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Annex 1: Initial Assessment

1 Introduction

Section 12 of the PPP Act states that:

"(1) Subject to any regulations made under this Act in respect of a public private partnership arrangement, a Relevant Public Body must conduct an initial assessment in the manner and form prescribed by the PPP Centre where it intends to procure either directly or by a company referred to in Section 5(8) a project with a value or size at or above the referral threshold.

(2) An initial assessment under Subsection (1) must include —

(i) details as to the type of project and its estimated value; and

(ii) *whether the project is suitable for procurement as a public private partnership arrangement."*

Section 2 of the PPP Act defines the term "project" as including "*the design, construction, development, financing and operation of new infrastructure and rehabilitation, modernisation, expansion or operation of an existing infrastructure that originates as a solicited proposal or an unsolicited proposal."*

This Guideline addresses both clauses (1) and (2) of section 12 of the PPP Act by providing guidance on the manner and form for the conduct of an initial assessment and also on the type of information that should be contained in an Initial Assessment report.

This Guideline also states that a template for use in preparation of an Initial Assessment report is to be provided in the annexes to this Guideline. Accordingly, a template is provided below.

All Initial Assessment reports submitted by Relevant Public Bodies to the PPP Centre must be in a format consistent with this template. The PPP Centre may request that incomplete reports be amended and resubmitted by the Relevant Public Body.

Initial Assessment reports are relevant only to projects for which the Relevant Public Body proposes to undertake a solicited procurement process. A separate process and report format applies to unsolicited project proposals.

2 Initial Assessment Report Template

The template for preparation of an Initial Assessment Report is set out over the next four pages and has three parts:

I Administrative Particulars

II Project Particulars

III Assessment for PPP Suitability

I Administrative Particulars

Name of Project:

Name of Relevant Public Body:

Contact Person: (person for PPP Centre to contact)

Name:

Title:

Contact Details (e-mail/phone):

Date of Lodgement with PPP Centre:

Authorised Person: (person authorised to submit this Initial Assessment Report)

Name:

Signature:

Contact Details (e-mail/phone):

II Project Particulars

a Evidence of Project's Priority (*provide details of NEC project endorsement and any other evidence of the project's priority; this can include an SOE Corporate Plan, NEC-approved budget allocation or other NEC decision*)

(Insert space for response)

b Evidence of Project's alignment with relevant PNG Medium Term Development Plan

(Insert space for response)

c Project Objectives (*list the key objectives that the Relevant Public Body wishes the project to achieve*)

(Insert space for response)

d Service Need (*describe the current service gap that the project seeks to meet e.g. current water supply is inadequate and not continuous; current road is impassable after wet weather; current thermal power generation is costly and contributing to greenhouse gas emissions, etc*)

(Insert space for response)

e Project Scope (*list the type of infrastructure, if any, that will be delivered by the project and its key metrics – e.g. size, capacity, technology etc – and the type and level of new services that will be provided* e.g expanded water treatment plant to supply additional X ML per day; asphalted rehabilitated road that will enable passage of Y vehicles per day in all

weather conditions; operation and maintenance of existing water supply system, including billing and collections)

(Insert space for response)

f Project location (*list the street address, local government area, Province and GPS location. If a linear project, e.g. a road, list locations of end points and key intermediate points*)

(Insert space for response)

g Key Stakeholders (*identify the key parties impacted by the project and whether they are likely to be supportive; stakeholders may include land and/or resource owners, project users, local/provincial authorities*)

(Insert space for response)

h Project Cost (*list the estimated capital cost or whole-of-life cost i.e. discounted cash flow of capital cost and additional annual operating and maintenance costs to operate the infrastructure over the likely PPP contract term.)*

(Insert space for response)

i Funding Source(s) (*list the expected source(s) of funding e.g. budget appropriation; user charges; donor)*

(Insert space for response)

III Assessment for PPP Suitability

A Project Features

These project features are essential to structuring a PPP that can deliver a value for money outcome for Government:

a Measurability of service outputs (*are the service outputs capable of being clearly specified and monitored?*)

b Likely stability of services provided *(are the type of services to be produced using the infrastructure, e.g quality and/or quantity, likely to change significantly over the next ten years?)*

c Complexity and scope for innovation *(is there scope for significant innovation in the way that the infrastructure is designed and/or improvement in the way that the services are delivered?)*

d Opportunities for significant risk transfer *(is there scope for transfer of major project risks which may be better managed by the Private Sector Partner?)*

e Sufficient bidder appetite (*is there likely to be strong bidder interest in projects of this nature?)*

Another project feature that can assist in achieving a value for money outcome in some circumstances is

- Ability to generate revenues beyond Government payments: (*is there likely to be an opportunity for the Private Sector Partner to generate additional revenues from the sale of services to third parties?)*

B Government Objectives

Which of the project objectives listed in IIc above are conducive to PPP procurement?

Which of the project objectives listed in IIc above are not conducive to PPP procurement?

C Overall Assessment

Based on an assessment of the project features and government project objectives, does the Relevant Public Body believe that the project is suitable for PPP Procurement?

For projects considered suitable for PPP procurement

- Define the roles and responsibilities which you foresee being undertaken by the private partner under the PPP contract (this can include project design, financing, construction, operation, maintenance)

- Define the sources of revenue for the PPP partner under the proposed PPP contract (this can include defined payments from the Relevant Public Body, user fees or a combination of both)

(end of Template)

3 Assistance in Completing the Initial Assessment Report Template

To assist Relevant Public Bodies to complete the Template fully and accurately, guidance is provided below in relation to:

(i) IIh Project Cost (how to calculate Project Cost)

(ii) IIIAa Service Outputs (what is meant by 'Service Outputs'?)

(iii) IIIAd Project Risks (what is meant by 'Project Risks'?)

(i) Project Cost

Project Cost can be calculated in either of two ways: (a) estimated capital cost or (b) estimated whole-of-life cost.

(a) **Capital Cost**:

Steps to estimation are

1. *Identify the major capital cost components for the Project e.g.*
    - *Land purchase or payments to land and/or resource owners*
    - *Resettlement*
    - *Construction*
    - *Consultancy costs (eg for Detailed Engineering Design)*

2. *Undertake Some Research*
    - *Identify any similar projects that have been undertaken in the past 5 years and seek access to the major contracts for each of those projects (eg land purchase; major consultancy contracts – design, legal, environmental, etc;)*
    - *Where any of those previous similar projects have been completed seek access also to the final actual costs incurred for the major contracts*
    - *Discuss with relevant agencies (eg development partners such as DFAT, ADB, World Bank etc) whether they have relevant benchmarking data that may be useful*

3. *Estimate total capital costs for the Project*
    - *Land – recent land sales of similar size in that area or negotiated settlements with landholders for use of their land*
    - *Resettlement - (number to be resettled multiplied by expected per person resettlement cost)*
    - *Construction – recent costs for similar facilities*
    - *Consultancies – recent costs for projects of similar size and complexity*

4. *Sum these component costs to provide an estimate of the total Project capital cost.*

(b) Whole-of-life Cost:

