Association of Tonga (NECAT)	Industry association for registered electricians/Advisory, Association set up support. Workshop. Jointly review TERM Plus.	Tonga
Solar Energy Association of PNG (SEAP)	Industry association/Advisory and Association set up support.	PNG
Sustainable Energy Association of Vanuatu (SEAV)	Multi-stakeholder industry association / Advisory, Association set up support. Jointly leveraging funds for Vanuatu National Green Energy Fund (NGEF) to achieve rural electrification. TA needs identification.	Vanuatu
Samoa Umbrella for Non-Government Organisations (SUNGO)	Industry association/Advisory	Samoa
Solomon Islands National University (SINU)	Training centre for Renewable Energy (Solar) programme/ Capacity building (solar design, installation and maintenance; renewable energy and energy efficiency standards).	Solomon Is

Tonga Institute of Science and Technology (TIST)	Academic institution/ Capacity building, curriculum development (Sustainable Energy Certificate 1&2, L3&4 in progress).	Tonga
PNG University of Technology (U-PNG)	Academic institution/ Capacity building, conferences, sponsorship of student research. TA needs identification.	PNG
Leaf Capital / Switch Connect	E-mobility company/ Recipient of TA funding to provide legal interpretation for market entry in Fiji; funding for e-vehicle project start up.	Fiji
Navara Savings & Credit Cooperative Society Ltd	Co-operative association/received funding for renewable energy loan subsidy. TA needs identification.	Vanuatu

In all, evidence gathered from the stakeholder consultation demonstrated that counterparts were actively involved in designing and implementing national projects/activities with the Centre and provided all their agreed contributions on time. The performance of national counterparts is rated Highly Satisfactory.

Regional counterparts: The Centre's regional counterparts shared great synergy and platform. Selected regional counterparts were active PSC members (such as PCCC) handing down decisions on the Centre's activities. Table 3 depicts the function, competency and PCREEE engagement with the national counterparts.

Table 3: Regional Counterparts Engagement Matrix

Name of entity	Function/Competency/Engagement with PCREEE	Location
Private Finance Advisory Network (PFAN)	Financing advisory services & facility /Joint advocacy and networking.	Fiji
CAMCO	Financing facility/ Networking, project design and development	NZ
SEIAPI	Industry association/capacity building for the solar industry.	Fiji
Pacific Island Forum Secretariat (PIFS)	Regional policy direction/ Advisory regional energy and climate change policy.	Fiji
Pacific Power Association (PPA)	Utilities coordination / capacity building, co-financed workshop participants.	Fiji
South Pacific Environment Programme (SPREP)	Environment and climate change expertise / possible joint project design and implementation.	Samoa
Pacific Centre for Climate Change (PCCC)	CC knowledge brokerage, capacity building, applied research, innovation/ networking, co-finance workshop participants, PSC member.	Samoa
University of the South Pacific (USP)	Capacity building / sponsorship / co-finance academic research on renewable energy and energy efficiency through scholarship awards.	Fiji
Pacific Island Development Forum (PIDF)	Enabling green/blue pacific economies through strategies, multistakeholder governance and partnerships / Networking.	Fiji
One Energy Island Co Ltd	Strategic approach in design of community energy system with engineering expertise / TA to design sub-regional renewable energy mini-grid programme for PICTs. Develop project proposals for Palau and FSM.	Korea

All regional counterparts engaged with the PCREEE provided their agreed support on time, and thus, performance of regional counterparts is rated Highly Satisfactory.

International counterparts: The IRENA is an active partner of the Centre collaborating within the signed MOU agreed outcomes. The IRENA brings to the partnership shared goals, global network of renewable energy and energy efficiency knowledge and expertise and resources (human and financial). The IRENA is a technical partner that has demonstrated commitment by jointly hosting activities with the PCREEE through SPC over the past ten

years. These activities include training and workshops, co-hosting of investors fora, renewable energy Road-mapping amongst others. The current MOU is in the process of being signed. Although the IRENA performance has been strong, at times its commitment is called into question when heavy bureaucracy affects planned implementation of activities. Jointly with UNIDO and ISA, the STAR C initiative was launched. The Government of France provided EUR 1 million for the project to be implemented with PCREEE, ECREEE and EACREEE. The Centre and ISA have very strong synergy to support PICTs – ISA brings to the partnership a wealth of expertise, extensive network, and resources allowing effective joint programme delivery. The performance of international counterparts is rated Highly Satisfactory.

5. Factors facilitating or limiting the achievement of results

5.1 Monitoring & Evaluation

The M&E system used during the implementation of the PCREEE First Operational Phase was the one setup on its Project Document. The Centre was envisioned to apply its M&E activities using a kept up to date Logframe, annual workplans and annual status reports and audited financial statements to carry out: (i) output monitoring; (ii) impact monitoring; and (iii) process monitoring. The results of these activities were to be captured in a reporting system and annual progress reports. These results would also inform the annual workplans presented to the PSC, PEOG and donors. In addition to these, the M&E also included the execution of an external evaluation towards the end of the First Operational Phase of the Centre.

The PCREEE has used the PCREEE Project Document Logframe as its basis for the M&E activities implemented during the project, and to report progress to UNIDO. However, this Logframe was never amended, updated/changed to better suit the Centre activities and/or to become a useful tool for the Centre operations' progress tracking.

The PCREEE Project Document did not stipulate a budget for M&E activities, and the Centre did not have a specific person dedicated to developing a tool to track the achievement of the outputs/impact targets and to be responsible for performing the monitoring tasks. It is perceived by the ET, that M&E activities were carried out for reporting in Progress Reports and that was done based on activities and not on targets and indicators. The ET considers that the lack of clarity on the budget towards this activity, lack of appointed human resources to do it, and lack of perception that it could be changed to better suit the Centre's needs, has led to a poor use of the Logframe, with consequences on how progress was reported on Progress Reports.






In addition, and as per the agreements with the donors (Austria MFA, ADA), UNIDO provided separate annual progress reports and a final report to donors, in line with the PCREEE logframe and the donors contributions.

Table 4 shows the ET evaluation of the implementation of the M&E activities/outputs as per the M&E plan. As it can be seen, overall, the PCREEE tracked and reported on the progress of the implementation of the activities but not on most of the target outputs/impacts. The Centre never changed/aligned the output/impact indicators with the activities being implemented, which created issues for the Centre when it came to reporting. Moreover, the Progress Reports do not cover the entire period under evaluation and the ones for 2021 and 2022 submitted to the PSC do not include reporting on the logframe of the PCREEE Project Document or the BP. Reporting capacity of PCREEE was in fact highlighted as an area for improvement going forward by the consulted stakeholders.

Regarding the progress reports and final reports of UNIDO to donors, the ET found that those were all delivered, were complete and accurate. Although the donors refer that the reports were of good quality and that they were happy with it, they referred that there was some delay on their submission.

Table 4: Implementation of M&E activities/outputs

Main M&E Activities / Outputs	Target / Time	Where these activities/outputs carried out/achieved on time?	Where these activities/outputs carried out/achieved complete and accurate?
Progress Reports submitted every six months by PCREEE to UNIDO and the PSC	At least 10 semi-annual progress reports / or reports covering the entire evaluation period	<p>Six (6) Progress Reports were submitted to UNIDO and the PSC. Of these, four (4) are semi-annual reports and the other two (2) are annual reports. These 6 reports do not completely cover the First Operational Phase period. The ET was not provided with Progress Reports covering July-December 2018 and July-December 2019.</p> <p>The PCREEE progress towards the implementation of its activities was presented and discussed during the PSC meetings.</p> <p>In relation to the timely delivery of these reports, the ET finds that the ones</p>	<p>Although almost all the submitted Progress Reports provide a summary of the achievements and progress of the implementation with regards to the PCREEE activities, they did not report on the progress of achievement of the targets by PC/Outcome as stated in the Logframe.</p> <p>The layout and structure of the progress reports changed, with the Annual Progress Reports for 2021 and 2022 using a different format and not reporting on the logframe of the PCREEE Project Document and or the BP. Thus, they are considered by the ET as not complete in terms of the provision of the information related to the achievement of the</p>

Main M&E Activities / Outputs	Target / Time	Where these activities/outputs carried out/achieved on time?	Where these activities/outputs carried out/achieved complete and accurate?
		presented to the PSC were submitted on time.	outputs and impact targets of the project. Although the information provided is incomplete, the information there contained seems accurate.
Annual progress reports of UNIDO provided to the donors	At least 1 progress report per year	 UNIDO submitted progress reports to the donor covering the First Operational Phase of the PCREEE.  In relation to the timely delivery of the reports, some delays on that have been reported by the donors.	 All the progress reports submitted by UNIDO to the donors were complete and accurate. The good quality of these reports have been highlighted by the donors.
Independent Terminal Evaluation (TE)	1 TER towards the end of the First Operational Phase	 Carried out between December 2022 until April 2023.  Final TER to be submitted by beginning of May 2023	Not Assessed as this is the current report.

Regarding the risks, these have been reviewed and updated by the Centre. The PCREEE reported on risks / encountered constraints and on the countermeasures taken to face them on their Progress Reports.

Rating of the M&E assessment is Moderately Unsatisfactory.

5.2. Results-Based Management (RBM)

5.1.1. PCREEE use of the RBM

As referred above, it is the ET opinion that the Centre did not use very well the M&E system in place. This is sustained by evidence: (i) the PCREEE reported on activities, and not on the progress towards the achievement of the output indicators; and (ii) did not change the framework that was using to better suit its needs. In fact, it was referred during the consultation that it was very hard for the PCREEE to report on the Logframe target indicators, and some of them were not really tracked during the evaluation period. Even observing that the Centre never took advantage of the possibility of changing them and adopting others that would suit better the Centre's needs, not making use of a RBM approach.

Progress was presented mostly based on activities and discussed at the PSC meetings. The ET could see that some activities were changed to better suit the achievement of the PCREEE Outcomes, but that was never reflected on the addition/change of existing output target indicators and corresponding targets. It is not clear for the ET if those changes were carried out to make use of synergies with other actors in the region, or if they were induced through the use of the M&E system.

The PCREEE reported to UNIDO on its progress with the issues highlighted above. Having not fully reported on all output targets, and not changing them to better suits the PCREEE programme and needs, made the reporting to UNIDO incomplete. It is important to underline that the ET considers this is not entirely the Centre's responsibility. Reporting on the impact indicators should be something that the NFIs should support the Centre with, and it seems to the ET that the information was never provided to the centre (e.g., the centre never reported on the number of jobs created in the sustainable energy field).

Rating for the RBM use by the PCREEE is Unsatisfactory.

5.1.2. UNIDO use of the RBM

UNIDO has conducted their reporting to the donors – ADA and Norway MFA – making use of the agreed logframe with the donors and reporting on the agreed targeted indicators that were adapted from the PCREEE Logframe. According to the ET UNIDO has made adequate use of the RBM, adapted the PCREEE indicators to the donors financing and programmes and has consistently reported on those. It is important to refer that the donors praised the completeness and accuracy of the UNIDO progress reports.

Rating for the RBM use by UNIDO is Highly Satisfactory.

5.3. Overarching Assessment and Rating Table

The following table summarises the ET assessment and results.

