

***FINAL EVALUATION OF THE UNDP/GEF/SPREP  
PROJECT RAS/02/G35***

***Pacific Islands Renewable Energy Project (PIREP)***

**FINAL VERSION**

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## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADMIRE	Action for Development of the Marshall Islands Renewable Energy Project
APR	Annual Project Report
CEO	Chief Executive Officer
CO <sub>2</sub>	carbon dioxide
CTA	Chief Technical Advisor (of PIREP)
ESCAP	U.N. Economic and Social Commission for Asia and the Pacific
EU	European Union
EWG-CROP	Energy Working Group of the Council of Regional Organizations of the Pacific
FSM	Federated States of Micronesia
FSP	full-sized project (of GEF)
GEF	Global Environment Facility
GHG	greenhouse gas
IC	international consultant
kWh	kilowatt-hour
M&E	monitoring and evaluation
MSP	medium-sized project (of GEF)
MW	megawatt
NC	national consultant
NGO	non-governmental organization
PAC	Project Advisory Committee
PDF	Project Preparation and Development Facility (of GEF)
PEDP	Pacific Energy Development Program (UNDP/ESCAP)
PICCAP	Pacific Islands Climate Change Assistance Program (UNDP/SPREP/GEF)
PIEPP	Pacific Islands Energy Policy and Plan (EWG-CROP)
PIEPSAP	Pacific Islands Energy Policy and Strategic Action Planning (DANIDA/UNDP/SOPAC)
PIC	Pacific Islands Country
PIFS	Pacific Islands Forum Secretariat
PIREP	Pacific Islands Renewable Energy Project (UNDP/GEF/SPREP)
PIGGAREP	Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project
PNG	Papua New Guinea
PREA	Pacific Islands Regional Energy Assessment (WB/PEDP/PIFS/ADB)
PPA	Pacific Power Association
PV	photovoltaic
RCB	UNDP Regional Centre in Bangkok
RE	renewable energy
REEP	Renewable Energy and Efficiency Program for the Pacific (ADB)
RePCo	PIREP Regional Planning and Consultative meeting
RET	renewable energy technology
RMI	Republic of Marshall Islands
SEDREA	Sustainable Economic Development through Renewable Energy Project (Palau)
SEFP	Sustainable Energy Financing Program (WB)
SHS	solar home system
SOPAC	South Pacific Applied Geoscience Commission
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Program
SWH	solar water heater
SWOT	strengths, weaknesses, opportunities, threats
TMR	terminal multipartite review
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Program
USP	University of the South Pacific
USD	United States dollar
US\$	United States dollar
W	Watt
WB	World Bank
W <sub>p</sub>	peak Watt

## EXECUTIVE SUMMARY

*As referred to in paragraph A.4 (item C.1) in the ToR given in Annex A*

The Pacific Island Countries (PICs) are currently heavily dependent on fossil fuels. Environmental concerns at global, regional and local levels, past and recent price hikes in the price of oil, among others, have been drivers behind a regional wide interest in renewable energy technologies. Unfortunately, various technical, capacity, information, financial and policy-related barriers inhibit the more widespread application of renewable energy technologies. In order to identify these barriers and ultimately to realize the considerable renewable energy potential, the United Nations Development Program (UNDP) and the Global Environment Facility (GEF) in collaboration with the Secretariat of the Pacific Regional Environment Programme (SPREP) and fifteen (15) Pacific Island Countries (PICs) launched a technical assistance project, called the Pacific Islands Renewable Energy Project (PIREP), with had as the main outcome the formulation and preparation of a regional approach in the Pacific region on removing barriers to the development and commercialization of renewable energy systems.

More specifically PIREP was designed to lay the groundwork for a regional initiative on renewable energy in the Pacific region, later called the Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP). Fourteen (14) countries participated via the funding provided by UNDP/GEF of US\$ 700,000: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. An additional US\$30,000 contribution by UNDP made possible the participation of a 15<sup>th</sup> PIC, i.e. Tokelau. The remaining budget consisted of in-kind contributions from the participating governments.

The PIREP project documentation lists a large number of outcomes and/or outputs. This evaluation report identifies instead four main tasks and outcomes:

1. Specific barriers to renewable energy (RE) development (policy and planning, information and awareness raising, institutional, market and delivery mechanisms, technology support and financial) are identified, verified and evaluated, and capacity development needs (in these areas) and barrier removal measures are recommended;
2. A framework is designed for a regional RE project/in the Pacific region, called PIGGAREP;
3. Stakeholders are informed and are engaged in the design of the envisaged PIGGAREP program.
4. Adaptive management monitoring and evaluation of PIREP

The project has been executed by SPREP. A Project Advisory Committee (PAC) provided support (i.e., advice/guidance) to SPREP and was responsible for specific coordination of PIREP activities and activities of the organizations that it comprises in order to avoid duplication of effort. The PAC consisted of the permanent members of the Energy Working Group of the Council of Regional Organizations of the Pacific (EWG-CROP), i.e. SPREP, the South Pacific Applied Geoscience Commission (SOPAC), Pacific Power Association (PPA), Secretariat of the Pacific Community (SPC), Pacific Islands Forum Secretariat (PIFS) and the University of the South Pacific (UPS), supplemented by the two of the participating countries, namely Tonga and Samoa.

PIREP implementation began in May 2003 and was planned to last 18 months, but ended operationally only on 31 August 2006, that is a few days after its last activity, the Terminal Multipartite Review (TMR) meeting was carried out. In line with standard UNDP/GEF

guidelines, a final evaluation took place in August 2006 upon completion of implementation. An evaluation mission by an external consultant, Mr. J. van den Akker, was fielded to Samoa and Fiji, coinciding with the TMR meeting on 29<sup>th</sup> August (Nadi, Fiji). This report is the outcome of the evaluation study performed by the evaluator. During the mission, discussions were held with several key stakeholders and a large amount of project documents and reports were collected. The preliminary findings of the evaluator were presented and discussed with the stakeholders at the TMR meeting.

Key **accomplishments** of the project have been:

Outcome 1: The PIREP has produced a set of reports, the national assessment reports for each of the 14 participating countries and Tokelau, the regional synthesis report and the three special topic reports (financing mechanisms, technology support system and demonstration projects to showcase energy service delivery). The reports provide an excellent description of the baseline situation in Pacific Island Countries (PICs) and the reports are reportedly being used widely in the countries.

Outcome 2: PIREP has produced a framework for a region-wide renewable energy project. This successor project, PIGGAREP, has secured funding from GEF, the participating countries and other donors. Eleven (11) countries will participate (Cook Islands, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) in PIGGAREP. In addition, Marshall Islands and Palau are developing their own medium-sized UNDP/GEF proposals (respectively called AMIRE and SEDREA) as spin-offs of the PIREP preparatory activities.

Outcome 3: A series of in-country workshops and regional meetings were held as part of PIREP to prepare the assessment reports and the PIGGAREP concept. The complete series of PIREP reports and a database of energy-related information have been published on the SPREP website.

Outcome 4: The project has been managed in such a way that the above-mentioned outcomes, in particular the key outcome of a full sized successor PIGGAREP project approved by GEF, have been achieved within a reasonable timeframe.

As overall **conclusion** of this evaluation, a rating is given on PIREP's performance that is given below together with the corresponding **observations**:

- *Highly satisfactorily with respect to outcome 1:* The PIREP assessment and technical reports provide an excellent description of the baseline situation in Pacific Island Countries (PICs) which are reportedly being used widely in the PICs, for example, the reports have served as a basis for the preparation of other activities, such as the World Bank/GEF Sustainable Energy Financing Project;
- *Satisfactorily with respect to outcome 2:* The PIGGAREP has been formulated and recently been approved by GEF (September 2006) and as such the outcome has been successfully achieved. However, the feeling of this evaluation is that, within the timeframe and the medium-sized budget available to PIREP, more resources could have been allocated to the formulation of the framework of outcomes and activities of PIGGAREP to achieve more focus by (1) more clearly identifying groups of interlinked barriers and issues for certain 'renewable energy product-market-country clusters' and (2) more clearly prioritizing regional activities and in-country activities that can reasonably address these barriers and issues (within the budget limitations of PIGGAREP). Such detailing might have gone beyond what strictly speaking was required in 2004 to get approval of the PIGGAREP Project Brief. Moreover, this evaluation realizes that PIREP

covers 15 countries and thus transaction costs including costs and time associated with travel in the region are exorbitant high. On the other hand, PIREP has had double the amounts of time and funds available in comparison with other GEF-funded preparatory (PDF) activities.

- *Satisfactorily with respect to outcome 3:* Stakeholders have been involved through in-country workshops and regional meetings. This evaluation reports comments that more of the PIREP funds could have been used to engage the non-governmental stakeholders (utilities, renewable energy technology suppliers, NGOs, financial intermediaries) in the design of the PIGGAREP concept as well as for having a more detailed planning and prioritization of project activities, as discussed above. Such a detailed project planning and focusing now needs to be done anyway as part of PIGGAREP's inception phase and some time could have been saved by having done part of the planning details already under the PIREP phase.
- *Highly satisfactorily with respect to outcome 4:* Managing a regional project in which no less than 15 countries participate and getting their as well as GEF's endorsement for the PIGGAREP is not a simple feat, but has been achieved within a reasonable timeframe.

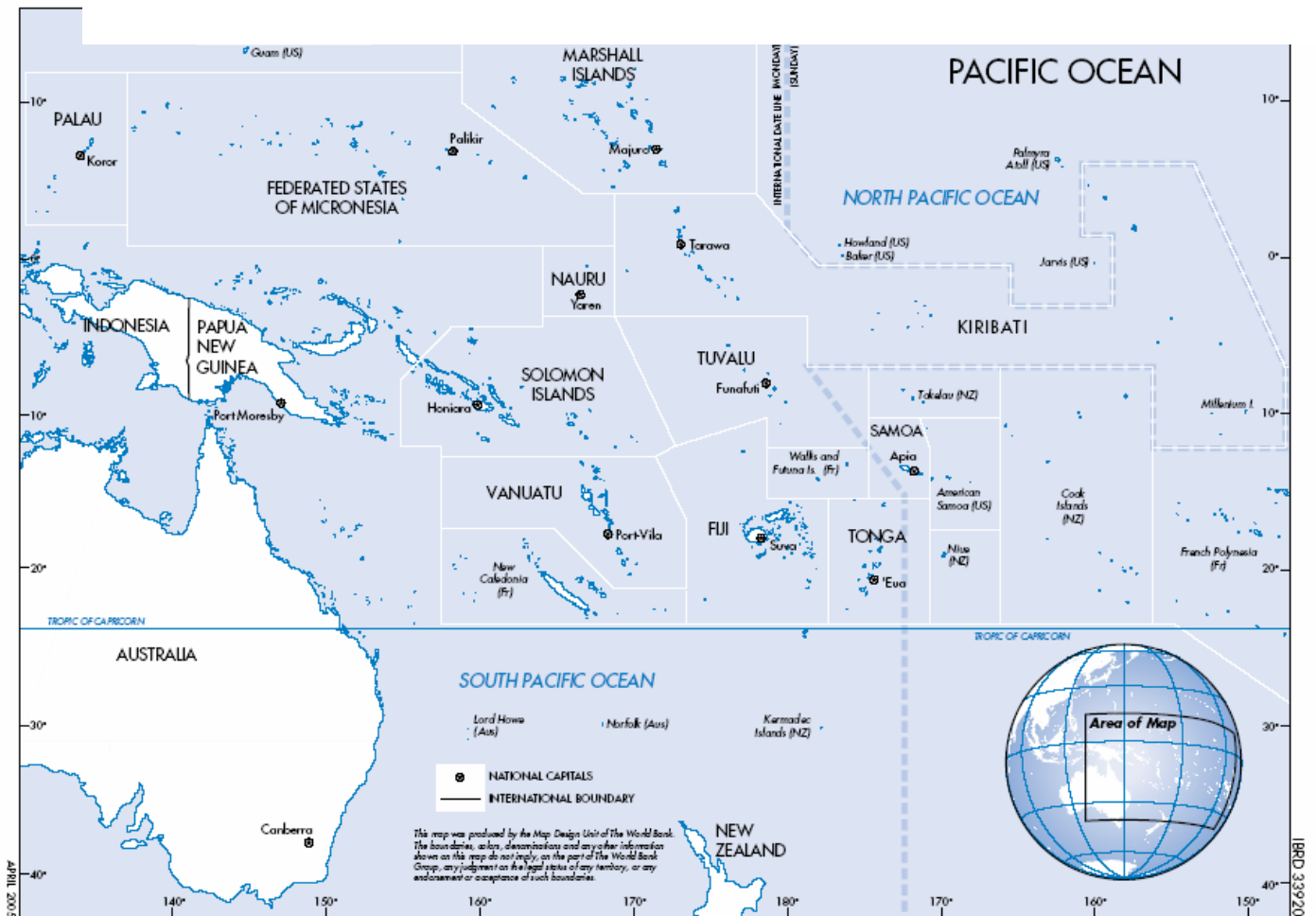
Important **recommendations** coming out of the evaluation study are:

- UNDP/GEF projects are subject to a mandatory terminal independent evaluation, but not their project preparation (PDF) phase as such. This evaluation is an exception, because PIREP was approved as a medium-sized project (MSP), not a PDF (the scaling up was deemed necessary for the design and preparation of a *regional* proposal in which 10-15 countries participate). Nonetheless, it might be an interesting exercise for both UNDP and GEF to perform a structured evaluation of selected PDF project to get some lessons learned on project development and design experiences;
- The project document and progress reporting formats employed by both UNDP and GEF have seemed to encourage a certain level of 'vagueness' with respect to presenting a clear structure of objectives, outputs and activities as well as inputs needed to achieve those (both in case of PIREP and PIGGAREP). Instead, the formats used by UNDP and GEF should be such that they promote a more to-the-point style of writing. In the end, prioritization of barriers, issues and activities is always needed (given the limitation of the project budget) and the lack of detail in the project conceptualization phase might lead to long delays in project's initiation phase with long discussions on the work plan of specific activities and the corresponding budget allocation;
- Regarding the successor program PIGGAREP, the evaluator suggests the following for its inception phase:
  - Formulation in consultation with a broad range of stakeholders (from government, private sector, financial institutions and NGOs) of a detailed Work Plan and budget of regional-level and in-country activities that are clearly linked with the country-level demonstration projects and other co-financed activities both at the national and the regional level;
  - Sometimes GEF projects have a Steering Committee (project partners, co-financiers and relevant government institutions) and a separate Advisory Committee (in which a broader range of stakeholders participate). Given the high cost of travel in the Pacific, such a setup would be too costly and the proposed setup is that PIGGAREP will have one Project Advisory Committee (PAC). In comparison with PIREP, PIGGAREP's PAC should aim at having a larger country representation with some representatives from private sector and civil society, while broad stakeholder participation should be ensured at the country

level in the Country Teams. Another way of ensuring stakeholder participation is to have working groups of relevant stakeholders associated with the before-mentioned ‘product-market-country’ cluster groups.

- Development of linkages, including effective collaboration and possible division of work with other energy projects/programs that are implemented in the region (e.g. by the World Bank, Asian Development Bank,, UNDP, European Union and bilateral donors) and integration with the energy-related work of other regional organizations (such as SOPAC) in PIGGAREP’s activities to avoid duplication of efforts and thus increase impact; e.g. by having observers or representations on steering/advisory committees of each other’s projects and holding back-to-back meetings with other projects as well as by creating and maintaining good working relations at the operational level (exchanging or cost-sharing staff; having regular consultations between project managers, etc.).

**Figure 1 Map of the Pacific region**



Source: World Bank

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# 1. INTRODUCTION

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The final Evaluation Report is divided into three sections. This first section provides general background of the Pacific Islands Renewable Energy project (PIREP), purpose of evaluation, project implementation setup, partners/stakeholders and evaluation methodology. The next section dwells on findings from the reports and from interactions with stakeholders. In the third section, conclusions from the observations and findings are discussed in the context of project objectives. These also pertain to sustainability and replicability of project and lessons learnt. The section also provides generic recommendations for the direction of the successor project, the Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP).