Steps to estimation are:

1 List the capital cost components, if any, for the Project [as per (a) above]

2 List major operation & maintenance cost components for the Project

- *Maintenance (ongoing) e.g*
  - *i. Cleaning*
  - *ii. Minor repairs (parts & equipment)*
  - *iii. Solid waste removal*
  - *iv. Gardening*

- *Operation (ongoing) e.g.*
  - *i. Staff costs*
  - *ii. Electricity*
  - *iii. Water/sanitation*
  - *iv. Telecommunications*
  - *v. Vehicles*
  - *vi. Chemicals and/or other consumables*

- *Life-cycle (periodic) e.g*
  - *i. Building lifts maintenance/repair*
  - *ii. Power generators maintenance/repair*
  - *iii. Security systems maintenance/repair*

2 Undertake research on the likely annual cost for each of these components

- *Looking at current costs for providing the service (if applicable)*
- *Looking at costs for similar facilities*

3 Prepare a table, listing each identified cost component and the estimated annual cost over the expected period of the PPP contract (e.g. 10 years)

4 Calculate the total estimated cost per annum (an example is shown in Table 1 below)

5 Prepare a 2nd table, listing the total estimated annual O&M cost for each year of the PPP contract (as calculated in Table 1) and the discount rate to be used. (PPP Centre will advise on the discount rate to be used.) Conduct a discounted cashflow calculation converting

nominal numbers into real to estimate the whole-of-life cost (an example is shown in Table 2 below)

Table 1: Example: Calculation of Annual Operation and Maintenance Costs (Nominal)

	Cost per Year (PGK, 000)									
Cost Component	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**
(i) Maintenance										
Cleaning	200	200	220	220	240	240	270	270	300	300
Minor Repairs	400	420	440	460	470	490	510	520	540	560
Solid waste	120	120	120	150	150	150	180	180	180	200
Gardening	100	100	100	110	110	110	125	125	125	140
(ii) Operations										
Staffing	4,000	4,200	4,400	4,650	4,900	5,300	5,750	6,200	6,700	7,200
Electricity	40	40	40	45	45	50	50	50	60	60
Water/Sanitation	30	30	30	35	35	35	40	40	40	45
Telecoms	25	25	25	25	30	30	30	35	35	40
Vehicles	800	80	80	900	90	90	1,000	100	100	1,200
Consumables	2,500	2,600	2,700	2,800	2,900	3,100	3,300	3,550	3,800	4,100
(iii) Lifecycle										
Building Lifts	-	-	-	-	-	-	2,400	-	-	-
Power Generators	-	-	-	2,000	-	-	-	3,200	-	-
Security Systems	-	-	-	-	1,000	-	-	-	-	1,500
Total Cost	**8,215**	**8,535**	**8,875**	**11,395**	**9,970**	**9,595**	**13,655**	**14,270**	**11,880**	**13,945**

Table 2: Example: Calculation of Whole-of-life (i.e. Project) Cost

Year	Capital Cost (PGK Mn)	Annual O&M Cost (PGK Mn)	Total Annual Cost (Nominal)	Discount Factor (5% pa)[1]	Real Cost (PGK Mn)

[1] 5% discount rate is used for example purposes only. PPP Centre will advise on the discount rate to be used

			(PGK Mn)		
2025	5.00	8.215	13.215	1.00	13.215
2026	5.00	8.535	13.535	1.05	12.890
2027		8.875	8.875	1.1025	8.050
2028		11.395	11.395	1 .1576	9.844
2029		9.970	9.970	1.2155	8.202
2030		9.595	9.595	1.2763	7.518
2031		13.655	13.655	1.3401	10.190
2032		14.270	14.270	1.4071	10.141
2033		11.880	11.880	1.4775	8.041
2034		13.945	13.945	1.551	8.991
Project Cost					**97.082**

Estimated Whole of Life Project Cost is PGK 97.082 Mn

(ii) Service Outputs

The service outputs in a PPP project are the services that the PPP contract agreement specifies that the Private Sector Partner is to provide day-in-day-out over the period of the contract.

These service outputs are provided either directly to the public or to the Relevant Public Body. All revenues received by the Private Sector Partner are for the provision of these services. These service outputs must be able to be specified clearly and be measurable and relate solely to the Private Sector Party's activities.

Examples of service outputs are:

a. Water Treatment Services PPP

Typically, the Private Sector Partner will design, build, operate and maintain the Water Treatment Plant. There are commonly two key services provided in these types of PPP projects:

i. Actual water provided: X ML per day of water treated to the specified quality provided to the designated receival point in the Eda Ranu water distribution system; and

ii. Availability of water supply: capacity to provide daily 1.5X of water treated to the specified quality if required by Eda Ranu.

Payment is made by Eda Ranu to the Private Sector Partner for provision of these services.

b. Hospital Services PPP

Broadly, there are two types of hospital services PPPs. In the first, the Private Sector Partner designs, builds, operates and maintains a public hospital. Here, the key service outputs will relate to the number of patients treated, the various range of treatments provided and the quality of these services. Payment is made by the Department of Health to the Private Sector Partner for the provision of these medical services.

In the second, the Private Sector Partner designs, build and maintains a public hospital. Here, the key service outputs relate to ensuring the ongoing availability, day-in-day-out, of the hospital for use by the Department of Health for provision of medical services. Payment is made by the Department of Health to the Private Sector Partner for the provision of these ''availability" services.

c. Airport Services PPP

Typically, the Private Sector Partner assumes the operation of an existing airport and the right to receive revenues in return for expanding and upgrading the airport.

The key services provided by the Private Sector Partner are the operation of the airport to allow commercial airlines to move passengers and cargo through the airport. Generally, it will receive its revenue directly from users.

(iii) Project Risks

Inherently, all projects contain risks. By that we mean that an event may occur during the life of a project that will cause project circumstances to differ from those assumed when forecasting project benefits and costs. Typically, if a risk eventuates, there will be cost and/or time impacts. Examples of project risks include:

- Site risk: relates to the project land and includes matters such as the costs of purchase or obtaining access, obtaining planning and environmental approvals, resettlement, excavation etc;
- Design risk: relates to the ability of the chosen design (construction, technology etc) to be able to provide the contracted service outputs as well as to meet all statutory requirements;
- Construction risk: relates to the building of the infrastructure and its ability to be used sustainably over time to provide the service outputs as well as meeting all statutory building requirements;
- Operating risk: relates to the method of operation of the infrastructure to meet the contracted service outputs sustainably over the period of the contract;
- Demand risk: relates to the usage of the facility and whether its actual usage is different to that forecast, either in quantity or type of user;
- Legislative risk: that a future legislative change may impact the project. For instance, to require different water quality standards or to change fire safety requirements;

- Financing risk: that the Private Sector Partner is unable to raise and/or maintain sufficient finance on the terms assumed at Contract Execution both contractually and in their Base Financial Model;
- Foreign exchange risk: that either (i) foreign exchange rates change significantly to increase the cost of imported project equipment & materials or lower the value of project revenues available to service offshore project finance or (ii) foreign currency restrictions impact the ability to import necessary project equipment and materials or the servicing of offshore project finance;
- Industrial Relations risk: that the workforce takes action, either during the construction or operations stage of the project, to secure better conditions; and
- Force Majeure risk: relates to that category of risk whose occurrence is beyond the control of both Government and the Private Sector Partner. Often referred to colloquially as "Acts of God".

