PPP Model Framework
For Small-Scale Renewable Energy Power Systems in Fiji

Fiji Renewable Energy Power Generation Project (FREPP)

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Technical Oversight and Guidance

Joeli Valemei at the Department of Energy and Emma Mario at the United Nations Development Programme

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Authors

Douglas A. Marett and Marc A. Marr at Grue + Hornstrup (G+H)

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Contact to Authors

Grue + Hornstrup ● Nupark 51 ● 7500 Holstebro ● Denmark ● Tel. +45 96 10 13 30 ● gh@g-h.dk
Contents

ABBREVIATIONS  
LIST OF FIGURES  
LIST OF TABLES  
1. BACKGROUND AND OBJECTIVES  
2. SCOPE OF APPLICATION  
3. OVERVIEW OF GENERAL PROCESS  
4. IDENTIFICATION AND PRE-SCREENING OF PPP PROJECTS  
5. APPRAISAL OF PPP PROJECTS  
6. PPP DESIGN FOR THE PROJECT  
   6.1 Stakeholder Consultation Process and Determining Assistance Needs  
   6.2 Proposed PPP Set-up  
      6.2.1 Legal and Regulatory Framework  
      6.2.2 Roles, Responsibilities and Governance  
      6.2.3 Commercial and Financial Considerations  
7. RISKS, RISK ALLOCATION AND RISK MITIGATION  
8. PPP IMPLEMENTATION PLAN  
9. SECURING OR SETTING UP THE PRIVATE PARTY  
   9.1 Procuring the Private Party  
   9.2 Setting up a Special Purpose Company (SPC)  
      9.2.1 SPC Needs Assessment  
      9.2.2 SPC Board of Members and Directors  
10. THE PPP AGREEMENT  
11. MEASUREMENT, REPORTING AND VERIFICATION (MRV)  
   11.1 Baseline Determination  
   11.2 MRV of Electricity Generation, Consumption and Revenues  
      11.2.1 Identified MRV Parameters and Data  
12. PPP TRAINING AND SUPPORT  
ANNEXES  
Annex 1 – Tariff Setting Methodology – Template  
Annex 2 – Minimum Baseline and Monitoring Parameters  
Annex 3 – Easement and Right of Way Agreement – Template  
Annex 4 – Requirement for Contractors Licenses in Fiji (for private company)  
Annex 5 – Requirements for Wireman License (private company)  
Annex 6 – Draft PPP Agreement
Abbreviations

BOO     Build, Own, Operate
BOOT    Build, Own, Operate and Transfer
BOT     Build, Operate and Transfer
FCCC    Fijian Competition and Consumer Commission
FDOE    Fiji Department of Energy
FEA     Fiji Electricity Authority
FREPP   Fiji Renewable Energy Power Project
GEF     Global Environment Facility
G+H     Grue + Hornstrup
GoF     Government of Fiji
IPP     Independent Power Producer
O&M     Operation & Maintain
OMM     Operate, Manage and Maintain
PPP     Public Private Partnership
RE      Renewable Energy
UNDP    United Nations Development Programme
List of figures

Figure 1: Depiction of the parallel system of public governance in Fiji .......................................................... 9
Figure 2: Overview PPP model framework .................................................................................................. 11
Figure 3: SWOT Analysis Template ........................................................................................................ 15
Figure 4: Sample PPP Roles and responsibilities ...................................................................................... 19
Figure 5: Revenue distribution mechanism ............................................................................................... 24

List of tables

Table 1: Example of Combined Local Stakeholder Meetings and Technical Assistance .................................. 17
Table 2: Example table for income generating activities ............................................................................. 26
Table 3: Cost components of electricity tariff .............................................................................................. 27
Table 4: Sample table for PPP risks registry ............................................................................................... 29
Table 5: Sample table for PPP Implementation Plan .................................................................................. 30
Table 6: Types of SPC Companies ............................................................................................................ 34
Table 7: typical training needs for public and private parties ....................................................................... 41
Table 8: Annual operating and maintenance costs for sample PPP project ................................................ 42
Table 9: Annual major maintenance costs for the PPP project .................................................................. 43
Table 10 Total annual costs of the PPP project .......................................................................................... 43
Table 11 Total annual power demand of PPP service area .......................................................................... 44
Table 12 Proportionate share of tariff to cover the costs ............................................................................ 46
1. **Background and Objectives**

The development of a model framework for Public-Private Partnerships (PPP) is one of the deliverables supported under the Fiji Renewable Energy Power Project (FREPP), a UNDP-GEF-Fiji Government funded project, whose main objective is the removal of barriers (policy, regulatory, market, finance and technical) to the wide-scale use of renewable energy (RE) resources for grid-connected power generation in Fiji. This PPP model framework is new to Fiji and has a specific focus on small RE power generation and mini-grids, where the purpose is to help address the gap the goal of 100% access to electricity in Fiji, as the main electricity grids operated by the Fiji Electricity Authority (FEA) do not service all consumers in Fiji. In this manner, it is noted that in Fiji, many rural electrification projects are established under Cooperative companies and not state-owned enterprises, with Cooperative companies being established under the Co-operatives Act of 2016. Where these Cooperatives are effectively community-based utilities / enterprises, thus an agreement with an outside party would technically be a PPP but could be considered a micro-PPP. Therefore, it is noted that this PPP model framework does not apply for RE power generation projects which directly supply power to one of FEA’s grids, in which case an Independent Power Producer (IPPs) or another PPP model should be used.

For establishing and developing a PPP between a community entity (e.g. Cooperative company or similar) in Fiji and a private company, it is important that there is a clear guidance for the necessary steps and processes that need to be followed when preparing and implementing PPPs. The main goals of the PPPs envisioned under this model framework are to:

- Supply reliable electricity meeting the demand of the current and future local consumers;
- Ensure continual operation and maintenance of the RE power generation plant and/or distribution network as required;
- Ensure revenues which cover the cost of electricity generation and/or distribution as required;
- Support income generating activity investments in the serviced communities.

Furthermore, the overall PPP approach of RE power generation projects in Fiji can enable more investment in power sector infrastructure by:

- accessing private finance,
- helping to achieve value for money in the provision of energy services,
- improve accountability and reliability in the provision of the services,
- harnessing private sector innovation and efficiency,
- stimulating growth and development in the country, particularly in rural areas.

By establishing this PPP model framework, the Government of Fiji (GoF) publicly communicates the government’s commitment to mini-scale PPPs in the sector of RE power generation. This will help increase private sector interest and public acceptance of further PPP activities.

The PPP model framework can be understood as a manual, or guiding document for preparing, developing and implementing PPP projects in Fiji in the context of RE power generation. It describes why the GoF is pursuing PPP projects in the area of RE power generation, what types...
of projects are applicable under this PPP Model Framework and what are the key steps for implementing PPP projects and meeting the overall GoF objectives.

More specifically, the PPP model framework will help the entity coordinating the PPP (in the case the Department of Energy – DOE), private sector parties and other stakeholders to:

- Prepare project specific guidance materials and standard documentation for PPPs;
- Define key procedures for identifying and assessing PPP options for developing and implementing PPPs, as well as to develop and implement PPPs;
- Define processes and institutional responsibilities for PPPs, insofar as defining the steps that can be followed when developing and implementing a PP project;
- Define a standard process and decision making in the context of establishing PPPs, which ensures that necessary steps are taken consistently and efficiently;
- Define how fiscal commitments are managed as well as how proper oversight for the PPP is established.
- Define institutional responsibilities within PPPs, insofar as to which entity will play what role at each step of the process of establishing and operating a PPP.

Standardizing the PPP process helps ensure that all PPPs are developed in a way that is consistent and follows the government’s objectives. This will help reduce the complexity of developing various PPPs and create a higher level of transparency. This also helps strengthen the coordination between the various GoF and private sector entities involved and in allowing for a mechanism of evaluation and further improvement.
2. **Scope of Application**

The application of this PPP model framework is limited and sector specific. This means that only PPP projects that fulfil certain pre-conditions should apply this PPP model framework when investigating and developing PPP projects. The overall scope of application is limited to RE power generation projects in Fiji.

The following set of pre-conditions define the eligible scope of application for underlying projects using this PPP model framework. It should be noted that all criteria would need to be fulfilled.

**I. Sector/Technology**

- This application is limited to the electricity sector in the form of RE power generation and/or distribution in mini-grids.

- The following RE power generation technologies are applicable:
  - Hydro (with foreseen maximum capacity of 1000 kW)
  - Wind
  - Solar

- Only mini-grids (fully off-grid) systems are eligible.

- This PPP model framework is explicitly NOT applicable for:
  - End-user RE systems (like solar home systems)
  - Generation connected to the FEA grid systems

- The PPP model framework MAY be applicable for state owned mini-grids, not connected to the FEA grid systems.

**II. Type of Energy Asset(s) or Access**

- This PPP model framework is primarily applicable to PPPs with existing energy assets and service areas, for assets of RE power generation and/or mini-grids for distribution.

- This PPP model framework is secondarily applicable to PPPs with new energy assets and service areas, OR existing energy assets and service areas which are to be extended, for assets of RE power generation and/or mini-grids for distribution.

- For primarily privately-owned energy assets (like resorts), this PPP model framework may not be applicable and suitable, unless electricity is sold to consumers other than the private owner.

- Energy access (rights) are also applicable, predominantly in the form of access to renewable energy resources and access to consumers.

**III. Geographical Aspects**

- The PPP model framework is applicable for projects (fulfilling all other applicability criteria) in the entire country of Fiji.
IV. Scale, Capacity

Given the financial needs to operate a private business, it is expected that the service area in a PPP should include, at a minimum, 25 households and other consumers and with preferably over 50 households. Then a revenue and cost model for the private company should be prepared at the early stages of the PPP development process to address affordability and any PPP model should take into account the application of grants and/or subsidies.

V. Type of Services

- Only projects that provide services of electricity supply directly to users (e.g. households, commercial/industrial users) are applicable.

VI. Payment Conditions

- The PPP model framework is applicable for PPPs were the private counterpart is mainly paid by collecting fees from service users (i.e. by electricity tariffs). In the case where its revenue depends on user-fees, the operator has an incentive to make sure the asset meets performance requirements and attracts additional users.

- Other payments, such as subsidies, may possibly be included in addition to service fees.

VII. Public Ownership

- The application of a PPP requires a public party in the structure of the business and/or governance. In Fiji, there are parallel systems of public governance which can be described as the public being represented by the Government of the Republic (e.g. GoF) or the Native and Village government units. These two parallel systems are depicted in the below figure and can have formal or informal institutions which own or control public assets or access to the public. These institutions may be formally established public companies, such as public enterprises or Cooperative companies (owned by the shareholders from the community) or formal local institutions giving rights to access such as community councils and chiefs.

Figure 1: Depiction of the parallel system of public governance in Fiji
VIII. Commercial Structure/Business Model

- The private party is expected to operate a limited for-profit company or a not-for-profit company limited by guarantee as established under the Companies Act 2015, or a Cooperative Company under the Cooperative Act 1996, or a charitable trust under the Charitable Trust Act (as amended), developed as a new Special Purpose Company (SPC) or as business operated within an existing company.