Table 5: Summary of the ET assessment of PCREEE Project implementation and ratings

Evaluation Criterion	Rating	Comments
A. Progress to Impact	S	<p>The Centre is recognised by national, regional, and international institutions as an agency strengthening institutional capacities for promotion and implementation of sustainable energy projects in the region. The Centre is considered efficiently managed, although not yet sustainable.</p> <p>With regards to the Centre expected development impacts, these were estimated to be 50% achieved, as the expected impact related to overall electricity access, increase in renewable energy share in the electricity mix, investment in renewable energy were all fully achieved and the one related to the decrease in GHG emissions through the implementation of renewable energy projects was moderately achieved. It is important though to refer that although the PCREEE contributes to the achievement of these targets, their full achievement is dependent on the alignment of activities and results from many actors, and not only under the control of the centre.</p> <p>The impacts and benefits of PCREEE are recognised by the different actors involved in sustainable energy in the PICTs. The following have been highlighted as the PCREEE main benefits: (i) has provided the region with a framework for renewable energy and energy efficiency; (ii) has supported the implementation of that framework through the deployment of renewable energy solutions (e.g., E-mobility) on the ground through the involvement of the private sector; (iii) supported the creation of private sector associations and supported the development of PPAs for IPPs.; (iv) built the capacity of SPC and other institutions in the region on renewable energy and energy efficiency topics and (iv) has brought together the actors in the Pacific to work on renewable energy and energy efficiency topics.</p> <p>There are things that need to be improved for the Centre in the future to yield better results, with the fund mobilization, human resources, implementation of pilots/ concrete innovative projects, and expansion of the engagement with the PICTs NFIs, being the most relevant ones.</p> <p>In terms of replicability of the PCREEE programmes and activities, it is the ET and the consulted stakeholders that a big part of them can be replicated across the PICTs, other SIDS and by other GN-SEC centres.</p>
B. Design and Logframe		
B1. Overall design	S	PCREEE Project Document clearly identified the problem, needs and barriers/gaps to be addressed. The project was adequately designed to mitigate the identified barriers/gaps at the same time that it met the needs of the Pacific region, its PICTs and of the several target groups ensuring sustainability and avoiding duplication of efforts. The design of the institutional and implementation arrangement is valid and relevant.
B2. Logframe	MU	Although the Logframe includes an adequate structure, outcomes and outputs and SMART indicators, it had some issues: (i) some indicators/target did not relate directly to the Centre’s activities; (ii) missing baselines; (iii) indicators lacked means of verification; (iv) others were poorly formulated with indicators and targets being used interchangeably.
C. Project Performance		
C1. Relevance	HS	<p>The PCREEE is clearly aligned with national, regional and international priorities. Being hosted by SPC it is fully integrated into the decision-making process under the regional frameworks of the FAESP 2020 and FESRIP 2030. It has been able to identify and address the needs and gaps in the region to remain relevant. The relevance of PCREEE is confirmed by the stakeholders that see the centre, its activities, and outputs as “relevant” of “very relevant”.</p> <p>The PCREEE First Operational Phase is aligned with UNIDO strategies and the GN-SEC as well as the programmes and strategies of the contributing donors (e.g., ADA, Austria MFA and Royal Norwegian MFA, Korea).</p>
C2. Coherence	HS	PCREEE is clearly aligned with national, regional, and international interventions thus creating synergy and avoiding duplication. The Centre has been very successful in creating synergies with on-going actions in the PICTs. Example of this is the approach taken to conduct events/workshops, in which the PCREEE joins and/or adds to events promoted by

Evaluation Criterion	Rating	Comments
		other actors in the sustainable energy area, which is especially important due to the fragmentation of the PICTs.
C3. Effectiveness	S	The result of the PCREEE programme (both outputs and outcomes) were mostly achieved. The Centre enhanced regional institutional capacities through the creation of the PCREEE within SPC (Outcome 1); capacities of local institutions and stakeholder groups were strengthened through the upscaling and replication of certified training and research programs and mechanism (Outcome 2); key stakeholder groups awareness on renewable energy and energy efficiency opportunities was created through upscaling of regional mechanism for data and knowledge management and advocacy (Outcome 3). The PCREEE did not do well in the achievement of its fourth outcome; meaning there were minimal business opportunities for local companies / industry through the execution of regional investment promotion programmes and tailored financial schemes.
C4. Efficiency	S	The PCREEE project got extended for two additional years due to an increase in funding from Austria to UNIDO as well as the Covid-19 pandemic. In terms of mobilization of co-finance, the PCREEE was able to mobilize with UNIDO's assistance approximately 77% of its total budget. The Centre has used its resources efficiently, as with 77% of the total budget raised the centre achieved 73% of outputs and outcomes. The PCREEE would benefit from having a financial reporting system to track the total amount of co-finance (cash and in-kind) raised / spent, as well as to use it to report on that.
C5. Sustainability and external risks; external factors	MS	Sustainability actions were considered in the project design although only parts were implemented. The Centre is not yet financially sustainable, continuing to mainly rely on donor funding for its implementation. Also, there is a risk that financial sustainability is still far to be achieved, as the PCREEE has only raised 9% of its financial needs until 2025. Although strategically the Centre has been building and maintaining strong relationships with partners across the region to sustain its delivery, and PCREEE active collaboration has been its strength, there is a strong need to mobilize funding (core funding and funding for implementation of the technical programmes) and to diversify the sources of funding, so that the Centre becomes sustainable.
D. Cross-cutting performance criteria		
D1. Gender mainstreaming	S	The gender mainstreaming has been considered in the PCREEE design, in its mandate, in its activities, programmes and budget. Gender disaggregated indicators were included for a couple of Outputs but not for all.
D2. Climate Change Mitigation and Environmental Sustainability	S	The Climate Change and Environmental Sustainability are at the heart of the PCREEE activities and interventions. The Centre raised the profile of sustainable energy in the region by focusing on renewable energy and energy efficiency rather than fossil fuel and the momentum was picked up by regional partners who also designed their interventions around this theme. The impact of the PCREEE interventions in terms of contributing to mitigate climate change could be one of the indicators used by the Centre.
D3. M&E design and implementation	MU	The Logframe was used by the PCREEE for the M&E activities during the implementation of its First Operational Phase. The Logframe was not adjusted to better reflect the activities of the Centre. PCREEE progress reports covered activities achieved but impact and outcomes of these activities were not reflected in the reporting. Some periods were not covered in the progress reports (July to December 2018 and July to December 2019). UNIDO progress reports and final reports to Norway MFA and ADA were complete, accurate and of good quality, although submitted with some delays.
D4.1 Results-Based Management (RBM) by the PCREEE	U	The Centre did not make good use of the RBM. Progress reporting was mainly activities based and perhaps necessary data to report on progress towards development impact were not available from the recipients of PCREEE support. Negating to report fully on the target outputs and not changing it renders the reports incomplete.
D4.2 Results-Based Management (RBM) by UNIDO	HS	UNIDO has conducted their reporting to the donors – ADA and Norway MFA – making use of the agreed Logframe with the donors and reporting on the agreed targeted indicators that were adapted from the PCREEE Logframe, making good use of the RBM. Donors praised the completeness and accuracy of the UNIDO progress reports.
E. Performance of Partners		
E1. UNIDO HQ	HS	UNIDO was a key agency in facilitating the Centre design and establishment, as well as in supporting its operationalization through the providing of technical input support,

Evaluation Criterion	Rating	Comments
		partnership facilitation and core funding provision and mobilization for the implementation of PCREEE's First Operational Phase of the Centre. UNIDO also reported to the donors in a complete manner, and the donors were satisfied with the completeness and quality of the reports ²³ . However, it can improve in the communication of delays in its submission.
E2. Other Executing Agencies	HS	The executing agencies were instrumental in the operation of the Centre by investing significant funding, actively engaged through mentoring, and participating in the governance of the PCREEE.
E3. NFIs	S	The role of the NFIs has been critical to the uptake of the Centre's programme and the majority of the NFIs embraced the establishment of the Centre regarding it as the renewable energy and energy efficiency knowledge sharing hub, networking platform, and research and development leadership in the region. However, despite the strong support for the Centre becoming a regional hub for renewable energy and energy efficiency, only a limited number of PICTs NFIs were actively engaged. There is a need to promote a stronger active engagement with the NFIs to make sure that all PICTs benefit from the different types of activities put in place by the Centre.
E4. National Regional and International Counterparts	HS	The partnership between the PCREEE and the National, Regional, and International Counterparts has been one of the successes of the project. Donors invested significantly in the Centre, regional and international agencies mobilised around the synergy and resource sharing with the Centre. National governments were proactive in implementing their renewable energy and energy efficiency targets which were aligned with the mandate of the Centre. The contribution of these partners should be highlighted because it demonstrated the support and acceptance of having the PCREEE in the region.
E5. Donors	HS	The key donors' significant investment and confidence in the Centre was the catalyst to strengthening the industry and gradually moving the region from fossil fuel to clean energy. All key donors provided their funds on time for the Centre to implement its activities.
OVERALL ASSESSMENT	S	In summary the ET found the PCREEE project overall Satisfactory.

Colour code used in the rating assessment:

Score	Definition	Category
6	Highly satisfactory (HS)	SATISFACTORY
5	Satisfactory (S)	
4	Moderately Satisfactory (MS)	
3	Moderately Unsatisfactory (MU)	UNSATISFACTORY
2	Unsatisfactory (U)	
1	Highly Unsatisfactory (HU)	

²³ Donor reports to the Donors are compiled by UNIDO based on the information provided by the PCREEE and information compiled by the agency. UNIDO reports on the targets agreed with the specific donors that are not exactly the ones specified in the PCREEE Project Document.

6. Conclusions, recommendations & lessons learned

6.1. Conclusions

C1. Overall, the implementation of the PCREEE First Operational Phase was found by the ET to be Satisfactory (S).

The regional institutional capacities for the promotion of sustainable energy investments, markets and industries in the Pacific have been strengthened by the institutionalisation and implementation of the PCREEE First Operational Phase. The Centre is well recognized by the consulted stakeholders and most of them clearly highlighted that the centre has fully achieved its objective at the end of the First Operational Phase.

The Centre expected development impacts were moderately achieved, as the expected impact related to overall electricity access, increase in renewable energy share in the electricity mix, investment in renewable energy were all fully achieved and the one related to the decrease in GHG emissions through the implementation of renewable energy projects was moderately achieved. There were development impacts that were considered not achieved as there was no information available to measure them. It is important though to refer that although the PCREEE contributes to the achievement of these targets, their full achievement is dependent on the alignment of activities and results from many actors, and not only under the control of the centre.

The outcomes and outputs of the Centre were mostly achieved. The PCREEE performed well with regards to: (i) strengthening the regional institutional capacities through the creation of the PCREEE within SPC (Outcome 1); strengthening capacities of local institutions and stakeholder groups through the upscaling and replication of certified training and research programs and mechanism (Outcome 2); and creating key stakeholder groups awareness on renewable energy and energy efficiency opportunities through upscaling of regional mechanism for data and knowledge management and advocacy (Outcome 3). The PCREEE did not do well in the achievement of its fourth outcome (Outcome 4) as there were minimal business opportunities for local companies / industry through the execution of regional investment promotion programmes and tailored financial schemes.

The centre design in terms of institutional and implementation arrangement was valid and relevant and remains valid for the Centre going forward. The PCREEE has done great in terms of the engagement of the THs but the engagement of the NFIs needs to be improved.

