Pacific Regional Data Repository and Pacific Regional Energy Database

Strategy for Development

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December, 2015

**ACRONYMS**

**ADB** Asian Development Bank

**ESCAP** Economic and Social Commission for Asia and the Pacific

**FSM** Federated States of Micronesia

**GIS** Geographical Information System

**HIES** Household Income and Expenditure Survey

**IEA** International Energy Agency

**IRENA** International Renewable Energy Agency

**MOU** Memorandum of Understanding

**PEAG** Pacific Energy Advisory Group

**PICT** Pacific Island Countries and Territories

**PIREP** Pacific Island Renewable Energy Project

**PNG** Papua New Guinea

**PRDR** Pacific Regional Data Repository

**PREA** …………………………………………….Pacific Renewable Energy Assessment

**RMI** Republic of the Marshall Islands

**SE4ALL** Sustainable Energy for All

**SIDS** Small Island Developing State

**SPC** Pacific Community

**SPREP** Secretariat of the Pacific Regional Environment Programme

**TERM** Tonga Energy Road Map

**TFSCB** Trust Fund for Statistical Capacity Building

**UN** United Nations

**UNSD** United Nations Statistics Division

**USP…**…………………………………………………………………… University of the South Pacific

**WB** World Bank

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**ACKNOWLEDGEMENTS**

This work could not have been accomplished without the active participation and support of many persons at SPC and the World Bank. In particular the author would like to thank Mr. Solomone Fifita whose vision and direction led the way for the development of the PRDR at SPC and Ms. Natsuko Toba of the World Bank whose tireless efforts kept the work on track and running smoothly. A very special thanks goes to Mr. Frank Vukikomoala and Ms. Amali Shaw who were a real pleasure to work with both in the field and at SPC and are the persons doing the difficult work of bringing the PRDR online and making it available for the ongoing development of the Pacific island countries.

# Introduction

## Background

### Introduction to the PRDR

The supply and end use of energy in the Pacific is changing rapidly, dramatically accelerated by the fuel price spike of 2008 and the continuing reduction in solar PV system prices. For policy and project development to keep pace, access to up to date energy data is essential. However, over the past 30 years, several projects to support PICT energy offices in the creation of national energy databases that could feed data to a regional energy database have not been successful. The lessons learned through the failure of those programs include:

1. Most PICT Energy Offices do not have the mandate nor the broad base of energy activities necessary to collect energy related data from all of the many energy stakeholders in each country. Since the creation of the energy offices in the early 1980 in response to the regional EU renewable energy activities, few have expanded their scope much beyond renewable energy and energy efficiency project development and management.
2. Most national energy offices are seriously understaffed and have inadequate resources to extend their activities to database preparation and management
3. Because the activities of most of the energy offices do not require data analysis their priority for energy database development is typically low.
4. All successful efforts to create national and regional data collections such as were part of the PREA, PIREP and IRENA LIGHTHOUSE efforts, have worked mainly because they went directly to data sources in each country.

The PRDR is an effort designed to avoid the problems energy offices have in the timely collection and formatting of energy data from stakeholders in their country and the submission of the formatted data for publication in a regional database at SPC. The PRDR requires no formatting or other preparation of data or documents before submission because the sources submit their collected data in the format that they are using, no conversion to a regional standard is required. Thus, data sources can directly submit their energy related data and energy related reports immediately upon their preparation. The PRDR is in effect a file cabinet for energy data and energy related documents that can be accessed by anyone through the PRDR website. Once the data has been received in its raw format, the PRDR stored data can then be formatted and become the source of data for a formal energy database at SPC.

In March, 2013, island country governments leaders met in Tonga and eleven of them (Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, Tuvalu, Fiji, Kiribati, Samoa, Tonga, the Solomon Islands, Vanuatu and Papua New Guinea) ultimately signed declarations of their support for setting up a transnational data repository on energy that would also include provision of energy related documents from development partner supported projects. Also in March, 2013, at the Pacific Energy Summit and in May, 2013, at the Asia and Pacific Energy Forum meeting, the concept was further discussed and endorsed. In September, 2013, at the 44th Pacific Islands Forum meeting, leaders supported the Tonga initiative to establish a Pacific Regional Data Repository for Sustainable Energy for All (PRDR for SE4All). Also in September, 2013, at the 68th UN General Assembly, the eleven Pacific nations signed a Declaration Establishing a PRDR for SE4All and presented it to the United Nations Secretary General.