The risks listed above are discussed here at a very high level only and are a sub-set of those that need to be considered in PPP projects but do provide examples of key risks that arise in PPP projects.

A primary purpose of a PPP Project Agreement is to set out the allocation of these risks between the Relevant Public Body and the Private Sector Partner.

In some PPP projects, there may be scope for Government to obtain a better value for money outcome by seeking to transfer specific project risks to the Private Sector Partner if that Partner can manage the risk more effectively than Government.

Section D. 2 'Risk Management' and Annexe 5 "RfP Documents" of this Guideline provides some further discussion of project risks.

Annex 2: Pre-Feasibility Study

Introduction

This Annex looks at:

1. when the undertaking of a pre-feasibility study may be warranted;
2. differences between pre-feasibility and full feasibility studies; and
3. contents of a pre-feasibility study

Key messages made in this Appendix about pre-feasibility studies are:

- a pre-feasibility study is not required for all projects;
- given its narrower scope and/or higher-level nature, the time and cost to undertake a pre-feasibility study will be significantly lower than for the undertaking of a full feasibility study;
- an assessment in a pre-feasibility study of whether a project is suitable for PPP procurement needs to consider also whether PPP procurement is likely to lead to a better value for money outcome for government than use of a more traditional procurement method ("Traditional Procurement") – as set out in Annexe 8; and
- there is no uniform table of contents for a pre-feasibility study.

1. When should a Pre-feasibility Study be undertaken?

For many projects, the major issues for assessment and the project options can be readily identifiable from the Initial Assessment analysis, including whether the project is suitable or not for PPP procurement. Generally, these projects can proceed directly from Initial Assessment to full Feasibility Study.

However, where some of these major issues are not clear, the undertaking of a pre-feasibility study may be warranted.

The objective of a pre-feasibility study for a PPP project will vary from project to project but may be to:

1. examine specific issues (e.g. legal, financial, stakeholder) to determine whether a full feasibility study is warranted; or
2. narrow down the range of project options to a workable number for detailed assessment; or
3. assess whether PPP procurement of the project is likely to provide better value for money for government and, if so, filter the range of PPP models to be assessed in a full feasibility study; or
4. consider some or all of these matters.

A pre-feasibility study is not required for all projects.

2. Differences with a full Feasibility Study

A full feasibility study needs to address in detail the full range of legal, technical, economic, environmental, social, financial and implementation issues that may impact the feasibility of the project. Annexe 3 looks at the typical content matters considered in a full feasibility study.

In contrast, a pre-feasibility study does not need to be as comprehensive in its coverage of content areas and can be focused on those areas where preliminary study is required. In addition, in a pre-feasibility study, the general content areas that are covered are addressed in significantly less detail; accordingly, the designs, costings, economic assessment, environmental assessment etc are at a higher (i.e. less accurate) degree of estimation.

A project's legal feasibility, however, would typically be addressed in a PPP pre-feasibility study. This would include confirmation that the proposed public counterparty (e.g. SOE, government department, provincial or local government) to a PPP contract would have the legal powers to enter into such a contract. For some projects, legislative change may be necessary to provide the Government with the powers to undertake the PPP project[2]. It is important to identify any required legislative or regulatory changes early in the project development cycle.

Some pre-feasibility studies can be relatively broad, covering most of the content areas looked at in a full feasibility study, although in less detail. Examples of scenarios for the undertaking of such studies include projects where

- government has relatively little experience in that type of project and wishes to increase its understanding to determine whether to pursue the project further, and in what form
    - e.g. new technologies, such as solar power or wind power; or
- the scope is quite broad and needs to be narrowed
    - e.g. how many towns to include in an infrastructure project; or
    - e.g. the range of potential technical project options for meeting the government's project objectives.

In contrast, some pre-feasibility studies can have a narrow scope, for instance

- focusing singularly on a consideration of whether PPP procurement is likely to provide better value for money and/or identification of the range of PPP models that warrant detailed assessment in a full feasibility study; in most instances, the pre-feasibility study will identify a preferred PPP model or a short-list of preferred models. This narrow focus can arise for a number of reasons, including
    - a full feasibility will be undertaken only if PPP procurement is confirmed as being likely to provide a better value for money outcome; or
    - a full feasibility study on the project has been undertaken recently but did not consider PPP procurement in any or sufficient detail; and

[2] For instance, legislative amendments may be necessary to provide the Private Sector Partner with the power to directly provide services to the community in some sectors or to streamline the employment of specialist foreign staff to work in the facility providing services under the PPP project.

- focusing primarily on assessing pre-identified issues (e.g. of a policy, legal, project site and access, technical or financial nature) that potentially could render the project infeasible. A full feasibility study will be undertaken subsequently only if the pre-feasibility study identifies that those matters are resolvable in a way that meets the government's objectives for the project.

Some of the broad pre-feasibility studies may be undertaken at desktop level whilst narrower studies most likely will require field work, including discussions with key stakeholders. For instance, a pre-feasibility study that is considering the likelihood of PPP procurement offering better value for money will invariably require the undertaking of a market sounding with players active in that market or similar markets.

Given its narrower scope and/or higher level nature, the time and cost to undertake a pre-feasibility study will be significantly lower than for the undertaking of a full feasibility study.

3. Contents of a Pre-Feasibility Study

As indicated above, the scope of a pre-feasibility study can vary significantly.

An assessment of the likelihood of PPP procurement providing better value for money to government than use of more traditional procurement means, as set out in Annexe 8 will be core to all PPP pre-feasibility studies.

However, the other contents of a pre-feasibility study will depend upon the objectives of the study and the specific issues that warrant the undertaking of a pre-feasibility study for that project.

Accordingly, there is no uniform table of contents for a pre-feasibility study.

Annex 3: Feasibility Study

A INTRODUCTION

The purpose of this section is to provide further guidance for the delivery of a feasibility study. In the context of the PNG PPP framework, the purpose of a full feasibility study is threefold:

1. to assess the project's viability, by estimating its financial revenues and costs and its economic costs and benefits, and identifying whether there are material impediments (e.g. land, legal, stakeholders) to the successful undertaking of the project;
2. to identify the preferred project option for meeting the project's objectives and to identify its key features, such as (i) proposed infrastructure and service outputs (ii) size and capacity (iii) location (iv) budgetary costs and funding arrangements (v) project risks (vi) environmental and social impacts and (vi) project implementation arrangements; and
3. to assess the merits of different PPP models in delivering the preferred project option and to confirm, or otherwise, the suitability of PPP procurement.

In some cases, the PPP Project Team may recommend to the PPP Steering Group that the project be subject to a pre-feasibility study to determine whether a full feasibility study is warranted, or to narrow down the range of project options or the PPP models to be assessed in a full feasibility study. This will be a prudent step if the PPP Project Team has significant doubts over which project options and/or PPP models should be subject to detailed assessment.