## 1.1 Background

The Pacific Island Countries (PICs) are currently heavily dependent on fossil fuels. Environmental concerns at global, regional and local levels, past and recent price hikes in the price of oil, among others, have been drivers behind a regional wide interest in renewable energy technologies. For instance, oil products consumption is largely responsible for greenhouse gas (GHG) emissions that will have climate change impacts. The PICs are among the regions most vulnerable to climate variability and sea level rise. In this sense, PICs have a great interest in joining the world community in adopting concrete measures to reduce the long-term growth in GHG emissions, including the more widespread utilization of modern renewable energy technologies (RETs).

Modern RETs have been implemented in region during the last 3 decades. Investments and projects have mainly taken place in three different contexts or categories:

- Hydropower resources have been developed in the framework of least cost power expansion plans of *public sector utilities*, often with support from multilateral lending agencies.
- Secondly, there have been a series of *donor grant financed rural electrification* projects using mainly photovoltaic (PV) and mini/micro hydro and more recently also wind and hybrid systems.
- Thirdly, there have been *private sector investments* that include biomass fuelled power generation (Fiji, Solomon Is), geothermal energy (Papua New Guinea), power supply for remote telecommunication (solar and wind), and solar water heating for private households in most PICs.

Due to the diversity of available renewable energy (RE) resources in the different PICs, it is not possible to identify a priority RET in the region. Analysis done under PIREP has identified Nauru, Niue, Palau, Samoa and Tuvalu as suitable for grid applications while there are large opportunities for both grid and off-grid applications in Fiji, FSM, Kiribati, Marshall Islands, Papua New Guinea (PNG), Solomon Islands and Vanuatu. Tonga has opportunities for both on-grid and off-grid RET applications for rural electrification. A summary of market characteristics of some PICs is given in Table 1.

*Biomass based power generation* (bagasse and wood wastes) with capacities of several megawatts (MW) have been operated successfully in Fiji for several decades. There have also been trials using various gasification technologies, the most successful of which was the use of gasification units for crop drying. There have also been trials using coconut oil as a diesel

fuel substitute in stationary and mobile diesel engines. In line with experiences elsewhere in the world, results of these trials suggest that various diesel engines can be operated using straight vegetable oil or blends. The *biofuel* option has however never been systematically researched in the Pacific, a task proposed to be tackled under PIGGAREP given the strategic potential vegetable oil based biofuels could have for the region.

In the Pacific, *hydroelectric systems* range in size from a few kilowatts for village electrification to the Monasavu hydro facility in Fiji at 80 megawatts that provides most of Fiji's electricity needs. All but the largest hydro schemes are usually "run-of-the-river" designs with no more than a few hours of water storage available. However, in terms of RE, the hydro installations of the mountainous PICs are major RE sources and have the potential

**Table 1** Compilation of RET market characteristics of the PIREP PICs

Market Group	Countries	Market character	Character of the economy	RET Market suitable for private development	Primary Market Barriers for private RET development
Group I	Melanesian (PNG, Solomon Islands, Vanuatu and Fiji)	Large unelectrified rural population. High percentage of population is classed as rural. Little prior exposure to renewable energy technologies other than traditional biomass use for cooking.	Rural areas include both commercial and subsistence agriculture or fishing. "Hot Spots" exist where concentrated development of mineral resources or large commercial plantations occur. Donor support or foreign investment is significant to the economy. Tourism is important for Fiji and to some extent for PNG and Vanuatu.	Biofuels (notably coconut oil and palm oil based fuels) Off grid electrification with solar and hydro Biomass where agricultural processing takes place Grid power from hydro, biofuel, biomass, geothermal and wind Solar water heating in urban areas	Limited participation in the cash economy making payment a problem Poor rural infrastructure making access difficult and maintenance a problem Little prior experience with renewable technologies Weak rural institutions make it difficult to assure compliance with agreements, collection of payments, etc.
Group II	Kiribati, RMI, FSM	Numerous isolated islands, large unelectrified rural population, high percentage of population classed as rural. Rural areas familiar with solar technology for lighting and basic electrification.	Rural areas combine money economy and subsistence economy. Donor support significant to the national economy. Narrow based economy with agriculture and fisheries dominant.	Off grid electrification with solar energy Coconut oil based biofuels Grid power from biofuel and solar Solar water heating in urban areas	Many small, remote islands make installation and maintenance expensive and difficult Small populations making it difficult to maintain a large enough market for private business development Few technical resources outside of urban areas.
					Poor communication and financial infrastructure in rural areas.
Group III	Palau, Nauru, Tuvalu, Tonga, Samoa, Niue, Tokelau	Most of the population is urban or semi-urban. Rural electrification complete or nearly so. Rural areas familiar with solar energy for basic electrification through long term projects	Largely focused on money economy though subsistence fishing and agriculture remains important. Donor support represents a significant part of the national economy for most. Agricultural or fisheries based economy with significant tourism income for Palau, Tonga and Samoa.	Grid power from biofuel, solar and wind Solar water heating	Small populations limit opportunity for business development Tonga and Tuvalu have high cost of access to rural areas with numerous isolated islands. Tokelau also has a high access cost. Utilities are small and integration of renewable energy at an economic scale is relatively difficult.

Source: PIREP *Demonstration Projects to Showcase the Business Angle of Renewable Energy Service Delivery in the Pacific Islands*

for providing a high percentage of the electricity supply for national utilities. There is also considerable development possibility for village scale mini-grids using hydropower and a number of installations have been made in PNG, Fiji, Vanuatu and the Solomon Islands. Unfortunately, village installations have not generally been reliable power sources due to the inability of the villages to access the technical support necessary. Problems have been primarily with the electrical components, particularly turbine speed controllers and alternators, but designs that have not adequately considered the problem of flooding have also contributed to the problem.

Although preliminary *geothermal* assessments have been made in Fiji, PNG, Vanuatu and other PICs for decades, PNG is the only PIC that has actually installed a geothermal energy extraction installation. The private installation at the Lihir Gold mining site has a 6 MW capacity which will be extended to 20-30 MW.

Although a number of *wind generators* have been installed in the Pacific over the years, only a few very small privately owned or Telecom owned units have remained in service more than four or five years. Currently, two installations are generating electricity for small grids; one in Mangaia, the Cook Islands and one in Fiji at Nabouwalu, Vanua Levu.

*Solar water heaters (SWH)* for domestic, commercial and industrial use are commercially available in the PICs. Tonga, Fiji and PNG have small manufacturers of SWHs and large numbers have also been imported from Australia. The most consistent use for solar water heaters is to provide piped hot water for hotels and guesthouses. A few countries, notably the Cook Islands, have many domestic installations as well, but since piped hot water has not been a common component of housing in the Pacific there seem to be little opportunity in the domestic market.

*Solar photovoltaics (PV)* were first used as power source for telecommunications in the late 1970s and continue to be used throughout the Pacific for powering remote repeaters and island telephones. The first rural electrification programmes using solar PV began in Fiji in 1983 and by 1984 in Tuvalu and Kiribati. By 1995, Fiji, Tonga, Tuvalu and Kiribati each had their own style of PV based rural electrification incorporating over 1,000 Solar Home Systems (SHS) altogether. From 1995 to the present, the growth in number of installed systems has been rapid and by 2006 several thousand homes in the PICs will have been electrified using solar PV. At the same time system costs have gone down and better and more reliable components are now available in the market.

Fiji has installed several *hybrid power* generation systems. Fiji Telecom has a wind/PV hybrid power system for charging backup batteries at several remote sites. The 6.7 kW Nabouwalu wind/PV/diesel is specifically designed for power generation.

Although a number of small-scale rural RE-based electrification projects have been carried out in the PICs over the last two decades, as described above, their impacts have been minimal. Most of these previous projects, by their nature (i.e., donor-funded equipment-based demonstrations) were not designed for sustainability, some are non-operational now and lack real private sector participation. Despite this overall discouraging experience, the PIC governments understand the benefits of developing and utilizing their respective countries RE resources, but the more widespread utilization and application of RETs is constrained by many closely interrelated and intertwined barriers, among others:

- *Technical:* lack of sustainable RE-based energy system installations and absence of guidelines on RE technical specifications (suitable for PICs);
- *Market:* lack of private sector involvement in RE service delivery and high cost of delivering RE services to remote places;

- *Institutional*: inadequate capacity to address the challenges in the design and implementation of RE projects;
- *Financial and fiscal*: absence of funding mechanisms for RE development, lack of confidence by financial intermediaries and investors in RE projects and biased fiscal policies;
- *Legislative, regulatory and policy*: energy legislation and policies are not in place or ineffective;
- *Knowledge, awareness and information*: many PICs lack qualified staff in the area of RE applications, inadequate or lack of public awareness campaigns, inadequate dissemination on best practices and success stories in the Pacific and other parts of the world and people in general lack information on RE technologies.

## 1.2 Project description and objectives

### Paragraph A.4 (item C.3) in the ToR given in Annex A

The Pacific Islands Renewable Energy Project (PIREP) is a medium-sized project (MSP) funded mainly by the Global Environment Facility (GEF) with the United Nations Development Programme (UNDP) as the implementing agency. PIREP has been executed by the Secretariat of the Pacific Regional Environment Program (SPREP). It was approved in February 2002 by the GEF Council and implementation started in May 2003.

The main objective has been the preparation of a regional approach to removing barriers to the development and commercialization of renewable energy systems in the Pacific Island Countries (PICs)'. There are two main reasons for choosing a regional approach for this project. First, there are limited human and institutional resources in many PICs and they would thus probably have difficulty completing some of the PIREP in-country activities without the regional support network. PICs are fully aware of the limited available resources and have therefore opted for a collective and regional project. Secondly, previous experiences have shown that regionally executed projects are a cost-effective way to implement homogenous activities across the countries of the region. This is especially true when - as it is the case with the PIREP - the overall in-country activities as a starting point are identical for all 14 participating PICs. The establishment of an enabling environment conducive to the region-wide adoption and commercialization of RETs involves the design, development and implementation of appropriate policies, strategies and interventions addressing the fiscal, financial, regulatory, market, technical and information barriers to RE development and utilization.

More specifically, PIREP has resulted in (more details are provided in the next chapter):

- The preparation of the regional *Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP)*, which was approved by the GEF Council in June 2005 and endorsed by the GEF Chief Executive Officer (CEO) on 6 September 2006, and mobilization of required sources of co-financing for PIGGAREP. While PIREP formally is a MSP, its *de facto* purpose has been to lay the groundwork (preparatory phase) for PIGGAREP;
- Background reports and strategy papers on:
  - Barriers and capacity development needs as well as lessons learned, addressed in 'national assessment reports' for each of the 15 participating PICs,
  - Demonstration projects and market development,
  - Financial mechanisms for renewable energy development,

- Technology support activities, and
- Synthesis of all findings and recommendations in the country assessment reports in a regional overview report.
- Regional and national consultative stakeholder consultations to support the formulation of the above-mentioned two main outputs, including regional meetings and in-country workshops.

According to standard UNDP/GEF regulations, an independent evaluation is needed at the end of a Full Size Project (FSP) or MSP. Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects. In July 2006, Mr. Jan van den Akker, owner of the company Advisory Services on Climate, Energy and Development Issues (ASCENDIS), hereafter referred to as ‘the Evaluator’, was selected to undertake the final evaluation of PIREP.

The total budget of PIREP and the TTF Tokelau was USD 784,000 with a GEF contribution of USD 700,000, a UNDP/TTF contribution of USD 30,000 and in-kind co-financing of USD 54,000 (see Table 2).

**Table 2 Budget of PIREP and TTF Tokelau**

	<i>PIREP</i>	<i>TTF Tokelau</i>	<i>Total (USD)</i>
- GEF	700,000		700,000
- UNDP TTF		30,000	30,000
Governments (in-kind)	51,000	3,000	54,000
<i>Total</i>	<i>751,000</i>	<i>33,000</i>	<i>784,000</i>

The original project document budget includes an *additional US\$60,000* from the UNDP regional TRAC contribution), but this co-financing was not made available due to decreases in UNDP’s regional resources and this therefore not given in Table 2. However, a UNDP contribution of US\$30,000 was provided via the UNDP Thematic Trust Fund (TTF) on Energy for Sustainable Development to ensure Tokelau’s participation in PIREP.

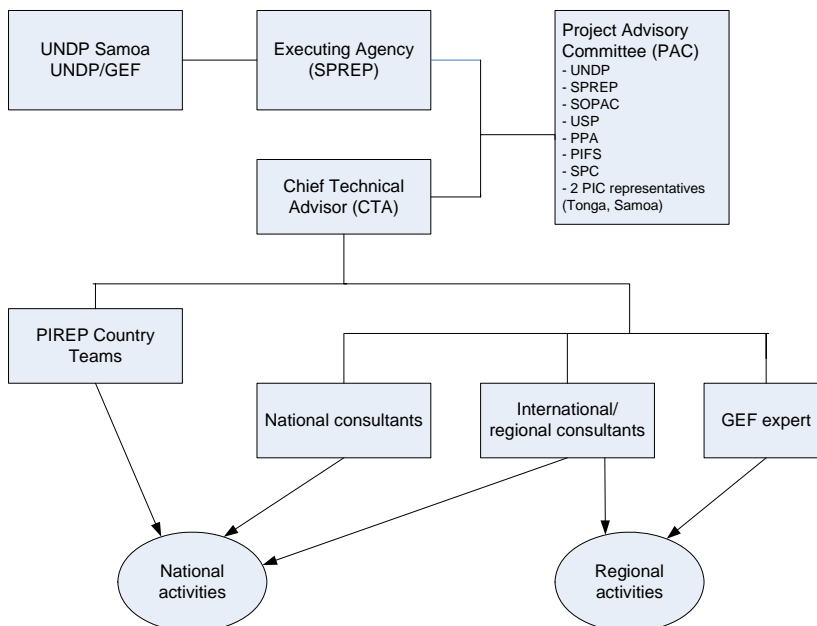
### 1.3 Project set-up and project partners

*Paragraphs A.4 (item C.3) and A.8 in ToR*

The project institutional setup is presented in Figure 2:

- *UNDP* has been the GEF implementing agency for PIREP. UNDP/GEF (via the UNDP Regional Centre in Bangkok, RCB) has been responsible for ensuring that PIREP is implemented in accordance with GEF and UNDP policies. Specifically, the UNDP Inter-Country Office in Samoa has approved implementation work plans and budget revisions, identified issues, suggested actions to improve project performance, facilitated timely delivery of project inputs, provided linkages to its other regional and global initiatives and monitored progress.
- *SPREP*, an intergovernmental organization of 18 countries and 7 Pacific Territories, has been the executing agency. SPREP has been responsible for overall planning,

**Figure 2 Setup of PIREP**



management, coordination and administration of PIREP and SPREP’s climate change program has also been providing administrative, logistical and administrative support.

- The *Chief Technical Adviser (CTA)*<sup>1</sup> has been responsible for the day-to-day planning, management, coordination and administration of the PIREP project activities.
- The *Project Advisory Committee (PAC)* has been providing advisory support and guidance to SPREP and the CTA. The Energy Working Group of the Council of Regional Organizations for the Pacific (EWG-CROP) was chosen as a suitable and already existing working mechanism to serve as PAC. The permanent members of the EWG, i.e. Pacific Islands Forum Secretariat (PIFS), South Pacific Applied Geoscience Commission (SOPAC), Secretariat of the Pacific Community (SPC), SPREP, University of the South Pacific (USP), Pacific Power Association (PPA) and UNDP, have thus been members of the PAC with UNDP Samoa representing UNDP. Apart from these regional representatives, the PAC was made up two country representatives (Samoa and Tonga) representing the 14 participating PIREP countries (plus Tokelau).

Following the model framework of the earlier Pacific Islands Climate Change Assistance Programme (PICCAP), implemented by UNDP and SPREP<sup>2</sup>, *Country Teams* were established in each of the participating countries to be responsible for the coordination of the in-country project activities and to provide assistance for their implementation. The

<sup>1</sup> Mr. Solomon Fifita

<sup>2</sup> The primary reasons for selecting SPREP as the executing agency were as follows:

- First, SPREP is the inter-governmental organisation in the Pacific that has the regional mandate for climate change interventions and in addition is the regional focal point to the United Nations Framework Convention on Climate Change (UNFCCC).
- Secondly, SPREP was the executing agency for the Pacific Islands Climate Change Assistance Programme (PICCAP), which provided the basis and framework model for the PIREP project. PICCAP’s first Multipartite Review (MPR) meeting agreed to change identification of mitigation options from a national to a regional activity, on the grounds that such an approach was consistent with the lack of technical capacity at national level and would also be more cost effective. The PICCAP Project Advisory Group (PAG) supported this change and a subsequent regional meeting recommended development of a renewable energy project – PIREP.