Based on the preceding actions, ESCAP developed a draft PRDR concept. The draft concept was presented to the Regional Energy Officials Meeting in March/April 2014 where three expressions of interest for the hosting of the PRDR were presented to the meeting. Palau initially expressed an interest but later withdrew. USP presented its interest as did SPC. SPC presented its interest largely based on the fact that it is currently working with countries on energy data reports, national energy balances and indicative data such as was used in the 2009 Energy security Country Profiles indicators. SPC has been doing a stock-take of projects and policies around the region and has been developing a portal for a database. Based on the database related activities at the country representatives agreed that SPC should be the interim host for 12 months. For SPC, the PRDR was an addition to what it currently was doing at the time in its data collection and statistics work. in April 2014 at the Joint Regional Meeting of Energy and Transport Ministers, a steering committee was established to oversee the development of the PRDR. The ministers agreed that SPC would be the interim host of the PRDR. The PRDR Steering Committee met in April and May of 2014. In September 2014, at a SIDS conference, the PRDR was officially launched as an interim activity at SPC.

The steering committee again met during the 5th PEAG meeting in December 2014. This fourth meeting highlighted the immediacy and urgency of identifying a permanent host for the PRDR and the importance of giving some confidence and certainty of continuance to the permanent host as soon as practicable. In respect of this they:

i) Acknowledged SPC’s effort and commitment of internal financial, staff and office resources to the development of the PRDR noting the progress achieved in positive momentum, awareness and support;

ii) Noted the need at for security, continuity and confidence at SPC that it would remain the host, and for development partners to be confident in the permanency of SPC as the host of the PRDR in order to dedicate and commit resources to SPC for PRDR support.

iii) Noted the need, from the viewpoint of governments, to have a sense of certainty and continued ownership of the PRDR;

iv) Therefore it was unanimously agreed that in the absence of any firm alternative interest and given SPC’s unique position on the PRDR, that SPC should become the permanent host of the PRDR; and,

v) Agreed that the Steering Committee be eliminated and that its PRDR oversight role be taken up by the meeting of the SPC-convened Pacific Energy Advisory Group (PEAG).

On 23 September 2015, Ministers agreed that the SPC become the permanent host of the PRDR.

### The PRDR as a supporting action for the SPC 10 year Pacific Statistics Strategy Action Plan

In 2010, A 10 year Pacific Statistics Strategy Action Plan was developed by SPC’s Statistics Programme primarily to increase the capacity of the country statistics offices and support a timely production of statistical reports based on surveys, e.g. the national census and periodic household income and expenditure surveys. The strategy does not specifically include energy data collection nor does it address the role of national energy offices in collecting and making available energy data to end users, however, it is broad enough to incorporate key macro energy statistics. For instance, Objective 2 of the strategy is “PICTS are producing the agreed core set of statistics across key sectors.” The Activity Focus / Description of Activities is:

* This second strategic programme objective intends to deliver both process and product outcomes, benefitting users of social and economic statistics. This two-pronged approach is essential to start closing the gap between available (and timely) data and unmet demands.
* Key Sectors will be defined by an agreed-upon set of priority statistics for all countries in line with the Pacific Plan, such as the National Minimum Development Indicator database (NMDI) being developed by SPC.

Output 2-1 under this objective is “Regional endorsement of National Minimum Development Indicator dataset.” The Energy Programme of SPC has been instrumental in collecting data from the PICTs. This includes data needed to determine:

* Electrification rate
* Access to modern lighting
* Access to modern cooking fuel sources
* Fuel Import as a % of GDP
* Electricity tariffs (USD/kWh)
* HH Energy Expenditure

To keep these indicators current and to make available up-to-date energy data for national energy development programmes, SPC needs to develop an ongoing energy database covering all aspects of energy development in the Pacific. There is a long-term goal of national energy offices collecting energy data and providing it directly to a regional database but, for a number of reasons, most of the PICT energy offices are not yet able to collect, format and deliver energy data to a regional database in a timely fashion. To overcome this problem the PRDR was proposed as a way to directly access data from the original sources and make it available online. Through MOUs with the data sources that have been identified by national energy offices and through country visits by SPC staff to discuss data collection with the identified data sources, the PRDR will collect its data directly from the original data sources. The sources will be allowed to submit the data they collect in any readable format and at any time. There is therefore a direct link between the PRDR and the 10 year regional statistics strategy in that the PRDR can become the source of data for the formal energy database that is needed under the strategy. Obviously having the two efforts under SPC is an advantage. On the one hand, SPC Statistics can influence National Statistics Offices to work closely with national Energy Offices and data providers and likewise SPC Energy can influence its counterpart national energy offices to work more closely with the national statistics offices and data providers.