Whilst the undertaking of a pre-feasibility study will consume time and money, it will be time and money well-spent if it results in:

(i) not proceeding with a full feasibility study for a project that is ultimately judged as being either not feasible in its current form or is unlikely to lead to a bankable PPP project; or

(ii) a more efficient and targeted set of terms of reference for a full feasibility study; this may regain most the time and money spent on the pre-feasibility study.

If the PPP Project Team is of the view that the project would benefit from the undertaking of a pre-feasibility study, it will make a recommendation to the PPP Steering Group and provide draft terms of reference, a robust estimate of both budget and time and proposed arrangements for the engagement of consultants to undertake the study.

Irrespective of the delivery of a pre-feasibility study, a feasibility study has to be delivered for any prospective PPP as an essential condition for a green light decision to launch a PPP tender. The feasibility study is typically prepared by an independent team of consultants. The

PPP Project Team will manage the consultants as they undertake the study and provide regular progress reports to the PPP Steering Group, request advice as necessary and act on any directions given by the PPP Steering Group.

At the conclusion of the study, the PPP Project Team will submit the feasibility study – along with a covering submission and updated project management plan – to the PPP Steering Group for a decision as to whether the project should proceed to PPP procurement and, if so, the details of costings and the PPP model to be used.

B IMPLEMENTING PRINCIPLES

In line with international practices the following implementing principles apply to the adequacy and suitability of a feasibility study and or corresponding project studies for a prospective PPP arrangement:

1. Comprehensive: The project studies need to address all relevant considerations and implications to adequately inform the decision makers on the attractiveness, suitability and viability of the proposed project and its recommended mode of delivery. This particularly must capture the envisaged PPP's value for money and the affordability and bankability of the proposed arrangement. The different feasibility considerations can be assessed in different documents and/or by different experts though together the project studies are to provide a comprehensive and unified picture.
2. Cohesive: Given the multidisciplinary character of the necessary project studies for providing a comprehensive overview of the relevant decision support information, it is important to ensure that the different elements and its findings and recommendations are presented in a cohesive manner. That is, such that the assessment provides a well-fitted, integrated, unified, and aligned brief of the project. This can be a particularly challenging condition as inputs will typically come from a broad range of experts with different perspectives and background.
3. Coherent: If an argument, set of ideas, or a plan is coherent, it is clear and carefully considered, and each part of it connects or follows in a natural or reasonable way. In other words, a feasibility study is to represent a logical and well-structured and reasoned analysis of the project initiative, preferably in accordance with a predefined template as provided in this guidance.
4. Evidence-based: The appraisal underlying the recommendations for the investment and procurement decision will require a broad range of assumptions, mostly with a forward-looking perspective. Such assumptions are to be substantiated to the extent possible with supporting evidence and/or expert judgement. Footnotes with corresponding references are essential to allow for verification of the different assumptions. Alternatively, the study could include a schedule of assumptions with respective sources and or references.
5. Accurate: Aside from the necessary substantiation of the various assumptions, the applicable calculations have to be transparent, consistent and in accordance with corresponding standards or recognized methodologies. Black box analysis where only

inputs and outputs are observed is to be avoided. The assessment should clearly stipulate with minimal technical jargon how calculations have been made to ensure that the conclusions can be adequately verified, understood and deduced.

C LEGAL REQUIREMENTS

The following provisions of the PPP Regulations underly the further guidance for preparing and delivering a feasibility study for a PPP arrangement.

Schedule 1, article 3: Project Studies

(1) The PPP Steering Group shall establish a Project Team to manage the project.

(2) The Project Team shall consist of persons with the skills, knowledge and experience relevant to the project and shall include the following members; -

a) a person nominated by the PPP Centre, who shall lead the Project Team; and
b) a person nominated by the Relevant Public Body whom the project is of interest to; and
c) such other persons, in the opinion of the PPP Steering Group, has the necessary technical skills required.

(3) The PPP Steering Group may co-opt advisers to assist the Project Team in the discharge of its functions.

(4) Where necessary, the PPP Centre shall issue such procedures, guidelines and instructions with respect to the Project Team.

(5) A project study, or studies as appropriate, must be undertaken to determine the feasibility of the project and to confirm its suitability, or otherwise, for PPP procurement.

(6) The Project Team shall make a submission to the PPP Steering Group seeking approval for the undertaking of a project study. The submission shall include the study's proposed terms of reference and budget estimate for consultancy services.

(7) Where the PPP Centre considers that the initial assessment report clearly indicates suitability for PPP procurement, the submission shall recommend that the project proceed directly to the undertaking of a feasibility study. In other cases, the submission shall recommend that a pre-feasibility study be undertaken to assess whether the project warrants the undertaking of a PPP feasibility study. The PPP Centre shall provide such guidelines on the undertaking and reporting of pre-feasibility and feasibility studies, including the areas to be covered in these studies.

(8) Following approval by the PPP Steering Group of the study and its terms of reference, and the securing of funding for the study, a tender process shall be undertaken to engage consultancy services to prepare the study.

(9) The approval of the PPP Steering Group shall be obtained prior to the appointment of the consultant(s) to undertake the study.

(10) The Project Team shall report to the PPP Steering Group on the study's progress at key milestones, and at other stages as necessary, to allow the PPP Steering Group to provide guidance or direction to the Project Team.

(11) Upon completion of the study, the Project Team shall submit recommendations to the PPP Steering Group which will include; -

a) for a pre-feasibility study, whether the project warrants the undertaking of a feasibility study; or
b) for a feasibility study, whether the project is feasible and whether it is suitable for PPP procurement under the Act.

(12) The PPP Steering Group shall consider the Project Team's recommendations and determine its own recommendations to be put to the National Executive Council and the recommendation to be submitted by the PPP Steering Group shall include the proposed key service outputs, technical, commercial and financial terms of the PPP and have regard to the guidance produced by the PPP Centre on the undertaking and reporting of pre-feasibility and feasibility studies.

(13) If the PPP Steering Group endorses that the project should not be procured as a PPP, the project shall be de-registered from the register of projects;

(14) Where the PPP Steering Group endorses the project to be procured as a PPP, the National Executive Council approval is required for the project to be undertaken as a PPP and funding shall be confirmed for the project and secured for the transaction process.

D CONTENTS

As will be further detailed in the following sections, the following are the minimum required contents of the Feasibility Study:

1. Strategic Needs Assessment
2. Technical Feasibility
3. Economic Feasibility
4. Procurement Option Assessment
5. Commercial Feasibility
6. Fiscal Feasibility
7. Environmental and Social Impact Assessment
8. Legal Due Diligence
9. Risk Analysis
10. Project Implementation Strategy
11. Conclusions

1. Strategic Needs Assessment

The Strategic Needs Assessment provides the strategic and policy context for the project. As such it builds on the Initial Assessment and includes the following elements:

(i) Project Rationale

The Project Rationale refers to the major need/problem that the project is intended to address. The objective is to provide a clear description of the problem identified, any underlying causes and their relation in order to assess that the project is relevant for the purpose of addressing these problems.