Teams usually consisted of a senior officer from the PIC's energy unit or office as the Coordinator of the Country Team and some 5 to 6 other local officers and experts from other relevant government departments (including the GEF Focal Point), utilities and NGOs.

External expertise was called upon either from *international/regional consultants* and *national consultants*. In addition, a *GEF expert* was planned to be contracted for the PIGGAREP project formulation, but the contract was cancelled later. A list of National Coordinators, national consultants and regional consultants is given in Annex C.

## 1.4 Evaluation methodology and structure of the report

Paragraphs A.4 (items A, B and C.2), A.5, A.6 and A.7 in the ToR

The following tools to get the information necessary to perform were applied by the Evaluator:

- 1) Review of reports and documentation. As part hereof the following documents were consulted:
  - PIREP: GEF Project brief UNDP Project Document
  - PIGGAREP: GEF Project Brief, GEF Executive Summary and UNDP Project Document
  - Annual Project Reports (APRs) 2003/2004, 2004/2005 and 2005/2006
  - Quarterly Progress Reports of the period 2003-2006
  - Reports produced by PIREP:
    - National renewable energy assessment (Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu)
    - Regional overview report
    - Financing mechanisms for renewable energy development
    - Renewable energy technology support programme
    - Demonstration projects to showcase the business angle of renewable energy service delivery
  - Output Evaluation of the Pacific Islands Renewable Energy Project (PIREP), prepared for GEF by Dr. Mark C. Trexler (April 2005);
  - Minutes of the Pacific Islands Renewable Energy Project Regional Planning and Consultative (RePCo) Meeting (Nadi, Fiji, 13-14 August 2003);
  - Minutes of the first PIREP Multipartite Review Meeting (Apia, Samoa, 5 July 2004);
  - PIREP Quarterly Financial Reports from the period 2003-2006 as well as Project Budget revisions
- 2) Mission to Samoa and Fiji from 17 August to 2 September 2006 to meet key stakeholders (UNDP Inter-Country Office in Samoa, SPREP, SOPAC, country representatives as well as other stakeholders) with a stopover in Bangkok (Thailand), to meet UNDP-GEF staff (at UNDP Regional Centre in Bangkok)
- 3) Interviews by means of structured questionnaire, e-mail and telephone and with country representatives (national coordinators) and PIREP consultants and regional stakeholders (e.g., SOPAC).

For the final evaluation it was considered important to consult widely with a range of stakeholders to assess and to understand the progress in terms of outputs and impacts achieved made in the 13 main activities that are mentioned in the original PIREP Project Brief and to analyse the factors that have influenced the achievement of outcomes and objectives. During the mission, extensive discussions were held with the CTA of PIREP and with representatives from UNDP Samoa and UNDP/GEF (UNDP RCB), SPREP and SOPAC as well as with the international consultants that worked for PIREP. Since logistically it was not possible to visit all the 15 participating PICs, a questionnaire (see Annex B.3 for its format) was sent to the country stakeholders. The response to the questionnaire was very limited, but instead the Evaluator was able to hold face-to-face meetings with 11 country representatives that participated in the PIREP Terminal Multipartite Review (TMR) meeting on 29 August 2006 in Nadi, Fiji. A list of people met during the evaluation mission, including country representatives, is given in Annex B.1.

Before undertaking the mission, the Evaluator already analyzed most of the above-mentioned documents (that were downloaded from the PIREP section of SPREP's homepage or sent by the UNDP Samoa office) and which formed the basis to write a draft *inception note* which was sent to UNDP Samoa for comments before embarking on the mission.

The Evaluator made a presentation of the preliminary findings and conclusions (which is attached in Annex B.2) at the TMR Meeting and at the end of the mission sent draft *debriefing note* and the draft evaluation report to UNDP Samoa.

Subsequently, UNDP Samoa sent the draft Evaluation Report for comments to SPREP, country and CROP-EWG agency participants in the TMR Meeting as well as to the PIREP National Coordinators from the four (4) countries that were unable to participate in the TMR Meeting (i.e. FSM, PNG, Nauru and Vanuatu). The Evaluator was provided with copies of all the comments received and these have been reflected in this final version.

## 2. FINDINGS

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### 2.1 Implementation: outputs, activities and accomplishments

*Paragraph A.4 (items C.3 and C.4.4) in the ToR*

This section assesses the project's performance and implementation of the project, in terms of outcomes met, outputs achieved and activities realized. The objectives, outcomes, outputs and activities of PIREP are described in much detail in:

- GEF Project Brief of PIREP
- UNDP/GEF Project Document of PIREP
- Annual Project Reports (APRs)
- Quarterly Progress Reports.

Unfortunately, the structure regarding project performance (in terms of objectives, outcomes, activities and corresponding indicators) is quite differently described in each of the above-mentioned documents, making it, at first glance, very difficult to compare the text in each document on performance and accomplishments.

Annex D attempts to relate the sets of outcomes, outputs and activities as given in the these documents to one another. This confusing way of having different sets of outcomes, outputs and activities over time reflects two issues:

- The formats used by UNDP and as well as GEF on project formulation (project brief, executive summary, project document) and progress monitoring (annual project reports, project implementation report, quarterly reports) seem to change every 2 or 3 years or so with corresponding changes, e.g., in definition of what is an objective, an outcome, an output or an activity.
- PIREP has officially been a GEF MSP, but in practice its sole objective has been to prepare the groundwork for the successor (i.e. PIGGAREP). In other words, PIREP has *de facto* been a type of expanded project formulation (PDF) exercise, but has been officially formulated as if it were a stand-alone project following a format of describing outcomes and outputs that is more appropriate for GEF MSP or MSP than for a project design phase.

The Evaluator has taken the liberty therefore to define a clearer set of objectives, outcomes and activities that more realistically describe PIREP, acknowledging that this might contribute to even more confusion.

#### Objectives

**Global environment objective** (called 'project purpose' in the PIREP Project Brief):  
"The adoption and commercialization of feasible and applicable renewable energy technologies (RETs) as part of efforts to support sustainable development of the Pacific Island Countries (PICs) through the removal of barriers to the widespread application of RE and the reduction of implementation costs of RE initiatives is accelerated"

**Development objective** (called 'development goal' in the Project Brief and 'objective' in the APRs):

“The preparation of a regional approach to removing barriers to the development and commercialization of renewable energy (RE) systems in the PICs that influences country efforts to reduce the long-term growth of greenhouse gas (GHG) emissions from fossil fuels”

<i>Indicators for the Development Objective</i>	<i>Output (deliverable)</i>	<i>Corresponding items in APR and quarterly reports</i>
Development of (a) regional/national programme(s) in the PICs (aimed at removing barriers to the development and commercialization of RE systems)	<ul style="list-style-type: none"> <li>• Project documents of regional (PIGGAREP) and national initiatives(i.e. ADMIRE and SEDREA)</li> <li>• Co-financing letters from project partners</li> <li>• Completed consultations with stakeholders</li> <li>• Approval of GEF Secretariat CEO of these documents</li> </ul>	<i>APR (project performance):</i> Objective Indicators 2 and 3
Medium-term strategy for RE development and utilization	<ul style="list-style-type: none"> <li>• National and regional assessment reports</li> </ul>	<i>APR (project performance):</i> Objective Indicator 1

## Outcomes, outputs and activities

### Outcome 1:

Barriers to RE development (policy and planning, information and awareness raising, institutional, market and delivery mechanisms, technology support and financial) are identified, verified and evaluated, capacity development needs (in these areas) identified and barrier removal measures are recommended

<i>Indicators</i>	<i>Output (deliverable)</i>	<i>Corresponding items in APR and quarterly reports</i>
<ul style="list-style-type: none"> <li>• Identified barriers and capacity development needs and recommended measures at national level</li> <li>• Synthesis at regional level of identified barriers, capacity development needs and recommendations for potential measures and delivery mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• National assessment reports for each of the 15 PICs</li> <li>• Regional assessment report (synthesis of the 15 national reports)</li> <li>• Report on demonstration projects to showcase the business angle of RE services delivery</li> <li>• Report on financial mechanisms</li> <li>• Report on technology support program</li> </ul>	<i>APR (project performance):</i> Outcomes 1, 3, 5, 8, 11, 12, 13  <i>Quarterly progress report:</i> Outputs 1.1-10 Outputs 12.1-12.5 Outputs 14.1-14.4
<ul style="list-style-type: none"> <li>• Regional database is designed</li> </ul>	<ul style="list-style-type: none"> <li>• Workbooks (in Excel) containing demographic, economic, environment and energy data</li> </ul>	<i>APR (project performance):</i> Outcome 9  <i>Quarterly progress report:</i> Outputs 12.1-12.5

*Activities:*

- 1a. Review existing barriers, policies, etc.
- 1b. Drafting and finalization of the 15 national assessment reports by international and national consultants (home-based and on mission)
- 1c. Drafting and finalization of regional synthesis and special topic reports (home-based and on mission)
- 1d. In-country workshops to discuss report inputs and recommendations
- 1e. Design of database, collection of data (by consultants, CTA) and completion of database by users

[*Note:* corresponding to activities 1, 2, 3, 4, 5 and 21 in the last Quarterly Progress Reports]<sup>3</sup>

*Achievements:*

A team of international consultants<sup>4</sup> (ICs) was selected by August 2003 and a consultancy agreement was signed. The team visited the PICs during the period November 2003-April 2004. Similarly, consultancy agreements were signed with the PIC national consultants (NCs) during the fourth quarter of 2003. Here some difficulties were encountered in contracting NCs, such as difficulties in identifying NCs (including ones that were suitable, available, etc), national coordinators proposing themselves as NC (which is not possible in principle, but was accepted exceptionally in one case), differences in consultancy rates between NCs (which provoked some discussion), late response to propose the NC and cancellation of contracts with selected NCs (causing delays), etc. In the end, agreements were signed with NCs from most PICs, while in one case SOPAC acted as NC (in Vanuatu) and in another case an IC acted as NC (in Tokelau). Another problem mentioned was that NCs often did not work directly with the ICs and submitted their contributions after the deadlines of the IC's reports were due. According to the Quarterly Progress Reports, the NCs assisted with the studies 'with different degrees of usefulness'.

In-country Strengths, Weaknesses, Opportunities, Threats (SWOT) workshops during the missions of the IC, held in most of the PICs and one-to-one meetings extracted the necessary information. The draft national assessment reports were mostly completed before the MSP Workshop and Multipartite Review meetings (July 2004, see Outputs 2 and 3). The reports and regional synthesis were then reviewed and endorsed by the PICs and printed during the first quarter of 2005, followed in 2005 by the demo projects and business angle study, technology support and financial mechanisms reports (most of them completed before the STAP review, see Output 3).

Construction of the database and data collection commenced in 2005. Discussions were held with SOPAC on possible joint efforts, but it was decided that PIREP would do its own database (due to compatibility or other problems), which was completed by April 2006.

<sup>3</sup> Activities are numbered 1,2,3,... per output in the first set of Quarterly Reports. When UNDP introduces the new ATLAS system for budget and expenditure reporting, the budget breakdown is reorganized according to 'activity' and 'budget line'. On this occasion (mid-2004), the list of activities given in the Quarterly Reports is slightly changed to make it consistent with the list in the ATLAS system and is now numbered 1-21.

<sup>4</sup> The team was led by Mr. Herbert Wade and assisted by Mr. Peter Johnston and Mr. John Vos. The 14 participating PIREP countries and Tokelau were at least visited by one IC.

### Outcome 2:

Project framework designed for an envisaged RE programme in the Pacific region

<i>Indicators</i>	<i>Output (deliverable)</i>	<i>Corresponding items in APR and quarterly reports</i>
<ul style="list-style-type: none"><li>Proposed design of a RE barrier removal program</li><li>Resource mobilization plan for the initiatives endorsed by project partners</li></ul>	<ul style="list-style-type: none"><li>PIGGAREP project documents (GEF Executive Summary and UNDP/GEF Project Document)</li><li>Co-financing letters</li></ul>	<p><i>APR (project performance):</i> Indicator 1 of outcome 14 Outcome 4</p> <p><i>Quarterly progress report:</i> Output 16</p>

### *Activities:*

- 2a. Drafting and finalization of PIGGAREP Executive Summary and Project Document
- 2b. Discussions and meetings on endorsement and resource mobilization from project partners in the PICs, regional organizations (EWG-CROP and PAC) and donors for PIGGAREP
- 2c. Submission to UNDP/GEF and GEF Secretariat

[*Note:* corresponding to activities 10, 12, 13, 14 and 15 in the Quarterly Progress Reports]

### *Achievements:*

A first draft of the PIGGAREP Project Brief and Executive Summary was drafted in mid-August 2004 by the contracted GEF Expert. However, the GEF Expert's contract was not extended due to differences in opinion between SPREP/CTA and the Expert on certain issues and basically the CTA (under guidance from UNDP Samoa/UNDP RCB) took over the task of drafting the Project Brief that was finalized in October 2004. The draft was discussed at meetings of CROP-EWG and SPREP and approved in principle and further discussed at other regional meetings. The CTA had to visit a number of PICs to discuss and get the necessary endorsement and documentation of the PICs during the last quarter of 2004. With endorsement letters, PIGGAREP was submitted to the GEF Secretariat for inclusion into the pipeline in March 2005 and included in the GEF Work Programme in June 2005. Subsequently, the UNDP Project Document was drafted, which has gone to several reviews and during which period the CTA travelled to a number of PICs to secure additional co-financing and have further consultation meetings to secure support. The Project Document was submitted in July 2006 to the GEF Secretariat. Finally, PIGGAREP was endorsed by the GEF CEO on 6 September 2006.

In PIGGAREP, 11 out of the 15 PIREP countries will participate: FSM, Marshall Islands (RMI), Palau and Tokelau will not take part. Instead, Palau and RMI decided to develop their own MSP, namely Action for the Development of the Marshall Islands Renewable Energy (ADMIRE) project and the Sustainable Economic Development through Renewable Energy Project (SEDREA). The ADMIRE proposal, a US\$ 2.65 million proposal (with US\$ 1 million of GEF support), was reviewed by the CTA and is now in the final stages of GEF approval.

### Outcome 3:

Stakeholders informed and are engaged in the design of the envisaged RE program.

<i>Indicators</i>	<i>Output (deliverable)</i>	<i>Corresponding items in APR and quarterly reports</i>
<ul style="list-style-type: none"><li>Regional website is operational and</li><li>Outputs and recommendations from assessment reports are disseminated</li></ul>	<ul style="list-style-type: none"><li>PIREP web pages on the SPREP website (climate change portal)</li><li>Reports, database, project documents and other relevant info is made available on the PIREP web pages</li></ul>	<i>APR (project performance):</i> Outcome 10 Outcome 14 (but not its indicator)  <i>Quarterly progress report:</i> Outputs 13 and 15
<ul style="list-style-type: none"><li>Understanding and engagement of project proponents and stakeholders on the objectives and results of GEF MSP and FSP</li></ul>	<ul style="list-style-type: none"><li>Regional planning and consultative meeting (August 2003)</li><li>MSP results and FSP design workshop (July 2004)</li></ul>	<i>APR (project performance):</i> Outcome 7  <i>Quarterly progress report:</i> Output 11

#### Activities:

- 3a. Setup, maintain and update the PIREP web pages on SPREP's website
- 3b. Publish the project outputs (reports) on the PIREP web pages
- 3c. Conducting RePCo meeting
- 3d. Conducting the MSP workshop

[Note: corresponding to activities 6, 7, 8, 9 and 11 in the in the Quarterly Progress Reports]

#### *Achievements:*

In-country Strengths, Weaknesses, Opportunities, Threats (SWOT) workshops were held in most of the PICs to formulate the national assessment reports. The RePCo meeting was held in August 2003 and the MSP workshop in July 2004. The climate change portal of SPREP, which contains the PIREP web pages, was launched before the end of 2004. Once completed and approved, the PIREP reports and database have been published on the PIREP web pages, as well as PIREP and PIGGAREP project documentation and links to other regional programmes and institutions (see [www.sprep.org/climate\\_change/pirep.htm](http://www.sprep.org/climate_change/pirep.htm)).