The COVID-19 impacted the activities of the Centre as with the arrival of the pandemic the Centre personnel got reduced delaying and impacting the implementation of the PCREEE activities, across the different PCs. The Centre tried to adapt the activities to the COVID-19 restrictions and was granted an extension in time but that was not sufficient to be able to compensate the delay and impact.

The donors and executing entities seemed to be satisfied that the Centre achieved its main objectives although some of them believed that the ambition could be stronger and that the centre could have pushed to implement more than what it has.

C2. The PCREEE is clearly aligned with national, regional and international priorities; national, regional and international interventions and has been and continues to be relevant for the region.

The PCREEE has been addressing and continues to address the needs of the region in terms of the institutional capacity with regards to sustainable energy. Although a lot has been achieved through the coordination, fund mobilization and execution of programmes, projects and activities, more needs to be done to make sure that the PICTs make use of their full renewable energy potential.

The centre is seen as very relevant to the region and is recognized by bringing sustainable energy to the political agenda of the PICTs, by their involvement and work with the private sector entities, by their innovative projects and programmes in the field of E-mobility, training and capacity building of renewable energy and energy efficiency actors, business development and entrepreneurship, and above all, by its capacity to coordinate activities and build partnerships for project implementation. The Centre has been working and implementing its programme in alignment of the national, regional and international interventions and making use of existing synergies and avoiding duplication of efforts, as per its mandate.

C3. The PCREEE managed its resources efficiently, however it is not yet financially sustainable. Much more financial resources need to be mobilised and sources diversified, for the Centre to be able to implement its BP successfully and to become financially sustainable.

The Centre managed to use its financial resources efficiency having achieved 73% of its outcomes and outputs through the use of 77% of the raised budget. The centre has been strongly dependent on donor funding and has not yet diversified its revenue/core funding sources, which has implications on the programmatic activities that it is able to implement as well as to have and retain good technical staff.

In addition, going forward, the needs for the implementation of the BP exceeds by far the financial resources already raised. There is a need to re-assess the actions on the BP and revise and re-prioritise its programmes, as possibly those need to be re-designed and the necessary financing for their implementation would need to be reviewed to be achievable in the short to medium terms. In addition to this, there is a need for the centre to mobilize financing towards the implementation of its projects and programmes, as well as to be able to contract on a long-term basis qualified technical staff able to support the Centre.

C4. The Centre should improve its M&E system and make use of the RBS mechanism to ensure that Centre's performance and impact are being adequately measured and to have that information readily available to provide to stakeholders.

If RBM mechanisms would have been used, target indicators and impact indicators would have been reviewed to be directly related to activities implemented by the Centre. That would enable the Centre to easily track its progress towards achievement of the given targets and to report on that. Additionally, it would have yielded better results in terms of effectiveness and progress towards impact in this TE.

If the Centre would have a person assigned to develop a proper M&E reporting system and to use it continuously, it would have been easier for the Centre to report on its progress as well as to support the TE.

Also this would have help in communicating and disclosing the Centres programmatic and impact to the stakeholders in the region, probably attracting more financing, more cooperation and request for support.

6.2. Recommendations

The recommendations below highlight practical actions that the Centre and partners can implement moving forward, as a way to strengthen its role in the region and create meaningful and innovative sustainable impact.

R1. PCREEE should strengthen the engagement across the PICTs and make the PICTs more aware of its programmes, possibilities for engagement and observed impact.

- It is important to establish a more active engagement with the PICTs NFIs, in order for the Centre to: establish more partnerships and benefit from those as well as to ensure a more equitable impact across the PICTs. This will reinforce its relevance, support further identification of actions to be implemented by the Centre, contribute to ensure its sustainability as well as to be able to deliver more and coherently across the entire region, also enjoying economies of scale and cross-learnings opportunities among PICTs.
- The Centre should consider re-activating the region-specific local coordinators or creation of a satellite office for the PICTs in the North (e.g., using SPC sub-region office in the North and allocating there a region coordinator). This would support the Centre actions of reaching out and activating some of the PICTs NFIs as well as be key to ensure that activities are carried out in other PICTs that have not yet had targeted actions.
- PCREEE should consider expanding (i) the information provided on the activities of the Centre, progress in achieving those, more case studies, and more explicitly list methods of engagement with the Centre; as well as provide (ii) limited and straightforward renewable energy and energy efficiency industry data. The Centre may consider creating a regional renewable energy and energy efficiency industry and market data repository (hub) on employment, suppliers, industry associations, E-mobility, Mini-grids, among other. This is not to duplicate the SPC PRDR but rather to complement it. The information to be made available should also include identification of *who is who? who is doing what?* and on renewable energy and energy efficiency projects being implemented in the region and looking for support.
- Conduct impact evaluations on pilot projects implemented and assess their replication potential.
- Disseminate information on lessons learnt and best practices on development and implementation of sustainable energy projects and frameworks.
- Conduct at least an annual survey to check if the Centre and Centre's activities / outputs and outcomes remain relevant for the NFIs and for the region as a whole. Short and targeted surveys are a good way to collect input and to engage with stakeholders.

R2. The Centre should revise the BP and adjust its programme going forward (including its Logframe). This will be important as it should incorporate changes to the different programmes to make them (i) more attractive to the region and financial institutions, (ii) more realistic and actionable in terms of level of ambition and actions being put forward; (iii) and to make sure that the plan keeps its relevance and importance and that it benefits from the learnings from the implementation of the PCREEE. This revision should include, amongst other things:

- Implementation and replication of investment projects with clear visibility for the region: E-mobility, Mini-grids, waste to energy, etc.
- Inclusion and support to innovative projects such as: OTEC, green-hydrogen for transportation; E-mobility in the maritime sector; Agro-PV; sustainable energy for ecotourism (renewable energy, energy efficiency and E-mobility); ocean energy serving the blue economy.
- Inclusion of projects with broader scope, e.g., energy to agriculture / energy associated with productive uses and/or interventions.
- Inclusion of projects that address and adapt the energy system to climate change impacts and hazards. Projects that increase energy efficiency and renewable energy and at the same time build a more resilient energy system.
- Implement more women targeted activities. As the sector is strongly male dominated, it will be important that the Centre develops and implements actions directly targeted at females (e.g., entrepreneurial support for female led business of business with at least 40%-50% of female workforce).
- Consider increasing funding allocations for scholarships and to train institutions to strengthen R&D programmes on mini-grids, E-mobility, and solar repair and maintenance.
- Consider revising the financing facility and research fund so that they become more attractive to the region. Explore partnership with PFAN for realigning the financing facility to better support project development and implementation.
- Carry out reviews of in-country policies and procedures and make recommendations for their improvement. Support the development of activities and actions related to improvement of the legal and regulatory environment in the PICTs for the private sectors (e.g., development of legislation for the provision incentives, such as subsidies, tax waivers, etc.)

R3. Strengthen the M&E system in place in the PCREEE. There is a strong need to adopt a system that is useful and responds to the monitoring needs of the Centre.

- A logframe based tool should be developed and used by the Centre to keep track of the activities and respective outputs and outcomes as well as their estimated quantitative contribution towards the achievement of the Centre main outputs/outcomes and impacts as stated now on the BP. SMART indicators and targets should be assigned to the different activities/outputs/outcomes and indicators and baselines that are to be used in measuring their progress should be clearly defined.
- The M&E system should be mostly associated with activities/outputs generated by the PCREEE and that can be accounted by the PCREEE or by accessing publicly readily available information.
- The PCREEE should make use of the RBM. Target indicators associated with activities/outputs/outcomes and development impacts should be changed when changes are made to programmes and adjusted in relation to approved workplans/actions. These changes should be well documented and approved by the PSC and records of that should be kept through the tool.
- The M&E system should also integrate a simple financial accounting and reporting system to better track financial (cash and in-kind) contributions to the Centre and financial disbursements of the Centre. This should then be connected to financial reporting systems of projects supported by specific donors etc.
- A M&E expert should be assigned to develop and maintain the M&E system, continuously collect data to track the implementation of the activities of the projects and support the Executive Manager of the PCREEE in the production of Annual Progress Reports and other necessary reports that needs M&E data, and in providing data for audits and/or external evaluations. This person should be a full-time person sitting at the PCREEE.

R4. Implement a fund mobilization strategy to allow the PCREEE to implement its BP as well as for the Centre to become financially sustainable.

- Create new and innovative fund-raising project opportunities to mobilise additional resources from new donors and financing facilities (such as GCF) and demonstrate sustainability. Explore collecting financial support through crowd funding for specific pilot projects with positive environmental and social benefits can be a good way to attract financing for the Centre.
- Charge administrative fees for managing and facilitating projects in the region.
- Try to further explore more of the possible mechanisms to raise financing identified in the BP.

- Make available tailor-made services to provide specific information on the sustainable energy sector to specific interested investors and consider charging a symbolic fee for industry specific information and establishment of contacts.
- Check with partners in the region, such as PFAN, how the Centre can more actively cooperate with them. PFAN would like to support the PCREEE in small to medium scale project pipeline development and implementation and provide technical assistance to raise financing.
- Assess the possibility of the PCREEE to be able to sign its own contracts (subagent to SPC criteria) without having to be signed by SPC directly. This would attract perhaps more funding to the Centre.

R5. Continue to cooperate with GN-SEC global and SIDS-SIDS initiatives and making use of training courses and information for the region.

R6. UNIDO should conduct training on M&E development and use with the Project Management Units / Centres to ensure correct use of these systems and of the RBM mechanisms during the project implementation.

6.3. Lessons Learned

L1. The fact that the Centre was institutionalized within a well-established institution, facilitated and speed up the process of creation and initial operationalization of the Centre, allowing it to start its operations fairly quickly when compared with the other GN-SEC Centres where the start-up phase took longer.

L2. Business Plans should be realistic in order to address the present needs and achieve future objectives. The Business Plan indicators should be changed / updated during its delivery making sure that relevant progress is tracked and reported on. Target indicators should be realistic, flexible, and responsive to changing needs of PICTs and evolving regional context.

L3. Early adoption of a simple, flexible and effective M&E tool that responds to the needs of donors and the Centre is key to make use of RBS methods and to track and disclose information about the implementation of programmes and projects and their impact. Tracking of programme and project impact as well as tracking of financial contributions (in-cash and in-kind) are useful to showcase the work of PCREEE to other potential donors and key stakeholders in the PICTs (like the NFIs and other private sector stakeholders), leveraging more support. For example, the ET experienced that information on the progress in achievement of the development impact indicators, as well as on % of women involved in different activities was very difficult to obtain. Besides, internally, it is important to update the Logframe and its contents to activities' changes in order to enhance the RBM, and not penalise the Centre for adapting to current needs. The ET believes that if the target indicators associated with outputs/outcomes and the impacts indicators have been updated and better adjusted to the activities being implemented, the PCREEE effectiveness and progress towards impact would have been better. Also, the PCREEE would have been able to report easily to its donors through the Progress Reports.

L4. Leadership of the centre is very important. The knowledge and connections of Mr. Solomone Fifita in the region have been key for successfully engaging with the private sector and establishing partnerships. The fact that the PCREEE is established within the SPC facilitates the contacts with the PICTs and facilitates government-related processes and approvals. Partnerships are critical and essential to the centre's sustainability. To the PCREEE's credit, on their first anniversary in April 2018, they had signed already two MoUs and had developed two new partnerships and established a financing facility and research fund.