(ii) Strategy Contribution

Indicate how the project will contribute to the achievement of the government's strategic agenda and the goals and objectives of the competent body. Reference is to be made to the government's goals as set out in the statements of Government Strategy, Ministry goals and departmental objectives as set out in ministerial and or sectoral development plans or other official reports or policy papers. For local projects the compliance with local government/regional development strategy should likewise be demonstrated.

(iii) Demand Analysis

Demand forecasts for the service must be conducted. The demand forecasts refer to the demand volume (initial volume and growth rate), the willingness to pay (price) and, in the case of services to private users, the price elasticity of demand. Where relevant, the impact of the quality of the service on the volume of demand and the willingness to pay has been determined. The demand analysis will be an essential input for the output specifications i.e. the capacity of the infrastructure required to accommodate the future demand and thus the cost estimates, as well as the commercial feasibility, the economic feasibility and the fiscal feasibility.

2. Technical Feasibility

The Initial Assessment may be based around a preferred meeting of the identified need. However, a robust identification and assessment of alternative project options is needed to ensure that the best option is selected. A Project Options' Analysis, where the different options are compared, can be done through a Multi-Criteria Analysis or a Cost-Effectiveness Analysis:

- Multi-Criteria Analysis establishes preferences between options by reference to an explicit set of objectives that the decision-making body has identified, and for which it has established measurable criteria to assess the extent to which the objectives have been achieved. This analysis can include both quantitative and qualitative criteria in the evaluation of an alternative. In some cases, the quantitative criteria may be the result of qualitative factors.
- Cost-Effectiveness Analysis relates the cost of an alternative to a measure of project objectives (or, in other words, to its key outcomes or benefits). For example, dollars per time saved on various public transportation systems.

The Technical Feasibility further reviews the recommended option from a technical perspective, which should include at least the following:

(i) Technical Requirements

Technical requirements refer to output specifications and performance standards. Complete output specifications of the project must be defined and developed. These items describe in general terms the required services of the project and the proponent. These are comprised of:

- minimum specifications of the project assets;
- minimum performance standards of the project services; and
- minimum condition of the project assets at the end of the PPP agreement (handover to government).

For each element of the project assets the required capacity, minimum dimensions, functional specifications and quality standards have to be specified. The specifications must be expressed in measurable terms, so that their compliance can be verified. The estimated timetable for the construction work and the provision of equipment must also be indicated.

The minimum performance standards and specifications of the project services must be developed, specifying:

- availability and quality requirements;
- performance indicators to measure compliance with the availability and quality requirements; and
- monitoring system for measuring the performance indicators.

(ii) Reference Design

The project design and construction requirements are one of the most important inputs to the feasibility analysis. Preparing these requirements is a very demanding task. The most common approach is to prepare a reference design based on the technical requirements. Based on the reference design, materials and their quantities can be determined providing inputs for the cost estimates and consequently the economic and financial appraisal.

(iii) Site Assessment

The project site/alignment should be defined and shown on maps. It must also be shown that compliance with relevant national, provincial and district spatial plans have been assessed, and that location permits / cooperation of municipal governments can be secured.
The requirements for the use of existing government assets (land, existing infrastructure, etc) must be identified for purposes of examining the legal feasibility of their use by the private partner.
The preparation/completion of the land acquisition and resettlement plan must be included as well as discussions on activities to be undertaken to achieve completion (see also the requirements for the Social Analysis below). Further details on Land Availability are described in section D.1.

(iv) Technical Risks

There is also an unavoidable level of uncertainty in much of the financial data estimated during the design of the technical requirements. This could lead to severe misinterpretation of the results of the feasibility exercises that use this information. To account for this uncertainty, the costs need to incorporate risk allowances so as to reflect, as accurately as possible, the private sector's perspective on the project's financial description. This can be accomplished by adding an expected risk value on top of the estimates, which will be the fundamental input to the economic and financial analysis, described below. The simple approach to this risk adjustment is to calculate the value to be added by multiplying the probability of a certain additional cost by its financial impact.

If suitable reference projects exist, then the risk analysis of the reference projects may be used as an indication of the risks of the present project. If no suitable reference projects exist, a project-specific risk analysis must be prepared.

A project specific risk assessment and mitigation plan must also be included. This plan will indicate for every risk which actions can be undertaken to reduce the probability of occurrence and to mitigate the adverse consequences if the risk occurs.

(v) Cost Estimates

Cost estimates must be prepared, as input for the economic and financial analysis. The estimates should include all relevant costs for the project:

- costs of the construction or procurement of the project assets;
- costs of land acquisition;
- costs of measures to prevent or mitigate social and environmental impacts;
- costs of operation and maintenance during the lifetime of the project.

The cost estimates must be well-documented and prepared according to good industry practice. Sources from which the estimates were based must be referenced, and calculations clearly explained.

If suitable reference projects exist, then the costs of the reference projects may be used as an estimate of the costs of the present project. If no suitable reference projects exist, a project-specific cost estimate must be prepared, for instance by an elemental parametric method on the basis of the reference design.

The cost estimates must take into account the specific characteristics of the project, such as remote location, difficult site conditions and local availability of inputs (human resources, raw materials, support services, etc).

The cost estimates have uncertainty margins of at most +/–30% and must include allocations for project-specific (e.g.construction) risks.

Common Pitfalls in Cost Estimation

- Costing methods are unclear, resulting in unreliable cost estimates.
- Unit prices are undocumented, so that their relevance and correctness for the project being appraised cannot be ascertained.

- Cost margins for contingencies are forgotten, or their basis is unclear.
- No sound and project specific assessment and quantification of construction cost risks has been conducted, possibly resulting in a large underestimation of costs.
- Estimation of O&M costs is based on existing service levels which are of lower quality and/or quantity than sought by the project

3. Economic Feasibility

The most refined form of economic analysis is the Cost-Benefit Analysis methodology. It assesses the social cost-benefit equation, in which the benefits for society have to be higher than the costs to the public for the project to be worthy of proceeding. It is an exercise that aims to include all relevant costs and benefits. This is done with a long-term perspective, projecting both costs and benefits through the analysis period. The period considered has to be in line with the useful economic life of the infrastructure asset. A CBA can be applied to both economic infrastructure such as transport or utilities, and social infrastructure such as health care and education, although it is more limited in its ability to quantify benefits of social infrastructure. A positive CBA will be a requirement for any development partner to provide financial support to an economic infrastructure project, while social infrastructure projects typically also incorporate qualitative considerations.

The Economic analysis is based on the following building blocks[3].

(i) Cost Estimates

The costs of the project must be estimated (expressed in constant price level). These include:

- the costs of the construction or acquisition of the assets;
- the costs of mitigating and compensating measures;
- the loss of the present function of the land that will be occupied by the project (the land acquisition costs may be used as a proxy);
- the maintenance and operating costs; and
- any other costs that are caused by the project.