The core strategy for the SPC statistics strategy is for it to support long-term objectives with specific objectives of the strategy being:

* PICT are undertaking key statistical collections as scheduled. Programmatic emphasis is on proper planning for surveys and the timely completion of surveys, in particular census and HIES reports
* PICT are producing the agreed core set of statistics across key sectors. This objective focuses on social and economic statistics and the delivery of agreed upon priority statistics in line with the Pacific Plan
* PICT have their own capacity or are accessing regional capacity to undertake agreed core and some specialists statistical functions. This objective is to develop PICT capacity in statistics offices for an agreed upon core set of statistical functions to be handled by national statistics offices.
* Improve Data accessibility and Utilization. Emphasis is on making databases user relevant, accessible and transparent.
* New and innovative statistical tools and systems have been introduced. This includes such technologies as using Geographic Information Systems (GIS) and global positioning system (GPS) technology on household surveys and using portable digital assistants (PDA) technology for recording survey answers.
* National and regional statistical governance is functioning effectively. This objective is focused on the importance of structures and systems in statistical offices and the enabling of smooth and sustainable operation of national and regional statistical systems and their governance including monitoring of this 10 year strategy.

The PRDR is also a supporting component of this strategy in that it will work continually with data providers, national statistics offices and national energy offices to improve the quality, timing and delivery of data needed to generate the needed energy related statistics for actions related to climate change, poverty alleviation, renewable energy implementation and economic development in the PICT. The PRDR represents an important component of the SPC’s development of a regional energy database since energy has not been a specific component of the 10 year statistical development plan at SPC. That is partially because the 10 year plan focuses on statistics offices and few of the PICT statistics offices regularly collect energy data; and partially because there is no central source of energy statistical data in most of the PICT. With the development of the PRDR as a means of collecting country energy data directly from original data sources, the addition of energy data to the SPC database development process will become possible. However, that step cannot be taken until there is actually data available in the PRDR sufficient for an energy database. Even with the PRDR in place, a minimum of two years of PRDR operation will likely be needed to achieve adequate collection of the data needed for a fully functional energy database that includes all the PRDR signatory countries.

## Potential benefits of the PRDR in the Pacific

The PRDR will not only collect and store raw data from data sources but also will store reports, project documents, photographs, graphs and any other documents that relate to energy in the Pacific. Many of these documents, such as annual reports of PICT utilities, often themselves contain data that can be “mined” and those data will supplement data obtained from the data sources.

Though not a formal database, the data and reports made accessible to all parties through the PRDR website is expected to be a major resource for measuring the state of the energy security of the Pacific Island nations. By storing and making accessible up-to-date information relating to all aspects of energy in the Pacific Islands, the information stored in the PRDR will allow users to access the most recent and accurate information available regarding energy resources, usage, projects and planning. That access can support the development of policies, projects and programmes that are specifically focused on improving island energy security and reducing dependence on fossil fuels.

The PRDR is also seen as helping data sources meet frequent external demands for data through their ability to refer persons with data requests to the PRDR website where the data documents are publicly available.

## Goals and objectives of the PRDR

The goals and objectives of the PRDR are:

1. Have all PICT data sources signatory to a MOU with the PRDR thereby agreeing that they will provide their data as it becomes available.
2. Become a ‘one stop shop’ for energy information in the Pacific both through its data collection and through its collection of energy related papers, reports and other documents.
3. Become a ‘cloud backup’ for documents and data submitted by the PICT.
4. Become the source of data for a formal regional database under the SPC
5. Gradually improve the quality and timing of data submissions from data sources with the long range goal of submissions being directly input to a regional energy database through the national energy office
6. To encourage and support a close relationship between the national energy offices, statistics offices and the data sources of the PRDR

# Status of PICT Energy Offices and Database Development

The data collection approach being taken by the PRDR is for the energy offices to participate peripherally in the early stages though their being the focal points for the PRDR in the PICT. Their primary responsibility will be to monitor the timely provision of data and to work with data sources when there are problems. As the PRDR becomes fully operational, the energy offices will be encouraged to take a more proactive part in its operation and in the development of a national energy database using the same data that is being sent to the PRDR.