- The PPP business models applicable to this PPP model framework are for RE power generation and/or mini-grids for distribution under:¹
  - Operate and Maintain (OM)
  - Operate, Maintain and Manage (OMM)
  - Build, Operate and Transfer (BOT)
  - Build, Own, Operate (BOO)
  - Build, Own, Operate and Transfer (BOOT)

- For the absence of doubt, this PPP model framework can be used for PPPs which include initial investments by the project party or not, or private party investments during the time period of the PPP or not, or a PPP with no investment.

¹ These PPP models may or may not include technical design within the services provided by the private party.
3. **Overview of General Process**

A structured and elastic process for identifying, appraising, designing, implementing and evaluating the outputs of a PPP can enable the timely involvement of government oversight agencies and private parties in approving PPP projects. Following a structured approach for developing and implementing a PPP project can help avoid wasting valuable resources in terms of time and cost while at the same time a structured approach allows for a mechanism to help ensure the viability of a PPP from this inception to implementation by setting critical evaluation points where evaluations can be made during the process for improvement or exit of the project specific PPP process.

The following figure outlines the overall structure and steps described in this PPP Model Framework.

![Figure 2: Overview PPP model framework](image)

The background and objectives of this PPP model framework, as well as the general applicability conditions (scope of application), are described in the previous chapters. This chapter defines the general boundary of a PPP for which the model framework can be used. Following the boundary definitions are the first steps in the PPP development and implementation process,
which are to define the overall objective of a PPP, the identification of potential PPP project(s) (chapter 4) and later the appraisal (chapter 5) of potential PPP project(s). These first steps are of utmost importance as with these steps the regulating entity in charge of the PPP can ensure that the later use of resources (i.e. technical, personnel, time, budget, etc.) are only used for the most promising PPP projects and for mitigating PPP project risks during development and implementation.

After the appraisal and selection of the target PPP project(s), the actual PPP design can be started (chapter 6). The PPP design process includes different components to assess and describe the most appropriate and successful PPP set-up taking into account national circumstances. One important component for the design of a PPP is the regular engagement with key stakeholders that may be impacted directly by the PPP or those stakeholders who hold regulatory responsibility over aspects of the PPP. Based on the feedback from key stakeholders and in consideration of the legal and regulatory framework for the PPP and renewable energy power generation, a potential and workable PPP set-up should be developed and further elaborated. This PPP set-up should consider the roles and responsibilities of the PPP parties and regulators, defining potential income generating activities for the local community if applicable, developing the baseline situation, assessing the costs of the PPP and the necessary tariff for the electricity sold to consumers.

Also, as part of the PPP design, the commercial and financial aspects need to be defined in detail. This includes defining the commercial structure of the PPP (and the private party operating it), the financial tools used/recommended to finance or reduce financial risk and finally the financial flows need for implementing, operating, managing and/or maintaining the PPP.

The PPP design would need to undergo a risk assessment and provide risk mitigation measures (chapter 7) and an implementation plan (chapter 8) for the PPP.

After the final PPP structure and set-up is agreed upon, the most relevant aspects for setting up or selecting a private sector partner must be addressed (chapter 9). This includes an assessment of requirements (assessment needs) in terms of skills and resources required by the private sector partner for conducting the works/services under the, regulatory aspects required (e.g. licenses, registrations and permits) and considerations for the management of the PPP.

Chapter 10 will address the core needs of a PPP agreement. The need for Measurement, Reporting and Verification (MRV) of the PPP is discussed in Chapter 11. The MRV will be used as a tool for the PPP Governing Board and the private parties to regulate the PPP during its effective period by ensuring that the goals of the PPP are achieved and that it is operated in a sustainable manner (e.g. where potential problems are identified and solved).

PPPs are relatively new in Fiji and only very limited experience exist with PPP in the energy sector in Fiji. Potential training requirements and training support is outlined in chapter 12. This training may be required both for the public and for the private party but can also include other stakeholders (i.e. local community).
4. Identification and Pre-Screening of PPP Projects

Before engaging in the assessment of PPP opportunities and in designing and developing PPP projects, an important first step for the entity coordinating the PPP is to identify potential and suitable PPP project(s) and site(s) and to undertake an initial check of the suitability for project(s) and site(s) to be developed as a PPP. This process consists of the two steps are follows.

Step 1: Initial project or site identification

There are two potential ways for identifying potentially suitable PPP projects and project sites. One is a top-down approach based on a selection of projects identified through a review of the public or private sectors infrastructure planning processes or energy development plans. There is a greater chance of success as PPPs receive the required support from the government and the entity coordinating the PPP and this requires the PPP be in line with sector needs and fit within the objectives of the public and private sector investment planning in the sector. The other way for identifying potentially suitable PPP projects and project sites is a bottom-up process where potential sites and projects are proposed by a community, a development agency and/or a private sector company. Thus, the government and the entity coordinating the PPP would solicit interest from these groups.

Step 2: Initial pre-screening of project(s) or site(s)

Whether the project or site identification was done top-down or bottom-up, an initial screening (should there be several opportunities) can help to identify the strongest potential PPP sites and projects. The initial screening should include assessment of the general eligibility of the potential PPP project(s) against the criteria defined under "Scope of Application" (chapter 2). In addition to this criteria, the following aspects can be initially assessed if information is available:

- **Value for money:** Degree to which the PPP project has the potential to provide better value for money compared to a traditional power generation (e.g. FJD/kWh)

- **Sustainability:** Degree to which the PPP project has the potential to provide better sustainably and stability in the delivery of electricity (e.g. number of hours delivering electricity)

- **Risk transfer:** Degree to which the PPP project transfers risks largely to the entity best able to control the risks (e.g. qualitative valuation of risk mitigation)

- **Commercial potential:** Degree to which the PPP project, given current conditions, offer a viable commercial business model (e.g. equity IRR, or pay-back-period)

- **Market potential:** Degree to which there is market interest in the project (e.g. qualitative valuation of private party interest)
5. **Appraisal of PPP Projects**

Public investment projects in general need to go through a project appraisal and approval process. The entity coordinating the PPP typically plays a key role in this process. The entity coordinating the PPP will need to ensure that the relevant public sector (e.g. government statutory bodies and native governing bodies) and relevant development partners are included in the appraisal process and be involved in the final decision making as to which PPP projects are approved. It is important that the selection and PPP approval is done at an early stage to facilitate effective project design and achieve early buy-in of key stakeholders.

When appraising potential projects, the public sector and the entity coordinating the PPP should be realistic about the capacities, experience and skills available for the develop and implement PPP projects. PPPs must demonstrate value for money and/or greater sustainability and thus must be designed to create and maximise economic and social benefits to all parties involved.

The main objective under the appraisal process is to assess whether an identified potential PPP project and/or PPP site is generally suitable for further developed and whether it makes sense to develop the project as PPP. In order to assess if projects are deemed to be generally applicable for a PPP, the projects can be assessed according to the critical questions provided below:

- Who are the key stakeholders involved?
- What are most critical risks and barriers which the project may face (e.g. related to ownership, legal, financial and/or technical aspects)?
- What are the capacities available vs. capacities required under the project?
- What is require in terms of logistics and coordinating to ensure a successful PPP process?
- Is there potential private sector interest in the project/site? Generally, the private sector would consider the following aspects:
  - Is there sufficiency renewable energy/fossil energy reasonably available to generate electricity?
  - Is there sufficient demand for the underlying service (electricity) by the users and in the area?
  - What is the financial and technical viability of the project?
  - What is the potential for revenue creation and future development?
  - Would the project be attractive to the market and has good financial returns?
  - Would the PPP require the private party to bear only reasonable levels of risk?
- Is there a strong political commitment to support the PPP?
- Is a PPP the potentially best method to deliver the required services (power generation or power generation and distribution) based on any of the following:
  - Generation of additional revenues
  - Improved service quality
  - Faster implementation
  - Better allocation of risks
  - Reduced life cycle costs
In some cases, it may be necessary to address an appraisal during the different stages of the PPP process as not all information may be available (e.g. for assessing the commercial viability) at an early stage and risks may only be known once the PPP design has been further elaborated. Therefore, project appraisal may be conducted during the following stages: (1) after the initial assessment, (2) after a feasibility study has been completed, (3) after bids have been received and evaluated and (4) after negotiations have concluded and the PPP contract is in its final form but not signed.

The answers to the above critical questions can be analysed by conducting a SWOT Analysis\textsuperscript{2} for the potential PPP project, as depicted below.

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{swot_template}
\caption{SWOT Analysis Template}
\end{figure}

\textsuperscript{2} Strengths, Weaknesses, Opportunities and Threats
6. **PPP Design for the Project**

Once the project and/or site is approved for development as a PPP, several steps need to be followed for the design of the PPP, which are described in the following sub-sections of this chapter.

6.1 **Stakeholder Consultation Process and Determining Assistance Needs**

PPPs are meant to provide value for service and thus it is important that stakeholders not only understand the value for service which they receive through a PPP, but they should also participate in creating that value. More specific, the direct participation of local stakeholders (e.g. service users, local community) at various stages of the PPP design process will likely improve the PPP project design, performance and overall long-term sustainability. The participation of government stakeholders can ensure regulatory clarity and support, inclusion of knowhow, potential subsidies and provide oversight of the PPP, while the participation of development partners can encourage opportunities for targeted technical assistance, capacity building and finance.

A PPP project for renewable power generation will have a significant impact on the local community in the PPP service area. The PPP project will only receive acceptance and local commitment if it is designed in such a way that is in line with local expectations, consumer affordability and provides additional benefits to the local community. These benefits and opportunities for the local community (e.g. through job creation, permanent and reliable electricity supply) need to be properly communicated to the local stakeholders. Thus, it should be assessed which local stakeholders should be consulted and informed, that may have an interest or may be affected by the PPP project. This will avoid or at least minimize any possible problems at a later stage of the PPP development and implementation process.

In addition to impacts on stakeholders, the stakeholder consultation process should also be used to assess the available capabilities and capacities among the local community that can be used for setting up and operating the PPP project. It will be for the benefit of the community to use as much local capacity as possible. However, there must be a reasonable balance for ensuring local ownership, acceptance and commitment and at the same time ensuring an efficient and effective implementation and operation of the PPP project. This means that basic technical assistance needs of the community should be expected and to ensure efficiency these can be included in the overall stakeholder consultation process.