L5. Lessons learnt from the COVID-19 pandemic. There is a lot that can be done using virtual means or a combination of both virtual and physical means. The use of virtual means allows the projects to reach out to wider audiences and reduce the project impact in terms of: time invested in organising events and in travelling (which is of particular importance for the PICTs due to their dispersed and remote locations), money spent and carbon footprint. Virtual communications cannot fully replace crucial face to face interactions and meetings, but it is a good means to complement them.

Annex 1: Logframe

Development Impact (ultimate outcome)	Indicators	Baseline and targets	Means of verification	Risks and assumptions
<p>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.</p>	<ul style="list-style-type: none"> - % 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 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><u>Baseline:</u></p> <p>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;</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - 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) 	<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

		<ul style="list-style-type: none"> - 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 tCO₂ 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
<p>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)</p>	<p>1. Number of additional RE&EE experts [disaggregated to urban, rural, males, females and children] working with PCREEE on PICTs sustainable energy issues</p> <p>2. Number of major RE&EE programs and/or projects are implemented by PCREEE</p>	<p>Baseline:</p> <p>Lack of PICTs staff capacities in the sustainable energy sector; slow implementation of national and regional RE&EE policy</p>	<ul style="list-style-type: none"> - Staff contracts - Business plan and work plans 	<ul style="list-style-type: none"> - 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

	<p>3. % of the envisaged outcomes and activities in the PCREEE project document are executed</p> <p>4. Amount of financial resources for PCREEE activities mobilized and funding agreements for the second operational phase signed</p> <p>5. Rating of the external evaluation concerning the relevance, effectiveness, efficiency and impact of PCREEE</p>	<p>commitments; need for enhanced technical implementation and coordination capacities;</p> <p>Target(s):</p> <ol style="list-style-type: none"> 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 		
<p>Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified</p>	<ul style="list-style-type: none"> - 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, 	<p>Baseline:</p> <p>Weak capacities of key institutions and stakeholders in the sustainable energy sector</p>	<ul style="list-style-type: none"> - The regional capacity development strategy document and progress reports - The certification/accreditation scheme documents 	<ul style="list-style-type: none"> - Involved organisations accept and implement the capacity building framework - Involved organisations and countries accept and implement

<p>training and applied research programs and mechanisms</p>	<p>females and children] across 22 PICTs are trained by certified trainers</p> <ul style="list-style-type: none"> - % 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 	<p>(e.g. public institutions, utilities, banks, companies, consultants educational and research institutions); very weak mainstreaming of gender aspects;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Attendance registers for training events 	<p>the certification/accreditation scheme</p>
<p>Outcome 3: The awareness and knowledge base of local key institutions and stakeholder groups on RE&EE are strengthened</p>	<ul style="list-style-type: none"> - 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) 	<p>Baseline:</p> <p>Weak existing regional and national RE&EE information systems; lacks of reliability and relevance for the private sector and industry;</p>	<ul style="list-style-type: none"> - A dedicated website to disseminate information 	<ul style="list-style-type: none"> - Knowledge management services of the Centre are well received by actors in the Pacific energy sector

	<ul style="list-style-type: none"> - 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 	<p>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;</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - 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 		
--	---	---	--	--

<p>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</p>	<ul style="list-style-type: none"> - 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); 	<p><u>Baseline:</u></p> <p>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);</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Reports on implemented projects - Project proposals and concept notes developed by the PCREEE 	<ul style="list-style-type: none"> - There is a greater interest by the private sector in RE&EE investments in the region.
--	---	---	--	---

		<p>support of newly created regional support schemes</p> <p>- (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</p>		
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	<p>Baseline:</p> <p>no regional RE&EE centre is in existence in PICTs;</p> <p>Target(s):</p> <p>- Office with appropriate space and equipment to accommodate the staff of the Secretariat</p>	- 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	<ul style="list-style-type: none"> - 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) 	<p>Baseline: no regional RE&EE centre is in existence in PICTs;</p> <p>Target(s): - Manager is recruited</p> <ul style="list-style-type: none"> - At least four (4) technical and administrative experts are recruited - Implementation of internal rules (e.g. procurement committee, financial and accounting rules) 	<ul style="list-style-type: none"> - Staff contracts - Internal rules documents 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Number of NIFs and Thematic Hubs (TH) nominated - Number of meetings of the Steering Committee organized 	<ul style="list-style-type: none"> - Host institution agreement - Minutes of the SC - NFI agreements 	<ul style="list-style-type: none"> - 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 Committee Steering 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	<ul style="list-style-type: none"> - 1 approved Business Plan by the Committee - 1 work plan per year - 1 Monitoring and Evaluation Framework tracking the PCREEE progress 	<p>Baseline:</p> <p>no regional RE&EE centre is in existence in PICTs;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 1 approved Business Plan by the Committee - 1 approved work plan per year - 1 Monitoring and Evaluation Framework tracking the PCREEE progress 	<ul style="list-style-type: none"> - Business Plan and strategic environmental assessment (SEA) - Annual work plans - Monitoring and evaluation framework 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Number of established internal procedures and technical programs - Number of NIFs and Thematic Hubs (TH) nominated - Number of meetings of the Steering Committee 	<p>Baseline:</p> <p>no regional RE&EE promotion agency in existence in PICTs;</p> <p>Target(s):</p>	<ul style="list-style-type: none"> - Meeting minutes - Project documents - Annual work plans and progress reports of PCREEE 	<ul style="list-style-type: none"> - The Centre has enough resources to develop the projects and to organise the meetings

	<ul style="list-style-type: none"> - % 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 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - gender programme is approved to be included in the Business Plan by the Committee 	<p><u>Baseline:</u></p> <p>No gender programme in the energy sector of the PICs.</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - a gender programme become a permanent fixture in the business plan of the centre 	<ul style="list-style-type: none"> - Business Plan - Annual work plans - Monitoring and evaluation framework 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Regional capacity development Strategy - Implementation progress of the regional capacity development strategy in % of total 	<p>Baseline: No regional capacity development strategy on RE&EE is in place; very weak implementation of</p> <p>Target(s): - Capacity development strategy is validated by key stakeholder groups (incl. women groups) and gender mainstreaming mechanisms are incorporated</p> <p>- At least 30% of the activities of the regional capacity development strategy are implemented by end of the first operational phase of PCREEE.</p>	<ol style="list-style-type: none"> 1. Capacity development strategy document 2. Mid-term review on program implementation 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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 	<p>Baseline:</p> <p>No regional competency standards, certification and accreditation schemes for trainers and training institutions are in place; no regional gender mainstreaming standards in place;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - At least 5 training standards adopted by the centre (at least one is dedicated to gender mainstreaming) - At least 80 trainers are certified across at least 15 islands (at least 30% are female) - At least 5 training institutions and universities adopt the competency standards 	<ul style="list-style-type: none"> - Competency standards documents - Records of certified trainers 	<ul style="list-style-type: none"> - 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
<p>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</p>	<ul style="list-style-type: none"> - 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 	<p><u>Baseline:</u></p> <p>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;</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - 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) 	<ul style="list-style-type: none"> - Attendance sheets and questionnaires - Lists of participants - Workshop documents 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Number of applied research programs receive funding and are under execution - Number of RE&EE technology transfer projects are under implementation 	<p>Baseline:</p> <p>No major regional applied research programs and technology transfer projects on RE&EE are under implementation;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 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) 	<ul style="list-style-type: none"> - Research reports - Program documents - Progress reports 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Number of national institutions in 22 PICTs provide updated RE&EE data to the system on an annual basis 	<p>Baseline:</p> <p>The current regional RE&EE information</p>	<ul style="list-style-type: none"> - web statistics 	<ul style="list-style-type: none"> - Developed content for the website is interesting for the target audience

<p>investors, private sector and industry is created and operating</p>	<ul style="list-style-type: none"> - 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 	<p>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;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 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 		
<p>Activities</p>				
<p>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</p>				
<p>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)</p>				

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	<ul style="list-style-type: none"> - 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 	<p><u>Baseline:</u></p> <p>Awareness of key stakeholders on RE&EE varies considerably across the Pacific islands; there is lack of awareness on gender-RE&EE issues;</p> <p><u>Target(s):</u></p> <ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Reports and statistics of audio-visual awareness raising campaigns - Lists of conference participants 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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 	<p>Baseline:</p> <p>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);</p> <p>Target(s):</p>	<ul style="list-style-type: none"> - Documents on support schemes (incl. environmental safeguard standards, gender mainstreaming) - (Pre-)Feasibility studies - Project documents - Project progress reports - Signed contracts - Minutes of investment forums 	<ul style="list-style-type: none"> - 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

	<p>implementation (e.g. waste to energy, efficient transport);</p>	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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). 	<p>Baseline:</p> <p>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;</p> <p>Target(s):</p> <ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - PICTs strategy document - Supported business plans of companies - Financial documentation - Project progress reports - Documentation of call for proposals 	<ul style="list-style-type: none"> - There is greater private sector interest in investment projects in the region.

		<p>30% are in the manufacturing sector, at least 30% start-up companies).</p> <p>- At least 20 companies in the sustainable energy sector are awarded through the established clean tech innovation program.</p>		
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 2: List of documents revised during TE

Number and Name of Document	Year
01_Project Document	
01_01_PCREEE Project Document Final.pdf	2020
02_Steering Committee Minutes	
02_01_SC Apr 2017	
02_01_01_PCREEE Minutes of Inaugural Meeting	2017
02_01_02_pcreee_progress_report_template_for_approval	2017
02_01_03_pcreee_work_plan_template_for_approval	2017
02_01_04_presentation_on_pcreee	2017
02_01_05_pcreee_project_document_final_incl_annexes_approved_010816	2017
02_01_06_draft_rules_of_procedure_of_the_pcreee_steering_committee	2017
02_01_07_jd_director_of_pcreee	2017
02_01_08_nominated_pcreee_nfis_and_ths_sf_230417_0	2017
02_01_09_pcreee_draft_business_plan_sf_230417	2017
02_01_10_pcreee_sc_inaugural_meeting_final_draft_agenda	2017
02_01_11_pcreee_sustainable_energy_private_sector_expert	2017
02_01_12_spc_gender_policy_-_version_june_2007	2007
02_01_13_spc_grants_and_sub-delegations_policy_-_10_april_2017_0	2017
02_01_14_spc_procurement_policy_-_10_april_2017_0	2017
02_01_15_spc_travel_policy_1st_april_2016_unedited_0	2016
02_02_SC Dec 2017	
02_02_01_2nd PCREEE Steering Committee Minutes	2017
02_02_02_Annex 1 - PCREEE SC2 Agenda	2017
02_02_03_Annex 2 PCREEE - Remarks Austria Dr. Bernhard Zimburg	2017
02_02_04_Annex 3 - Opening Remarks - Andrew Jones	2017
02_02_05_Annex 4 - Participants List - PCREEE Meet	2017
02_02_06_Annex 5 - PCREEE Progress	2017