# Progress in the Development of the PRDR

## PRDR development activities to Date

Starting in June 2015, the SPC Statistics Office began arrangements for field trips to original data sources and energy offices in the eleven countries that have thus far signed declarations of support for the PRDR. Also starting in July was on-site support by a World Bank sponsored consultant. The consultant initially worked with the Statistics Office personnel while visiting the Marshall Islands and helped establish procedures for discussions with the original data sources and for drafting MOUs for the data sources to sign. In late October through early November of 2015, the consultant visited the SPC offices in Suva and provided assistance in the further development of the PRDR website and in establishing procedures for the acceptance and cataloging of data and energy related documents received from their various sources. Also discussions were held regarding the strategy to be followed for the further development of the PRDR as a source of data for a formal energy database for the Pacific Region.

The PEAG met in mid-November, 2015, and accepted a report from SPC on the PRDR progress and continued to support the efforts of SPC in making the PRDR operational and supported the future use of the PRDR as a source of data for a formal regional energy database.

## Conversion of PRDR entries to database entries

For PRDR data entries to be used as entries in a formal database, they will need to be formatted to fit the requirements of the database. This includes making measurement units consistent with those of the database, entry types (alphabetical or numerical), length of strings to be entered, number of decimal positions and other attributes specific to the database. One major advantage of using PRDR data and converting it for the regional database is the simplicity of data verification. Since the PRDR data is provided by the original sources, a simple in-house check of the database entry against the PRDR data will suffice. To further simplify conversion, a template for each data source can be constructed that will automatically convert the data in the PRDR to data that is useable in the regional database. A major part of the preparation for populating the regional database with PRDR data will be the creation and testing of templates for each data source that will automatically make the necessary conversion.

# Five Year PRDR and Regional Energy Database Development and Implementation Strategy and Actions

## Overall strategy for the PRDR and regional database development and their operation

Table 1 on the following page shows a summary of the activities that will need to be carried out over the period 2016-2021 to accomplish both the full operation of the PRDR and the development of a Pacific regional energy database based on PRDR data..

|  |  |  |
| --- | --- | --- |
| Phase 1 - 2016-2017PRDR Development | Phase 2 - 2018-2019PRDR Operation-Database Development | Phase 3 – 2020-2021PRDR Operation-Database Operation |
|  |  |  |
| Complete Country visits |  |  | Work with donors to access funding for the regional energy database start-up |  | Add one full-time person for implementing the database |
| Receive signed MOUs |  |  | Convert select PRDR data to a format acceptable in the database |
|  | Add two full-time persons for collecting and posting PRDR materials | Re-assign one PRDR person half-time to the database |
| Funding (approximately $190,000 per year) sought for continuing PRDR operations |  | Database start-up funding of approximately $150,000 for the period 2019 through 2120 |
|  |  | PRDR is fully functional for both energy data collection and energy document collection and website publishing |
|  | Prepare and get approval of concept papers and project documents to create a Pacific Regional Energy Database using reformatted PRDR data. Design the database so it is directly compatible with ESCAP’s APEF data portal and other international databases |  |  |  |  | Database is operational in parallel with the PRDR |
|  | Get necessary approvals from regional meetings to begin development of a Pacific Regional Energy Database that is compatible with international databases in use in the region |  |  |  |  |
|  |  | Work towards the ultimate goal of energy offices collecting and submitting data directly to the regional database Commence through an ongoing program to work with country energy offices and PRDR data sources to improve PRDR submissions so they are more compatible with the database |
|  |  |
|  |  |
|  |  |  |  |
|  |  |  |  |
|  |  | Interact with data sources to improve data collection timing and formats and add new data areas of interest to users |
|  |  | Work with ESCAP to develop templates, methodologies and data formats that are consistent with the ESCAP APEF Database now being populated |  |  |  |  |  |
|  |  |  |  | Work with ESCAP, WB and donors to obtain longer term operating funds for the regional database |
|  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Table 1 – 5 year Strategy for the development of the PRDR and a regional energy database using PRDR collected data** |

**Objective 1.1 (PRDR Implementation activity): Obtain commitments from country data sources to provide data as it becomes available**

*Activities: Get data sources to sign MOUs for data delivery and require them to fulfil the agreements made under the MOU.*

1. Activity 1.1.1: A draft MOU was prepared and submitted for approval in August 2015. Obtain an internal approval for the MOU text and send MOUs to each country data source for their approval and signature. For some countries, high-level approvals may also need to be obtained.
2. Activity 1.1.2: Once MOUs are signed by data sources, SPC will need to enforce the terms of the MOU and work with data sources to ensure that data is submitted as agreed under the MOU. One of the tasks of the full-time SPC personnel assigned to the PRDR will be to remind data sources of their commitment to provide data at their designated times and to follow up with the sources if the data is not received on time.