A recommendation for a series of local stakeholder consultation meetings and expected technical assistance topics to address are as follows:
### Meeting

<table>
<thead>
<tr>
<th>Agenda</th>
</tr>
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<tbody>
<tr>
<td><strong>Initial local stakeholder meeting (as part of appraisal)</strong></td>
</tr>
<tr>
<td><strong>Presenting the specific PPP concept to local stakeholders</strong></td>
</tr>
<tr>
<td><strong>Preparatory work for PPP components and land use with local stakeholders</strong></td>
</tr>
<tr>
<td><strong>[Optional] Setting up a SPC or Cooperative if included in the PPP – Part 1</strong></td>
</tr>
<tr>
<td><strong>[Optional] Setting up a SPC or Cooperative if included in the PPP – Part 2</strong></td>
</tr>
<tr>
<td><strong>[Optional] Setting up a SPC or Cooperative if included in the PPP – Part 3</strong></td>
</tr>
<tr>
<td><strong>Finalize agreements between the Public and Private Parties</strong></td>
</tr>
<tr>
<td><strong>Short-term evaluation and PPP Governance Board meeting (no sooner than three months from the start of the PPP)</strong></td>
</tr>
</tbody>
</table>

*Table 1: Example of Combined Local Stakeholder Meetings and Technical Assistance*
Aside from consulting with the local stakeholders in the PPP location itself, it is necessary to consult other key stakeholders that need to be informed about the planned PPP project and participate in the process of its development and operation. These may include but are not limited to:

- Ministry of Infrastructure and Transport - Department of Energy;
- Ministry of Economy - Strategic Planning Office;
- Ministry of Industry, Trade and Tourism - Department of Cooperatives;
- Fiji Competition and Commerce Commission;
- Fiji Electricity Authority;
- Registrar of Companies Office;
- Respective Provincial Government and/or Mataqalis;
- Ministry of iTaukei Affairs;
- District Government Office.

6.2 Proposed PPP Set-up

Based on the initial assessment of the current technical situation, capacity building and technical assistance required, initial inputs from stakeholders and the main objectives of the PPP, the general approach for the PPP set-up should be developed. This will include the proposed legal form of the PPP, the proposed parties and main responsibilities of the parties.

The PPP set-up should provide a high level of transparency of the following:

- PPP model to be used, noting that the types of PPPs projects developed under this PPP model framework are defined in Chapter 2
- Applying the legal and regulatory framework
- Roles, responsibilities and governance
- Commercial and financial considerations

For being able to reflect the different pre-conditions and specific requirements for each type of PPP project, this PPP model framework allows for some flexibility in terms of the PPP set-up. For example, the different types of PPP models described in Chapter 2 can be used and the private party can either be an existing external private company, which would need to be procured or by a company that would be newly established in form of a Special Purpose Company (SPC) for the purpose of the PPP.

6.2.1 Legal and Regulatory Framework

Depending on the proposed PPP model to be used, an assessment is needed for what legal and regulatory requirements (and incentives) currently exist and which to be considered when implementing the PPP in the service area in Fiji. These requirements (and incentives) are not limited to but do include the following aspects:
- National or foreign investment requirements; Sector-level laws and regulatory frameworks
- Environmental laws and regulations
- Laws and regulations governing land acquisition and ownership in the PPP service area
- Public financial management law
- Tax rules and reporting for companies involved
- Employment laws and regulation
- Licensing requirements for local and in particularly for international companies.

These legal and regulatory requirements can be related to the PPP in general, to the set-up of a company, to operating and maintaining power generation plants, to renewables energy and other aspects including land ownership, etc.

Considerations about general regulatory and statutory benefits and incentives, should be investigated, such as tax exemptions or credits, public subsidies, etc.

### 6.2.2 Roles, Responsibilities and Governance

After the key stakeholders and major PPP parties have been identified and consultation process with these stakeholders has started, it is important to define which institutions to be involved in the PPP process and in what way shall they contribute.

Specific roles and responsibilities of the major PPP parties need to be defined to obtain clarity among all PPP stakeholders and to ensure that the required capabilities and capacities for fulfilling the tasks can be met.

For each PPP project a figure or table should be developed that describes the major responsibilities and interrelations between the different PPP parties and stakeholders. The following figure is a simple example of showing the general roles and responsibilities.

*Figure 4: Sample PPP Roles and responsibilities*
In the following the major roles and responsibilities for the different major PPP parties/stakeholders of the PPP are described.

6.2.2.1 The Role of the Government of Fiji (i.e. DOE)
The Government of Fiji ("GOF") is to ensure the overall coordination of the PPP project. This will include the identification, design, implementation and monitoring of the PPPs. Additional responsibilities may be needed, depending on the specific requirements of the individual PPPs.

As power generation and the supply of electricity remains a public service (under the Electricity Act of 2017) when distributed in local communities and since it is a central interest for the GOF to ensure a secure, permanent and sustainable provision of this service, the GOF remains responsible for ensuring the public service is provided to the expected level of quality.

The GOF must provide oversight of the PPP contract (e.g. PPP Agreement) over its lifetime. This includes enforcing the PPP contract requirements and helping manage the relationship between the public and the private parties.

6.2.2.2 The Role of the Public Sector Party
The private party entering into the PPP Agreement with the private party will have the clear legal responsibility to perform certain services, financial and reporting obligations under the PPP. It must be agreed between the public and private parties to what extent the public party is responsible for operating and maintaining the power generation, distribution system and financial system in the PPP service area, as well as engagement with the local community. See Annex 6 for an example of these obligations.

6.2.2.3 The Role of the Private Sector Party (Company)
The private company entering into the PPP Agreement with the public party will have the clear legal responsibility to perform certain services, financial and reporting obligations under the PPP. It must be agreed between the public and private parties to what extent the private company is responsible for operating and maintaining the power generation, distribution system and financial system in the PPP service area. See Annex 6 for an example of these obligations.

6.2.2.4 The Role of Other Third Parties
Depending on the PPP set-up and the available capabilities and capacities of the private and public party under the PPP, service providers may be required to take over parts of the responsibility for preparing the PPP, for managing, operating and maintaining the renewable power plant and the distribution system and to coordinate and measure, report and verify the processes under the PPP project.

It may be required to involve an external service provider for installing, operating and maintaining the pre-paid meters to conduct extraordinary and larger maintenance work and annual overhauls at the power plant or to verify the measured and reported data. Other possible third parties may be involved in providing training for the PPP parties to improve the know-how about relevant aspects of the PPP (e.g. controlling, accounting, administration) or to help governing the PPP overall (e.g. a development agency that is experienced in PPP processes).

There may also be third parties that need to be involved due to the land ownership or other regulatory aspects (including licenses) as well as for the tariff approval and regulation (e.g. FCCC or independent regulator).

6.2.2.5 PPP Governance
To ensure high quality governance and transparency, it is envisioned that a PPP Governing Board will be established for each PPP project under the boundary of this PPP model framework. The PPP Governing Board (hereinafter referred to as the “PPP Board”) shall be established as a part of the
PPP agreement between the public and private parties in relation to the service area. It is recommended that the PPP Board be composed of (at least) four representatives as follows:

A. One representative of the DOE;
B. One representative of another government agency (appointed by DOE);
C. One representative of the public party (company or local community/village representing the service area of the PPP);
D. One representative of the private party under PPP project (e.g. private company).

The PPP Board will oversee the compliance of the parties with the PPP agreement and its primary objective is to ensure the sustainable operation of the PPP and that revenue allocation between the parties is leading positive financial results. Another objective of installing a PPP Board is to ensure that a neutral body guides the process of the PPP and can address any disputes between the parties. This will help mitigate risks and build trust between the private and public parties responsible for the PPP.

The main functions of the Board are summarized in the following:

- To meet at least twice in a calendar year;
- To select the Private Company for the PPP, based on a competitive process and in accordance with Fijian Government regulations (this function excludes representative D);
- To agree on the final structure (framework, roles and responsibilities) of the PPP, the binding legal agreement (text) between the Private Company and the Electricity Cooperative and any PPP renewals or extension;
- To agree upon and prioritize planned income generating activities for the service area community and authorize or reject the payments for such investment;
- To agree to the tariff structure, including price and revenue streams and submit to the Commerce Commission for authorization. If not authorized, or needing amendment, then to adjust and approve such as deemed appropriate by the Fiji Commerce Commission;
- On an annual basis, to review the audited annual balance sheet (managed by the Private Party and submitted to the Board) for the PPP and make adjustments to the tariff as deemed required (see point 4);
- To review, allocate and authorize or reject the payments for major maintenance activities from the Tariff Guarantee Fund;
- To review, allocate and authorize or reject the payments for unpaid revenue to the Private Company activities from the Tariff Guarantee Fund;
- To agree upon and prioritize planned Income Generating Activities for the service area community and authorize or reject the payments for such investment;
- To act as an arbitrator in disputes between the Private Company and the Electricity Cooperative of the PPP, offering binding judgement is such cases (these functions exclude representatives C and D).

The roles and responsibilities of the Board members are as follows:

**DOE Representative:**

They will act as the Government’s permanent representative on the PPP Board, with the role to ensure that the PPP operates with the regulatory and legal context of the Republic of Fiji. In doing so, also holding the responsibility to impartially act on the behalf of the citizens impacted by the delivery of electricity services in the community area of the PPP. This representative shall also act
as the Chairman of the Board to ensure the due process of Boards activities, to include setting the meeting agenda, mediating the PPP Board meetings and authorizing the minutes of meetings.

Another Government Agency Representative (appointed by DOE):

DOE may appoint Another Government Agency Representative as it sees fit, permanently or on an ad hoc basis, in meeting the main functions of the PPP Board. Should DOE not appoint Another Government Agency Representative, then a second representative from FDOE will be appointed for meetings. The person will have the role to ensure that the PPP operates with the regulatory and legal context of the Republic of Fiji. This representative shall also act as the Vice Chair of the Board to ensure the proper record of PPP Board meetings and processing of outcomes of the PPP Board meetings.

Public Party Representative:

They will act as the public party’s permanent representative on the PPP Board, with the role to ensure the public party’s concerns are represented and responsibilities within the PPP are fulfilled and that PPP Board decisions and actions are reported to the public party.

Private Company Representative:

They will act as the private company’s permanent representative on the PPP Board, with the role to ensure the private company’s concerns are represented and responsibilities within the PPP are fulfilled and that PPP Board decisions and actions are reported to the Private Company.

6.2.3 Commercial and Financial Considerations

The following sub-sections highlight some of the commercial and Financial considerations of the PPP.

6.2.3.1 Proposed Commercial Structure of the PPP

To ensure a sustainable commercial structure for a PPP involving small-scale renewable energy power generation and to account for the different needs to cover the various costs and margins of operation, certain considerations need to be made taking into account the needs of the various parties and the services. This requires the application of certain conditions relating to the commercial structure of the PPP which are as follows:

- The consumers in the service area have the ability to pay for a commercially viable service and/or a subsidy provided by the public party of the GOF to ensure commercial viability.

- The service must be commercially viable, insofar that all costs of the service are paid for and any required reasonable margins, finance costs or external costs are gained/recovered.

- The private company will collect all revenues from the sale of electricity in the PPP service area or be paid by the public party a fixed monthly amount and/or unit price for electricity supplied to the service area.

- Actions/mechanisms should take from the start of the PPP to avoid non-payment for the service and hence to mitigate the risk of liquidity constraints; for example, by installing prepaid electricity meters.
• The share of revenues between the public and private parties, costs required for external services or land use and/or savings in Special Purpose Funds, shall be clearly defined between the parties in the PPP Agreement.

• To ensuring transparency, adequate accounting of costs, revenues and profits shall be continuously maintained and an annual audit preformed.

6.2.3.2 Special Purpose Funds (SPF)

Special Purpose Funds (SPF) are finance instruments setup as a part of the PPP to address predefined special service related activities which are not a part of the normal business operation and management costs for providing the service, as these special service related activities usually require larger investments in the future. Examples of the SPFs are a Major Maintenance Fund and an Income Generating Activity Fund’s activities. These two SPFs are proposed for the PPP projects in rural Fiji, to ensure that the revenue share for covering those costs can be accumulated over time. This will further ensure a high transparency of financial flows under the PPP.