The costs may be determined through comparison with the "do nothing" alternative; in so doing, only costs that occur in the project but not in the "do nothing" alternative are included.

The costs should be measured by their economic value or opportunity cost. Where appropriate, financial prices must be converted into economic prices or shadow prices. This may, for instance, be the case for unskilled labour (shadow wage factor) and imported goods that are valued at border prices (shadow exchange rate factor).

[3] Given the complexity of the CBA, it is recommended that such an analysis is done by a subject matter expert taking into account the respective sector and following international good practice.

The cost estimates must be documented and explained. The sources of cost data should be indicated, assumptions to be motivated and calculations to be explained. The explanation of the cost estimates may refer to the cost estimates in the technical study.

Important costs for which no reliable quantitative estimates can be made (for lack of data or calculation models) may be described in qualitative terms, so that they can be taken into account by the decision-maker.

(ii) Benefits

The benefits of the project should be estimated (expressed in constant price level). The value of the benefits may be derived from the willingness to pay for the services delivered by the project or the cost savings realized by the users of the project compared to the 'do nothing' alternative.

The estimates of the benefits must be clearly documented and explained. The sources of data are indicated, assumptions are motivated, and calculations are explained. With respect to the assumptions on the demand volume (an important factor of the value of the benefits), the explanation in the cost-benefit analysis may refer to the demand study.

Important benefits for which no reliable quantitative estimates can be made (for lack of data or calculation models), as is the case in most social infrastructure projects, may be described in qualitative terms, so that they can be taken into account by the decision-maker.

(iii) Assessment of Economic Feasibility

The net present value of the stream of costs and benefits during the lifetime of the project should be calculated (economic net present value or ENPV). Future costs and benefits may be converted into their present value using the social discount rate.

The economically preferred project alternative should be clearly indicated. The preferred project alternative is the alternative with the highest ENPV, provided that this ENPV is greater than zero (otherwise the 'do nothing' alternative is the preferred alternative). If there are important costs and benefits that have not been quantified (because the required data and calculation methods are not available), then these should be taken into account in addition to the ENPV in the judgement on the preferred alternative.

For purposes of presentation, the internal rate of return of the stream of net benefits (benefits less costs) may be calculated (economic internal rate of return or EIRR). The EIRR of the preferred alternative should exceed the social discount rate (otherwise the 'do nothing' alternative is the preferred alternative).

In most countries the social discount rate or minimum required economic rate of return is provided through the Public Investment Management Framework. Such a framework does not exist yet in PNG. In the absence of more specific project appraisal guidelines and target rates of return developed by the Government of PNG, the standard applied by many development partners can be considered. This standard stipulates a minimum real economic rate of return of 9%. This will also imply that any PPP project that complies with this threshold is eligible for financial support or otherwise from the main development partners including World Bank and Asian Development Bank and be it private sector support or be it public sector support.

As indicated above, full calculation of economic benefits can be difficult for social infrastructure projects (e.g. hospitals, schools, correctional facilities). As such, a negative ENPV does not necessarily mean that a project is not worthwhile. Unquantifiable benefits need to assessed also in the consideration of a project's economic feasibility.

(iv) Sensitivity Analysis

A sensitivity analysis should be conducted in order to assess the effect of (i) uncertainty about important assumptions in the calculation of costs and benefits and (ii) project risks (refer to the section on risk analysis below) on the economic feasibility of the project. The usual sensitivity tests include:

- increase of costs by the uncertainty margin of the costs estimate (usually around 20%);
- low demand scenario; and
- any important project risks that have been identified in other parts of the feasibility study (for instance, delay of the project implementation due to permitting procedures).

4. Procurement Option Assessment

To assess whether a project would be more efficiently implemented under a PPP scheme or under some other procurement method, from the perspective of the procuring authority and considering the broader interests of society, a Value for Money (VfM) analysis should be undertaken.

For this purpose, the FS is to identify likely PPP structures which should comprise the following:

- scope of activities to be carried out by the private partner (by project phase – finance, design, build, rehabilitate, operate, maintain);
- outline of output specifications;
- outline of remuneration mechanism;
- key responsibilities of the public partner;
- project risk allocation matrix;
- utilization of government property (land, assets, goods);
- duration of the PPP contract;
- the status of ownership of the asset during the length of PPP agreement and the transfer of assets at the end of the PPP agreement; and
- government participation in the private implementing entities (if any).

The Procurement Options' Assessment involves a comparison of these procurement models, and the most likely traditional procurement model. This can be undertaken via a qualitative approach as outlined in Annex 8. This identifies the most likely PPP model options and

traditional procurement options and undertakes a comparative assessment using criteria derived from the Government's objectives for the project. Market testing is undertaken to inform this comparative assessment. This outcome of this assessment is the recommended procurement option, which may be a PPP model or the traditional procurement option. This assessment should be informed by PPP model market testing (see below).

Potentially, where the recommended procurement option is a PPP model, a value for money (vfm) quantitative analysis can be undertaken to confirm (or not) that PPP procurement is likely to deliver a better vfm outcome for government.

The quantitative approach requires significant data to construct a shadow bid (i.e the likely cost of a private sector PPP bid) and a Public Sector Comparator (i.e. the likely cost of delivering the project using traditional public procurement). For this purpose, the vfm analysis can involve the following steps:

1. Assess the Value of the Shadow Bid
2. Adjust the Shadow Bid for Taxes
3. Assess the Premium for Private Finance
4. Assess the Value of Time Overruns
5. Assess the Value of Cost Overruns
6. Assess the Values of Efficiency Gains
7. Adjust for Difference in Transaction Costs
8. Compare the PSC with the PPP
9. Analyse the sensitivity of the results
10. Conclude on the value for money analysis

Market Analysis

The likely market interest from potential bidders and lenders for the proposed PPP project should be assessed. The purpose of this exercise is to inform the commercial structuring of the PPP project and, in some cases to influence the form of the PPP model, to increase its interest to the market whilst still meeting the Government's project objectives.

If similar projects have recently been carried out as a PPP in the Pacific Region or elsewhere, then these may be used as evidence of the market interest, it may be assumed that the proposed project will attract the same types of and similar number of bidders. The market analysis must demonstrate that any (limited) differences in circumstances between the reference projects and the proposed PPP project will not have a major impact on market interest.

If no suitable reference projects exist, then the market interest must be ascertained by conducting project-specific market consultations of prospective bidders and of financial institutions (national and also international where relevant, i.e. in the case of large projects with sufficiently high funding requirements to be attractive for foreign lenders, or projects in sectors that are known to be of interest to foreign bidders and contractors).

In market consultations, the views of prospective investors on the feasibility and the risks of the project and the need for government support or guarantees are collected and assessed, including the views of financial institutions on their willingness to finance the project and on the potential amount of loans that may be granted to the project. The evidence collected in

these assessments will reflect whether there is a sufficient degree of market interest to ensure a competitive tender process for the project. If not, and strong government interest in pursuing PPP procurement remains, then strategies have to be developed to increase market interest for the project.