02_02_07_Annex 6A - Rules of Procedure - PCREEE Steering Committee_updated_101217	2017
02_02_08_Annex 7 - PCREEE - Pacific Energy Climate Architecture	2017
02_02_09_Annex 8 - PCREEE SC2 - Business Plan	2017
02_02_10_Annex 9 - PCREEE 2018 WP and Budget_1	2017
02_02_11_Annex 10 - PCREEE - Staffing_of_the_pcreee	2017
02_02_12_Annex 11 - PCREEE - CIEMAT presentation	2017
02_03_SC Nov 2018	
02_03_01_Minutes of the 2nd PCREEE Steering Committee Meeting - final	2018
02_03_02_PCREEE SC3 Agenda_final draft 181118	2018
02_03_03_Final presentation TERM-MEIDECC	2018
02_03_04_Draft PCREEE CBSF - Ver 4 PN	2018
02_03_05_2018 PEAG Meeting Agenda_Final Agenda	2018
02_03_06_Design of a Sub-Regional Renewable Energy Mini-grid Program_PCREEE	2018
02_03_07_GCF Concept Note for REMPP_PCREEE	2018
02_03_08_GET.invest intro Pacific	2018
02_03_09_Logistics Note - ENERGY MEETING - 19 - 23 Nov 2018	2018
02_03_10_Market & Industry Assessment for the design of a subregional RE mini-grid programme for the PICTs	2018
02_03_11_MEETING ANNOUNCEMENT - 18_23 - ENERGY AND GEORESOURCES MEETING	2018
02_03_12_PCREEE Financial Report_Feb-Jun 2018	2018
02_03_13_PCREEE Financial Report_Jun2017-Jan2018	2018
02_03_14_PCREEE Fundraising Strategy 2018-2021 V4	2018
02_03_15_PCREEE Progress Report_April 2017 - June 2018	2018
02_03_16_PCREEE Steering Committee_OEI PPT (181122)	2018
02_03_17_RE Mini-Grid Market & Industry Assessment Report	2018
02_04_SC Dec 2019	2019
02_04_01_Minutes - 4th Steering Committee Meeting_070220	2019
02_04_02_Final presentation TERM-MEIDECC	2019
02_04_03_PEC FUND PROJECT	2019

02_04_04_Presentation1_ofa_OFFGRID	2019
02_04_05_Presentation1_ofa_OFFGRID	2019
02_04_06_SCH-Presentation to 4TH PCREEE-SC-Meeting-Vava'u-031219	2019
02_04_07_Rev.02 OIREP Presentation to the PCREEE Energy Stakeholders Conference. John Lilly	2019
02_04_08_Tonga's Renewable Energy & Network Resilience Projects_Vavaú 2019	2019
02_04_09_TONGA ELECTRICITY COMMISSIO-Kilisimasi	2019
02_04_10_Papiloa prstn PCREE Vv 031219	2019
02_04_11_PCREEE SC 4 - PCREEE Institutional Structure	2019
02_04_12_PCREEE SC 4 - PCREEE Progress	2019
02_04_13_PCREEE SC 4 - PCREEE Strategic Direction_021219	2019
02_04_14_PCREEE SC 4 - Global Network -Sustainable Energy Centres	2019
02_04_15_Master Presentation_PSC2019_updated 261119	2019
02_04_16_PCREEE Internship Programme_2019	2019
02_04_17_PACTVET Tonga Nov 26_pt	2019
02_04_18_PCREEE 2020 ABP_v2	2019
02_04_19_PCREEE Support towards TERM	2019
02_04_20_Vava'uMeetingPresentation_5112019	2019
02_04_21_Day 1 and 2 Takeaways _ sf 051219	2019
02_04_22_Day 1, 2 and 3 Takeaways	2019
02_04_23_Donor's Roundtable Key Considerations and Commitments	2019
02_04_24_Draft Agenda_Tonga Energy Sector Stakeholders and Joint Development Partners Meeting 2019	2019
02_04_25_Rules of Procedure of the PCREEE Steering Committee_updated 031219	2019
02_04_26_Staff Regulations - Nov 2019	2019
02_05_SC Nov 2020	
02_05_01_Draft Minutes - 5th Steering Committee Meeting 031121	2020
02_05_02_Participants List	2020
02_05_03_Draft Agenda - updated 181120	2020
02_05_04_PCREEE Progress Report-jan - june 2020	2020

02_05_05_Agenda 2 Presentation	2020
02_05_06_Agenda 3 Presentation	2020
02_05_07_Agenda 4 Presentation	2020
02_05_08_Agenda 5 Presentation	2020
02_05_09_Agenda 6 Presentation	2020
02_05_10_Agenda 7 Presentation	2020
02_05_11_Agenda Item 2 - Adoption of 4th PSC Meeting Minutes	2020
02_05_12_Agenda Item 2 - Annex 1	2020
02_05_13_Agenda Item 3 - Annex 1	2020
02_05_14_Agenda Item 3 - Progress Report	2020
02_05_15_Agenda Item 4 - Annex 1	2020
02_05_16_Agenda Item 4 - PCREEE Business Plan & Technical Programme	2020
02_05_17_Agenda Item 5 - Institutional Structure	2020
02_05_18_Agenda Item 6 - Financial Structure	2020
02_05_19_Agenda Item 7 - 2021 WP & Budget	2020
02_05_20_Agenda Item 7 - Annex 1	2020
02_05_21_SC 5 Meeting Invitation Circular	2020
02_06_SC Nov 2021	
02_06_01_Draft Agenda	2021
02_06_02_Adoption of 5th PSC Meeting Minutes	2021
02_06_03_Draft Minutes PSC 5	2021
02_06_04_Annex 1 - PCREEE Progress Report-jan - june 2021 (1)	2021
02_06_05_Annex 2 - PCREEE Progress Report-jan - june 2021 (1)	2021
02_06_06_PCREEE Progress Report	2021
02_06_07_Institutional Structure	2021
02_06_08_Financial Structure	2021
02_06_09_WP&B 2022 - Annex 1 (1)	2021
02_06_10_2022 WP & Budget	2021
02_06_11_Minute_kf_040122	2021

02_07_SC Dec 2022	
02_07_01_Draft Agenda 151122	2022
02_07_02_Adoption of 6th PSC Meeting Minutes and Matters Arising	2022
02_07_03_Annex 1 - Minutes of PSC 6	2022
02_07_04_Annex 2 - PCREEE Progress on WPB 2022	2022
02_07_05_Annex 1 - PCREEE Progress Report-jan - june 2022	2022
02_07_06_PCREEE Progress Report	2022
02_07_07_Institutional Structure	2022
02_07_08_Financial Structure	2022
02_07_09_Annex 1 - WP&B 2023	2022
02_07_10_2023 WP & Budget	2022
02_07_11_Agenda Item 2 - PSC 6 Minutes	2022
02_07_12_EV Workshop PARTICIPANT LIST_251122_0	2022
02_07_13_Meeting Announcement 22-61 PCREEE Steering Committee	2022
02_07_14_Participant list-PSC Meeting	2022
02_07_15_PCREEE_welcome remarks ADA final	2022
03_NFIs, TH and Donors List	
03_01_PCREEE NFIS & THs	
04_Additional Documents Provided	
04_01_2017	
04_01_01_MOU GovTonga-SPC_Aug 2017	2017
04_01_02_Progress Report_No. 1 - 150617	2017
04_01_03_Fiji Times 141017	2017
04_01_04_Participants List - PCREEE Meeting 011017	2017
04_01_05_participants_list_-_pcreee_public_seminar_2017	2017
04_01_06_Private Sector Participants List - PCREEE Meeting 011017	2017
04_02_2018	
04_02_01_PCREEE Sustainable Energy Entrepreneurship Facility final 130918	2018
04_02_02_PCREEE Competition on REEE Innovation Submission Templates final.docx	2018

04_02_03_3rd Pacific Energy Investment Forum-Web Final	2018
04_02_04_Auck PPA workshop - Participants List analysis 110618	2018
04_02_05_Market & Industry Assessment for the design of a subregional RE mini-grid programme for the PICTs	2018
04_03_2019	
04_03_01_Compiled Niue Participant List @ Niue National Energy Dialogue 9th - 11th April 2019	2019
04_03_02_PCREEE Progress Report_jan - june 2019_sf 181019	2019
04_03_03_TEC Concession Review Contract - CPS 19 490 signed by DDG Suva Signed	2019
04_03_04_Co-financing to TEC - SPC TA to TEC 071019	2019
04_03_16_Design on bankable projects workshop - Draft List of Participants 071119	2019
04_03_17_Funding Proposal Workshop - Participants List 090719	2019
04_03_18_Nadi PPA workshop - PCREEE Sponsored Participants- PPA workshop - April 2019	2019
04_04_2020	
04_04_01_PCREEE Progress Report-jan - june 2020	2020
04_04_02_Copy of Pacific Webinars_Registration_EX	2020
04_04_03_National Cert Sustainable Energy Tonga	2020
04_04_04_PFAN Fiji Dvpt Partners Agenda 060820 Final	2020
04_04_05_TEEMP Workshop - Participant list	2020
04_04_06_Letter to Superfly_Final clean 010420-duly signed	2020
04_05_2021	
04_05_01_CN -Samoa Sustainable Awareness Program Oct 2021-final	2021
04_05_02_PCREEE Progress Report-jan - june 2021	2021
04_05_03_PCREEE Progress Report-july - dec 2020 270221	2021
04_05_04_Participation List_Solar PV Mini-Grid Training_010621	2021
04_06_2022	
04_06_01_ADA_SPC_funding agreement - Copy	2022
04_06_02_Palau Workshop Day 01 Attendance	2022
04_06_03_Palau Workshop Day 02 Attendance	2022
04_06_04_Palau Workshop Day 3 Attendance	2022

04_06_05_SPC Letter to Mounu Island resort_Tonga - confirming funding	2022
04_06_06_Palau Mini-Grids - Training Concept Note 240222	2022
04_06_07_PSEEF-Mounu Island Resort_CN_FINAL_200922	2022
04_06_08_PCREEE Annual Report-jan - dec 2021_clean 090522	2022
04_06_09_PCREEE CN - final draft 160222	2022
04_06_10_PCREEE Delivery by PICT_270322	2022
04_06_11_PCREEE Progress Report-jan - june 2022	2022
04_06_12_Website Hits	2022
04_07_2023	
04_07_01_Financial report Q3 PCREEE fund 160123 - co-financing in Vanuatu	2023
04_07_02_Regional E-mobility Workshop Report - draft 1_reviewed 030323	2023
04_07_03_2nd invoice to PCREEE_Vanuatu NAVARA	2023
04_07_04_PCS Limited - Vanuatu	2023
04_07_05_4 Pacific Energy Ministers Meeting - List of Participants - 16 Aug	2023

Annex 3: List of consulted stakeholders

The online questionnaire was sent to a total of 88 stakeholders' e-mails (already discounting those that bounced back or were undeliverable), covering a total of 52 organisations or institutions. The online questionnaire was responded by 28 stakeholders that belong to 25 organisations or institutions.

A total of 39 people from 30 organizations were interviewed, either individually or in focus groups.

The following two tables below show the names and organisations interviewed and the organizations that have answered to the questionnaire.