Major Maintenance Fund

This Major Maintenance Fund should be established in form of an escrow-bank account to ensure that the costs for major maintenance required over the long term can be covered at any time of the operation of the PPP project. This would also help overcome the tendency to cut maintenance budgets down the line and thereby delay necessary maintenance and rehabilitation for the service equipment.

Under this SPF, the private or public party collecting revenues must transfer a certain percentage of revenues per kWh sold (X.XX FJD/kWh) to the escrow-bank account so that capital is deposited in this SPF over time. The percentage and specific amount will be determined based on the cost estimation for long-term maintenance and tariff calculation for the specific PPP and services area.

This SPF will at all times, with the exception during the start-up phase, hold an amount equal to the expected accumulated annual value of longer term investments and preferably no less than one month of revenue. This allows for this SPF to also act as a form of guarantee for payment to the private party operating the PPP Project should the public party or consumers default on payments. Optimally, this SPF would be seeded with initial capitalization of 3 months of revenue. Afterwards the fund is proportionally fed by the proceeds from the sale of electricity. The requirement for the initial seed fund is mainly to mitigate the risk to the private company of non-payment by consumers in the initial start-up phase. Variations may be possible depending on the experience in the specific service area and the historic willingness to pay for electricity in the area.

This fund, in combination with the PPP Agreement, should also mitigate the potential risk that may occur towards the end of the PPP contract, when the private company may fear that it will not reap the benefits of further larger maintenance investments, which may have been financed.

Income Generating Activity Fund

The objective of the Income Generating Activity Fund is to accumulate the revenues required for investing in the planned income generating activities selected by the community in the service area of the PPP. According to the proportionate investment needs over time, the private company must transfer a certain percentage of revenues per kWh sold (X.XX FJD/kWh) to a controlled bank account. The controlled bank account of this SPF, will require the signature of two PPP Board members for the disbarment of funds to the investments. As the income generating activities will be financed according to revenues received (amount of electricity sold), there is no need for up-front capital for this SPF.
6.2.3.3 **Financial Flows**

Adequate financial flows and their transparency are required for the sustainably of the PPP. To ensure this, it requires the establishment of certain bank accounts (where banking services are available). As such, a PPP for small-scale renewable energy power generation requires at a minimum the use of the following bank accounts (or divided accounting where banking services are not available):

a) Operating bank account of Private Party  
b) Operating bank account of Public Party  
c) Escrow bank account for the Major Maintenance Fund  
d) Controlled bank account for the Income Generating Activity Fund

These accounts receive capital based on the allocation of revenues of for the PPP is shown in the figure below. Such an overview of flow of revenues and responsibilities should be developed for each PPP and be included in the PPP Agreement.

The stepwise process and flow of revenues shown in the figure above is explained in the following steps using a hypothetical example of a PPP. It is important that funds deposits and transfers to the bank accounts have to be done and ensured on a continuous basis (e.g. at least monthly).

1. A private company operates the renewable energy power plant and the mini-grid in the service area under the PPP and sells the electricity to the consumers within the PPP service area. The consumers prepay per unit (kWh) for the electricity consumed, based on the tariff set under the PPP in FJD/kWh. Where it is the responsibility of the private company to further allocate the full revenues according to the agreed split/proportionate share as outlined above.
2. The major share of the revenues will remain with the private company to cover all costs for daily operating and management of the PPP project.

3. A certain share of the revenues need to be transferred to the public party for it management related expenses of the PPP, which in this case may include costs for land use/lease.

4. Another pre-defined share of the revenues will be transferred to the bank account setup for the Income Generating Activities Fund. The public party or representatives of the community in the PPP service area will be responsible for the use of funds for investment in income generating activities and the PPP Governing Board will need to authorize the disbursement the of funds.

5. A certain share of the revenues will be transferred to the bank account established as the Major Maintenance Fund. The PPP Governing Board will authorize the use of funds for major maintenance activities as they arise or payment for loss of revenues to the private company.

6.2.3.4 Income Generating Activities

A central element of the PPP model framework and it sustainability is that the service of electricity generation and supply will lead to further investments in income generating activities at the service area of the PPP. This is deemed important as the PPP should support the positive economic development in the service area and the community in general. This, in turn, will help to increase the awareness of the local community about the relevance of the renewable energy power plant and its proper operation, as well as to potential dilute the tariff by increasing electricity demand. This is also expected to improve economic conditions for the people in the village by creating jobs and bringing in additional income, plus supporting additional community development opportunities.

For the assessment and consideration of income generating activities, a step by step approach should be followed:

- Step 1: Discussions with national stakeholders including FDOE and local stakeholders (community, village, etc.)
- Step 2: Identification of most relevant income generating activities
- Step 3: Costs and benefits of income generating activities
- Step 4: Income Generating Investment Plan

Based on consultations with local stakeholders, potential income generating activities should be identified. For each of the potential activities all equipment, technologies, labour needs, etc., that would be required for implementing the activities should be listed. Based on this information and the assessment of the related costs, a reverse payback analysis for the different potential income generating activities should be conducted. The costs considered should focus on the required investment and start-up costs. Then the economic benefit to the community of the service area

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3 A reverse payback analyses defines the investment level gained/available from the target tariff, which can be achieved under a given time period (e.g. in 3 years the capital for the investment can be gained from a portion of the tariff) and which activities can be invested in, which should be prioritized.
of the potential income generating activities should be determined based on a common timeline (e.g. economic impact during the first three years of operation).

The income generating activities with the best cost-benefit ratio should be shortlisted to two to four income generating activities. Then the community can prioritize the order of investment in income generating activities where it is important to balance the benefits and priority of the activities towards the overall costs and hence the impact on the tariff.

In the process of performing the above, each specific income generating activities should be listed and described. The description should be as detailed as possible, so that the investment cost estimation (relevant for the tariff setting) can be done as accurate as possible. The following information should be provided as a minimum per income generating activity:

- Description of what exactly is planned (including technology, amount, space required, location)
- Purpose of the activity
- How will it affect the village or community
- Expected revenues per annum (economic benefit)
- Other co-benefits (e.g. social, environmental,)
- Expected investment costs and costs for start-up

The following table with total costs, total benefits and expected load (in kW) should be developed for the selected income generating activities.

<table>
<thead>
<tr>
<th>Income Generating Activity</th>
<th>Total Cost FJD</th>
<th>Total Benefits FJD</th>
<th>Cost Benefit Ratio</th>
<th>Estimated Load kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1</td>
<td>XX,XXX</td>
<td>XX,XXX</td>
<td>0.XX</td>
<td>X,X</td>
</tr>
<tr>
<td>Activity 2</td>
<td>XX,XXX</td>
<td>XX,XXX</td>
<td>0.XX</td>
<td>X,X</td>
</tr>
<tr>
<td>Activity 3</td>
<td>XX,XXX</td>
<td>XX,XXX</td>
<td>0.XX</td>
<td>X,X</td>
</tr>
<tr>
<td>Activity X</td>
<td>XX,XXX</td>
<td>XX,XXX</td>
<td>0.XX</td>
<td>X,X</td>
</tr>
<tr>
<td>Total</td>
<td>XX,XXX</td>
<td>XX,XXX</td>
<td>0.XX</td>
<td>XX,X</td>
</tr>
</tbody>
</table>

*Table 2: Example table for income generating activities*

6.2.3.5 **Tariff Setting Structure/Methodology**

The main revenue stream for the private party managing and operating the renewable power plant under the PPP will result from selling the electricity to consumers, whether the private party collects the revenue from the sale of electricity directly or receives another payment type from the public party. The following offers some guiding principles on how to calculate and set-up the tariff. The tariff is developed through a process and is based on the “revenue requirement” and the expected demand for electricity by the consumers. The revenue requirement is the amount of financial revenues required to cover all costs for reliable (uninterrupted) and sustainable long-term supply of electricity to the community. The tariff is then calculated by dividing the revenue requirement by the total estimated power demand of consumers connected to the service area of the power plant operated under the PPP (please find a more detailed description for tariff setting in Annex 1).
The tariff development process is best carried out in five steps:

- **Step 1**: Calculation of the annual revenue requirement for the private party operating and managing the renewable power generation plant (and other assets under its responsibility), revenue required to pay back investments by the private party and the additional costs incurred by the public party and the PPP Board.

Identify and quantify the cost components of the tariff. The following cost components and aspects are to be considered for the tariff:

<table>
<thead>
<tr>
<th>Cost Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation and maintenance costs (daily operation, annual servicing, major maintenance)</td>
</tr>
<tr>
<td>Private company annual costs (e.g. staff)</td>
</tr>
<tr>
<td>Management costs (e.g. PPP Board)</td>
</tr>
<tr>
<td>Land lease (compensation)</td>
</tr>
<tr>
<td>Costs for income generating activities</td>
</tr>
<tr>
<td>Fixed/variable tariff (period for fixed tariff)</td>
</tr>
<tr>
<td>Other costs (e.g. service for meter operation, maintenance)</td>
</tr>
<tr>
<td>Regulatory, political, cultural aspects to be considered</td>
</tr>
</tbody>
</table>

*Table 3: Cost components of electricity tariff*

- **Step 2**: Determine the additional revenue requirements for financing the income generating activities and covering the costs of long-term maintenance.

- **Step 3**: Determine the electricity demand of consumers within the services area.

- **Step 4**: Develop the proposed tariff structure and calculate the tariff rate, based on Steps 1 to 3.

With the information received for the required PPP revenues and the annual electricity demand, the tariff that would be required to ensure the sustainable Operation, Management and Maintenance (OMM) of the project can be calculated. The following formula is used to calculate the tariff:

$$ T = \frac{RR_{Annual}}{W_{Annual}} $$

Where:

- $T$ = Tariff [FJD/KWh]
- $RR_{Annual}$ = Annual Required Revenue [FJD]
- $W_{Annual}$ = Annual Power Demand of Service Area [kWh]

Annex 1 provides an example and more details about the different cost components that need to be considered.
• **Step 5**: Define the cornerstones of processes and instruments, that will ensure a reliable and acceptable approach for allocating revenues and setting-up a management and governance system to provide both objective and unbiased guidance to the key parties involved in the PPP.

A number of key elements need to be considered when developing a tariff structure for the PPP that serves both parties (public and private) directly involved in the PPP. These elements are:

• The estimation of electricity to be sold to consumers. Which is derived from measured load data of existing power plants, or monitored demand data of existing consumers, spanning at least one month and up to one year. In the absence of measured load data and/or monitored demand data, there are two less accurate methods to estimate the amount of electricity to be sold to consumers. The first is by combining average household electric consumption values with the number of households in the service area. Where the second is to use a household appliance survey in the service area, combined with the number of households in the service area.

• A decision on the use of SPFs:
  - Shall there be a Major Maintenance Fund to continually save funds for major maintenance and to act as insurance for covering payment defaults?
  - Shall there be an Income Generating Activities, to continually save funds for investment in income generating activities of the community serviced by the PPP?