**Objective 1.2 (PRDR Implementation activity): Obtain funding commitment of at least $171,000 per year for five years for PRDR operation**

*Activities: Create a proposal to obtain at least five years of funding for the continued operation of the PRDR and submit it to funding sources. This five year period can be considered as a trial operating period to be sure the concept of the PRDR is workable in the Pacific and that the PRDR can function well as a data source for a regional energy database.*

1. Activity 1.2.1: Prepare a detailed funding proposal for at least $171,000 per year for a 5 year trial operation of the PRDR. This document should be an acceptable basis for such a proposal.
2. Activity 1.2.1: Obtain approvals as needed and submit the funding request to donor agencies. The proposal for the 5 year trial operation of the PRDR should be placed on the agenda for regional meetings to affirm that SPC should seek approval for seeking its funding.

**Objective 1.3 (PRDR Implementation activity): Make the PRDR fully operational and maintain its operation**

*Activities: Enter received data and documents and make the PRDR website fully operational. Work with data sources to improve data collection to better meet the data needs of PRDR users.*

1. Activity 1.3.1: Enter received data and documents into the PRDR. When entering data it is vital that appropriate search tags and meta-data are attached to the data documents received from the country sources. These tags and meta-data should be cross checked by a second person within the PRDR staff to ensure that they are appropriate and complete since recovery of documents will be almost completely dependent on searches of the tags and meta-data that are associated with the data documents.
2. Activity 1.3.1: Make the PRDR website fully operational. In this context, fully operational means that all target countries have data sources that are delivering agreed upon data in a timely manner and the data is quickly being added to the website dataset for immediate use by the public.

**Objective 1.4 (Database development activity): Obtain a two year database development commitment of $150,000**

*Activities: Prepare a detailed funding proposal for two years of development for a formal regional energy database using reformatted data from the PRDR. Work to obtain a commitment of at least $150,000 for the energy database development and commence its development.*

1. Activity 1.4.1: Using this document as its basis, create a detailed proposal funding to develop a regional energy database using reformatted PRDR data. Approximately $150,000 will be needed to provide 2 years of preparation and implementation of the database.
2. Activity 1.4.2: Obtain approvals as needed and submit the funding request to donor agencies. The proposal for the 2 years of development of a regional energy database should be placed on the agenda for regional meetings to affirm that SPC should seek approval for seeking its funding. Applications for funding should include The Trust Fund for Statistical Capacity Building (TFSCB) as it has multiyear funding available specifically for this type of work.

**Objective 1.5 (PRDR and Database development activity): Create a methodology to convert PRDR data to a form acceptable for a regional database that are consistent with the ESCAP APEF data portal and other international databases.**

*Activities: With the help of an external expert and the ESCAP statistical department, determine the types of data and the data formats needed in a regional energy database. With the assistance of the external expert, create templates, methodologies, data formats and data validation/verification processes that will allow the PRDR data to be reformatted into the form determined to be acceptable for the formal energy database.*

1. Activity 1.5.1: With the help of an external expert, work with ESCAP to determine the requirements for data from all PRDR sources to be reformatted into formats acceptable for ESCAP and other international databases. The PRDR data will be in many formats and only some of the data received will be of interest to international databases. Determine which data is appropriate for populating a regional energy database and determine the formats required for each dataset to make it consistent with ESCAP and other international energy databases.
2. Activity 1.5.2: With the assistance of an external expert work with ESCAP to develop templates, methodologies and data formats that are comparable with the ESCAP APEF Database and other international databases. During the early years of the PRDR operation, it is expected that each country will deliver its data in different formats. Templates for reformatting the data received from each data source will need to be created and a methodology for reformatting the data determined. Standard tags and meta-data will need to be established for each type of data included in the database.

**Objective 1.6 (PRDR activity): Gradual improvement of data quality sent to the PRDR**

*Activities: Each year create a 5 to 7 person advisory group made up of persons from PICT energy offices and data sources to meet and evaluate the performance of the PRDR and recommend improvements in its operation with special focus on improving data source compliance with their MOU agreements.*

1. Activity 1.6.1 convene the PICT advisory group annually to review PRDR performance and recommend operational improvements.