### Outcome 4:

Adaptive project management, monitoring and evaluation

#### Activities:

- 4a. Management and administration of PIREP
- 4b. Conduct audit of PIREP
- 4c. Conduct monitoring and evaluation (evaluation missions and multi-partite review meetings)

[Note: corresponding to activities 16, 17, 18, 19 and 20 in the in the Quarterly Progress Reports]

<i>Indicator</i>	<i>Output (deliverable)</i>	<i>Corresponding items in APR and quarterly reports</i>
<ul style="list-style-type: none"> <li>• Effective and efficient project management</li> <li>• Audits</li> </ul>	<ul style="list-style-type: none"> <li>• Project work plan and regular progress reports (APRs and Quarterly Progress Reports)</li> <li>• Audit report</li> <li>• Quarterly financial reports</li> <li>• PAC meetings (held in conjunction with RePCo meeting and MSP workshop)</li> </ul>	<i>Quarterly progress report: Output 17</i>
<ul style="list-style-type: none"> <li>• External evaluation</li> <li>• Advisory and evaluation meeting</li> </ul>	<ul style="list-style-type: none"> <li>• STAP review of PIREP outputs</li> <li>• Final evaluation report</li> <li>• Multi-partite review meetings (July 2004 and August 2006)</li> </ul>	<i>Quarterly progress report: Output 17</i>

*Achievements:*

PIREP project activities started in May 2003. A revised implementation plan and budget was discussed at the inception RePCo meeting in August 2003. Together with the extension of PIREP, the CTA's contract was extended a number of times and ended on 31 August 2006. APRs and Quarterly Progress Reports have been drafted regularly and discussed at the PAC/review meetings. Also, PIREP has been audited annually.

## 2.2 Project implementation: impacts of the PIREP project

Paragraph A.4 (item C.4.3) in the ToR

PIREP has basically been a project development exercise and, although formally being a MSP, is therefore not expected to result in reduction of greenhouse gas emissions or removal of barriers to renewable energy development. As detailed in the previous paragraph, PIREP only involved studies of barriers, capacity development needs and strategies, consultation meetings with stakeholders and project document formulation.

It is expected that PIREP's successor project, PIGGAREP, will have significant impacts. These impacts would include, but are not limited to the following:

- Installation and operation of renewable energy systems, such as solar PV systems, solar water heaters, biofuels and micro hydro;
- Impacts on end users and degree of socio-economic development;
- Development of policies, legislation and regulations that support RE development and utilization
- Expansion of business and supporting services for RE technologies;
- Increase of financing availability and financing mechanisms;
- Improvement of awareness and understanding of technologies among producers, users and intermediary organizations;
- Change in energy consumption and fuel use patterns and resulting greenhouse gas reduction and other environmental impacts.

## 2.3 Assessment of the design of PIREP

*Paragraph A.4 (item C.4.2) in the ToR*

### 2.3.1 Country ownership

The PIREP process has clearly played a very valuable role in pulling together or updating a very large amount of information relevant to the energy systems of the PIC countries. The PIREP process has successfully taken a “snapshot” of many aspects of the status of renewable energy technologies in the PIC countries, and of the nature of the barriers facing the additional deployment of those technologies. While the PIREP process has assembled a snapshot of much of the information relevant to its objectives, it has set the stage for the successor PIGGAREP project. Of the 14 PIREP countries (plus Tokelau), 11 countries participate in PIGGAREP and two have initiated their own MSP proposal, which is indicative for the support in the PICs for regional and national level renewable energy initiatives, which are considered all the more urgent in view of the international oil price that has been rising the past years.

### 2.3.2 Conceptualization and design

With respect to the project formulation, the Evaluator distinguishes between the *de facto* project design and how the project design is written down in the various documents and progress reports by asking the following questions:

- *Whether the problem that the project addressed is clearly identified and the approach soundly conceived*

The PIREP project has been designed to target the issue of climate change through non-CO<sub>2</sub> emitting renewable energy technologies. The project has recognized at the outset that in order to achieve these larger goals, it is not sufficient to implement just technical solutions but also look at ‘soft’ issues like capacity building, national RE strategy formulation, institutional strengthening and financial issues in an integrated way in a regional-level initiative to ensure long-term sustainability

PIREP is meant as a preparatory phase for such a wider initiative, i.e. PIGGAREP. The approach has been first to make an extensive analysis of the barriers and capacity development needs (technical, policy-institutional, financial and public awareness and acceptability barriers) in PIREP and to make recommendations for delivery and financial mechanisms, demonstration projects and measures to improve the technology support system and policy and regulatory frameworks. The national and regional assessment reports further provide a wealth of data on the existing situation. Thus, the baseline situation is mapped in great detail in order to be able to formulate the regional GEF intervention in the form of PIGGAREP.

- *Whether the objectives and outputs of the project were stated explicitly and precisely in verifiable terms with observable success indicators and whether the relationship between objectives, outputs and activities are logically articulated*

As mentioned earlier, the *de facto* design is quite clear, PIREP is a project preparatory exercise in which four main outcomes can be distinguished (1) Specific barriers to renewable energy (RE) development are identified, verified and evaluated, and capacity development needs and barrier removal measures are recommended; (2) A project framework is designed for a regional RE project in the Pacific region, called PIGGAREP; (3) stakeholders are informed and are engaged in the design of the envisaged PIGGAREP program; and (4) management, monitoring and evaluation of PIREP.

These are the typical outcomes of a preparatory activity that is supported by GEF with PDF financing<sup>5</sup>. In the end it was probably felt that the usual PDF funding would not be sufficient to formulate a regional program in which 14 countries participate. Instead and in an exceptional way, the funding modality of the MSP was chosen (allowing double the amount of GEF funding) for the development of the regional initiative, later to be known as PIGGAREP.

In order to get approval by the GEF, the PIREP project however has been formulated following the structure of outcomes and activities and format used in GEF medium-sized projects. Here, the uninitiated reader who is not familiar with the specific PIREP objective and background, gets easily confused:

- The long list of outcomes, outputs and/or activities (given per type of barrier, i.e., policy, information and awareness, technology support, etc.) seems almost to suggest that PIREP's purpose is not just to *prepare* a regional project (consisting of barrier removal interventions) but to actually *implement* these interventions.
- Different lists of outcome, outputs and activities appear in the Project Brief, Project Document and the two reporting tools on substantial matters (i.e. the APRs and Quarterly Reports) and definitions of the words 'outcome', 'output', 'activities' and 'indicator' are not consistent and are used sometimes interchangeably, depending on the definition the author of the documents seems to give to these terms. This is also a reflection of the fact that both GEF and UNDP have on various occasions changed the formats in which project proposals and progress reports have to be submitted, including the expected 'language' and terminology. Annex D attempts to put the various outcome-output-activities structures in one table for the sake of comparison.

### 2.3.3 Stakeholder identification and participation

The overall implementation framework of PIREP was based on the well-established Pacific Islands Climate Change Assistance Programme (PICCAP) framework which used and organised local expertise in Country Teams. Under PICCAP these Teams were coordinated by the GEF Operational Focal Point, usually the government entity dealing with environmental matters. This Country Team setup and approach has been used for PIREP - as well as for the ongoing SOPAC/UNDP/Government of Denmark Pacific Islands Energy Policy and Strategic Action Planning (PIEPSAP) project - and is proposed to be used for the successor PIGGAREP, although somewhat modified to reflect that PIREP and PIGGAREP are environment and energy projects (in the context of climate change mitigation). For PIREP the Teams were coordinated by an official from the country's energy unit or office with about 5 or 7 other members, coming from other government entities (environment, finance and

<sup>5</sup> PDF: Project Development Facility. Typically US\$ 25,000 can be made available for the formulating the first concept of a full-sized project (FSP) or the project document of a medium-sized project (MSP) under PDF A funding and up to US\$ 350,000 for formulating the project documents of a FSP under PDF B funding. MSP projects can be supported by GEF with up to US\$ 0.75-1 million, while support for full UNDP/GEF projects is typically in the range of US\$ 3-5 million.

planning), utilities and NGOs<sup>6</sup>. The Evaluator agrees that the great advantage of this setup is providing institutional continuity across the various projects over time.

In the PIREP project design, regional-level stakeholders through the Energy Working Group of the Council of Regional Organizations in the Pacific, whose permanent members (PIFS, SOPAC, SPC, SPREP, USP, PPA and UNDP) are also the members of PIREP's Project Advisory Committee (PAC) supplemented with the two countries of Samoa and Tonga representing the 14 PIREP countries. Apart from PAC meetings, two regional meetings/workshops are planned in the PIREP Project Document to get the input from stakeholders in the work plan formulation of PIREP, the Regional Planning and Consultative (RePCo) meeting and the MSP Results and Project Design Workshop in order to get the inputs of the stakeholders in the PIGGAREP project concept. National-level stakeholders are involved by means of the in-country (SWOT) workshops as part of the national report assessment formulation exercise and by means of meetings and consultations with local government stakeholders on the PIGGAREP concept.

## 2.4 Assessment of the implementation of PIREP

*Paragraph A.4 (item C.4.3) in the ToR*

### 2.4.1 Implementation approach

In terms of the project's performance, a number of issues are looked at:

- *Adaptive management and the use of realistic and comprehensive work plans*

At the RePCo meeting in August 2003 a work plan was adopted that defines more realistically (in the opinion the Evaluator) the structure of outputs and activities. For example, the outputs 1.1-10 are now lumped together as these are addressed not per issue (policy barrier, capacity barrier, etc.) but more logically as one output per country (with one deliverable, namely the national assessment report).

The originally planned duration of PIREP was 18 months. Some delays have occurred in drafting the assessment and other reports; most drafts were ready around mid-2004 but not reviewed by the PICs and printed until 2005. To accommodate this slight delay and also to be able to draft and finalize the PIGGAREP Project Brief and Project Document as well as all the consultations needed with the PICs and donors to secure endorsement letters and other documentation, PIREP was extended on a number of occasions (in July 2004: extension of one year; in July 2005: extension of half a year, in December 2005: extension of half a year and again in June 2006). PIREP ended operationally on 31 August 2006.

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<sup>6</sup> Examples of the Country Team composition are as follows:

- Cook Islands: energy planning (Ministry of Works), statistics office, ministries of finance, agriculture and of outer island affairs, meteorological office and representatives from oil companies, WWF and 1 other NGO
- Kiribati: energy office (Ministry of Works and Energy), finance ministry, climate change office, Office of the President and the utility with invited participation in meetings by the National Development Bank and the Chamber of Commerce
- RMI: energy office (Ministry of Resources and Development), environment office, foreign affairs, utility as well as representatives from Chamber of Commerce and 2 NGOs
- Solomon Islands: meteorology, environment and energy offices
- Tonga: energy planning unit (Ministry of Land and Resources), statistics department, planning, fire department, utility, 1 NGO

- *Monitoring of project activities and the use of the project's logical framework as a management tool*

The progress in activities (as laid down in the 2003 Work Plan) and the project's outputs and activities are regularly reported and well-documented in the Quarterly Progress (following the structure given in Annex D). The Annual Project Reports (APR), drafted every year in June/July, discusses the project's outcomes (but according to another structure of outcomes and indicators, also given in Annex D). It takes some time to figure out how the APR structure of reporting corresponds to that of the Quarterly Progress Reports. Basically, the Quarterly Progress Reports are good for the monitoring of deliverables (e.g., workshop carried out, assessment report formulated, PIGGAREP proposal drafted, etc.), while the APRs serve as a checklist of whether all issues (e.g., analysis of technical barriers, identification of financial mechanisms, suggested policy measures) are adequately covered in the assessment and special topic reports.

Progress and achievements have been discussed at two Multipartite Review meetings, one in July 2004 (held back-to-back with the MSP Results and Project Design Workshop) and at the final review (TMR) meeting in August 2006. Together with the STAP Review of the PIGGAREP Project Brief, the STAP reviewer, Mr. Mark Trexler, also made an 'Output Evaluation' of PIREP, i.e., an analysis of the deliverables (written materials, meetings held) but following the structure of outcomes/activities as mentioned in the PIREP Project Document. The tone of Trexler's evaluation is cautiously optimistic. It describes that PIREP 'has generated the great majority of intended outputs in a satisfactory manner' by 'pulling together or updating a very large amount of information'. It sheds some doubt of how PIREP was able to analyze 'this information to determine which barriers might be realistically overcome, where and how'.

#### *2.4.2 Stakeholder participation and partnership strategy*

On overview of the institutional set-up and arrangements is given in paragraph 1.4. Main stakeholders include:

- Energy offices or units
- Other government entities (e.g., environment, planning, finance)
- Regional inter-governmental organizations (such as SOPAC, SPC and PIFS)
- Utilities (the PPA represents most of the utilities in the region)
- Private sector (RE equipment providers, palm oil producers)
- Financial institutions (banks, development banks)
- International NGOs (such as WWF and Greenpeace)
- National NGOs

PIREP has worked with a number of organizations in the region:

- EWG-CROP (review of PIGGAREP project concept)
- Alofa Tuvalu (collaboration on parallel work on RE and waste disposal)
- Greenpeace (collaboration on parallel work on RE, e.g. Niue)
- ADB-REEP (Fiji and Samoa: sharing of data and updating the PIGGAREP concept)
- University of Technology, PNG (collaboration on RE studies and pilot projects)
- World Bank (utilization of assessment reports as the basis for WB/GEDF SEF project).

The opinion of stakeholders on the analysis of barriers and potential measures has been taken into account in the early stages of PIREP, such as the project inception workshop (RePCO

meeting, August 2003), the in-country SWOT meetings and meetings of the Country Teams. Regarding the formulation of PIGGAREP, a MSP Results (and PIGGAREP Design) Workshop was organized in July 2004 which resulted in a logical framework for PIGGAREP. In addition, the CTA has had numerous meetings and consultations with the energy offices in the various countries as well as with regional organizations.

The Evaluator notes that the participants in the MSP Results and Project Design Workshop were all government officials, mostly the PIREP National Coordinators. This means that the opinion of other stakeholders could only be very indirectly voiced through meetings of the Country Team (which often met only 2 or 3 times) and the SWOT workshops (which were not held for the purpose of discussing the design of PIGGAREP). Thus, the Evaluator seriously wonders how PIGGAREP really reflects the opinion of stakeholders other than the PIREP National Coordinators, such as utilities, private sector and financial institutions.

A second round of in-country workshops could have been useful (held after approval of the PIGGAREP Project Brief) with the purpose of clearly defining the focus in each PIC on certain RE technology & market/end-use combinations and to come up with some specific and prioritized suggestions for demonstration projects and barrier removal activities with some budget figures attached to it. These, on their turn, could then have been use to prepare a more focussed and prioritized list of regional and in-country activities to be undertaken under PIGGAREP. On other hand, one can also argue that it does not make sense to do such detailed discussion and elaboration of activities before the donor agencies involved have given full approval of the project concept.

#### *2.4.3 Financial planning and delivery of counterpart inputs*

##### *Paragraph A.4 (item C.4.3) of the ToR*

Table 3 provides an overview of the budget allocation per budget line as given in the UNDP/GEF Project Document and actual spending in the period 2003-June 2006. The Evaluator notes that, by the end of June 2006, most of the project funds had been spent and seem to be disbursed for which the funds were intended.

It is the Evaluator's task not to only to check if the budget has been spent, but how it was spent on which budget items and activities. Here, the Evaluator is faced with the fact that the expenditure reporting format has changed during the project's life. Until the third quarter of 2004, the presentation of planned annual expenditures (as is the original budget in the Project Document) is according to budget lines (e.g. CTA, international consultant, national consultant, travel, M&E, training & meetings, miscellaneous, etc.) as per the former UNDP financial system (i.e. FIM). From the third quarter of 2004, onwards UNDP starts employing its new financial system (i.e. ATLAS) in which the expenditures have to be reported per output/activities. The Evaluator feels that budgeting and reporting expenditures in ATLAS not only per budget line but clearly linked with activities is an improvement over FIM. Alas, the budget line definition for PIREP in ATLAS system (international and national consultants, professional services with most of the other items lumped together in miscellaneous services) is not one-to-one with PIREP's budget lines in FIM. To The Evaluator has tried to complete Table 3 by tracking expenditures in ATLAS according to the old system as much as possible, but this breakdown may not be entirely accurate.