• What is the duration/interval for the tariff setting by the PPP Governing Board with authorization by FCCC?

Unexpected variations should be taken into account, such as annual changes in electricity demand, down time without revenue collection (e.g. when prepaid meters and/or generation system are down), etc.

Once the tariff has been determined and calculated for the PPP project and PPP service area based on the approach described above (and outlined in Annex 1), the appropriateness of the tariff needs to be assessed and the tariff would need to be officially approved by the PPP Governance Board for submission to the FCCC.
7. **Risks, Risk Allocation and Risk Mitigation**

All risks that may negatively impact the PPP should be identified and described when setting up the PPP. These risks should be summarized in the form of a risk register as shown in Table 4.

Potential risk categories for PPP include the following:

- Land or land-use rights
- Sustainable operations, including the risk of interruption in service or asset availability, the risk that the metering network does not work as expected or that the cost of operating and maintaining the asset is different than was expected
- Regulatory or political decisions or changes which adversely affect the PPP. For example, this could include failure to renew licences, unjustifiably harsh regulatory decisions, or in the extreme, breach of contract or expropriation
- Default risk of the private party to the PPP, who is not financially or technically capable to implement and/or operating the PPP
- Economic or financial risks due to changes in interest rates, exchange rates or inflation adversely affect the project outcomes
- Force Majeure impacting the PPP—caused external events beyond the control of the parties to the contract, such as natural disasters, war or civil disturbance
- Demand risk which impacts the assists value and business revenues, which will can be lower (or higher) than expected (e.g. the willingness to pay)

The identified risks should be described per risk category and include with name of the potential risk, the potential impact and implication upon the PPP project, proposed and planned risk mitigation measures and potential means to track/monitor the risk. The table below offers an example on how to categorise different risks in a clear and transparent way.

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Name of Risk</th>
<th>Implication/Impact for PPP</th>
<th>Risk mitigation measures</th>
<th>Means to monitor the risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. Operation</td>
<td>XXX</td>
<td>Detailed description of the risk with impact and implications for the PPP</td>
<td>What has been planned and proposed to mitigate the risks?</td>
<td>How can the risk be monitored during the planning, implementation and operation of the PPP?</td>
</tr>
</tbody>
</table>

*Table 4: Sample table for PPP risks registry*
8. **PPP Implementation Plan**

A PPP implementation plan should be developed for each PPP. The main purpose of the PPP implementation plan is to transparently provide step-wise information about the activities needed to be undertaken to implement the PPP and the duration that is required to achieve full implementation.

The PPP implementation plan should list all major activities in the PPP implementation process, who is responsible for the activities and the expected duration for completing the activities (start to finish). The PPP implementation plan should be agreed upon by the key stakeholders of the PPP or at least by the PPP parties signing the PPP Agreement. This will help in the coordination of implementation activities amongst the key stakeholders and allows for the monitoring and control of progress in PPP implementation. This coordination is especially important due to the high number of different activities and actors involved in successfully implementing a PPP.

Each PPP project will be different in detail, due to different services involved and responsibilities of the parties and pre-conditions and historical aspects of the power plant and the service area. The PPP implementation plan should best reflect the specific requirements of the PPP as a whole. As guidance, the following major activities should be included in any PPP implementation plan:

- Baseline monitoring parameters determination
- Tariff setting
- Procurement process (private company, staff, technology)
- Private company set-up (if not procured)
- Provision of services
- Licenses, registrations and official approvals
- Setting up and first meeting of the PPP Governance Board
- PPP Agreement
- Measurement, Reporting and Verification (MRV)
- Training

The following table serves as a possible example for how to structure and implement such a plan.

<table>
<thead>
<tr>
<th>No</th>
<th>Name of action</th>
<th>Sub-activity</th>
<th>Responsibility</th>
<th>Year X</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>1</td>
<td>XXX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>XXX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td></td>
</tr>
</tbody>
</table>

*Table 5: Sample table for PPP Implementation Plan*
9. Securing or Setting Up the Private Party

The private party in the PPP needs to be secured through a transparent process and secured through two means: (1) by procuring the private party under an open and transparent tender or (2) by setting up a Special Purpose Company (SPC). Both processes are described in the following sub-sections.

9.1 Procuring the Private Party

It is most common to procure a private party for a PPP by either (1) an open and transparent procurement process address private companies or (2) where the private party has given a direct proposal to the public party. It is recommended that even in the case of (2), the public party at least makes the effort to solicit interest from other private companies, in an effort to secure the best quality and cost of the service under the PPP. Noting that the procurement process should not exclude the participation of state-owned enterprises.

In the case that an open and transparent procurement process is used to secure a private party for the PPP, the following steps are recommended to be followed by the public party:

Step 1: Identification and description of the services under the PPP (Week 1)

Chapters 1 through 8 have indicated the process and work to follow in the design of a PPP and the results of the activities under these chapters will have helped define the specific services and potential additional needs, which the private party is expected to deliver under the PPP. The envisioned PPP design should be described in a detailed and transparent document so that private companies bidding in the procurement process can gain a detailed understanding of the needs and services sought of the private company. This description should at a minimum include information on:

- Location and service area
- The private party/community;
- The existing situation (technical and economic) and expected services to be provided by the private party;
- The expected PPP design, proposed risk allocation and implementation plan;
- Any available commercial/economic information related to the PPP (including any regulatory issues and financial incentives).

Step 2: Preparation of and call for an Expression of Interest (Weeks 2 to 5)

An Expression of Interest (EOI) should be solicited from private companies by both direct and indirect means. For both direct and indirect means, general information regarding the PPP (e.g. compiled from Step 1) should be prepared in a short format either as a 2-page document and/or website-based description. As well as a letter of invitation from the public party, which includes a description of required information for the private party to be send in expression it’s interest. It is recommended to use a standard form for this to request:

- A letter stating the interest of the private company in providing the PPP services;
- Private company name, address and registration information;
- Description of the private company’s services and past reference of similar activities;
- Financial information from the last 3 years (e.g. turnover, etc.);
- Statement of financial good standing from the private company’s bank.

Under the direct means of EOI solicitation, an action should be taken to identify private companies who are involved in the electricity sector and who can operate at the PPP location. These private companies should be contacted directly with the PPP opportunity, including providing them with the information (documents) regarding the PPP and the requirement information needed in showing interest in the PPP.

Under the indirect means of EOI solicitation, an action should be taken to advertise the request for EOI in the national and local media. Where a simple description of the PPP and request for EOI is given and directing private companies to the information (documents) regarding the PPP and the requirement information needed in showing interest in the PPP.

Companies who shown their interest should then be shortlisted based on the requested information, with to goal to shortlist two to five different private companies. If only one company is shortlisted, then discussions with that company should be take on a bilateral basis and information Step 3 should be provided to them.

**Step 3: Preparation of and call for a Request for Proposals (Weeks 2 to 5)**

A transparent tender dossier for a Request for Proposals (RFP) should be prepared to give to the shortlisted private companies and a least include the full description of the PPP prepare in Step 1, a draft PPP agreement and description of the tender process and evaluation criteria. Description of the tender process and evaluation criteria should include the:

- Contact information of the public party representative,
- Overall timeline of the RFP process,
- Special dates, such as submission place and deadline, deadline for request for clarifications, dates for field visits, deadlines to enter into the PPP agreement with the awarded party and deadlines for any complaints to the tender process after award,
- Governing rules, laws and/or regulations,
- The technical and financial evaluation criteria, along with the respective weighting of the criteria (it is recommended that the technical criteria hold at least a value of 50%).

**Step 4: Execution of the transparent procurement process (Weeks 6 to 17)**

The public party shall start the proposal phase and issue the RFP to the shortlisted private companies and support the private companies in clarifications for the RFP and designed PPP. In this manner, it may be best to have a qualified consultant to address this phase and interaction with the shortlisted private companies. It is
recommended that the bid phase take at least three months, as the PPP could require various forms of concept design, equipment pricing and financing issues which the private parties must address before providing a proposal.

**Step 5: Evaluation of proposals (Weeks 18 to 21)**

The proposals of the private companies should be evaluated in accordance with the technical and financial evaluation criteria. It is recommended that at least two persons independently evaluate and score the technical proposals and only open the financial proposal once the technical proposals have been evaluated. The combined scores should be recorded by the public party (and issued to all the shortlisted companies after the PPP agreement is signed).

**Step 6: Award and entering into the PPP agreement (Weeks 22 to 26)**

The private companies with the best combined score should be officially awarded the right to partner under the PPP and respective negotiations on the PPP agreement started. Reasonable, time should be used to address any open issued raise during the negotiations (e.g. such as the PPP implementation timeline) and to ensure that both parties understand the expectations of the PPP before signing the PPP agreement.

### 9.2 Setting up a Special Purpose Company (SPC)

A Special Purpose Company (‘SPC’) can be formed to act as the private party in the PPP. In this manner, it should be agreed by the community and the GOF that it is in the best interest of the community (and persons in the service area) that the SPC is established with the sole purpose to act as the private party in the PPP. In this case, there are special considerations which prevent an established and experienced company from acting as the private party in the PPP or that certain justifiable social considerations prevent the community from agreeing to an outside private party in the PPP. Ultimately the PPP Governing Board should agree that an SPC is required to ensure the sustainable service of the small-scale renewable energy power generation system and related assets.

Under the current laws in Fiji, there are four types of companies which are recommended to be established as an SPC for a PPP, noting that they are governed by the Fiji’s Companies Act 2015 and the Fiji’s Co-operatives Act of 1996 (as amended), and the Charitable Trust Act (as amended). These three companies are indicated in the below table, along with some notable specific advantages or disadvantages.

<table>
<thead>
<tr>
<th>Item</th>
<th>Company Limited by Shares</th>
<th>Company Limited by Guarantee</th>
<th>Charitable Trust</th>
<th>Co-operative Company</th>
</tr>
</thead>
</table>

Page 33 of 53
Are there owners of the company (e.g. share in the company profits)?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

Is ownership restricted to the community of the service area?

<table>
<thead>
<tr>
<th>No</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

Are there annual meetings for members/shareholders?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
</table>

Does the company pay corporate taxes on profits?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

Is the company subject to employee and social taxes?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
</table>

Are annual accounts to be provide to the government?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
</table>

Does the company have a specific government supporting agency?

<table>
<thead>
<tr>
<th>No</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

Table 6: Types of SPC Companies

After the type of company is chosen for the SPC, the company must be registered with the Registrar of Companies Office and must include numerous supporting documents along with the specific registration forms. It is highly recommended that qualified legal advice is obtained from reputable legal firms for the registration process. Reputable legal firms can easily guide the public party through the process to setup the SPC, in a time and cost-efficient manner. Some the issues to be addressed during the SPC setup are described in detail in the following sections.