**Objective 1.7 (Database development activity): Regional energy database is operational in parallel with the PRDR**

*Activities: Create a website and populate it with data converted from the PRDR materials. The website may be stand-alone or may be combined with the PRDR website though actually it will be a stand-alone section of the website.*

1. Activity 1.7.1: Populate the database with converted PRDR data and other data as appropriate. The website will need to have a content and format consistent with those of the ESCAP APEF database and other international energy databases. Proper tags and meta-data will have been assigned to each data entry to facilitate data searches and those should also be consistent with international practices for energy databases.

**Objective 1.8 (Database development activity): Gradually shift database maintenance to responsibility to the PICT energy offices**

*Activities: Train members of each PICT energy office to us the SPC developed templates and methodology to convert the data from their country PRDR energy data sources to formats suitable for a formal energy database and assist them in developing a standard website to provide public access to that data.*

1. Activity 1.8.1:Through two sub-regional workshops, train at least two members of each of the participating PICT energy offices to use the templates and methodologies established by SPC to convert the data as received from their local data sources into formats that are consistent with those of the Pacific regional energy database. Two sub-regional workshops are proposed with one to serve the Northern Pacific sub-region (Palau, FSM and the RMI) and the second to serve the Southern Pacific sub-region (Tuvalu, Kiribati, Samoa, Tonga, Fiji, Solomon Islands, Vanuatu and Papua New Guinea). The division is proposed both to reduce travel costs of the participants and in consideration of the differences in the data formats and units in the U.S. affiliated islands of the north and the data formats and units used in the southern islands.

## Proposed budgets for implementation

Because the PRDR is in an advanced stage of preparation but work on the regional database has not yet begun, different funding sources for their support are likely. Start up funding and technical support for the PRDR development has been obtained with support from the World Bank and the further funding needs of the PRDR are for a five year trial operation to determine if it can function as designed and become a permanent component the regional energy activities. The database funding required is to create a regional energy database using reformatted PRDR data that is consistent with other international energy databases around the world.

The PRDR proposal and budget for 5 years of trial operation is likely to be supported by a regional partner such as Australia, New Zealand, China or Japan while the database development proposal and its budget should be submitted to the TFSCB by way of the World Bank as well as to other development partners.