Interviewed Organizations

Stakeholders (Organisation and Name)		Position / Observations
UNIDO (Implementing Agency)	Mr Stein Hansen	UNIDO Director for Special Operations, UNIDO
	Mr Martin Lugmayr	Industrial Development Expert, UNIDO
	Mr Gentjan Sema	Project Administrator Project Administrator
	Mr Andrew Campbell	E-mobility Expert, UNIDO
(Executing Agency)	Mr Kakau Foliaki	Director Energy, MEIDECC
	Ms Christine Duncan	Coordinator, SIDS DOCK
	Mr Akuila Tawake	Deputy Director & Head of Energy Programme, SPC
	Mr Solomon Fifita	Manager, PCREEE
	Mr Sosefo Siuta Tofu	Pacific Island Energy Professional, PCREEE
	Mr Paea 'i Muli Tau'aika	Pacific Island Energy Professional, PCREEE
	Ms Sinalauli'i Fifita	Program Assistant, PCREEE
Donors	Mr Manfred Bürstmayr	Austrian Development Agency (ADA)
	Mr Henrik Lunden	Norwegian Agency for Development Cooperation (Norad)
	Mr Hans Olav Ibrenk	MFA Norway
NFIs	Mr Andre Siohane	Regulator, Government of Niue
	Mr Greg Decherong	Director, Palau Solar
	Mr Ken Sugiyama	Chief Engineer, Palau Public Utilities Corporation
	Ms Ms Heremoni Suapaia	Assistant CEO, Government of Samoa
	Mr John Korinihona	Director Energy, Solomon Islands Government
	Mr Simona Kilei	Director Energy, Government of Tuvalu
Academic Institutions / Research Institutes	Mr Attul Raturi	Associate Professor, University of the South Pacific (USP)
	Mr Manu Rawali	Lecturer and Acting Director, Papua New Guinea University of Technology
	Mr Ponapate Taunisila	Director, Tonga Institute of Science & Technology (TIST)
	Mr Vili Maka Foliaki	Tonga National Qualification & Assessment Board
Associations, NGOS, and CSOs	Mr Bruce Clay	Treasurer, Sustainable Energy Industry Association of Pacific Islands (SEIAPI)
	Mr Geoff Stapleton	Executive Director, Sustainable Energy Industry Association of Pacific Islands (SEIAPI)
	Mr Christian Lohberger	President, Solar Energy Association of PNG (SEAP) - PNG
	Mr Siale Hola	President, National Electrical Contractor Association of Tonga (NECAT)
	Mr Fe'ao	Secretary, National Electrical Contractor Association of Tonga (NECAT)
	Mr Jesse Benjamin	Member, Sustainable Energy Association of Vanuatu (SEAV)

	Mr Alex Reddaway	Owner, Leaf Capital / Connect Switch
	Mr Matthew Tasale	Navara Savings and Credit Cooperative Society of Vanuatu
	Mr Kang Tael Kang Tael	CEO, One Energy Island
	Mr Paul Makumbe	Pacific Regional Director, CAMCO
	Mr Siamelie Latu	Electricity Commissioner, Tonga
Regional Organisation	Ms Ofa Ma'asi Kaisamy	Manager, Pacific Centre for Climate Change (PCCC)
	Mr Abe Simpson	Consultant, PPA
	Mr Peceli Nakavulevu	Pacific Focal Point, IRENA
	Mr. David Eyre	Regional Coordinator Pacific, PFAN

Institutions that Answered the Online Questionnaire.

Name of the organisation:	Country
Pacific Power Association	Fiji
Te Ipukarea Society	Cook Islands
UNIDO	Austria
Solar Energy Association of Papua New Guinea	Papua New Guinea
NGO	Vanuatu
Crown Law Office, Government of Niue	Niue
Independent Consultant / Private	Fiji
Secretariat of the Pacific Community	Samoa
SIDS DOCK Secretariat	Belize
Norad	Norway
Camco Pacific Limited	New Zealand
Palau Public Utilities Corporation	Palau
UNIDO	Austria
Global Green Growth Institute	Fiji
Tuvalu Electricity Corporation	Tuvalu
Public Utilities Board	Kiribati
SPC-PCREEE	Tonga
New Zealand Ministry of Foreign Affairs and Trade	New Zealand
Department of Energy	Tuvalu
Private Financing Advisory Network	Fiji
Austrian Development Agency	Austria
Sustainable Energy Industry Association of the Pacific Islands (SEIAPI)	Fiji
Ministry of Mines, Energy & Rural Electrification	Solomon Islands
Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)	Tonga
University of Life Science, Vienna, Austria	Germany
Andrew Campbell/Fuel Technology Limited	New Zealand
International Renewable Energy Agency	United Arab Emirates
Hobert Asari	Papua New Guinea

Annex 4: Details on project effectiveness and progress towards overall impact

Table 6: Project outcomes /impacts, outputs, performance indicators and results

Progress achieved: Not achieved (0-19%); Partially Achieved (20-49%); Moderately Achieved (50-64%); Mostly Achieved (65-89%); Fully Achieved (90-100%)

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
DEVELOPMENT IMPACT (ULTIMATE 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		<p>I: % 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)</p> <p>T: 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)</p>	<p>Fully achieved (100%)</p> <p>The ET could not find the population access rate for the different PICTs for 2013. For the referred baseline year, overall figures for population electricity access for the PICTs were found in the WB portal. According to this source of information overall electricity access in the PICTs increased from 73% in 2013 to 88% in 2020, correspondent to an increase of 15 percentage points. In the same period urban population electricity access increased from 91% to 95% (4 percentage points increase) and rural population electricity access increased from 62% to 83% (correspondent 21%).</p> <p>Electricity access data for 18 PICTs for the period between 2016 and 2020 was available on the SPC database. At the end of 2020 10 out of the 18 countries had reached universal access to electricity (100%). From the analysis of the data, the increases in electricity access varied from PICT to PICT, with the biggest increase registered for Solomon Islands (18 percentage points) and Vanuatu (10 percentage points). PICTs such as Cook Islands, French Polynesia, Guam, New Caledonia and Northern Mariana Islands had already 100% of the population with access to electricity in 2016.</p> <p>The ET could not find this data disaggregated by gender.</p>	Moderately Achieved (50%)
		<p>I: % increase of the RE contribution to the electricity mix of the PICTs (baseline 2013)</p> <p>T: 10% increase of the RE contribution to the electricity mix in PICTs (baseline 2013)</p>	<p>Fully achieved (100%)</p> <p>Having into account IRENA RE Capacity Statistics 2023 available information for the PICTs, renewable energy installed capacity increased 46% between 2013 and 2022 (from 712MW to 1,037MW). In terms of the renewable energy contribution to the electricity mix, a 12% increase was estimated for the region between 2013 to 2022.</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		<p>I: Increase of investments in renewable energy and energy efficiency (RE&EE) projects in PICTs (% of it addressing key industries in PICTs - baseline 2013) in USD</p> <p>T: USD 100 million of additional investments in RE&EE projects (at least 25% of it are addressing key industries in PICTs - baseline 2013)</p>	<p>Fully achieved (100%)</p> <p>According to information from IRENA, in between 2013 and 2020 there were USD0.79 billion.</p>	
		<p>I: % decrease of fossil fuel import spending in PICTs due to the introduction of RE&EE technologies and solutions in USD (baseline 2013)</p> <p>T: 10% decrease of fossil fuel import spending in PICTs due to the introduction of RE&EE technologies and solutions (baseline 2013)</p>	<p><i>Not possible to estimate.</i></p>	
		<p>I: % decrease of GHG tCO2 emissions through implemented RE&EE projects</p> <p>T: 15% decrease of GHG tCO2 emissions through implemented RE&EE projects</p>	<p>Moderately achieved (53%)</p> <p>According to information available from IRENA on GHG emissions avoided through the implementation of renewable energy projects, the ET estimated that there was an increase of 8% on avoided GHG tCO2 emissions between 2013 and 2020. (information was only found up until 2020).</p>	
		<p>I: Number of additional jobs created directly or indirectly in the RE&EE sector in PICTs</p> <p>T: At least 100 additionally (directly or indirectly) created local jobs in the RE&EE sector (baseline 2013)</p>	<p>The ET did not find any information available to track this indicator. However the ET recognized that PCREEE has contributed to the increase in jobs, as a result of its work, several projects as well as trainings etc, are being put in place in the region. In addition, the PCREEE supported the establishment of several renewable energy & energy efficiency associations which provide employment to people in the field.</p> <p><i>Not possible to estimate.</i></p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		<p>I: % increase of registered local companies in the RE&EE sector</p> <p>T: 10% increase of registered local companies in the RE&EE sector (at least 25% of them are in the manufacturing sector)</p>	<p><i>Not possible to estimate.</i></p> <p>Information on this could not be found easily by the ET nor it was provided by the Centre.</p>	
COMPONENT 1				
<p>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)</p>	<p>Output 1.1 The PCREEE Secretariat is physically established</p>	<p>I: Office with appropriate space and equipment to accommodate the staff of the Secretariat</p> <p>T: Office with appropriate space and equipment to accommodate the staff of the Secretariat</p>	<p>Fully Achieved (100%)</p> <p>MOU signed between Government of Tonga and SPC on the 28th of July 2017. The Government of Tonga provided office space to SPC to operate PCREEE, free of charge, purchased office equipment and covered the costs of services such as electricity, water, waste disposal, telephone and internet at the premises. The office is located at the MEIDECC in Sanft Bldg, Nuku'alofa, Kingdom of Tonga.</p>	<p>Fully Achieved (99%)</p>
	<p>Output 1.2 The Manager and the technical and administrative staff are recruited, and the internal procedures and regulations are implemented</p>	<p>I: Manager is appointed by SPC</p> <p>T: Manager is recruited</p>	<p>Fully Achieved (100%)</p> <p>Mr. Fifita was appointed as the PCREEE Manager in August 2017. He is a senior energy expert with high reputation in the PICTs and on international level. He worked in several technical and managerial key energy positions in the region. Mr. Fifita has been the PCREEE Manager during the period under evaluation.</p>	
		<p>I: Technical and administrative staff is recruited in line with the commitments of SPC, GoT, UNIDO</p> <p>T: At least four (4) technical and administrative experts are recruited</p>	<p>Fully Achieved (100%)</p> <p>During the evaluation period, in addition to the PCREEE Manager (Mr. Fifita) the centre counted with 3 to 5 technical and administrative staff (annual average of 3.8), with 3 working for PCREEE by the end of 2022 (Mr. Paea Tauaika, Mr. Sosefo Tofu and Ms. Sinalauli'i Fifita). In addition to these the PCREEE also works with SPC staff when needed: Gender Expert, Financial Expert, Procurement Division, Director or the SPC Energy Programme.</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		I: Implementation of internal rules (e.g. procurement committee, financial and accounting rules) T: Internal rules implemented	Fully Achieved (100%) The PCREEE makes use of the well-established SPC rules and procedures on procurement, staff, recruitment, travel, finance and accounting. Rules and procedures were approved in the 1 st PSC meeting	
	Output 1.3 The institutional governance structure of the Centre are established and executed	I: NFI network operational and Steering Committee formed T: *(Y/N) NFI network operational and Steering Committee formed	Fully Achieved (100%) The NFI network is operational (with some members more active than others) and the Steering Committee has been formed.	
I: Number of NFIs and TH nominated T: *22 NIFs and at least 5 TH nominated		Mostly Achieved (89%) The NFIs and THs have been and are nominated. In February 2018, the respective Governments and regional agencies were formally invited to provide nominations in line with the TORs in the project document and nominations were received. A contact list for the THs and NFIs is available on PCREEE website. According to this the PCREEE had at the end of 2023, 9 TH nominated and 16 NFIs. By the end of 2023, there are no focal points for some of the PICTs (French Polynesia, New Caledonian, Northern Mariana Islands, Papua New Guinea, Tokelau and Wallis & Futuna). However, the ET identified that during the evaluation period, according to the progress reports, Wallis & Futuna have had an identified NFI.		
I: Number of meetings of the Steering Committee (SC) and Technical Committee organized T: 3 meetings of the Steering Committee		Fully Achieved (100%) There were 7 SC meetings organised between 2017 and the end of 2022.		
	Output 1.4 Long-term and short-term planning, implementation and monitoring framework of the	I: Number of approved Business Plan by the Committee T: 1 approved Business Plan by the Committee	Fully Achieved (100%) The PCREEE Business Plan 2020 - 2030 is available on the PCREEE website. Regional/National consultation and validation workshops on the PCREEE Business Plan were conducted during 2020 and the Business Plan was endorsed during the 5th PSC meeting that took place on the 18 th November 2020.	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
	Centre is established and implemented	I: Number of work plan per year T: 1 approved work plan per year (at least 5 workplans in total)	Fully Achieved (100%) According to the records, the PCREEE developed five (5) Work Plans (2018/2019/2020/2021/2022). These were presented and approved by the Steering Committee.	
		I: Number of Monitoring and Evaluation Framework tracking the PCREEE progress T: 1 Monitoring and Evaluation Framework tracking the PCREEE progress	Fully Achieved (100%) The PCREEE used the procedure and Logframe of the PCREEE Project Document and of the Business Plan to track its implementation progress. Progress reports have been compiled using it.	
	Output 1.5 The core activities and functions of PCREEE are implemented and sustainability of the organization is reached	I: Volume of co-funding for the technical programme of the centre raised T: At least 5 million USD co-funding for the technical programme of the centre raised	Fully Achieved (100%) According to the documentation analysed, the PCREEE has raised at least EUR 5.8 million (correspondent to USD6.3 million) towards the implementation of its activities. These included contributions from several partners, including UNIDO, ADA, Austria MFA Government of Norway, Republic of Korea, Government of China, SPC, private sector and other regional and international organizations operating in the Pacific region.	
		I: % of business plan and annual work plans are implemented at the end of the first operational phase of the PCREEE T: At least 70% of the business plan and annual work plans are implemented	Fully Achieved (100%) According to the information available, the ET estimated that until the end of 2022, the PCREEE has implemented approximately around 33% of its full Business Plan 2020-2030, which is above what would be expected to be implemented within the period covered by the evaluation period (approximately 20% of the total Business Plan should be implemented).	
		I: Number of established internal procedures and technical programs T: At least one internal procedure and technical programme	Fully Achieved (100%) The PCREEE makes use of the well-established SPC procedures on procurement, staff, recruitment, travel, finance and accounting and it has also defined four (4)	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
			main technical programs on its Business Plan 2020 - 2030 which that is available on the PCREEE website.	
	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	I: Gender programme is approved to be included in the Business Plan by the Committee T: A gender programme become a permanent fixture in the business plan of the centre	Fully Achieved (100%) Gender in the PCREEE activities/ operations is spearheaded by SPC Suva office Pacific Energy and Gender Network Strategic Action Plan (PEGSAP). The PCREEE has not developed a specific gender programme since, as an integrated entity within the SPC, it operates within SPC rules and procedures that include the SPC's gender policy and has been contributing to gender initiatives supported by the SPC. The Centre follows the gender guide developed by the PEGSAP (to which the PCREEE provided inputs to during its development) and is supporting SPC to reactivate the Pacific Energy Gender Network. The Centre included a Gender Mainstreaming Strategy in its Business Plan.	
COMPONENT 2				
Outcome 2: Strengthened capacities of local key institutions and stakeholder groups through the up-scaling and replication of certified training and applied research	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	I: Regional capacity strategy is developed T: Capacity development strategy is validated by key stakeholder groups (incl. women groups) and gender mainstreaming mechanisms are incorporated I: Implementation progress of the regional capacity development strategy in % of total T: At least 30% of the activities of the regional capacity development strategy are implemented by end of the first operational phase of PCREEE	Fully Achieved (90%) A draft version of the PCREEE Capacity Building Framework & Strategy: 2019 to 2021 was developed and it is available on PCREEE website. The ToR, it says that this strategy would be presented in the 4th PCREEE PSC meeting in December 2019. However, there is no mention on that on the PSC Meeting Minutes. Not achieved (0%) The strategy has not started implementation due to lack of funding.	Moderately Achieved (60%)