Common pitfall in market analysis

- The market consultation is too superficial and often goes not much beyond the observation of a few indications that the market is interested to invest in the project.
- lack of preparation (collection of background information) and lack of detail in the formulation of questions, so that the data collection has a low payoff;
- lack of assessment of the market's view on the revenue potential of the project and on the proposed business model;
- lack of assessment of the market's confidence in the capability and reliability of the counterparty, and of the market's willingness to conclude contracts with the counterparty;
- lack of an assessment of the market's risk perception and preferred risk allocation; and
- market assessment being undertaken by inexperienced practitioners.

5. Commercial Feasibility

A preferred procurement options will arise out of Section 4's analysis. For the purposes of assessment of commercial feasibility (Section 5) and fiscal feasibility (Section 6), it is assumed that a recommended PPP model has been identified.

From the financial perspective, a project or contract is considered to be feasible when the expected revenues (inflows) under a reasonable scenario are considered to be sufficient to cover all expected costs (outflows), that is, all operation and maintenance costs, financial costs (interests), taxes, payback of debts, and payback of the invested equity with a reasonable return.

The purpose of the commercial feasibility exercise is different depending on the revenue regime assumed.

- In the case of the user-pays revenue regime, the analysis will be focused on evaluating the project's capability to raise funds (that is, the existence of a financial surplus after covering the current costs), the capability of such free cash flow to service debt and equity in order to fund the capital expenditure needs, and (if desired by the government) the ability of the SPV to pay a concession fee to the government;
- When the project is not financially self-sustainable, the exercise estimates the amount of public resources that will make the project commercially feasible. Different alternatives for government support should be considered, including direct government payments to the project company; and
- In projects that do not include user charges in the revenue mix, such government contributions are directly estimated.

The commercial feasibility must be assessed from two different points of view: lenders (the debt providers) and investors (the equity providers).

(i) The Lender's Perspective (Bankability)

The key aspect of the lenders' concerns is the capacity of the project company to repay its debt on the agreed schedule.

To measure this ability, lenders usually define some criteria to judge a project's bankability. Some of these criteria are the stability of project revenues, the ability of shareholders to provide collateral security (especially during the Construction Phase), and, particularly relevant to this section, the ratio between the cash resources generated by the project and the total amounts required to service debt.

The most common ratio required by financial institutions is the Debt Service Coverage Ratio (DSCR). This ratio indicates the extent to which a project's operating profits cover debt service obligations in each year during the life of the contract. This ratio helps potential lenders determine the credit risk associated with the project. A higher Debt Service Coverage Ratio means that there is more operating surplus to cover debt service payments, and therefore less risk for lenders. Investors and lenders will expect a higher ratio in sectors that are perceived as risky.

(ii) The Investor's Perspective

For an equity investor, a project must be both bankable and provide an acceptable return for the risk of the investment. The two most common techniques used to assess the commercial feasibility, from the investors' perspective, are the calculation of the Net Present Value, based on the discounted equity cash flow, and the internal rate of return of the equity cash flow. Both techniques are based on the assumption that, for a project to be considered commercially viable, the investment must provide a return over time for at least as much as an alternative and comparable investment.

For the purpose of the Commercial Feasibility Assessment, a financial model must be prepared. This will include:

- projection of project investment and operating cash flow over the duration of the PPP agreement;
- modelling of the financing structure, including at least equity, subordinated debt and senior debt;
- projection of financing cash flow on the basis of the financing structure;
- modelling of cash waterfall;
- projection of income statement and balance sheet; and
- calculation of key financial ratios, including at least gearing, return to shareholders, FIRR and Debt Service Coverage Ratio (DSCR).

Only the expenses borne and revenues earned (expressed in nominal terms) by the PPP contractor are included in the financial analysis. The estimates and forecasts should be clearly documented and explained. The sources of data should also be indicated, and assumptions and calculations explained. Where appropriate, the documentation may

refer to the cost estimates in the technical studies and to the demand forecasts in the demand study. Financing conditions and terms may be benchmarked through consultation of market parties (investors and lenders) or comparison with recent, similar projects. Assumptions on macro-economic variables (exchange rates, inflation) are based on data and forecasts of authoritative institutions (reputable banks or international banks in operation in PNG).

The financial internal rate of return (FIRR) should be indicated. The FIRR is the internal rate of return of the stream of net project cash flows of the PPP contractor (revenues less expenses) and should exceed the Weighted Average Cost of Capital (WACC). The WACC must be determined on the basis of assumptions on the gearing ratio, interest rates of loans and required return on equity. The assumptions should be clearly documented and based on published market data (return of listed firms in the appropriate sector) or findings from market consultations.

Where appropriate alternative revenue structures must be developed and assessed. The revenue structure should include:

- determination of the charging base (usage volume, availability);
- differentiation of tariff in function of quality, user category or usage volume (banding);
- initial tariff;
- periodic adjustment of tariff in function of inflation.

If the project is not financially feasible or if the equilibrium user fee i.e. the user fee required to recoup all costs, exceeds the maximum acceptable level (determined by the contracting authority on the basis of considerations of affordability to users), then options to increase the financial return have to be examined. These may for instance, consist of government support, the removal of some costs from the scope of the PPP contractor (i.e. the costs are borne by the government instead), or the selection of a less expensive project alternative (with smaller capacity, or less expensive technology).

Possible mechanisms for government support include:

- removing part of the investment spending from the scope of the PPP agreement;
- payment of availability fee or service fee to the private partner;
- payment of project subsidies (or viability gap funding / VGF);
- guarantees; and
- tax incentives, among others.

The determination of the need for government support and the analysis of the instrument mix should be performed with a detailed financial model such as described above in the section on the financial analysis. The outcome of the analysis is a specific proposal for government support, indicating instruments, amounts and terms.

Financial sensitivity tests should also be conducted to determine the effect of (i) uncertainty about important assumptions in the calculation of expenses and revenues

and (ii) project risks on the financial feasibility of the project. Usual sensitivity tests include:

- increase of costs by the uncertainty margin of the costs estimate (usually around 20%);
- low demand scenario;
- Any important project risks that have been identified in the other parts of the feasibility study (for instance delay of the project implementation due to permit problems).

6. Fiscal Feasibility

The main objective in performing the fiscal feasibility exercise is to identify the total liabilities assumed by government, direct and contingent, over the entire duration of the PPP contract (. All PPP projects produce some sort of long-term fiscal consequences. Direct liabilities are known and predictable (e.g. when the project is partially or fully funded by the government) whilst contingent liabilities occur only upon the occurrence of a potential future event (e.g. upon the eventuation od specific allocated to the government either explicitly in the contract, in the debt agreements, or by the legal framework).

The table below provides a further description and examples of each of direct and contingent liabilities.