|  |  |  |
| --- | --- | --- |
| **Objectives/Outcome/Output/Activity** | **Indicative Timeline** | **Implementing Parties** |
| 2016-2017 | 2018-2019 | 2020-2021 |
| Objective 1.1: Obtain commitments from country data sources to provide data to the PRDR as it becomes available |
| Expected outcome 1.1: PRDR data received from all member countries by mid 2016 |
| Output 1.1: Publishing of PRDR data on the website by mid 2016 |
| Priority Activities | Activity 1.1.1: Approve draft MOU text and send MOUs to member countries for signatures |  |  |  |  | SPC |
| Activity 1.1.2: Enforce the terms of the MOU and receive data |  |  |  |  | PICT, SPC |
| Objective 1.2 Obtain funding commitment of at least $171,000 per year for PRDR operation |
| Expected outcome 1.2: At least 5 years of PRDR funding obtained |
| Output 1.2: Operation of the PRDR for at least 5 years |
| Priority Activities | Activity 1.2.1 Prepare a detailed funding proposal for a 5 year trial operation of the PRDR |  |  |  |  |  | SPC, funding agencies |
| Priority Activities | Activity 1.2.2 Obtain approvals as needed and submit the funding request to donor agencies |  |  |  |  |  | SPC, funding agencies |
| Objective 1.3: Make the PRDR fully operational and maintain its operation |
| Expected outcome 1.3: Data is available to users of the PRDR website |
| Output 1.3: PRDR data is used for PICT development |
| Priority Activities | Activity 1.3.1: Receive data and documents and enter into the PRDR |  |  |  |  |  | SPC,PICT |
| Priority Activities | Activity 1.3.2 Make the PRDR website fully operational |  |  |  |  |  | SPC |
| Objective 1.4: Obtain a two year database development commitment of $150,000 |
| Expected outcome 1.4: Operational regional energy database |
| Output 1.4: Compatibility with international energy databases |
| Priority Activities | Activity 1.4.1: Prepare a detailed funding proposal for development of a formal regional energy database using the PRDR data |  |  |  |  |  |  | SPC, donors |
| Priority Activities | Activity 1.4.2: Obtain approvals as needed and submit funding request to donor agencies. |  |  |  |  |  |  | SPC, PICT, donors |
| Objective 1.5: Create a methodology to convert PRDR data to a form acceptable for a regional database that is compatible with ESCAP, WB, IRENA, IEA and other International databases |
| Expected outcome 1.5: Templates that allow conversion of PRDR data to fit database needs |
| Output 1.5: Data acceptable for a regional database |
| Priority Activities | Activity 1.5.1: With support by an external expert, work with ESCAP to determine the requirements for data from all PRDR sources to be reformatted into formats acceptable for ESCAP and other international databases. |  |  |  |  |  |  |  | SPC, consultant |
| Priority Activities | Activity 1.5.2: With support by an external expert, work with ESCAP to develop templates, methodologies and data formats that are consistent with the ESCAP APEF Database and other international databases. |  |  |  |  |  | SPC, consultant |
| Objective 1.6: To improved the quality and timeliness of data submissions |
| Expected outcome 1.6: Improvement in compliance with MOUs by data sources |
| Output 1.6: Timely and complete data submissions by data sources |
| Priority Activities | Activity 1.6.1: Annually convene a data advisory group made up of representatives from PICT data sources and energy offices |  |  |  |  |  | SPC |
| Objective 1.7: Regional energy database is operational in parallel with the PRDR |
| Expected outcome 1.7: Website access to both the regional energy database and the PRDR is available |
| Output 1.7: Energy database is used for supporting PICT development |
| Priority Activities | Activity 1.7.1: Populate the database with converted PRDR data and make the database operational |  |  |  |  |  | SPC |
| Objective 1.8: Gradually shift the Pacific regional energy database maintenance responsibility to the PICT energy offices |
| Expected outcome 1.8: Templates for data entry that energy offices can fill in as needed for the regional database |
| Output 1.8: Lower SPC operational cost for the database |
| Priority Activities | Activity 1.8.1: Provide PICT energy offices training in the use of SPC created templates and methodologies for reformatting data obtained from local PRDR data sources and train PICT energy offices in the creation and management of a national energy database for each PICT. |  |  |  |  |  |  |  |  | SPC, PICTs |
| **Table 2 – Implementation strategy summary matrix for development of the PRDR and a regional energy database** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Budget Item** | **Year 1\*** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
| **Personnel** |   |   |   |   |   |
| Manager (1/4 time) | $12,500 | $12,750 | $13,005 | $13,265 | $13,530 |
| Administration (1/8 time) | $6,250 | $6,375 | $6,503 | $6,633 | $6,765 |
| IT services (part time, varies) | $10,000 | $10,200 | $10,404 | $10,612 | $10,824 |