9.2.1 SPC Needs Assessment

One of the first issues to be addressed in setting up the SPC is to define what are the needs of the SPC and if there are any gaps between what the SPC can provide and the full level of service needed. For small-scale renewable energy power generation and rural communities these needs may include, but are not limited to, the following:

- Qualified staff
- Walk through of the process of directors and members meetings
- Hiring of staff (including employment contracts)
- Training staff in technical skills, financial accounting, small company management
- Communications strategy and means, towards customers
- A financial and electricity accounting systems
- Annual financial reporting (preparing reports and auditing)
- IT and communication hardware
- Physical and secure office location
- Pre-paid metering systems (to mitigate risks for the private sector)
- Larger maintenance needs

Once the needs of the SPC are identified, then the means to meet those needs must be mapped out and executed. This may require obtaining capacity building and training resources from the government/development agencies/NGOs, hiring of consultants or third-party service providers, or gaining knowhow from other local businesses. The SPC should have a defined action plan on how to address these needs, which may also include costs that must be recovered from the tariff.

In addition, the SPC may need to acquire licences for employees and for operation. The requirements for these licenses are found in Annex X and Annex X.

9.2.2 SPC Board of Members and Directors

The Board of Members (hereinafter referred to as the ‘SPC Board’) of the SPC should be identified and consist of at least three persons who are appointed by the SPC directors. It is recommended that the SPC Board should consist of one representative from the SPC management, one representative from the private party and a third board member, depending on the ownership distribution of the SPC. The SPC board can contain more members, such a community members or other shareholders, but it is recommended to limit the number of SPC Board members to a maximum of five persons.

The roles and reasonability’s of the SPC Board members will depend on the by-laws/article of incorporation of the SPC, but in general include the following:

- Attending general or special meetings of members for the SPC
- Electing a chair at member meetings
- Inspect and enquire upon the financial and operational status of the SPC
- Vote on actions are proposed in the general or special meetings

The directors of the SPC have the general responsibility to manage and act in the best interest of the SPC and must appoint a Managing Director and a Secretary. It is important that the directors of the SPC are qualified and have experience in the operations of the services being provided under the PPP. Where is it the members who must pass a resolution of the appointment of directors, thus the member should ensure the level of qualification and experience of the directors.

The directors have the powers or duty to do the following (including entering into agreements):

- Manage the SPC
- Borrow money
- Charge any property or business of the Company
- Issue debentures or give any other security for a debt, liability or obligation of the Company or of any other person
- Guarantee or to become liable for the payment of money or the performance of any obligation by or of any other person.
10. **The PPP Agreement**

The PPP Agreement is the central legal document of the PPP. It defines the relationship between the public and private party, their respective rights and responsibilities, risk allocation and provides mechanisms for dealing with change and disputes.

Sector law and regulations and the PPP Agreement need to be carefully harmonized to ensure there is no conflict between the PPP agreement and regulatory requirements. In the case of Fiji, these are no current (as of March 2018) specific regulation for small-scale PPPs and thus a first draft PPP agreement is provided in Annex 6 for small-scale renewable energy power generation systems.

The development of the PPP Agreement is an iterative process (first draft, second draft, final PPP Agreement) when negotiating a PPP and the full PPP Agreement may not be effective until other contractual arrangements are in place (i.e. for setting up of the SPC, financing, land rights, etc.). The first draft of the PPP Agreement needs to cover all the general issues of the PPP and be flexible in order to cover any detailed issues. The main elements of the PPP Agreement should include:

1. **Definitions and Terms** which defined the meaning of commonly used words in the PPP agreement;

2. **Duration and Critical Dates** which define how long the PPP will last and any options for extending the PPP;

3. **The Intent of the PPP Agreement** which clearly states the goals of the PPP agreement;

4. **Performance, Monitoring and Reporting Requirements** of both the private and public parties to ensure transparency within the PPP;

5. **Compensation and Payment** mechanisms which define the financial pathways of funds derived under the PPP;

6. **Extra Ordinary Compensation** which describes what are and how, payments that can be made which are not included in the Compensation and Payment;

7. **Indemnities** which describes the situation and cases where one party in the PPP cannot claim damaged from the other party;

8. **Confidential and/or Proprietary Information** of the parties and how it should be secured and/or means of disclosure;

9. **Dispute Resolution Mechanism** which defined the process of resolving disputes between the parties;

10. **Termination** which defined the instance which can cause the PPP agreement to be terminated and the process for termination;

11. **Amendments to the PPP Agreement** which defines process of making amendments to the PPP agreement;

12. **Warranties** which describe the truths by which the PPP agreement is based;

13. **Governing Law and Unenforceable Provisions** which define the law for which the PPP agreement shall be governed under and what happen then clause in the agreement cannot be enforced under the law.
A template for a PPP Agreement is provided in Annex 6.
11. **Measurement, Reporting and Verification (MRV)**

The overall performance of the PPP should be monitored by both the public and private parties, including the PPP Government Board. The primary purpose of the monitoring, its reporting and the verification of information reported (e.g. the 'MRV') is to ensure that the PPP is achieving the stated goals and purpose. The secondary purpose of the MRV is to allow for positive changes in the operation of the private company and in the PPP itself (e.g. improving efficiency in the service, changing the tariff, etc.). In this manner, the proposed MRV in this chapter is designed to track compliance to the PPP agreement, the level of service, revenues and GHG emission/mitigation. The MRV starts with the determination of a baseline for each item which is being tracked and is followed by continuous monitoring and annual reporting, as well as third-party verification.

11.1 **Baseline Determination**

The PPP Boundary is defined by the spatial extent of the service, including the renewable energy power plant(s) under the PPP and physically connected electricity system (e.g. mini-grid) for which the power plant is connected to.

The Baseline Scenario is the situation before the start of the PPP. For example, before the retrofit, rehabilitation or replacement of an existing facility, or the establishment of new power generation system and mini-grid. The baseline is the historical production of electricity (or lack thereof) and often is based on past generation data or similar demand measured in like conditions of service. In addition, the baseline should also define the past quality of service, cost of service and other social and economic conditions.

11.2 **MRV of Electricity Generation, Consumption and Revenues**

The MRV scheme is to be used to signify and indicate the short and long term direct effects and co-benefits gained from renewable energy grid-connected power generation under the PPP. Furthermore, it helps indicating the private sector viability of the PPP project in Fiji and the potential co-benefits.

The general MRV scheme should be mutually agreed upon between the parties and FDOE. It should not lead to disclosure of proprietary information which stakeholders (e.g. private company, service provider) do not want made available to the public. The focus of the MRV design and baseline is to indicate the tangible benefits which the PPP project is producing in terms of environmental improvement, energy security and social-economic impact.

The cornerstones of the MRV scheme for the renewable energy projects developed under this PPP framework model include:

- Identification and setting of agreed upon parameters and their data requirements. Noting that the parameters should best align to existing and planned monitoring and accounting at the service area (i.e. villages) where the PPP is developed;

- Any calculation methodologies for the transformation of raw data into specific parameters;

- Baseline setting of parameters based on latest available data, as a measuring point for improvements and benefits;
• Defining the internal monitoring frequency of the parameters and the external reporting frequency to FDOE by responsible parties for the MRV (i.e. private company, service providers, Cooperative).

The following sections of this memorandum will detail these four cornerstones of the M&E scheme.

### 11.2.1 Identified MRV Parameters and Data

Options for parameters and data needs should be discussed between FDOE and key PPP parties (i.e. private companies responsible for the operation of the renewable power plant). Further relevant local stakeholders or service providers (e.g. company providing the pre-paid meters) should be consulted as well. An agreement should be reached about the parameters forming the basis for the MRV scheme and baseline and that need to be monitored and reported.

For any PPP project under this PPP model framework for renewable energy power generation in Fiji, the following parameters should form the basis for any MRV scheme and baseline determination:

- **TSE** = Total sold electricity (kWh/a)
- **ER** = Emission reductions achieved (tCO2e/a)
- **THC** = Total household connections (no.)
- **IGA** = Total number of active income generating activities (no.)
- **JC_{total} and JC_{female}** = Reporting of total additional jobs created and total additional female jobs created (no. and no.)
- **CS** = Level of capital saving for investment in income generating activities (FJD)
- **QIP** = Reporting qualitative implementation of the project components
- **UP** = Unit price of electricity (FJD/kWh)

The parameters should be best aligned to existing and planned monitoring and accounting procedures at the villages (in the PPP service area).

For each parameter selected, specific data requirements, most effective and accurate monitoring methodology (including measurement device, frequency, etc.), calculation methodologies for the transformation of raw data into specific parameters as well as the reporting procedures and frequency (internal and external) need to be described.

It is expected that the Private Party and/or the responsible Cooperative in the PPP service area will report to FDOE the M&E parameters on an annual basis, as a means to demonstrate the performance of the PPP project. The reporting should be in a simple and clear format and should emphasise the change in the M&E parameters from the baseline values.

Annex 2 defines key aspects for the parameters (e.g. source of data, frequency and quality control).
12. PPP Training and Support

The development, implementation and coordination of a PPP will require training of professional staff to cover key areas like planning, economic analysis, environmental assessment, prioritization of work, contract management and overall PPP supervision and governance.

The first step would be to assess the specific capacity needs of the involved institutions and key stakeholders (public and private). After the assessment was done, a specific training programme should be designed and developed that is most appropriate in addressing the specific capacity needs. Only once the training programme was defined and approved should the training start.

**Step 1: Assess capacity needs**

Training needs may be required both for public and private entities involved in PPP projects.

For public institutions involved in the PPP process (e.g. mainly the entity coordinating the PPP or PPP Unit), support may be required to strengthen technical skills in the relevant areas (e.g. hydropower, wind power, solar) and build skills that will help the responsible persons to negotiate the PPP contracts and coordinate and supervise the PPP model framework and the PPP project development.

The private sector parties may require support and training in continuous metering and reporting the electricity generation and revenues when operating and managing the RE power generation project. Another area of support may be the administration of the company and managing the expectations of users of electricity (clients) in the service areas. This may be especially relevant if the private sector company and the persons in charge are not fully familiar with circumstances in the service area.

The assessment should include the following questions:

- What are the required skills that are required for achieving the objectives of the PPP projects and the PPP model framework?
- What is the current status of capacities and skills in terms of PPP for renewable power generation in Fiji within the public/private entities involved?
- Who (which institution and which persons) holds the skills and know-how-how for the required skills?
- What would be required to improve the skills and know-how, so that the current and future PPP activities can be prepared, developed, implemented and managed?

**Step 2: Define specific training programme**

When designing the training programme, it is highly recommended to consider both the objectives of the current PPP projects and the long-term sustainability of building skills and resources. It may be important to provide specific training to one private company (e.g. about continuous measurement) or to certain persons in the public authority (e.g. who are in charge of PPP coordination). However, it is also important to ensure that the know-how and skills are sustained within the institutions. Especially in Ministries and public institutions roles and responsibilities may change or staff may even leave. When designing the training programme this needs to be considered, so that the capacity building is maintained in the long-run.
The training programme has to fit to the specific conditions of the PPP (e.g. stakeholders involved, location) and should include training methods that best serve the purpose and objectives of the PPP.

For defining the training programme, the following elements need to be considered:

- What should be the training content?
- Who requires the training?
- Who should conduct the training (e.g. what skills, experience and national or international)?
- What training methods, approaches and tools used?
- What is the extent, duration and frequency of training?
- What are the Monitoring and Evaluation Measures (including reporting)
- What resources (i.e. budget, logistics, skills, tools, time) are required to provide the training programme?