**Table 3 Planned budget of PIREP and actual expenditures**

Description	Budget TTF Tokelau	PIREP budget		PIREP Expenditures				
		ProDoc. October 2002	TOTAL	2,003	2,004	2,005	2,006	
		w/days	TOT (\$)	Yr1 (\$)	Yr 2 (\$)	Yr 3 (\$)	Yr 4 (\$)	
<b>PROJECT PERSONNEL</b>								
Chief Technical Adviser [CTA]	0		105,000	251,351	53,926	79,585	74,785	43,055
Regional / International Consultants	0	654	196,200	135,765	154,741	-7,916	-11,060	
Sub-total	0	654	301,200	387,116	208,667	71,669	63,725	43,055
<b>MISSION COSTS</b>								
CTA Travel	0		30,000	49,526	3,952	27,618	12,911	5,045
Regional Consultants Travel	0		99,900	37,035	0	37,035		
Sub-total	0		129,900	86,561	3,952	64,653	12,911	5,045
<b>M&amp;E</b>								
Monitoring and Evaluation	5,000		20,000	7,796	0	7,796		
Sub-total	5,000		20,000	7,796	0	7,796	0	0
<b>NATIONAL CONSULTANTS</b>								
National Consultants	15,000	1,006	100,600	50,263	0	66,035	-15,772	
Sub-total	15,000	1,006	100,600	50,263	0	66,035	-15,772	0
<b>PERSONNEL COMPONENT TOTAL</b>	<b>20,000</b>	<b>1,660</b>	<b>551,700</b>	<b>531,736</b>	<b>212,619</b>	<b>210,153</b>	<b>60,864</b>	<b>48,100</b>
<b>TRAINING, MEETINGS AND WORKSHOPS</b>								
In-country Workshops	2,000		30,000	30,068	3,694	26,374		
Regional meetings	4,000		40,000	47,880	26,618	19,483	1,779	
MSP Results Presentation Workshop	0		50,000	44,793	0	44,793		
<b>COMPONENT TOTAL</b>	<b>6,000</b>		<b>125,000</b>	<b>122,741</b>	<b>30,312</b>	<b>90,650</b>	<b>1,779</b>	<b>0</b>
Auditing	1,000		6,000	1,279	0	619	660	
Communications / report publication	1,000		12,000	17,433	1,592	10,275	4,073	1,493
Sub-total	2,000		18,000	18,712	1,592	10,894	4,733	1,493
Sundries	2,000		5,300	1,381	260	1,121		
Sub-total	2,000		5,300	1,381	260	1,121	0	0
<b>COMPONENT TOTAL</b>	<b>4,000</b>		<b>23,300</b>	<b>20,093</b>	<b>1,852</b>	<b>12,015</b>	<b>4,733</b>	<b>1,493</b>
<b>GEF PROJECT TOTAL</b>	<b>30,000</b>	<b>1,660</b>	<b>700,000</b>	<b>674,570</b>	<b>244,783</b>	<b>312,818</b>	<b>67,376</b>	<b>49,593</b>

To summarize, in the original budget (excluding in-kind contributions) of US\$ 730,000, the budget breakdown is as follows:

- Project management = 22%, studies = 54% and consultations = 24%

Actual expenditures have been (all data provided by the PIREP CTA):

- Project management = 42%, studies = 39% and consultations = 19%

We thus see that expenditures for project management (mainly the CTA) has increased (reflecting the fact that the project has lasted approximately 3.3 years instead of 1.5 years), that expenditures for consultancies has decreased (among others due to lower than expected rates for international as well as national consultants) and less was spent on consultations. Regarding these differences between planned and actual expenditures the Evaluator has the following observations:

- The reduced actual expenditures on consultancies does not seem to have compromised the quantity and quality of the contractors' deliverables, i.e. the national assessments, regional synthesis and technical reports; and,
- Given the fact that by mid-2005 most activities had ended (and the PIGGAREP had by that time been included in the GEF Work Programme), the two tasks left were to give follow up to the GEF approval process (preparation of the UNDP Project Document) as well as preparation and finalization of the database. It should be recognized that the CTA's follow up actions have been crucial in finalization of the PIGGAREP Project Document and secure all the necessary documentation and support of all the 11

participating countries. Nonetheless, the Evaluator comments if this really justifies the full-time payment from GEF funds of the CTA over a full 1-year period (from mid-2005 to mid-2006). Part-time funding by GEF could have been an option, while using remaining funds for more consultations (e.g., holding a second round of national workshops and/or consultations with other, non-government, stakeholders, as mentioned in paragraph 2.4.2).

#### *2.4.4 Effectiveness of executing agency, implementing agency and regional agencies in backstopping PIREP*

Late payments of national consultants and for organization of the workshop have been raised as a concern by some country representatives<sup>7</sup>. Also, coordination of activities between national (NCs) and international consultants (ICs) reportedly could have been better in the sense that the inputs of the NCs should have been fit more neatly in the ICs' work. The ICs interviewed mentioned that they had put in much more working days than planned (and being paid for) and having the NCs work directly with the ICs to have a joint action plan for each PIC would have eased their work load.

Apart from such details, the Evaluator concludes that the CTA and SPREP have facilitated the implementation of all the planned activities during 2003-2006. From the quarterly progress and financial reports, it can be concluded the monitoring of project performance and backstopping by both UNDP (as GEF implementing agency) and SPREP has been satisfactorily. Both UNDP and SPREP are experienced in handling regional programs and have implemented several GEF funded programs in the region at national and regional level.

Of concern is the apparent inter-institutional jealousy between regional organizations in the Pacific region. Overlapping mandates seem to lead to rivalry (sometimes exacerbated by personal conflicts between staff). For example, SOPAC has 'energy' as a mandate, while SPREP deals with 'climate change' matters in the Pacific region. Should PIGGAREP, being both a climate change and energy project therefore be executed by SPREP or SOPAC? This issue was raised by some of the stakeholders interviewed. For an Evaluator who has only been two weeks in the region, it is impossible to have a sound judgement on the comparative advantages of each organization. It has anyway been decided that PIGGAREP will be executed by SPREP, and now some ways should be sought to accommodate the meaningful participation of relevant regional organizations (such as SOPAC) in PIGGAREP.

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<sup>7</sup> In one or two cases, the international consultants had to contribute to workshop costs as finance was not arranged in time.

### 3. CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS

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#### 3.1 Conclusions on project results and design

*Paragraph A.4 (item C.4.4) of the ToR*

##### 3.1.1 Project execution

Here, the Evaluator asks “Has the project been well implemented?”

The following summarizes what has been achieved in each of the three main *outcomes* of PIREP as defined by the Evaluator in chapter 2.

Outcome 1: Barriers to RE development (policy and planning, information and awareness raising, institutional, market and delivery mechanisms, technology support and financial) are verified and evaluated, and capacity development needs (in these areas) and barrier removal measures are recommended

PIREP has produced a set of reports, the national assessment reports for each of the 14 participating countries plus Tokelau, the regional synthesis report and the three special topic reports (financing mechanisms, technology support system and demonstration projects to showcase energy service delivery). A large portion of the country assessment reports include general background information about each country, as well as an assessment of their energy sector. PIREP decided to do this because the last detailed country assessments done for PICs were carried out in 1992 (under the PREA initiative)<sup>8</sup>. In order to maximize use of resources, PIREP has taken the opportunity to include in the country assessment reports more general energy sector information, as well as identifying the various barriers to full RE development and utilization.

Some information that would have been very useful to the PIGGAREP project development process does not appear to have been collected, e.g. the relative economics of RETs vs. fossil fuel energy sources in the PICs. Although a key issue concerning RETs, this topic appears to have been largely left out of the PIREP analysis, but should definitely be addressed under PIGGAREP. Apart from this, the overall impression is that the national and regional assessment reports provide a wealth of data on the existing situation and the baseline situation is mapped in great detail.

The PIREP reports have not only been used to formulate PIGGAREP, but also the new WB/GEF supported Sustainable Energy Financing Program (SEFP), which will be implemented in five PICs (i.e. Fiji, PNG, Marshall Islands, Solomon Islands and Vanuatu)<sup>9</sup> and the UNDP/GEF MSP proposals ADMIRE (Marshall Islands) and SEDREA (Palau).

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<sup>8</sup> Pacific Regional Energy Assessment (WB, UNDP, ADB, PEDP; 1992). PEDP was the UNDP/ESCAP Pacific Energy Development Program (1983-1992)

<sup>9</sup> The project's direct objective is to significantly increase the adoption and use of renewable energy technologies and energy efficiency measures in participating Pacific Island state by providing a package of incentives to encourage local financial institutions to participate in sustainable energy financing of equipment purchases.

Also, stakeholders interviewed by the Evaluator stated that the reports are widely used in their countries. Thus, this output is rated “*highly satisfactorily*”.

Outcome 2: Project framework designed for an envisaged RE program in the Pacific region

PIREP has produced a framework for a region-wide RE program in the form of PIGGAREP. Having achieved approval by the GEF Council in June 2005 and GEF CEO endorsement by September 2006. Given the fact that the PIGGAREP approval can be considered as the key output of PIREP, the outcome could be rated as highly satisfactorily.

The PIGGAREP Project Document gives an extensive list of components and activities, which are summarized in Annex B of this report. Strictly speaking, this evaluation does not cover PIGGAREP, only PIREP, but the Evaluator presents his observations on the PIGGAREP project documentation (GEF Project Brief and UNDP/GEF Project Document)

As such the PIGGAREP Project Brief and Project Document have all the typical elements of a GEF proposal, but the PIGGAREP Project Document itself acknowledges that the list of barriers and activities is quite generic and will differ markedly between PICs and between types of renewable energy technologies (a short list of possible activities for each PIC is annexed to the Project Brief). As such, the PIGGAREP documents follows a logical sequence of describing measures and activities per type of barrier (policy, institutional, financial, technology support, etc.) as is often presented in GEF proposals. This may be adequate for proposal that focus on one technology in one country. It glosses over the fact that barriers (and thus the barrier removal activities) can be quite different and maybe more logically grouped per type of country, type of RE technology and per group of end users. The Project Document does give a list of indicative in-country activities for each PIC, annexed at the end of the document, but here it is not clear how this is all linked into the regional generic list of activities.

Also, the STAP reviewer of the PIGGAREP Project Brief (drafted in 2004) noted that ‘the very careful prioritization of objectives and activities across varying PICs would be needed to improve the likely performance of PIGGAREP’. Without such prioritization ‘it is likely that the budget will be dissipated over activities that do not contribute, over technologies that cannot compete and too many countries’. The reviewer also noted that ‘not all barriers are addressed, such as the absence of the private sector players in the renewable energy market’. The Evaluator shares some of the concerns of the STAP reviewer and has the opinion that the STAP reviewer’s concerns should have been taken more into account while drafting the UNDP/GEF Project Document.

A lot of information is available in the national and regional assessment reports, this analysis could have been used to flesh out barrier removal activities and present them per technology, market, groups of country or combinations thereof in product-market-country clusters that would fill the gap between, on one hand, having a very generic list of barriers and activities and (that may not be directly linked with prioritized options in each PIC) and, on the other extreme, having a shopping list per country of desired activities that are not linked. Maybe the PIGGAREP Project Brief and Document could have presented barriers and activities as follows:

- Distinguishing between technologies from a cost and technology support perspective. For examples, solar water heaters should be able to pay themselves back from the end user’s point of view, while electrification of remote islands will almost certainly need some from of subvention. For some RETs a business and technology support system is functioning, for other it still needs to be developed

- Distinguishing between (groups of) end users. Developing grid-connected power (with one client, namely the utility) faces a different set of issues and options than developing the market for clients (e.g., individual solar home system owners) that are scattered over a multitude of islands.
- Distinguishing between groups of countries. Some countries have large potential for hydro (e.g. Melanesian) while other PICs do not; some are already 100% electrified while other PICs are not; in some countries there is potential for biofuel production, while other PICs would be too small, etc.

Taking such analysis even further, the various barriers and associated barrier removal activities could have been grouped together in *product-market-country clusters*. Each cluster faces different barriers and has different needs in terms of capacity building and financial support and requires different approaches by the government and other institutions involved. In fact, the PIREP ‘Demonstration Project’ report, for example, makes a first attempt at clustering countries and technology that have similar characteristics:

- The Melanesian countries (PNG, Solomon Isl., Vanuatu and Fiji) that still have large unelectrified rural population and potential for biofuels (coconut and palm oil), off-grid electrification (hydro, solar) and on-site heat applications (biomass), grid-connected power (hydro, biofuel and biomass) and solar water heating
- A second market group (Kiribati, RMI, FSM) with numerous isolated islands that are still not electrified and with potential for off-grid electrification (solar), biofuels (coconut oil, grid power) and solar water heating
- A third market group is formed by Palau, Nauru, Tuvalu, Tonga, Samoa, Niue and Tokelau that are all (mostly) electrified with potential for solar water heating and grid-power (biofuels, solar, wind)

Given the above observations on the PIGGAREP documentation, the Evaluator gives a rating of “*satisfactorily*”. The evaluator feels that too much project design work is still left to PIGGAREP’s inception phase. A Work Plan of regional and in-country activities now needs to formulate in which decisions on focus, priorities and budget allocation can no longer be postponed. Given the complexity of PIGGAREP (11 countries participating and covering a range of RE technologies) this has the potential to cause delays. If so, such delays might be have been avoided if more focus (as e.g., described above) had already been built in the PIGGAREP project documentation.

Outcome 3: Stakeholders are engaged in the design of the envisaged RE program and outputs; and recommendations and lessons learned are disseminated

From the documents reviewed, it seems that PIREP inception (RePCo) meeting (August 2003) met its purpose of discussing PIREP’s work plan. As part of the MSP Results and Project Design Workshop (July 2004), the preliminary findings of PIREP were presented including with respect to barriers. As per standard UNDP/GEF project design requirements, a logical framework analysis was made with stakeholders, among others, to determine the inter-relationship of barriers and desirable outcomes that would result from removing the barriers. Regarding the in-country workshops, most of them were held in the process of formulating the national assessment reports, with various rates of success. The Evaluator noticed some problems with selecting national consultants and organizing the workshops, but this is difficult to assess, having not participated in the workshops himself.

Based on analysis of the PIREP documents and discussion with stakeholders during the mission, the overall judgment of output 3 is “*satisfactorily*”.

As will be discussed in the next paragraph, the Evaluator has the opinion, however, that a second round of in-country workshops could have been included in the PIREP design as part of the PIGGAREP design process after the MSP and Project Design Workshop. This would have enabled to receive feedback from a wider range of stakeholders on the draft and obtain inputs for a more to-the-point description of barrier removal outcomes and activities in the PIGGAREP Project Document (as discussed under outcome 2).

#### Outcome 4: Adaptive management, monitoring and evaluation.

The Evaluator concludes that the CTA/SPREP have facilitated the implementation of all the planned activities during 2003-2006, in particular achieving the key output of formulating PIGGAREP and getting approval from the participating countries and GEF. Also, from the quarterly progress and financial reports, it can be concluded the monitoring of project performance and backstopping by both UNDP (as GEF implementing agency) and SPREP (the executing agency) has been “*highly satisfactorily*”.

*Regarding PIREP’s performance the conclusion is that the project has performed highly satisfactorily with respect to outcomes 1 and 4 and satisfactorily with respect to outcomes 2 and 3.*

#### *3.1.2 Project design*

On project design, the Evaluator asks “Has the project been appropriately designed for the perceived needs?”

PIREP is meant as a preparatory phase for a larger regional initiative on RE development and utilization in the Pacific Region. It has fulfilled its purpose by producing a regional initiative on renewable energy (PIGGAREP) with funding secured from GEF and other donors and with country co-financing and by performing a profound baseline analysis regarding renewable energy issues and options for each PIC and at a regional level.

Thus, PIREP has produced the outputs that typically can be expected out of a PDF B; a detailed baseline analysis (produced by national and international consultants), mobilization of stakeholders in a number of workshops that culminates in the formulation of GEF full-sized proposal. Being a MSP, GEF made available double the amount of funding for PIREP of what is normally available under the PDF B window. The justification seems obvious; preparation of regional proposal with up to 15 countries requires a larger effort and more financial resources than preparing a proposal for one country only. On the other hand, analysis of the budget expenditures show that actually less is spent on ‘consultations’ (19% instead of 24%) and ‘analysis/studies’ (39% instead of 54%) than was anticipated originally.