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
programs and mechanisms	Output 2.2 Pacific certification / accreditation scheme for individuals, organisations and products is created (in collaboration with SEIAPI) and operational	<p>I: Number of training competency standards are operational</p> <p>T: * At least 1 training competency standard is operational</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE worked closely with USP and SPC's Education Quality and Assessment Programme - Sustainable Energy national qualifications (Levels 1-4) were formally regionally accredited through SPC's Education Quality and Assessment Programme and also nationally accredited in Fiji through the Fiji Higher Education Commission. PCREEE also worked with the Government of Tonga and was able to develop Sustainable Energy national qualifications (Level 1-2) based on the regional qualification developed under the EU PactVET project (both already recognised as national qualification and adopted by technical institutes in Tonga). PCREEE is now expanding to Level 3, 4 and 5. PCREEE also worked on a Refrigeration and Air Condition Certificate 4 for the Solomon Islands National University. Moreover, together with other GN-SEC Centres, PCREEE contributed to Global Small Hydropower Guidelines, which were developed by UNIDO and INSHP in China.</p>	
		<p>I: Number of training standards adopted by the centre</p> <p>T: At least 5 training standards adopted by the centre (at least one is dedicated to gender mainstreaming)</p>	<p>Fully Achieved (100%)</p> <p>Eight (8) training standards were adopted by the PCREEE (Sustainable Energy qualifications (Levels 1-4) accredited in Fiji / Sustainable Energy qualifications (Levels 1-2) accredited in Tonga / Refrigeration and Air Condition (Certificate 4) for the Solomon Islands National University / Global Small Hydropower Guidelines</p>	
		<p>I: Number of trainers certified across 22 PICTs</p> <p>T: At least 80 trainers are certified across at least 15 islands (at least 30% are female)</p>	<p>Partially achieved (39%)</p> <p>According to the information on the PCREEE events calendar several training courses were carried out in the region. However, few information was available in terms of number of certified trainers. Information was only found on the PNG-FREAGER-PCREEE SECTM TVET Training of Trainers that took place in June 2021 in which 31 people were trained (% of women N/A)</p>	
		<p>I: Number of training institutions and universities adopt the competency standards</p>	<p>Partially achieved (40%)</p> <p>According to information provided, 2 training institutions/universities in the PICTs adopted competency standards (i) Tonga adopted the Sustainable Energy national qualifications (Level 1-2) based on the regional qualification developed</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
	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	<p>T: At least 5 training institutions and universities adopt the competency standards</p> <p>I: Number of key stakeholders across 22 PICTs are trained by the certified trainers and/or institutions</p> <p>T: At least 800 key stakeholders across 22 islands are trained by the certified trainers and/or institutions (being at least 30% are female)</p>	<p>under the EU PacTVET project; and Solomon Islands National University adopted the Refrigeration and Air Condition (Certificate 4).</p> <p>Fully Achieved (100%)</p> <p>According to the information provided, at least 848 stakeholders were trained by certified trainers and /or institutions during the period under evaluation, of which 27% were women. The following events took place during the evaluation period:</p> <p>2017:</p> <ul style="list-style-type: none"> Workshop on Accelerating Renewable Energy Deployment in SIDS, Suva, Fiji: 57 participants (25% women) <p>2018:</p> <ul style="list-style-type: none"> Training Workshop on Power Purchase Agreements in Auckland, New Zealand: 22 participants (32% women) <p>2019:</p> <ul style="list-style-type: none"> Training Workshop on Power Purchase Agreements in Nadi, Fiji: 5 participants (40% women) National Dialogue on Advancing Niue’s Energy and GHG Mitigation Targets: 68 participants (46% women) Regional Workshop on the Design of Bankable Power Purchase Agreements in Nadi, Fiji: 43 participants (7% women) <p>2020:</p> <ul style="list-style-type: none"> Three-day training workshop on Tonga’s Energy Efficiency Master Plan (TEEMP): 32 participants (41% women) <p>2021:</p> <ul style="list-style-type: none"> Solar PV Minigrids Training, Tonga: 24 participants (13% women) Palau Joint PCREEE-PPUC-INES Training on RE Mini-grids: 28 participants (7% women) Vanuatu Consultation of its low emission land transport response plan: 10 participants (% women N/A) Tonga workshop on electrical safety and compliance: 30 participants (% women N/A) Regional zoom meeting on the draft e-mobility policy and programme: 30 participants (% women N/A) 	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
			<ul style="list-style-type: none"> • Joint OIREP and PCREEE workshops to Explore the Business Opportunities & Strengthening the Business Skills Capacity of Stakeholders in Ha'apai: 135 participants (48% women) • Joint OIREP and PCREEE workshops to Explore the Business Opportunities & Strengthening the Business Skills Capacity of Stakeholders in Vava'u: 20 participants (40% women) • PCREEE-TEC workshop on the fundamentals of price regulation as well as Price Regulation in the context of Tonga's Electricity Concession Contract: 10 participants (% women N/A) • PCREEE-EU PACTVET Joint Awareness and Promotion Campaign on SE Entrepreneurship and SE TVET: 183 participants (% women N/A) • Barrier Removal for Achieving National energy road map Target of Vanuatu (BRANTV)- PCREEE Renewable Energy and Energy Efficiency Technology Applications Training in Santo, Vanuatu: 20 participants (10% women) • International Solar Alliance - PCREEE Regional RE Webinar: Micro-grids Supporting Resilience in the Pacific Islands: 23 participants (% women N/A) • Tonga Energy Road Map (TERM) Plus consultation and development partners meeting: 30 participants (% women N/A) • CREEE 4th Anniversary & Joint Launch of the TERM-Plus Framework 2021 – 2035, PCREEE Business Plan 2021 – 2030 & Pacific e-Mobility Programme: 34 participants (% women N/A) <p>2022:</p> <ul style="list-style-type: none"> • Pacific island workshop on E-Mobility, Fiji: 44 participants (16% women) <p>According to PCREEE event calendar as well as meeting minutes provided to the Steering Committee more events took place, however no information about the number of participants on those events was provided or found by the ET.</p>	
		<p>I: Number of the trained experts apply their received skills in the energy sector of PICTs</p> <p>T: At least 40% of the trained experts apply their received skills in the energy</p>	<p>Not achieved (0%)</p> <p>There is no information available regarding the number of trained experts applying the thought skills.</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		sector of PICTs (at least 30% are female)		
	Output 2.4 Applied science research networks and technology transfer with high relevance for the local business and industry sector are promoted	<p>I: Number of applied research programs receive funding and are under execution</p> <p>T: At least seven (7) national research institutions are involved in the execution of at least (3) regional applied research programs on RE&EE</p>	<p>Partially Achieved (29%)</p> <p>The PCREEE has established the Sustainable Energy Research Support Fund to provide support for R&D with high relevance for the local business and industry sector. Through it the PCREEE provided funding for two (2) students at Master Level (one Fijian and one Tongan nationals). One of the supported students became now the DoE Director.</p>	
		<p>I: Number of RE&EE technology transfer projects are under implementation</p> <p>T: At least two (2) innovative technology transfer projects are under implementation (e.g. waste to energy, sustainable transport)</p>	<p>Fully achieved (100%)</p> <p>The PCREEE has established and participated in several south-south and north-south technology transfer programmes and projects (more than the target). Some examples of these are:</p> <ul style="list-style-type: none"> • Online Capacity Building Programme on Sustainable Energy for Islands, that is part of the GN-SEC platform (to which the PCREEE is part of) and that is offered to anyone interested free of charge through the PCREEE website (https://www.pcreee.org/content/gn-sec-learning-platform). • PCREEE mini-grid programme developed in partnership with the Korean Energy Agency. • Cooperating with other centres within the SDG-7 multi-stakeholders partnership of the SAMOA Pathway and under the GN-SEC umbrella, on SIDS Energy Issues and Solutions. Within this the PCREEE was highlighted as best. • Training provided under the NZ-supported South-South capacity building exchange and the PCREEE's capacity development support to the private sector, training on the Promotion of Sustainable Energy Entrepreneurship will be conducted by the PCREEE in Suva, Fiji on 2 – 6 October 2017 (https://prdrse4all.spc.int/node/4/content/promoting-sustainable-energy-entrepreneurship-picts-south-south-capacity-building). • Since December 2022 PCREEE is part of the project launched by UNIDO and the International Solar Alliance called “Structuring of an International Network of Solar Technology and Application Resource Centres (STAR C)” that aims to create a strong network of institutional 	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
			capacities within ISA Member States to enhance quality infrastructure for the uptake of solar energy product and service markets, particularly in least developed countries and SIDS (https://www.pcreee.org/article/launch-international-network-solar-technology-and-application-resource-centres-star-c-within).	
COMPONENT 3				
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	<p>I: Number of national institutions in 22 PICTs provide updated RE&EE data to the system on an annual basis</p> <p>T: At least 22 institutions in 22 PICTs provide updated RE&EE baseline data to the system on an annual basis (sex-disaggregated data)</p>	<p>Fully Achieved (100%)</p> <p>More than 22 institutions within the PICTs provide updated data to the system. The PCREEE website is fully functional and regularly updated from both Suva and Tonga. The PCREEE web-portal www.pcreee.org is operational and regularly updated with news, events, photos and information on RE and EE in the PICTs. The website is fully integrated in the Global Sustainable Energy Centres Platform: www.gnsec.net. The PCREEE Expansion Programme for the Pacific Regional Data Repository (PRDR) aims to strengthen data collection capacities and provide GIS based data. It is currently under implementation. The portal is interlinked with the GN-SEC Knowledge Hub: https://www.gn-sec.net/list/publications.</p>	Mostly Achieved (81%)