When developing the training programme, it can be further assessed whether and where it is appropriate to include private sector parties when conducting training for public authorities and vice versa. This may help to build awareness about the needs and aspects of both PPP parties.

### Step 3: Conducting the training

In the following table, typical training needs for public (including government) and private entities involved in PPP are listed.

<table>
<thead>
<tr>
<th>Training aspect</th>
<th>Public Party</th>
<th>Private Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to PPP (Modalities, Scope, Purpose, Benefits)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Case Studies and PPP experience</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PPP Model Framework</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fundamentals of PPP identification and appraisal</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Policy and legal aspects</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PPP Management and Governance</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PPP Contracts and PPP Contract Management</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Risk Management</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Financial Management</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Private Sector Modalities</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Procurement procedures</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Technical training for RE technologies (Operation and Maintenance)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Measurement, Reporting and Verification</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Private company management and administration</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

*Table 7: typical training needs for public and private parties*
Annexes

Annex 1 – Tariff Setting Methodology – Template

Costs components of the PPP project tariff

The tariff for the electricity generated and sold needs to ensuring a safe and continues supply of electricity and cover all costs that are required for operating and managing the power plant and mini-grid on a daily basis, the costs for implementing the income generating activities, costs for major maintenance and to allow for a profit margin to the private company operating the power plant. All the relevant costs can be divided in the following 6 categories:

- Daily Operation Costs
- Annual Servicing Costs
- Private Company Annual Costs (including Labour)
- Management Costs (including land lease)
- Major Maintenance Costs
- Investment in Income Generating Activities

The following table provides detailed information about the individual costs components attributed to daily operation costs, annual servicing costs, private company annual costs (including Labour) and annual management costs (including land lease).

<table>
<thead>
<tr>
<th>Items</th>
<th>Quantity</th>
<th>Frequency</th>
<th>Unit Price</th>
<th>Annual Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Servicing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbine &amp; Governor</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Generator &amp; Operating Panel</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Daily Operation (Nominal Replacement Parts)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil to governor (34 l)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>DC Battery replacement - 48V - 100Ah</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Lighting (2x 200W, 3x 60/11W, 1x 100W)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Additional prepaid meters &amp; installation</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Painting of metal surfaces</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Replace trash rack 1x</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Replace panel circuit breakers 1x 60A, 4x 15A</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Replacement of village level electric meters</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Private Company Annual Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Company Manager &amp; Secretary (Part-time)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Monthly Operator (Full-time)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Electrical Mechanic (Full-time)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Additional company cost (materials, audit.....etc.)</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Private company profits</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Contengancy</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>Cooperative Annual Costs (if required)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperative Fee</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td>Lease cost</td>
<td>x</td>
<td>x</td>
<td>XXXX</td>
<td></td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>TOTAL Annual Operating and Maintenance Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FJD XXXXX</td>
</tr>
<tr>
<td>Monthly breakdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FJD XXXXX</td>
</tr>
</tbody>
</table>

*Table 8: Annual operating and maintenance costs for sample PPP project*
According to the annual operating and maintenance cost estimations, the total annual operating and maintenance costs amount to nearly XX,XXX FJD or monthly costs of X,XXX FJD. The biggest share of costs are the annual costs of the Private Company including the costs for labour (≈ XX,XXX FJD), whereas the costs for the daily operation and the servicing together are only (X,XXX FJD). The annual costs for the public party (i.e. XXX and XXX) amount to X,XXX FJD.

Table 3 below summarizes the major maintenance costs that are required over the long term (12-year period), but that are needed to ensure the long-term sustainability of the power generation.

<table>
<thead>
<tr>
<th>Items</th>
<th>Quantity</th>
<th>Frequency</th>
<th>Unit Price</th>
<th>Annual Cost</th>
<th>Total Cost FJD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhaul Turbine &amp; Governor &amp; Operating Panel</td>
<td>x</td>
<td>12</td>
<td>XXX</td>
<td>XXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>Overhaul Generator</td>
<td>x</td>
<td>12</td>
<td>XXX</td>
<td>XXX</td>
<td>XXXX</td>
</tr>
<tr>
<td>Repair Penstock, LP Conduit and Forebay</td>
<td>x</td>
<td>12</td>
<td>XXX</td>
<td>XXX</td>
<td>XXXX</td>
</tr>
<tr>
<td><strong>TOTAL Annual Operating and Maintenance Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>XXX</strong></td>
</tr>
</tbody>
</table>

*Table 9: Annual major maintenance costs for the PPP project*

From the previous table, it can be seen that additional maintenance (in addition to the daily operation) would require approximately XX,XXX FJD per annum. This major maintenance includes XXX, XXX and the XXX, XXX and XXX, the XXX and XXX.

The following table summarizes all cost components and provides an overview of the total annual costs per category and for the PPP project in whole. For the investment costs in Income Generating Activities (total costs XX,XXX FJD), the total costs have been divided by X years, as the implementation period of all activities is X years, to estimate the annual costs.

<table>
<thead>
<tr>
<th>Tariff Components</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Operational Costs</td>
<td>XXX</td>
</tr>
<tr>
<td>Continual Maintenance Costs</td>
<td>XXX</td>
</tr>
<tr>
<td>Company Management Costs (including Labour)</td>
<td>XXX</td>
</tr>
<tr>
<td>Cooperative Costs (including lease)</td>
<td>XXX</td>
</tr>
<tr>
<td>Major Maintenance Costs</td>
<td>XXX</td>
</tr>
<tr>
<td>Investment in Income Generating Activities</td>
<td>XXX</td>
</tr>
<tr>
<td><strong>TOTAL Annual</strong></td>
<td><strong>XXX</strong></td>
</tr>
</tbody>
</table>

*Table 10 Total annual costs of the PPP project*

According to the estimations made, the total annual costs of the PPP project amount to XX,XXX FJD. This is the annual costs basis of required revenue and will be the basis for calculating the electricity tariff required for ensuring the continuous OMM of the power generation plant, mini-grid and income generating activities at the location X.
**Power Demand of the service area**

After determining the total costs of operation and management and the required revenue for the project, it is important to estimate the annual electricity demand of the power consumers connected to the mini-grid of the RE project under the PPP.

Description of power demand data available and approach to assess the power demand.

Example:

A power demand survey was conducted in two tranches, one for the households and one for service providers (e.g. health centre, nurses’ quarters, teacher quarters/school). A total number of XX households participated in the survey (almost XX% of all households), whereas all service consumers were surveyed.

The survey included the question of which electric appliances exist and would be in use, as well as the estimated operation time per day (in hours). For calculating the daily power consumption/demand of the appliances, conservative estimations about the average power rating in Watts were used (based on research of common electrical appliances available in Fiji and the local area). With these parameters, the daily consumption in Wh was calculated per appliance and per household/service consumer.

The most common electrical appliances are mobile chargers, TVs and light appliances (LED/CFL). In terms of the daily electricity consumption ironing, using a refrigerating machine, watching TV and listing to the radio are the highest combined electricity consuming activities.

The results of the survey determined that the average household electricity demand in the PPP service area is X.XXX kW per day. When extrapolated to the total number of households in the service area (XXX households), the total electricity demand of all households is estimated to be XXX kWh per day (or XXX MWh per year).

For the service providers (e.g. health centre, nurses’ quarters, teacher quarters/school) the situation is slightly different. In terms of the electricity consumption, computers and electric ovens as well as a smaller number of electric appliances with a higher power load (e.g. washing machine, steriliser, electric kettle) are responsible for the major part of the power consumption. The total electricity demand for the service providers was XX.XXX kWh per day (or XX MWh per year).

A summary of the estimated total annual power demand for the PPP service area is provided in the table below (a value of XXX MWh per year).

<table>
<thead>
<tr>
<th>Total Demand</th>
<th>Items</th>
<th>Number</th>
<th>Average Daily Load (Wh)</th>
<th>Daily Load (Wh)</th>
<th>Daily Load (kWh)</th>
<th>Monthly Load (kWh)</th>
<th>Annual Load (kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Households</td>
<td>XXX</td>
<td>XXXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td></td>
<td>Services</td>
<td>XXX</td>
<td>XXXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>XXXX</td>
<td>XXXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
</tbody>
</table>

*Theoretical Plant Load Factor XX%*

**Table 11 Total annual power demand of PPP service area**

---

Page 44 of 53
**Tariff Setting**

With the information received for the required PPP revenue and the annual electricity demand, the tariff that would be required to ensure the sustainable OMM of the project can be calculated. The following formula is used to calculate the tariff:

\[ T = \frac{RR_{Annual}}{W_{Annual}} \]

Where:

- \( T \) = Tariff [FJD/KWh]
- \( RR_{Annual} \) = Annual Required Revenue [FJD]
- \( W_{Annual} \) = Annual Power Demand of Service Area [kWh]

By applying this formula for the PPP service area and the figures on \( RR_{Annual} \) and \( W_{Annual} \), a tariff of 0.XX FJD/kWh is calculated. To account for uncertainties both on the cost side and the power demand side, regarding the input parameters for the tariff setting, a margin of error of +10% has been applied. Taking this into account, the final tariff should be set in the range of 0.XX FJD/kWh (minimum) and 0.XX FJD/kWh.

With this tariff, the cost for an average household would amount to \( \approx \) X.XX FJD per day or XX FDJ per month respectively.

When applying this tariff as the basis, the proportionate share of the tariff that is required to cover the different cost categories can be calculated. This proportionate share in % is provided in the figure below.

The largest share with XX% (X,XXX FJD) would be required to cover the costs for the Private company’s management and operation (including the costs for labour and profit). The total share that is required for the costs of the private company amounts to XX% of the tariff, whereas the costs for the Electricity Cooperative amount to XX% of the tariff. The additional costs that need to be covered (Major maintenance costs and the costs for implementing Income Generating Activities) sum up to XX% of the tariff.
Table 12 Proportionate share of tariff to cover the costs

The calculations of revenues received and the shares are calculated for every kWh sold. If one assumes a tariff of 0.XX FJD/kWh then shares would be as follows:

- Private Company: 0.XXX FJD/kWh (XX%)
- Cooperative: 0.XXX FJD/kWh (XX%)
- Major Maintenance Costs: 0.XXX FJD/kWh (XX%)
- Income Generating Activities: 0.XXX FJD/kWh (XX%)
### Annex 2 – Minimum Baseline and Monitoring Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Total sold electricity of the power plant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acronym</strong></td>
<td>TSE</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>kWh</td>
</tr>
<tr>
<td><strong>Source of Data</strong></td>
<td>Electricity meter</td>
</tr>
<tr>
<td><strong>Monitoring Frequency</strong></td>
<td>Monthly</td>
</tr>
<tr>
<td><strong>Reporting Frequency</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Baseline (20XX)</strong></td>
<td>Cross check against daily/monthly monitoring, or net revenues</td>
</tr>
<tr>
<td><strong>Means</strong></td>
<td>Load data of power plant required (hourly/daily load), consumption data from consumers (current and projected), or household appliance survey.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>CO₂ emissions reduced or savings from electricity exported</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acronym</strong></td>
<td>ER</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>tCO₂ tonnes</td>
</tr>
<tr>
<td><strong>Source of Data</strong></td>
<td>Electricity meter and emission factor for diesel generation to a grid.</td>
</tr>
<tr>
<td><strong>Monitoring Frequency</strong></td>
<td>Monthly</td>
</tr>
<tr>
<td><strong>Reporting Frequency</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Baseline (20XX)</strong></td>
<td>Cross check against daily/monthly monitoring, or net revenues</td>
</tr>
<tr>
<td><strong>Means</strong></td>
<td>ER = TSE (kWh) x 0.0008 (t CO₂e / kWh)^2 = t CO₂e</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Total household connections</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acronym</strong></td>
<td>THC</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>No.</td>
</tr>
<tr>
<td><strong>Source of Data</strong></td>
<td>Installation records or survey</td>
</tr>
<tr>
<td><strong>Monitoring Frequency</strong></td>
<td>Biannual</td>
</tr>
<tr>
<td><strong>Reporting Frequency</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Baseline (20XX)</strong></td>
<td>Cross check against installation and turnover of electricity meters</td>
</tr>
<tr>
<td><strong>Means</strong></td>
<td>Counting the number installed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Total number of new income generating activities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acronym</strong></td>
<td>IGA</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>No.</td>
</tr>
<tr>
<td><strong>Source of Data</strong></td>
<td>Installation records or community survey, care should be taken to identify the activities which directly relate or indirectly relate to access to electricity.</td>
</tr>
<tr>
<td><strong>Monitoring Frequency</strong></td>
<td>Biannual</td>
</tr>
<tr>
<td><strong>Reporting Frequency</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Baseline (20XX)</strong></td>
<td>Cross check against installation and turnover of electricity meters at new business (e.g. not households)</td>
</tr>
<tr>
<td><strong>Means</strong></td>
<td>Counting the number invested.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th><strong>Total additional jobs created and total additional female jobs created</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acronym</strong></td>
<td>JC&lt;sub&gt;Total&lt;/sub&gt; and JC&lt;sub&gt;Female&lt;/sub&gt;</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>No.</td>
</tr>
<tr>
<td><strong>Source of Data</strong></td>
<td>Survey, care should be taken to identify the activities which directly relate or indirectly relate to access to electricity.</td>
</tr>
</tbody>
</table>

\[ 0.8 \text{ kg tCO₂e / kWh} \text{ is from the CDM Methodology ASM I.F and I.L for the emission factor for diesel generator system in mini-grids, conservative number.} \]
### Monitoring Frequency
Biannual

### Reporting Frequency
Annual

### Baseline (20XX)

### Quality Control
Cross check with community women’s group and village counsel

### Means

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Level of capital savings for investment in income generation activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acronym</td>
<td>CS</td>
</tr>
<tr>
<td>Unit</td>
<td>FJD</td>
</tr>
<tr>
<td>Source of Data</td>
<td>Investment fund and accounts</td>
</tr>
<tr>
<td>Monitoring Frequency</td>
<td>Biannual</td>
</tr>
<tr>
<td>Reporting Frequency</td>
<td>Annual</td>
</tr>
<tr>
<td>Baseline (20XX)</td>
<td></td>
</tr>
<tr>
<td>Quality Control</td>
<td>Cross check against capital raised from the private company as a part of the tariff and transferred to the investment fund. As well as investments made.</td>
</tr>
<tr>
<td>Means</td>
<td>Audited statements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Reporting qualitative implementation of the project components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acronym</td>
<td>QIP</td>
</tr>
<tr>
<td>Unit</td>
<td>-</td>
</tr>
<tr>
<td>Source of Data</td>
<td>Internal report</td>
</tr>
<tr>
<td>Monitoring Frequency</td>
<td>Annual</td>
</tr>
<tr>
<td>Reporting Frequency</td>
<td>Annual</td>
</tr>
<tr>
<td>Baseline (20XX)</td>
<td></td>
</tr>
<tr>
<td>Quality Control</td>
<td>Sign off by management at DOE</td>
</tr>
<tr>
<td>Means</td>
<td>Record of installed equipment (e.g. prepaid meters....)</td>
</tr>
<tr>
<td></td>
<td>Establishing and number of meetings of the PPP Governing Board</td>
</tr>
<tr>
<td></td>
<td>Records of complaints from customers</td>
</tr>
<tr>
<td></td>
<td>Times of power outages or non-revenue collections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit price of electricity in the PPP service area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acronym</td>
<td>UP</td>
</tr>
<tr>
<td>Unit</td>
<td>FJD/kWh</td>
</tr>
<tr>
<td>Source of Data</td>
<td>Agreed tariff for the PPP project</td>
</tr>
<tr>
<td>Monitoring Frequency</td>
<td>Monthly (average)</td>
</tr>
<tr>
<td>Reporting Frequency</td>
<td>Annual (average)</td>
</tr>
<tr>
<td>Baseline (20XX)</td>
<td></td>
</tr>
<tr>
<td>Quality Control</td>
<td>Records and receipts of prepaid electricity purchases</td>
</tr>
<tr>
<td>Quality Control</td>
<td>FEA consumer power price (invoices)</td>
</tr>
<tr>
<td>Means</td>
<td>Tariff</td>
</tr>
<tr>
<td></td>
<td>Billing records</td>
</tr>
</tbody>
</table>
Annex 3 – Easement and Right of Way Agreement – Template

EASEMENT AND RIGHT OF WAY AGREEMENT

Made this ________ day of __________________________, 2016, by and between __PARTY1____________ and _____PARTY2____________ the owner(s) of the property located in Ba District of the Western Region of Fiji and described in ANNEX A of this AGREEMENT, hereinafter referred to as the “GRANTORS”; and _______LEGAL NAME OF COPPERATIVE_________________, hereinafter referred to as “GRANTEE.”

WITNESSETH: That in the consideration of the sum of ________________ Fijian Dollars (_____________ FJD) (minimum 1 FJD required) to PARTY1 and ________________ Fijian Dollars (_____________ FJD) (minimum 1 FJD required) to PARTY2, the Grantors, each paid by the Grantee on an annual basis, on or about the 1st of January each year, the receipt and sufficiency of which are hereby acknowledged by both parties, the said Grantors do hereby grant and convey unto the Grantee and its successor, assignees, or agents, the easement and right-of-way hereinafter described for the installation, construction, maintenance, repair, operation, removal and inspection of the purpose of a hydro power plant and is associated installations within said easement and right-of-way, across the property as described in ANNEX A. Where the duration of this Agreement is 10 years form the date of execution of this Agreement.

This Agreement affords to the Grantee the right to have and to hold said easement and right-of-way as described in ANNEX A, together with the rights, privileges, appurtenances and advantages thereto belonging or appertaining, unto and to benefit for the duration of this Agreement the Grantee its successor, assignees, or agents. AND the Grantors, for its heirs, successors, assignees, or agents, covenants and agrees with the Grantee, its successor, assignees, or agents as follows:

FIRST: that the Grantors will not erect nor permit to be erected any building or structure of any nature whatsoever within the easement and right-of-way described in ANNEX A, nor fill, excavate, mine under the earth, or erect any physical elements over the land within the said easement and right-of-way without the consent of the Grantee;

SECOND: that the Grantee, its successor, assignees, or agents shall at all times have the right of ingress and egress over said easement and right-of-way for the purpose of installing, constructing, reconstructing, maintaining, repairing, operating, removing and inspecting a hydro power plant and its associated installations within the said easement and right-of-way and outside the easement and right-of-way via the most accessible route over and through the land of the Grantors;

THIRD: that the Grantors will warrant specially said easement and right-of-way and will execute such further assurances thereof as may be requisite for the purpose;

FOURTH: that Grantee accepts this easement and right of way granted hereto and takes the responsibility to properly maintain the hydro power plant and its associated installations and land within the easement and right-of-way, at the Grantees sole cost and expense;

FIFTH: that the Grantors and Grantee agree that the said easement and right of way shall run with the title and ownership to the land;
SIXTH: that the Grantors and Grantee shall provide the Department of Energy with a stamped copy of this recorded Agreement, at their sole cost.

IN WITNESS WHEREOF, the Grantors and Grantee have hereunto affixed their hands and seals the day and year first herein above written.

The below signatories warrant that they have the rights under the legal provisions of the Republic of Fiji to sign this Agreement on behalf of their stated entities.

Signed on Behalf of the GRANTORS:

_________________________________  __________________________________________
Entity Name                                                                       Entity Name

_________________________________  __________________________________________
Name of Person                                                                   Name of Person

_________________________________  __________________________________________
Signature (stamp is applicable)                                                    Signature (stamp is applicable)

Signed on Behalf of the GRANTEE:

_________________________________  __________________________________________
Entity Name                                                                       Entity Name

_________________________________  __________________________________________
Name of Person                                                                   Name of Person

_________________________________  __________________________________________
Signature (stamp is applicable)                                                    Signature (stamp is applicable)

WITNESSED BY:

_________________________________  __________________________________________
Entity Name                                                                       Entity Name

_________________________________  __________________________________________
ANNEX A: Description of the easement and right-of-way across the property.

Annex

The installation(s) for the hydro power plant and its associated installations (including all equipment), are described below:

A. Xxx
B. Xxx
C. Xxx
D. Xxx
E. Xxx

The easement and right-of-way includes the land for which the above hydro power plant and its associated installations (including all equipment) cover, as described in A through E, plus 4 meters of land on either side of these.
Annex 4 – Requirement for Contractors Licenses in Fiji (for private company)

REGULATORY UNIT
LICENCING AND REGISTRATION DEPARTMENT
CHECK LIST FOR REQUISITION OF A CONTRACTORS LICENCE

Applicants should ensure that they have the following requirements available before submitting their application for approval.

LOCAL APPLICANTS

1. Company Registration from Registrar of Companies
2. Company Business Registration and Licence from Town/City Council
3. Proof of VAT registration from FIrCA
4. Proof of registration as an Employer from FNPF
5. Proof of availability of office/workshop
6. Proof of availability of transportation
7. Proof of sound financial statement from any bank (Minimum of $10,000)
8. Confirmation of holder of Fiji Wreckers’ Licence by director or share holder
9. Confirmation of 10 years continuous service in the industry.
10. Thorough and clear endorsement of Application for Contracting Licence.
11. Two character reference’s
12. Rubber stamp
13. Availability of phone contact numbers.

Recommendation:

Approval Granted / Approval Not Granted.

Comments:-

Signed Chief Inspector ____________________________
Annex 5 – Requirements for Wireman License (private company)

REGULATORY UNIT
LICENCING AND REGISTRATIONS DEPARTMENT
CHECK LIST FOR REQUISITE OF A WIREMANS LICENCE

Applicants should ensure that they have the following requirement available before submitting their applications for approval.

LOCAL APPLICANTS
1. Two (2) passport size photo
2. Two (2) testimonial attesting /character references
3. Availability of phone contact
4. Availability of Birth certificates
5. Applicants must not be less than 21
6. Four years working experiences/Industrial Services
7. Trade /Diploma/Degree in Electrical Engineering from FNU
8. Proof of Tax Identification Number form FIRCA as from August 2010

Recommendation
Approval Granted/Approval Not Granted
Comments:-

Signed Chief Inspector

Annex 6 – Draft PPP Agreement

Provided as a separate document