The Evaluator’s opinion (having the advantage of hindsight) is that actually more funds could have been spent on the PIGGAREP formulation itself, especially ‘consultations’. Only one in-country workshop was held in most PICs, but here the focus was more on formulation of the assessment reports rather than PIGGAREP conceptualization. Only one regional (MSP Results and) Project Design Workshop was held for this purpose. The question is whether holding one regional workshop (in which only selected government officials, mainly energy planners, can participate) is really enough to flesh out all the issues and options, especially because PIGGAREP covers such a wide range of countries and RE technologies. The one-year period after the Workshop (until end of 2005) could have been used to have a follow-up workshop in each country with ALL stakeholders (government, utility, NGO, RET supplier, palm plantations, banks) to prioritize activities, discuss co-financing and select demo projects

and having some preliminary budget estimates attached to these activities. The workshop results would then have been useful input in formulating the PIGGAREP Project Document's list of activities that address barriers more specific to certain product-market-country combinations and prioritize activities.

### 3.1.3 Project impacts

Normally in the evaluation of UNDP/GEF climate change projects, the Evaluator asks some final questions on project sustainability, "how effective has the project been in contributing to market transformation?" and on project replication, "what has been the contribution to replication and scaling up of RET utilization in the Pacific region?"

PIREP's objective has not been to remove barriers to RE utilization and development itself, but only to formulate a regional project, PIGGAREP. Thus it is not possible to have a final say about the impact of the PIREP on the transformation of the market for RE technologies in the PICs. To a certain extent, conditions for replication have been set by PIREP through the active dissemination of the information in the assessment and technical reports, which are reportedly used by a range of stakeholders. Some awareness has been raised and local capacity has been created by PIREP, among others, by employing staff from the region (national consultants and, last but not least, the CTA himself) as a type of on-the-job training. Support has been mobilized amongst the stakeholders in the Country Teams and through the in-country workshops to support national and regional renewable energy initiatives in the Pacific.

## 3.2 Lessons learned and recommendations

### Paragraph A.4 (items C.5 and C.6) of the ToR

#### 3.2.1 Lessons learned on the project design of UNDP/GEF projects in general

PIREP has basically been an exercise to formulate a region-wide initiative to promote RE technology development and utilization. Normally, GEF makes funding available through its PDF window for project preparation. These 'PDF' activities do not formally require an evaluation, only the (medium or full-sized) project itself. Since PIREP was formally a MSP, not a PDF, this PIREP review offers a rare opportunity to evaluate the project preparation process itself.

Some lessons learned can be derived from looking at the process of implementation of PIREP and the formulation of its successor project, PIGGAREP. Here, the Evaluator takes the liberty of drawing also from his own experience in the design or evaluation of about 15 UNDP/GEF climate change projects and comes to some lessons learned:

- In the design process, it is important to consult widely with a broad range of stakeholders, not only the energy ministry, office or unit involved, but also to engage in the design stage other government entities, utilities, RET suppliers, financial intermediaries and, last but not least, the end-users of the renewable energy technologies. This consultation should be more than just holding a one or two day workshop and pretend that all barriers and options have been analyzed and prioritized; it may take, depending on the coverage and complexity of the envisaged project, successive rounds of informal and formal meetings with stakeholders.

- Realistic planning should be ensured for the effective and timely implementation of the project, including a well-thought-out logical framework of objectives, expected outputs and activities, a plan for monitoring and evaluation of the project's outputs and impacts and budget and timeline. Unfortunately formulation of such frameworks is hampered by a number of issues:
  - UNDP and GEF formats in which the project implementation frameworks and progress reports are formulated seem to change every two or three years. Especially when this happens in the midst of a project design or implementation, this can create confusion amongst the project designers and proponents. Terminology, such as 'activity', 'output' or 'outcome' is not well-defined, terms are often used interchangeably and no clear guidelines are given to the project proponents;
  - Project documents are often written using generic language regarding barriers, outputs and activities and there seems to be a tendency of including as much issues and options as possible in the hope that the GEF Secretariat will then look more favorably at the proposal. Instead, the formats used by GEF should be such that they promote a more to-the-point style of writing. In the end, prioritization of barriers, issues and activities is always needed (in the framework of a limited project budget) and the lack of detail in the project conceptualization phase can lead to long delays in project's initiation phase with long discussions on the work plan of specific activities and the corresponding budget allocation;
  - Project budgets are not always clearly linked with the project planning framework of outcome and activities. From an evaluator's point of view, inputs should be clearly related and broken down per outcome and activity. Maybe such level of detail cannot be attained in the project concept phase (project document), but should definitely be there in the project's work plan and progress reports. According to the Evaluator, the current ATLAS system (used by UNDP) to group budget per output/activity (instead of the old system of only distinguishing budget lines) is an improvement in that sense over the previous FIM system.
  
- GEF applies quite a straightjacket in project conceptualization in terms of project concept formats and the amount of funding available. Clearly, this is somewhat in conflict with the large diversity between countries (e.g., China's population is a million times larger than Tuvalu's), type and cost of RE technologies involved, complexity and size of the market for RETs, types and magnitude of barriers, etc., etc. Implicitly acknowledging this, sometimes flexibility is built in the project design process by GEF itself. For example, PDF A funding more than the usual US\$ 25,000 can nowadays be made available for regional project formulation; and PIREP is an example of an 'upgraded' PDF B (being formulated as a MSP). Sometimes full-sized projects are divided in 2 phases.

### 3.2.2 Recommendations

#### For UNDP/GEF:

Project design is looked at as part of the overall evaluation of a project. One recommendation is to organize an evaluation of preparation activities (PDF A and B) of selected projects in order to derive some lessons learned on the process and outputs of 'good project design', for example, looking at amount of funding available, type and size of activities needed (consultancy, workshops and meetings, other), project document format and layout, problems and delays encountered during project conceptualization or level of stakeholder involvement.

### For PIGGAREP:

The Evaluator would like to suggest some recommendations for the smooth and successful implementation of the program in particular for the Inception Phase:

- A clear and detailed work plan needs to be formulated. The fact that PIGGAREP is a regional activity with 11 PICs participating will not make the job of designing such a work plan easier. One way to go forward could be as follows:
  - Let PIGGAREP's Project Manager (or an external consultant) formulate a first work plan and a tentative budget for country and regional activities by having some informal consultations with PIREP National Coordinators, Country Teams and other stakeholders (utilities, hotel sector, banks, plantations, etc.) clearly distinguishing also between 'RE technology-market-country' clusters rather than following a 'one-fits-all' list of activities.
  - Organize a national workshop in each PIC in order to prioritize RE issues, technologies and measures and options and formulate a budgeted list of outputs and activities. A broad range of stakeholders should participate;
  - Then organize a regional PIGGAREP Inception Workshop, using the results of the national workshops as inputs, with the objective to look at the project setup (see next bullet point) to discuss the draft Work Plan and budget. Again, not only the PIGGAREP National Coordinators should participate in the regional workshop, but at least one or two non-government stakeholders (as far the travel budget allows) to ensure that the point of view and priorities of different stakeholders is taken into account;
  - Finalize the Work Plan and budget to be endorsed by UNDP
- Institutionally, PIGGAREP will follow the PIREP setup of Country Teams and Project Advisory Committee (PAC). It is suggested that the PAC becomes wider than the EWG-CROP plus two countries to include a larger country representation, civil society and private sector representation as well. Similarly, Country Teams should ensure engagement of a broad range of stakeholders.
- A clear strategy for linkages with other programs ought to be developed and defined per activity in the Work Plan, in particular:
  - SOPAC/UNDP/Government of Denmark Pacific Islands Energy Policy and Strategic Action Planning Project (PIEPSAP, 2004-2007);
  - World Bank-GEF Sustainable Energy Financing Project (SEFP) that is planned to cover 5 PICs (i.e. Fiji, PNG, Marshall Islands, Solomon Islands and Vanuatu; approved in August 2006)
  - World Bank Teacher's Solar Lighting Project (PNG);
  - EU Support Program (2005-2010, five PICs: FSM, Nauru, Niue, Palau and RMI)
  - Pacific Islands Global Climate Observing System (PI-GOS, 2003-2008)
  - UNDP's Regional Energy Program for Poverty Reduction (REP-PoR, 2005-2007)
  - Any follow up initiatives to ADB's Renewable Energy and Efficiency Program (REEP, 2004-2006) in Fiji and Samoa
  - Other governmental and donor-funded programs at the national level (a list of is given in the PIGGAREP Project Document)
- A good cooperation between regional organizations such as SPREP and SOPAC is essential and the Evaluator hopes that a good working relation can be developed under PIGGAREP.

## **ANNEX A. TERMS OF REFERENCE**

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### **A.1 Introduction**

#### **PACIFIC ISLANDS RENEWABLE ENERGY PROJECT (PIREP)**

The Pacific Islands Renewable Energy Project (PIREP) is a Global Environment Facility (GEF) funded medium size project (MSP) implemented and also partly funded by the United Nations Development Programme (UNDP) and executed by the Secretariat of the Pacific Regional Environment Program (SPREP). PIREP implementation began in May 2003. Its goal is the development of the acceleration of the adoption and commercialisation of feasible and applicable renewable energy technologies as its overall development goal. The specific purpose of this US\$730,000 project is the preparation of a regional approach to removing barriers to the development and commercialisation of renewable energy systems in the Pacific Island Countries (PICs) that influences country efforts to reduce the long-term growth of greenhouse gas (GHG) emissions from fossil fuel uses, especially diesel. PIREP was designed to prepare the groundwork for a comprehensive regional initiative to be co-funded by the GEF. It is planned to be operationally closed by end of August 2006 and as per standard UNDP/GEF requirements this MSP is to undergo a final evaluation upon completion of implementation. However it must be noted that even though PIREP formally is a MSP, de facto the intervention is a project preparation exercise as is clear from its stated specific purpose.

#### **UNDP/GEF MONITORING AND EVALUATION (M&E) POLICY**

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives: i) to monitor and evaluate results and impacts; ii) to provide a basis for decision making on necessary amendments and improvements; iii) to promote accountability for resource use; and iv) to document, provide feedback on, and disseminate lessons learned. A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g., periodic monitoring of indicators -, or as specific time-bound exercises such as mid-term reviews, audit reports and final evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all full size and medium size projects supported by the GEF should undergo a final evaluation upon completion of implementation. A final evaluation of a GEF-funded project (or previous phase) is required before a concept proposal for additional funding (or subsequent phases of the same project) can be considered for inclusion in a GEF work program. However, a final evaluation is not an appraisal of the follow-up phase.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

Please refer to Annex II for guidance on UNDP/GEF M&E terminology.

### **A.2 Objective**

- a) To undertake the final evaluation of PIREP as per UNDP/GEF requirements and procedures.

### **A.3 Outputs**

- a) Inception note;
- b) Debriefing note;
- c) Comprehensive Evaluation report; and
- d) Detailed Power Point presentation of the preliminary main findings and recommendations from the draft Evaluation Report.

### **A.4 Activities**

The scope of work for the consultancy will include, but not necessarily be limited to, the following activities:

#### **A) WITH REGARD TO INCEPTION NOTE**

- i. Study and review relevant background material;
- ii. Identify key stakeholders for the evaluation; and
- iii. Write-up an inception note comprising: a) the successful Contractors understanding of the consultancy and associated tasks; b) the proposed detailed technical approach including specific methodological tools applied, context, and guiding principles; c) identification of issues crucial to the viability of the consultancy; and d) detailed comments on this TOR. Subsequently, if required and approved by UNDP Samoa and UNDP/GEF the activities can be elaborated, modified, etc.

#### **B) WITH REGARD TO DEBRIEFING NOTE**

- i. Prepare debriefing note, based on preliminary findings, conclusions and recommendations from the first evaluation mission; and
- ii. Discuss debriefing note with appropriate staff at UNDP Samoa and SPREP. Prepare minutes of the meetings.

#### **C) WITH REGARD TO COMPREHENSIVE EVALUATION REPORT**

##### **C.1 Concerning the preparation of an Executive Summary section:**

- i. Briefly describe project;
- ii. Outline context and describe purpose of the evaluation; and
- iii. Provide a summary of main conclusions, recommendations and lessons learned.

##### **C.2 Concerning the preparation of an Introduction section:**

- i. Describe purpose of the evaluation;
- ii. Describe key issues addressed during the evaluation;
- iii. Describe methodology of the evaluation; and

- iv. Describe structure of the evaluation.

### **C.3 Concerning the preparation of a section on PIREP and its development context:**

- i. Describe project start and its duration;
- ii. Describe problems that the project seek to address;
- iii. Describe immediate and development objectives of the project;
- iv. Describe main stakeholders; and
- v. Describe results expected.

### **C.4 Concerning the preparation of a section on Findings and Conclusions:**

#### *C.4.1 In general:*

- i. Undertake descriptive assessment of all the parameters stated below; and
- ii. In addition, all parameters below marked with (R) should be rated using the following categorization: Highly Satisfactory (HS), Satisfactory, Marginally Satisfactory (MS), and Unsatisfactory. For guidance among others on the GEF Project review Criteria please refer to Annex II.

#### *C.4.2 Project Formulation Parameters:*

Conceptualization/Design (R): This should assess the approach used in the design and an appreciation of the appropriateness of problem conceptualization and whether the selected intervention strategy addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design;

Country-ownership: Assess the extent to which the project idea/conceptualization had its origin within national and regional sectoral and development plans and focuses on national and regional environment and development interests;

Stakeholder participation (R): Assess information dissemination, consultation, and “stakeholder” participation in design stages;

Replication approach: Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation); and

Other aspects: Assessment of the following, as part of the project formulation: a) UNDP comparative advantage as Implementing Agency (IA) for this project; SPREP comparative advantage as Executing Agency for this project; c) the consideration of linkages between projects and other interventions within the sector; and d) the definition of clear and appropriate management arrangements at the design stage.

### *C.4.3 Project Implementation Parameters*

**Implementation Approach (R):** This should include assessments of the following aspects: a) the use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M and E activities if required; b) other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or; changes in management arrangements to enhance implementation; c) the project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities; d) the general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives; and e) technical capacities associated with the project and their role in project development, management and achievements;

**Monitoring and evaluation (R):** Assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have been held and whether action has been taken on the results of this monitoring oversight and evaluation reports;

**Stakeholder participation (R):** This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following: a) the production and dissemination of information generated by the project; b) local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena; c) the establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation; and d) involvement of governmental institutions in project implementation, the extent of governmental support of the project;

**Financial Planning:** This should include an assessment of: a) the actual project cost by objectives, outputs, activities; b) the cost-effectiveness of achievements; c) financial management (including disbursement issues); and d) co-financing. Please see guidelines at the end of Annex II for reporting of co-financing;

**Sustainability:** Evaluate the extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: development of a sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities; and,

**Execution and implementation modalities:** This should consider: a) the effectiveness of the UNDP counterpart and Project Co-ordination Unit participation in selection, recruitment, assignment of experts, consultants and national counterpart staff members and in the definition of tasks and responsibilities; b) quantity, quality and timeliness of inputs for the project with respect to execution responsibilities, enactment of necessary legislation and budgetary provisions and extent to which these may have affected implementation and sustainability of the Project; c) quality and timeliness of inputs by UNDP, SPREP, government counterparts and other parties responsible for providing inputs to the project, and the extent to which this may have affected the smooth implementation of the project;

#### C.4.4 Results Parameters

Attainment of Outcomes/ Achievement of objectives (R): Including: a) a description and rating of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory (HS), Satisfactory, Marginally Satisfactory (MS), and Unsatisfactory ratings. If the project did not establish a baseline (initial conditions), the evaluator(s) should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established;

Sustainability: Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end; and

Contribution to upgrading skills of the national staff: Describe how the individuals or groups of individuals that take part in the project have applied the outputs of the project in their respective works/jobs, and how lessons learned from the project are being applied.

#### C.5 Concerning the preparation of a section on Recommendations

- i. Actions to follow up or reinforce initial benefits from the project; and
- ii. Proposals for future directions underlining main objectives.

#### C.6 Concerning the preparation of a section of Lessons learned

- i. Highlight the best and worst practices in addressing issues relating to: a) design, implementation, monitoring and evaluation and b) relevance, performance and success; and
- ii. Suggest ways and means on how to put to good use the best practices, and avoid the worst practices.