		<p>I: Number of documents, files and data-sets are available in the database</p> <p>T: At least 500 documents, files and data-sets are available in the system by end of the first operational phase</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE data portal is available at: https://www.pcreee.org/list/publications and includes around 1.500 documents.</p>	
		<p>I: Number of registered users visit the data system regularly and download data</p> <p>T: At least 200 registered users (at least 50% of it from PICTs and represent private sector) visit the data system regularly and download data</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE website has 55,000 registered users according to the information provided on the website usability. From the provided statistics it was not possible to disaggregate these numbers by location (PICTs and sector of operation).</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		<p>I: % of the responding users confirm their satisfaction with the quality and reliability of the data in annual online surveys</p> <p>T: At least 70% of the responding users confirm their satisfaction with the quality and reliability of the data in annual online surveys</p>	<p>Fully Achieved (100%)</p> <p>The TE assessed the quality and reliability of the data made available in the PCREEE website through the stakeholders consultation processes conducted under this, since this was not assessed by the PCREEE through surveys during the period covered by the evaluation.</p> <p>According to the answers of the stakeholders to the online questionnaire: the stakeholders that have used the portal find it:</p> <ul style="list-style-type: none"> • 93% of the stakeholders that used the portal find it “Mostly useful” or “Very Useful” and the remaining 7% find it “sometimes useful”. No stakeholder referred that it was “Not useful at all”. • 71% of the stakeholders that used the portal find that the information is “thorough/ complete” and the remaining 29% that it is “limited/scares”. No stakeholder referred that the information was poor or incomplete. 	
	<p>Output 3.2 Awareness and knowledge base of key stakeholder groups on various RE&EE aspects are strengthened</p>	<p>I: 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)</p> <p>T: 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)</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE organized or co-organized at least the following conferences:</p> <ul style="list-style-type: none"> (i) Co-organized the CTCN Regional Forum for Pacific Countries in partnership with UNIDO and UNEP in 2017; (ii) PCREEE and the SPC Energy Programme jointly co-organised the Fourth Pacific Regional Energy and Transport Ministers’ meeting in 2019. It counted with 59 participants (5% women participants) (iii) PCREEE organised the webinar series “Accelerating Investments in Renewable Energy, Energy Efficiency and Smart Mobility in the Pacific Islands”, in partnership with the Carbon and Energy Professionals (CEP) in 2020. It counted with 353 total participants (39% women) <p>The ET recognises that the Covid-19 pandemic affected the Centre's ability to organise physical conferences.</p>	
		<p>I: Number of PCREEE conferences with focus on the gender-RE&E nexus</p>	<p>Moderately Achieved (50%)</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		T: At least one (1) PCREEE conference will have a special focus on the gender-RE&EE nexus	There was no specific conference on gender – RE&EE nexus, however according to the information provided it was referenced in conferences/ workshops organized / co-organized by PCREEE.	
		I: % of the population in 22 countries is reached by regional awareness RE&EE campaigns supported by PCREEE T: At least 25% of the population in 15 countries is reached by regional awareness campaigns	Not achieved (0.02%) According to information from the Progress Reports at least 3,200 people in the PICs have been reached through regional awareness raising campaigns that include awareness and promotion events, consultations and launches, training workshops etc. No targeted regional campaign was implemented, being the events and website the main awareness raising tools used by the Centre. Considering the average household size of ~5 people per house in the region, the campaign reached ~16,000 people, corresponded to 0.5% of the PICTs population (these estimates were carried out by the ET, having into account that the population ~3.2 million people in the PICTs in 2022 (excluding Papua New Guinea, that accounted for 8.5million people according to the SPC Population Estimates) (estimates were carried out using SPC data available the SPC website : https://app.powerbi.com/view?r=eyJrIjoiMzZjMjBmY2YtM2Y0YS00NzJlLTlkODEtN2IwMzk2OGY1YzEzZliwidCI6ImY3MjE1MjRkLWVhNjAtNDA0OC1iYzQ2LTc1N2Q0YjVmOWZlOCIsImMiOiJlEwQ%3D%3D)	
COMPONENT 4				
Outcome 4: Increased RE&EE business opportunities for local companies and industry through the development and implementation of regional investment	Output 4.1 Investments in RE&EE projects are promoted	I: Volume of investments (in USD) for the execution of the SIDS DOCK project pipeline mobilized T: 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.	Not achieved (0%) There is no specific database of investment projects, from which the ET could extract volume of investment (USD). SIDS DOCK, IRENA and ISA have each compiled a pipeline of projects from the PICTs. PCREEE National Energy Dialogues and workshops have highlighted the need to further elaborate on the national targets so as to more specifically identify the investment and employment opportunities. There was no available information to measure this indicator.	Partially Achieved 29%
		I: 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	Not achieved (5%) No clear evidence on progress in this activity was found by the ET. PCREEE started working with CAMCO to develop the Transforming Islands Development through Energy Sustainability (TIDES) Facility and a SPC-CAMCO MoU was signed on this.	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
promotion programs and tailored financial schemes		<p>T: 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)</p>		
		<p>I: 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)</p> <p>T: (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)</p>	<p>Not achieved (5%)</p> <p>The PCREEE was involved/supported the development of feasibility studies, including:</p> <ul style="list-style-type: none"> (i) Tonga Circular Economy Feasibility study and funding proposal developed (USD180K) (ii) Project in the Solomon islands (USD170k) (iii) RFP for Vanuatu's low emission land transport feasibility study that was issued and funding proposal developed. (iv) Feasibility study on mini-grids in Palau. (v) Energy audit at the MEIDECC office in 2018. <p>From the information that was available, these studies aim at facilitating the investment volume of USD350k in project to be implemented in the PICTs.</p>	
		<p>I: Number of regional key programs to promote investments in innovative technology areas developed and under implementation (e.g. waste to energy, efficient transport)</p> <p>T: 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)</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE has more than two (2) key programmes that are part of its BP in which it has been focused on during the evaluation period:</p> <ul style="list-style-type: none"> (i) the RE&EE for Sustainable Mobility - E-mobility programme (Outcome 2 of BP) which aims to prepare PICTs for their respective sustainable mobility futures (includes pilots in Fiji and Tuvalu) (ii) RE mini-grids programme (Outcome 3 of BP) which aims to increase clean energy access and improved livelihoods for communities through technically sound mini-grid systems 	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
			<p>(cooperation with Korea, several mini-grid locations in Palau were identified. Feasibility studies are currently under development).</p> <p>(iii) The RE&EE Business Start-up and Entrepreneurship (Outcome 1 of the BP) support programme through which it has launched the PCREEE sustainable business development facility and the sustainable energy innovation competition.</p>	
	Output 4.2 The local sustainable energy industry is strengthened	<p>I: Adopted gender-sensitive PICTs strategy to promote local sustainable energy industry and entrepreneurship</p> <p>T: Adopted gender sensitive PICTs strategy to promote local sustainable energy industry and entrepreneurship</p>	<p>Fully Achieved (100%)</p> <p>The PCREEE follows the SPC gender policy and implements a gender mainstreaming strategy to all its activities and interventions (as defined in its BP), following the regional policy and its guidelines. In addition to this, it has Commented on a Mainstreaming gender in energy – a joint workstream by the Global Network of Regional Sustainable Energy Centres (GN-SEC) and GWNET, the Global Women’s Network for the Energy Transition and in 2017 Mr.Fifita received the SIDS DOCK Island Women Open Network (IWON) Excellency in Leadership Award for Outstanding Service to the Establishment of the SIDS DOCK Organisation, and also the SIDS DOCK IWON.</p>	
		<p>I: Number of 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)</p> <p>T: 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, at least 30% start-up companies)</p>	<p>Not achieved (1%)</p> <p>The PCREEE has the Sustainable Energy Entrepreneurship Facility (PSEEF) and has received one (1) expressions of interests from Vanuatu requesting assistance: (i) Mounu Resort.</p>	
		<p>I: *Number of companies in the sustainable energy sector are awarded</p>	<p>Not achieved (0%)</p> <p>The PCREEE has created the PCREEE Competition on Renewable Energy & Energy Efficiency Innovation, and a first call was undertaken in 2019. However, there is</p>	

Strategic Outcomes / impacts	Outputs	Indicators (I) and Targets (T) by end of 2022	Achievement until 31/12/2022	Progress achieved / indicator
		<p>through the established clean tech innovation programme.</p> <p>T: At least 20 companies in the sustainable energy sector are awarded through the established clean tech innovation programme.</p>	<p>no evidence of submissions to this call or awarded winners. At the same time PCREEE and UNIDO are working on the GEF CleanTech proposal.</p>	