| Data officer (full time) | $30,000 | $30,600 | $31,212 | $31,836 | $32,473 |
| (Data officer (full time) | $30,000 | $30,600 | $31,212 | $31,836 | $32,473 |
| **IT Infrastructure for Data Officers exclusive to the PRDR** |   |   |   |   |   |
| Laptops with associated larger screen monitors | $1,500 | $0 | $0 | $1,500 | $0 |
| External data storage. Maintenance and incoming data charges | $500 | $1,000 | $1,000 | $500 | $1,000 |
| Server time and associated services | $1,000 | $1,020 | $1,040 | $1,061 | $1,082 |
| Projector and cabling | $750 | $0 | $0 | $0 | $0 |
| **Share of infrastructure for part time personnel** |   |   |   |   |   |
| Laptops | $700 | $0 | $0 | $700 | $0 |
| **Travel to meetings and consultations** |   |   |   |   |   |
| DSA and airfares | $7,000 | $7,140 | $7,283 | $7,428 | $7,577 |
| Local transport | $200 | $204 | $208 | $212 | $216 |
| Meals and miscellaneous | $3,500 | $3,570 | $3,641 | $3,714 | $3,789 |
| **3 day Meeting at SPC of a PICT member data advisory group (5-7 persons maximum)** |   |   |   |   |   |
| DSA and airfare | $10,000 | $10,200 | $10,404 | $10,612 | $10,824 |
| Meals | $1,500 | $1,530 | $1,561 | $1,592 | $1,624 |
| Administrative costs | $3,500 | $3,570 | $3,641 | $3,714 | $3,789 |
| **Administrative support cost for two part time staff and two full time staff** |   |   |   |   |   |
| SPC Administrative cost | $8,233 | $8,398 | $8,566 | $8,737 | $8,912 |
| **Advocacy materials:**  |   |   |   |   |   |
| Publications | $3,000 | $1,000 | $1,000 | $1,000 | $1,000 |
| **Consultancies and contracts** | $5,000 | $5,100 | $5,202 | $5,306 | $5,412 |
| **Sub-Total** | **$135,133** | **$133,257** | **$135,882** | **$140,259** | **$141,291** |
| **25% Contingency** | **$33,783** | **$33,314** | **$33,970** | **$35,065** | **$35,323** |
| **TOTAL** | **$168,916** | **$166,571** | **$169,852** | **$175,324** | **$176,613** |
| **Table 3 – 5 year budget for PRDR Operations** |  |  |  | **5 Year Total** | **$857,277** |
| \* Year 1 commences 1 June, 2016 |  |  |  |  |  |
| For most costs, an annual cost increase of 2% has been included for inflation |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Category**  | **Number**  | **Duration (days)** | **Unit rate (USD)** | **Cost (USD)** | **Grant (USD)** | **SPC (USD)** | **Total (USD)** |
| **Database Capacity Building for SPC (2016-'17)** |
| PRDR based energy database development and capacity building |   |   |   |   |   |   |   |   |
|  International Consultant | Services | 1 | 30 | $850 | $25,500 | $25,500 | 0 | $25,500 |
|  Travel (2 visits of approximately two weeks each) |   | 1 | 1 | $5,000 | $5,000 | $5,000 |   | $5,000 |
|  Per diem |   | 1 | 25 | $75 | $1,875 | $1,875 |   | $1,875 |
|  Hotel |   | 1 | 25 | $130 | $3,250 | $3,250 |   | $3,250 |
|  National Consultant (Website and computer support) | Services | 1 | 20 | $500 | $10,000 | $10,000 |   | $10,000 |
|  Capacity building workshop for SPC staff (data conversion from PRDR) | Services | 1 | 3 | $250 | $750 | $750 |   | $750 |
| Regional Workshop of Energy Officials to discuss the Energy Database | Services |   |   |   |   |   |   |   |
|  Travel (for 2 energy officials from each country to come to Fiji) |   | 22 | 2 | $1,000 | $44,000 | $44,000 |   | $44,000 |
|  Per Diem |   | 22 | 5 | $75 | $8,250 | $8,250 |   | $8,250 |
|  Hotel |   | 22 | 5 | $140 | $15,400 | $15,400 |   | $15,400 |
| **Sub-total** |   |   |   |   | **$114,025** | **$114,025** | **$0** | **$114,025** |
| **Section II: Review of database progress and correction of problem areas** |   |   |   |   |   |   |  |
| **Project review (early 2018)** |   |   |   |   |   |   |   |   |
| International consultant (follow-up for trouble-shooting & review) | Services | 1 | 10 | $850 | $8,500 | $8,500 |   | $8,500 |
|  Travel |   | 1 | 1 | $2,500 | $2,500 | $2,500 |   | $2,500 |
|  Per diem |   | 1 | 5 | $75 | $375 | $375 |   | $375 |
|  Hotel |   | 1 | 7 | $130 | $910 | $910 |   | $910 |
|  Workshop for staff review of the database progress | Services | 1 | 2 | $250 | $500 | $500 |   | $500 |
| **Sub-total** |   |   |   |   | **$12,785** | **$12,785** | **$0** | **$12,785** |
| **Section III: [Other, local coordinator]** |  |  |  |  |  |  |  |  |
| **Local Database coordinator (shared with PRDR for 2 years)** | Services | 1 | 2 yr | $40,000 | $80000 | $40,000 | $40,000 | $79,920 |
| National Consultant [example] | Services |   |   |   | $0 | $0 | $0 | $0 |
| **Sub-total** |   |   |   |   | $80,000 | $40,000 | $40,000 | $80,000 |
|  |  |  |  |  | Total | Grant | SPC. | Total |
|  |  |  |  |  | **$206,810** | **$166,810** | **$40,000** | **$206,810** |
| **Table 4 – Budget for development of a Pacific regional database using the PRDR as the data source (2 year development period)\*****\* This budget format is based on the World Bank template for submission of proposals to the Trust Fund for Statistical Capacity Building** |