#### D) WITH REGARD TO A DETAILED POWER POINT PRESENTATION OF THE PRELIMINARY MAIN FINDINGS AND RECOMMENDATIONS FROM THE DRAFT EVALUATION REPORT

- i. Prepare a detailed Power Point presentation of the preliminary main findings and recommendations from the draft Evaluation Report and present it at the PIREP Terminal Multipartite Review Meeting that is planned for end of August 2006.

#### A.5 Methodology

It is expected that in general the methodology that is to be applied will include the following tools as required:

- a) Documentation review/desk study. The list of minimum documentation to be reviewed are specified in Annex III;
- b) Missions;
- c) Interviews; and
- d) Questionnaires.

The suggested detailed technical approach including specific mix of methodological tools to be applied as part of the evaluation will be prepared by the successful Contractor and included as

part of the draft Inception Note. Subsequent these will be discussed and agreed to between the successful Contractor and UNDP.

With regard to missions, the consultancy will include one mission to be undertaken within two consecutive weeks. The mission will include a visit to Samoa where UNDP-Samoa and SPREP are based and to Fiji where the majority of the members of the Council of Regional Organisations in the Pacific (CROP) Energy Working Group (EWG) are located. Furthermore face-to-face feed-back from relevant national level project stakeholders such as government entities from these two countries are to be organised. Inputs from the other 13 PICs are to be collected through telephones, faxes and emails. The consultant is expected to present the preliminary key findings and recommendations at the PIREP Terminal Multipartite Review (TMR) Meeting planned to take place Tuesday the 29 August 2006. Since government representatives from all 15 participating PICs are to attend the Terminal Multipartite Review (TMR) Meeting, then this also is an opportunity for face-to-face feed-back as required.

## A.6 Reporting requirements

Deliverables	Deadline
1. Draft Inception Note	9 August 2006
2. Final Inception Note	12 August 2006
3. Draft De-briefing Note	1 September 2006
4. Final De-briefing Note	5 September 2006
5. Draft Evaluation Report	1 September 2006
6. Draft Power Point Presentation of preliminary Findings and Recommendations from the Draft Evaluation Report	25 August 2006
7. Final Power Point Presentation	28 August 2006
8. Final Evaluation Report	22 September 2006

Concerning reporting requirements it should be noted:

- a) All draft documents should be in Microsoft Word and all final documents in Adobe Acrobat format;
- b) All documents must have no access restrictions;
- c) The draft Inception Note is to be sent to UNDP Samoa/UNDP-GEF for comments;
- d) The draft De-briefing Note is to be sent to UNDP Samoa/UNDP-GEF and SPREP for comments;
- e) The draft Evaluation Report is to be sent to UNDP Samoa/UNDP-GEF. UNDP Samoa will then distribute this to SPREP, government counterparts and CROP EWG for comments;
- f) The draft Power Point Presentation is to be sent to UNDP Samoa/UNDP-GEF and SPREP for comments;
- g) The final Evaluation Report must be prepared taking into consideration written comments as well as comments received at the PIREP Terminal Multipartite Review (TMR) Meeting on the draft Evaluation Report;
- h) The final Evaluation Report is to be sent to UNDP Samoa.

## A.7 Structure of the evaluation report

The evaluation report outline should be structured along the following lines:

- i. Executive summary;
- ii. Introduction;
- iii. The project and its development context;
- iv. Findings and Conclusions with regard to project formulation, project implementation and project results respectively;
- v. Lessons learned; and
- vi. Annexes including: TOR; mission itinerary; list of persons interviewed; list of documents reviewed; questionnaire used and summary of results; and comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions).

Concerning length of the Evaluation Report normally it should not exceed 50 pages in total. If there are discrepancies between the impressions and findings of the evaluation team and the aforementioned parties these should be explained in an annex attached to the final report.

## A.8 Implementation arrangements

<b>Entity</b>	<b>Input</b>
UNDP Samoa	UNDP Samoa is the main operational point for the evaluation. Among others it will be responsible for the following: organized the consultancy including being contractual UNDP/GEF entity; liaise with the successful Contractor to set up stakeholder interviews; assist with logistics concerning missions including meetings; ensure the timely provision of payments as per contract with successful Contractor; provide relevant background information and documentation to the successful Contractor; provide comments on all draft deliverables; and as appropriate participate in meetings
UNDP/GEF	UNDP/GEF among others will: provide guidance on relevant UNDP/GEF procedures, policies and practices; and provide comments on all draft deliverables
SPREP	SPREP among others will: provide relevant background information and documentation to the successful Contractor; assist with logistics concerning missions including meetings; comment on selected draft deliverables; and as appropriate participate in meetings
PICs	Primary source of key inputs on the impacts of the PIREP at the national level
CROP EWG	Primary source of key inputs on the impacts of the PIREP at the regional level

## ANNEX B. ITINERARY OF THE EVALUATION MISSION

### B.1 Mission schedule

17/08	<ul style="list-style-type: none"> <li>• Departure of Mr. Van den Akker for Bangkok</li> </ul>
18/08	<ul style="list-style-type: none"> <li>• Arrival in Bangkok</li> <li>• Discussion with Mr. Manuel Soriano (UNDP/GEF Regional Technical Advisor, UNDP Regional Centre, Bangkok)</li> </ul>
22/08	<ul style="list-style-type: none"> <li>• Arrival in Apia</li> <li>• Meeting at UNDP with Ms. Easter Galuvao (Assistant Resident Representative) and Mr. Thomas Jensen (Associate Program Specialist)</li> <li>• Meeting at SPREP with Mr. Solomon Fifita (CTA of PIREP) and Mr. Bruce Chapman (Programme Manager)</li> </ul>
23/08	<ul style="list-style-type: none"> <li>• Meetings and discussion with country representatives: <ul style="list-style-type: none"> <li>○ Ms. Silia Kilepoa (Energy Coordinator, Government of Samoa)</li> <li>○ Mr. Tomas Tafia (General Manager, Tokelau Power Systems)</li> </ul> </li> </ul>
24-25/08	<ul style="list-style-type: none"> <li>• Report drafting and preparation of Powerpoint presentation</li> </ul>
26-27/08	<ul style="list-style-type: none"> <li>• Travel from Apia to Nadi (Fiji)</li> </ul>
28/08	<ul style="list-style-type: none"> <li>• Meetings with SOPAC staff <ul style="list-style-type: none"> <li>○ Mr. Paul Fairbairn (Manager Community Lifelines), Mr. Gerhard Zieroth (Manager PIEPSAP) and Mr. Jan Cloin</li> </ul> </li> <li>• Discussion with Mr. Peter Johnston (PIREP international consultant)</li> <li>• Meeting with Mr. Bjarne Larsen and Mr. Felix Goorneratne (PIEPSAP evaluation team)</li> </ul>
29/08	<ul style="list-style-type: none"> <li>• Terminal Multipartite Review (TMR) meeting</li> <li>• Individual discussions with country representatives : <ul style="list-style-type: none"> <li>○ Mr. Tangi Tereapii (Energy Planner, , Cook Islands)</li> <li>○ Ms. Makareta Sauturaga (Director, Dept. of Energy, Fiji)</li> <li>○ Mr. Tiante Tarakia (Kiribati),</li> <li>○ Mr. Speedo Hetututu (General Manager, Niue Power Corporation)</li> <li>○ Ms. Atina Myazoe (Energy Planner, Energy Office, Marshall Islands)</li> <li>○ Mr. Tevita Tukunga (Energy Planner, Min. of Land &amp; Res., Tonga)</li> </ul> </li> </ul>
30/08	<ul style="list-style-type: none"> <li>• Individual discussions with country representatives : <ul style="list-style-type: none"> <li>○ Mr. Decherong (Program Manager, Energy Office, Palau)</li> <li>○ Mr. Korinihona (Director of Energy, Min. of Energy, Solomon Isl. )</li> </ul> </li> <li>• Finalisation of draft evaluation report</li> </ul>
01-02/09	<ul style="list-style-type: none"> <li>• Finalisation of draft evaluation report</li> </ul>
03-04/09	<ul style="list-style-type: none"> <li>• Departure of Mr. Van den Akker</li> </ul>

In addition, discussions per phone and e-mail were held with the other two international consultants, Herb Wade and John Vos, before the mission.

## **B.2 Terminal Multipartite Review meeting (29 August 2006)**

### **Agenda**

- Opening session (Opening Prayer, Welcome Remarks by SPREP, Opening remarks by UNDP, Selection of Chair, Apologies, Introduction of Participants)
- PIREP Presentation on End of Project Status (by Mr. Solomon Fifita, PIREP CTA)
- Questions and Answers
- Participating country statements
- Participating EWG-CROP statements
- Questions and Answers
- Preliminary findings from PIREP's final evaluation (by Mr. Van den Akker)
- Questions and Answers
- Summary Record
- Close of Meeting

### **Presentation of the external evaluator, Mr. J. v. d. Akker**

#### **Final evaluation – preliminary findings**

##### **Content**

- Approach
- Findings
  - Results and assessment
- Conclusions
- Lessons learned & recommendations

##### **Approach**

- Preliminary findings
  - Review of relevant reports and documents
  - Interviews with UNDP Samoa, UNDP/GEF, SPREP staff; some PICs; others
- Final findings
- More interviews PICs (today, tomorrow?)

##### **Findings – results**

- Major outputs
  - Baseline analysis (barriers, capacity needs and measures and strategies)
    - National & regional assessment reports
    - Thematic reports
  - Framework for RE program in the Pacific
    - PIGGAREP project
  - Informed and engaged stakeholders
    - Website; reports & info disseminated
    - In-country and regional meetings

##### **Findings – impacts**

- Major outcomes
  - Regional approach to remove barriers to RE
- Impacts

- Measured when PIGGAREP is implemented
  - Energy consumption and GHG emission
  - Impacts on end users and development
  - Development of policies and regulations
  - Expansion of business and support services
  - Increase in finance and mechanisms
  - Improved awareness and understanding

### **Findings – Assessment**

- Assessment of project implementation
  - Relevance
    - PIREP has set the stage for PIGGAREP
  - Design
    - PIREP has mapped out the baseline situation
      - Barriers and data on existing situation
    - BUT: Objective/outcomes/outputs not mentioned clearly in PIREP project documentation
      - Project brief, project document, APR, progress reports give different structure of output-outcome-activities
  - Stakeholders involvement
    - Involvement of stakeholders in nat. workshops, regional meetings
    - BUT: Utilities, RE suppliers, financial?
    - BUT: involvement of stakeholders in drafting PIGGAREP (second round of national workshops?)

### **Conclusions**

- Project execution:
  - PIREP has performed satisfactorily,
    - All outputs have been delivered satisfactorily within reasonable timeframe
- Project design:
  - Project addresses barriers in a holistic way
    - BUT: list of activities/outputs/outcome in the originally project document could have been written down more clearly and to-the-point
- Sustainability & replicability:
  - Too early to tell, depends on PIGGAREP
- PIGGAREP:
  - Design: long list of activities under each component (policy, technical, financial, etcetera)
    - BUT: where are priorities? Is everything a priority? Should this be decided under PIREP or postponed until PIGGAREP Inception phase?
    - Maybe focus on product-market (country) clusters and then analyse barriers; maybe even address energy efficiency issues
  - Involve stakeholders: not only energy offices, but utilities, RET suppliers, banks...

### **Lessons learned**

- UNDP/GEF project design:
  - Properly design of projects is important
    - Institutional set-up; engagement of all stakeholders
    - Good, to-the-point list of outputs and activities that that reflect prioritised issues and options
  - Does one size fits all?

## Recommendations

- PIGGAREP inception phase:
  - Detailed and clear work plan
  - Institutional setup and engagement of all stakeholders
  - Linkages with other energy/RE/EE activities in the region (EU, WB, ADB, ...)
  - Cooperation between regional organizations (SPREP, SOPAC....)

## B.3 Questionnaire and distribution

*Note: All written comments given by the respondent will be kept in confidence*

### 1) Project design of PIREP

a) Do you think the project is designed well?

Addressing real problems and issues?
Focusing on the right target beneficiaries?
Have the appropriate stakeholders been assisted?

b) Do you think PIREP is relevant to the development priorities of the country?

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### 2) Project implementation and performance of PIREP

- a) Do you think PIREP has produced the planned outcomes?  
 If not, why so and what is missing?  
 If yes, what is the quality of the produced outcome and associated outputs?  
 Any other comment that you may have?

Outcome	Output
1. Verified and evaluated barriers to renewable energy (RE) development in the area of policy & planning, awareness, institutional, market, RE delivery mechanisms, financing and technical)	A. National assessment reports B. PIGGAREP Project Brief
2. Capacity development needs (in the above-mentioned areas) are recommended	A. National assessment reports B. PIGGAREP Project
3. RE market development strategy, identified for each PIC	A. National assessment reports B. PIGGAREP Project Brief C. Business angle report
4. Potential funding sources for RE projects are identified and evaluated	D. Co-funding for PIGGAREP
5. Feasible RE projects are identified for possible financing support for their	C. Business angle report

implementation on a demonstration basis	
6. Barriers/issues and lessons learned in the area of RE development in each PIC are confirmed, including recommended measures	A. National assessment reports
7. Clear understanding of project proponents on the objectives, outputs and results of PIREP implementation	E. Regional planning and consultation meeting
8. Synthesis of all findings and recommendations in the national assessment reports is prepared (highlighting common barriers/issues and approaches to address these barriers)	F. Regional assessment report
9. Regional RE database is designed	G. Completed database (made available on PIREP webpage)
10. Regional website is designed	H. PIREP webpage
11. Appropriate financing mechanism for RE projects in the region is designed	I. Financing mechanisms report
12. A regional RE demonstration program showcasing the 'business angle' of RE project delivery	C. Business angle report
13. A regional technology support program is developed	J. Technology support program report
14. Outputs and recommendations are presented and disseminated (formulation of a regional initiative on RE development in the Pacific region?)	B. PIGGAREP Project Brief

b) Do you think the project has been managed well?

1. In terms of achieving project outputs in relation to inputs (consultancy, travel), costs and time?
2. Did the project start and operate with a well-managed work plan?
3. How was the responsiveness of the PIREP management to address issues changes during the project's implementation?
4. How was the collaboration with stakeholders in your PIC?
5. How do you think has been the support by UNDP and SPREP?

### 3. Project impacts

a) How effective has the project PIREP to your opinion been in:

1. promoting technology support services and business enterprise?
2. the elaboration of the commercial viability of RE technologies and delivery models and the replication potential of such models?
3. promoting the increase of financing availability and range of financing mechanisms

4. supporting the development of policy-institutional framework at national and regional level?
5. evincing interest in and understanding of RE technologies among stakeholders in private sector (suppliers, technicians, financiers), NGOs and (semi-)governmental organizations?

4. Do you think there are any lessons learned from PIREP’s design and implementation for future projects?

**4. Project design of PIGGAREP**

- a) Do you think the PIGGAREP, the successor project of PIREP, is designed well?

Addressing real problems and issues?
Focusing on the right target beneficiaries?
Have the appropriate stakeholders been assisted?

- b) Do you think PIGGAREP is relevant to the development priorities of the country?

**Note:** The questionnaire was sent to the following contact persons and consultants (see Annex C for their addresses and contact details):

- The 15 National Coordinators
  - Mr. Tereapii (Cook Isl.)
  - Ms. Sauturaga (Fiji)
  - Mr. Monteb (FSM)
  - Mr. Kaiea (Kiribati)
  - Ms. Myzoe (RMI)
  - Mr. Deiye (Nauru)
  - Mr. Hetutu (Niue)
  - Mr. Decherong (Palau)
  - Mr. Bonou (PNG)
  - Ms. Kilepoa (Samoa)
  - Mr. Korinihona (Solomon Isl.)
  - Mr. Tafia (Tokelau)
  - Mr. Tukunga (Tonga)
  - Mr. Tausi (Tuvalu)
  - Mr. Bakeo (Vanuatu)
- International consultants:
  - Mr. Johnston
  - Mr. Wade
  - Mr. Vos
- Regional contacts:
  - Mr. Neil (PPA)
  - Mr. Fairbairn (SOPAC)
  - Mr. Zieroth (SOPAC)
  - Ms. Tuqa (PIFS)
  - Mr. Morris (PIFS)
  - Ms. Lal (PIFS)
  - Mr. Rajan (WWF)

## ANNEX C. LIST OF STAKEHOLDERS

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### NATIONAL COORDINATORS

#### 1. COOK IS

Mr Tangi Tereapii  
Energy Planner, Ministry of Works  
P.O. Box 129  
Rarotonga, COOK IS.  
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## ANNEX D. COMPARISON TABLE OF PIREP'S LOGICAL FRAMEWORK

PIREP – Project Brief <i>In-country and regional activities</i>	PIREP – Project Document (2002) <i>Outputs</i>	Quarterly progress reports <i>Outputs and activities</i>	Annual project reports <i>Outcomes</i>	<i>Corresponding deliverables</i>	PIGGAREP Project Brief and Project Document <i>Main activities</i>
<b>Technical Capacity building and Technology Support</b>					
A7. Developing technical assistance to RE industry	<p>Output 7.1: Persistent technical barriers to RE development, as well as gaps between what needs to be done in the area of RE technology application and what have been done, are verified and evaluated.</p> <p>Output 7.2: Capacity development needs of the PICs in the area of design, installation, operation and maintenance of NRE systems are verified and evaluated, and relevant programs for the provision of technical training/continuing education as well as technical/financial support are recommended.</p> <p>Output 8.1: Feasible RE projects employing delivery mechanisms are identified for possible financing support for their implementation on a demonstration basis.</p> <p>Output 12.4: A regional RE demonstration program showcasing the “business angle” of RE project delivery is developed.</p> <p>Output 12.5: A regional RE technology support program is developed.</p>	<p>Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports</p> <p>A1: Review existing policies, etc. A2: Review studies, projects A4: Evaluate removal of barriers A5: Carry out SWOT workshop</p> <p>Output 12.1-12.5: Appropriate financing mechanisms, demonstration program showcasing business angle of RE, regional RE technology support program, regional RE database and regional RE website</p> <p>A3: Evaluate RE delivery and finance A21: Conduct business angle study and a technology support program</p> <p>Output 14.1-14.4: Reports on successful models of RE delivery mechanism, financing schemes and potential funding sources are reviewed, assessed, identified and evaluated</p> <p>A2: Review studies, projects A3: Evaluate RE delivery and finance A21: Conduct business angle study and technology support</p>	<p>Outcome 5: Feasible RE projects employing delivery mechanisms are identified for possible financing support for their implementation on a demonstration basis</p> <p>See also outcomes 1, 2, 6 and 8</p>	<ul style="list-style-type: none"> <li>• Demo projects and business angle report</li> <li>• PIGGAREP project documentation</li> </ul>	<p>A. Regional resource assessment</p> <ul style="list-style-type: none"> <li>• Development of RE resource assessment methodology</li> <li>• Conduct of RE survey</li> <li>• Design and development of RE database</li> <li>• Development of RE monitoring and simulation methodology</li> <li>• Capacity building on RE assessment</li> </ul> <p>B. Technical support</p> <ul style="list-style-type: none"> <li>• Evaluation of local RE service industry</li> <li>• Training course on RE systems</li> <li>• Assessment of value-added applications of RETs</li> <li>• RE systems utilization best practices</li> <li>• RE systems equipment standards setting</li> <li>• Design of RE R&amp;D program</li> </ul> <p>C. RE Demo projects</p> <ul style="list-style-type: none"> <li>• Feasibility analysis of potential RE projects</li> <li>• Evaluation of RET application demonstration requirements</li> <li>• Courses on barrier removal of RE</li> </ul>

PIREP – Project Brief <i>In-country and regional activities</i>	PIREP – Project Document (2002) <i>Outputs</i>	Quarterly progress reports <i>Outputs and activities</i>	Annual project reports <i>Outcomes</i>	<i>Corresponding deliverables</i>	PIGGAREP Project Brief and Project Document <i>Main activities</i>
		program			projects <ul style="list-style-type: none"> <li>• Establishment of baseline data for demo sites</li> <li>• Design of RE projects</li> <li>• Implementation of RE demo projects</li> <li>• M&amp;E of RE demo projects</li> <li>• Design of replication and follow-up program</li> </ul>
<b>RE Market development</b>					
A4. Developing market strategies for RE business A5. Delivery mechanisms	<p>Output 4.1: Persistent barriers/issues related to RE market development, as well as lessons learned from previous initiatives to develop and sustain RE markets in the region are verified and evaluated.</p> <p>Output 4.2: Capacity development needs of the PICs in effectively addressing/removing barriers to RE market development are identified and evaluated, and relevant programs for technical/financial assistance to address/remove the persistent market barriers are recommended.</p> <p>Output 4.3: RE market development strategy is identified for each PIC</p> <p>Output 5.1: Persistent problems/issues affecting the facilitation of RE delivery mechanisms are verified and evaluated</p> <p>Output 5.2: Capacity development needs of the PICs in effectively employing appropriate delivery mechanisms for RE services are identified and evaluated, and relevant programs for the promotion of, and training on, all aspects of delivery mechanism implementation are recommended</p>	<p>Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports</p> <p>A1: Review existing policies, etc.            A2: Review studies, projects            A3: Evaluate RE delivery and finance            A4: Evaluate removal of barriers            A5: Carry out SWOT workshop</p> <p>Output 12.1-12.5: Appropriate financing mechanisms, demonstration program showcasing business angle of RE, regional RE technology support program, regional RE database and regional RE website</p> <p>A3: Evaluate RE delivery and finance            A21: Conduct business angle study and a technology support program</p> <p>Output 14.1-14.4:</p>	<p>Outcome 3: RE market development strategy is identified for each PIC</p> <p>See also outcomes 1,2, 6 and 8</p>	<ul style="list-style-type: none"> <li>• Demo projects and business angle report</li> <li>• PIGGAREP project documentation</li> </ul>	<p>A. Supporting of investment project development</p> <p>B. Assessment of local capabilities for RE services</p> <p>C. Assessment of viability of local manufacturing of RE system equipment</p> <p>D. Introduction of a 'one-stop-shop' for RE services</p> <p>E. Training course on RE projects and livelihoods and productivity</p> <p>F. Technical assistance on livelihood support</p> <p>G. Fiscal incentives for RE investments</p> <p>H. Bulk RE system equipment purchasing</p> <p>I. Development and promotion of RESCOs</p> <p>J. Establishment of market fro RESCOs</p>

PIREP – Project Brief <i>In-country and regional activities</i>	PIREP – Project Document (2002) <i>Outputs</i>	Quarterly progress reports <i>Outputs and activities</i>	Annual project reports <i>Outcomes</i>	<i>Corresponding deliverables</i>	PIGGAREP Project Brief and Project Document <i>Main activities</i>
		<p>Reports on successful models of RE delivery mechanism, financing schemes and potential funding sources are reviewed, assessed, identified and evaluated</p> <p>A2: Review studies, projects A3: Evaluate RE delivery and finance A21: Conduct business angle study and technology support program</p>			
<b>RE Institutional Strengthening</b>					
A3. Institutional strengthening and improving coordination (in-country and regional)	<p>Output 3.1: Institutional barriers in the facilitation, consultation, cooperation and coordination of all aspects of RE program implementation are verified and evaluated, and relevant programs institutional capacity building is recommended.</p> <p>Output 3.2: Capacity development needs of the PICs in the area of program coordination and institutional strengthening are recommended.</p>	<p>Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports</p> <p>A1: Review existing policies, etc. A2: Review studies, projects A4: Evaluate removal of barriers A5: Carry out SWOT workshop</p>	See outcomes 1, 2, 6, 8 and 14	<ul style="list-style-type: none"> <li>National assessment reports</li> <li>Regional assessment report</li> <li>PIGGAREP project documentation</li> </ul>	<p>A. Strengthening of energy offices</p> <p>B. Establishment of RE policy committees</p> <p>C. Detailed study on energy supply and demand in Pacific</p> <p>D. Training in integrated energy planning</p> <p>E. Development of a RE planning model</p>
<b>RE Financial Support Program</b>					
A6. Innovative financing mechanisms A8. Identify appropriate resource and	<p>Output 6.1: Persistent barriers/issues related to financing of RE projects in the PIC are verified and evaluated.</p> <p>Output 6.2: Capacity development needs of the PICs in effectively</p>	<p>Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports</p>	<p>Outcome 11: An appropriate financing mechanism for supporting RE projects is designed</p> <p>See also outcomes 1,2, 6 and 8</p>	<ul style="list-style-type: none"> <li>Financing mechanisms report</li> <li>PIGGAREP project documentation</li> </ul>	<p>A. RE business financing capacity building</p> <p>B. Assistance for accessing local financing in PICs</p> <p>C. Establishment of RE</p>

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technology specific delivery mechanisms	addressing financial barriers/issues to RE development are identified and evaluated, and relevant programs for the promotion of, and training on, all aspects of financing scheme design and implementation are recommended.  Output 12.3: An appropriate financing mechanism for supporting RE projects in the region is designed.	A1: Review existing policies, etc. A2: Review studies, projects A4: Evaluate removal of barriers A5: Carry out SWOT workshop  Output 12.1-12.5: Appropriate financing mechanisms, demonstration program showcasing business angle of RE, regional RE technology support program, regional RE database and regional RE website  A3: Evaluate RE delivery and finance			financing facility in PICs D. Design and implementation of financing schemes in PICs E. Service provision to RE financing applicants F. Review and evaluation of RE financing assistance schemes G. Sustainable follow-up program design
<b>RE Policy and Regulatory support</b>					
A1. Capacity building on RE policy formulation	Output 1.1: Persistent policy-related barriers to RE development, as well as gaps between what needs to be done in the area of RE policy making and planning and what have been done, are verified and evaluated.  Output 1.2: Capacity development needs of the PICs in the various aspects of RE development are recommended (policy and planning, information and awareness raising, institutional, market, RE delivery mechanisms, financing, technical)	Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports  A1: Review existing policies, etc. A2: Review studies, projects A4: Evaluate removal of barriers A5: Carry out SWOT workshop	See also outcomes 1,2, 6 and 8	<ul style="list-style-type: none"> <li>National assessment reports</li> <li>Regional assessment report</li> <li>PIGGAREP project documentation</li> </ul>	A. Formulation and implementation of national energy policy B. Conduct RE promotion workshops C. Policy reviews on RE applications in PICs <ul style="list-style-type: none"> <li>RE policy analysis</li> <li>Electricity policy study</li> <li>RE Electricity pricing study</li> <li>Study on livelihoods and productivity</li> </ul> D. Evaluation of national energy policy implementation E. Review of RE policy F. Legislation on RE system equipment

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<b>RE Information and awareness</b>					
A2. Dissemination of info and improving public awareness A9. In-country workshops	<p>Output 2.1: Persistent barriers/issues related to information dissemination and awareness-raising in the area of RE development as well as lessons learned from previous information and advocacy programs on RE in the region are verified and evaluated.</p> <p>Output 2.2: Capacity development needs of the PICs in the area of RE information dissemination and RE advocacy campaigns are verified and evaluated, and relevant programs for technical/financial assistance on these aspects of RE development are recommended.</p> <p>Output 12.1: Regional RE database is designed.</p> <p>Output 12.2: Regional website on RET development and promotion, including documentation of successful models of RE initiatives, is designed.</p> <p>Output 13.1: Outputs and recommendations of all RE sector assessments (as described in the regional report), are presented and disseminated to stakeholders on RE in the region and interested donor parties.</p>	<p>Output 1.1-10: Verified and evaluated barriers, capacity development needs, project proposals, demonstration sites and national and regional assessment reports</p> <p>A1: Review existing policies, etc. A2: Review studies, projects</p> <p>Output 12.1-12.5: Appropriate financing mechanisms, demonstration program showcasing business angle of RE, regional RE technology support program, regional RE database and regional RE website</p> <p>A7: Prepare a regional RE database A8: Construct PIREP website</p> <p>Output 13: RE sector assessments are disseminated to stakeholders</p> <p>A9: Disseminate MSP activity output A11: Publish and distribute project reports</p>	<p>Outcome 9: Regional RE database is designed</p> <p>Outcome 10: Regional website on RET development and promotion (including documentation of successful models) is designed</p> <p>See also outcomes 1,2, 6 and 8</p>	<ul style="list-style-type: none"> <li>• Database</li> <li>• National assessment reports</li> <li>• Regional assessment report</li> <li>• PIGGAREP project documentation</li> <li>• PIREP website</li> </ul>	<p>A. Establishment of RE Information Centers</p> <p>B. Establishment of RE Info exchange service</p> <p>C. RE advocacy and promotion</p> <p>D. Information campaigns</p> <p>E. RE website development</p> <p>F. Design and conduct of a RE technology education program</p> <p>G. Design and implementation of a RE training program</p>
<b>Design of a regional RE program</b>					
A10 Regional planning and consultative meeting A11 Regional RE assessment report A12 Design of a regional RE program (PIGGAREP)	<p>Output 9.2: Barriers/issues and lessons learned in the area of RE development in each PIC is confirmed including the measures recommended for the removal of the barriers, and the identified feasible demonstration schemes.</p> <p>Output 10.1: Clear understanding of project proponents on the objectives and outputs of the MSP implementation.</p>	<p>Output 14.1-14.4: Reports on successful models of RE delivery mechanism, financing schemes and potential funding sources are reviewed, assessed, identified and evaluated</p> <p>A2: Review studies, projects A3: Evaluate RE delivery and finance A21: Conduct business angle study</p>	<p>Outcome 1: Persistent barriers to RE development, as well as gaps between what needs to be done in specific areas, and what have been done, are verified and evaluated (policy and planning, information and awareness raising, institutional, market, RE delivery mechanisms, financing and technical)</p> <p>Outcome 2:</p>	<ul style="list-style-type: none"> <li>• National assessment reports</li> <li>• Regional assessment report</li> <li>• PIGGAREP project documentation</li> <li>• Regional</li> </ul>	

PIREP – Project Brief <i>In-country and regional activities</i>	PIREP – Project Document (2002) <i>Outputs</i>	Quarterly progress reports <i>Outputs and activities</i>	Annual project reports <i>Outcomes</i>	<i>Corresponding deliverables</i>	PIGGAREP Project Brief and Project Document <i>Main activities</i>
A13 MSP results presentation workshop	<p>Output 11.1: Synthesis of all findings and recommendations in the country assessment reports is prepared highlighting common barriers/issues on RE development in the region, common approaches to addressing the identified barriers and measures, which would be specific to each PIC.</p> <p>Output 14.1: Successful models of RE project in the region, other SIDS and in other developing countries documented</p> <p>Output 14.2: International experiences, with particular focus on SIDS, and other developing countries, on different delivery mechanisms for off-grid power services reviewed and assessed</p> <p>Output 14.3: Experiences and lessons learnt in other countries, with particular focus on SIDS and other developing countries, on financing schemes are reviewed and assessed</p> <p>Output 14.4: Potential funding sources for RE projects in the region are identified and evaluated.</p>	<p>and technology support program</p> <p>Output 15: Published and distributed project reports</p> <p>A9: Disseminate MSP activity output A11: Publish and distribute all reports</p> <p>Output 16: A GEF full-sized project for removing barriers</p> <p>A10: Consultation with ZOPP-LFA A12: Draft full project proposal A13: Consultation with the CROP EWG A14: Project consultation with PICs A15: Project consultation with PAC</p>	<p>Capacity development needs of the PICs in various aspects of RE development are recommended (policy and planning, awareness raising, institutional, market, RE delivery mechanisms, financing and technical).</p> <p>Outcome 4: Potential funding sources for RE projects in the region are identified and evaluated</p> <p>Outcome 6: Barriers/issues and lessons learned in the area of RE development in each PIC are confirmed (including measures for the removal of barriers and of the identified feasible demo schemes)</p> <p>Outcome 7: Clear understanding of the project proponents on the objectives, outputs and results of the MSP implementation</p> <p>Outcome 8: Synthesis of all findings and recommendations in the country assessment reports in prepared highlighting common barriers/issues on RE development in the region, common approaches to addressing the identified barriers and measures</p>	planning and consultative meeting	
Project management					
		<p>Output 17: Effective and efficient project management</p> <p>A16: Employ CTA to manage A17: Monitoring, evaluation and review A18: Conduct audit of the report A19: Carry out MPR meeting A20: Terminal MPR meeting</p>			