Type	Description	Example
Direct Liabilities (always explicit)	○ Predictable government obligations that are certain and quantifiable ○ Typically fixed contractual payments to be made by the government to a private party	○ Availability payments ○ Milestone payments ○ Output based payments ○ Viability gap payments ○ Other government support schemes
Contingent Liabilities (can be explicit or implicit)	○ Unpredictable government obligations that may be incurred when an uncertain risk event occurs	○ Government guarantees on risk variables including inflation risk or exchange rate risk ○ Government guarantees on demand ○ Force Majeure ○ Termination payments ○ Credit guarantees ○ Compensation payments by the government if the PPP project defaults

(i) Direct Liabilities

As part of the FS, the value of the direct fiscal commitments required need to be estimated. The value of these direct payment commitments is driven by the project costs and any non-government revenues. The value of the direct fiscal contribution required is

usually the difference between the cost of the project (including a commercial return on capital invested) and the revenue the project can expect to earn from non-government sources such as user fees.

The fiscal cost is measured in two ways.

- Estimated payments in each year: The amount that the government expects to have to pay in each year of the contract, given the most likely project outcomes. This is the more useful measure when considering the budget impact of the project; and
- Net present value of payments: If the government is committed to a stream of payments over the lifetime of the contract such as availability payments it is often helpful to calculate the net present value of that payment stream using the appropriate yield on government bonds in PNG or a corresponding approximation. For the purposes of comparing different PPP options, this is the more useful measure as it estimates the likely total cost to Government.

(ii) Contingent Liabilities

Assessing the cost of contingent liabilities is more difficult than for direct liabilities, since the need for, timing and value of such payments are uncertain. Broadly speaking, there are two possible approaches.

- Scenario analysis: Scenario analysis involves making assumptions about the outcome of any events or variables that affect the value of the contingent liability, and calculating the cost given those assumptions. For example, this could include working out the cost to the government in a "worst case" scenario, such as default by the private party at various points in the contract. It could also include calculating the cost of a guarantee on a particular variable, for instance demand – for different levels of demand outturns; and
- Probabilistic analysis: An alternative approach is to use a formula to define how the variables that affect the value of the contingent liability will behave. A combination of mathematics and computer modelling is then used to calculate the resultant costs. This enables analysts to estimate the distribution of possible costs, and then calculate measures such as the median (most likely) cost, the mean (average) cost, and various percentiles (for example, the range of values within which the cost is 90 percent of the time). To be useful, probabilistic models need reliable data from which to estimate the probability distributions of the underlying risk variables.
  - The exercise to assess the ability to accommodate the project within the long-term budget may be done from three different perspectives: Comparing the cash flow of commitments to the government's total projected tax revenues;
  - Comparing the cash flow of commitments to the contracting agency/sector projected budget appropriations; and
  - Assessing the compliance with eventual overall budgetary limits and constraints.

Early Termination Payments

It is to be noted that every PPP project includes a contingent liability related to early contract termination payments. The value of the termination payments under a number of likely default scenarios should be calculated. At least one representative event of contracting authority default, contractor default and force majeure must be included as scenarios.

Typically, early termination payments comply with the following principles:

- contracting authority default: all investors are fully compensated (outstanding debt and equity, required return to shareholders up to the date of termination, breakage costs);
- contractor default: the investors receive the fair market value of the assets, reduced by the costs incurred by the government as a result of the early termination (e.g. costs of retendering); and
- force majeure: the lenders are repaid in full; the shortfall (difference between fair market value of the assets after force majeure and the outstanding value of debt and equity) is shared between the contracting authority and the contractor.

7. Environmental and Social Impact Assessment

Following internationally recognised principles on infrastructure development, the FS is also to include a preliminary environmental and social impact assessment to ensure that the project does not have any material adverse environmental and or social implications. This also follows the principles of the People's First PPP approach as adopted by the UN.

People-first Public-Private Partnerships (PPPs)

People-first Public-Private Partnerships (PPPs) ensure that out of all stakeholders, 'people' are prioritized. Their focus is on improving the quality of life of the communities, particularly those that are fighting poverty, by creating local and sustainable jobs, those that fight hunger and promote well-being, promote gender equality, access to water, energy, transport, and education for all, and that promote social cohesion, justice and disavow all forms of discrimination based on race, ethnicity, creed and culture. People-first PPPs aim to provide more people with access to better services at affordable prices.

(i) Environmental Impact Assessment

The potentially significant environmental effects of the project should be identified, and the requirements for obtaining the necessary environmental permits determined.

A plan and time schedule for obtaining the permits, and the subsequent implementation of the environmental management and monitoring plan must be prepared in accordance with the provisions of relevant laws and regulations.

If needed, a capacity building and training program to implement the environmental protection measures may be included in this plan. The cost of obtaining the permits and the implementation of the environmental management and monitoring plan should be estimated.

At the same time, an environmental impact assessment must also be conducted. It is always preferable to complete this assessment before bid documents are issued, so as to

avoid significant changes being introduced after the submissions have been received. If, however, it is not possible to complete the environmental impact assessment before the issuing of the bid documents, then a credible action plan should be defined to complete the environmental impact assessment in the transaction or implementation phase of the project. If the action plan includes actions that need to be taken by other government agencies, then arrangements have been made in order to obtain commitments from these agencies. If the action plan includes actions that need to be taken by the future proponent, then appropriate provisions have been inserted in the draft PPP agreement. These provisions specify the respective responsibilities of the contract parties, the allocation of the costs of completing the environmental management and monitoring plan, and the consequences if the plan contains unexpected burdensome conditions.

(ii) Social Impact Assessment

The social impact of the project should be identified and assessed. The preliminary social analysis must include:

- identification of the affected communities and parties;
- identification of the parties that will be eligible for compensation;
- extent of the land acquisition and population resettlement required by the project.

At the same time, plans for the compensation and mitigation of the adverse social effects of the project should also be prepared. These plans will include (if needed): (i) an outline of the land acquisition and resettlement plan and (ii) a capacity building and training program to implement the social environmental protection measures.

The costs of the compensation and mitigation plans must be estimated. This includes an estimate of the land acquisition costs (preparation of land acquisition plan and price paid to current owners) and of the resettlement costs (cost of compensations and resettlement measures).

Planning for the execution of the land acquisition should be included, and the agency responsible for preparing the land acquisition plan identified. The resettlement plan must be drawn-up according to relevant regulations.

8. Legal Due Diligence

The feasibility study must demonstrate that the proposed project will comply with relevant legislation, such as:

- administrative law (in particular, the legal authority of the private partner to perform the required public services, the legal basis for the transfer of the usage rights of infrastructure to the private partner and whether the government can delegate provision of the services to a private provider);
- corporate law;
- investment law;
- competition law;
- environmental law;
- spatial plans and zoning regulations;
- land acquisition and resettlement regulations;
- safety regulations;

- sector regulations (such as operating licenses and tariff policies).

All required legal and regulatory permits and approvals must be indicated, legal obstacles and risks identified, and solutions proposed. An action plan may be suggested in order to secure the legal and regulatory permits and approvals, as well as address the legal issues/obstacles and to manage the risks (prevention and/or mitigation). If the action plan includes actions that need to be taken by other government agencies, then arrangements should be made in order to obtain commitments from these agencies. If the action plan includes actions that need to be taken by the future private partner, then appropriate provisions should be inserted in the draft PPP agreement. These provisions should specify the responsibilities of the different contract parties, the allocation of the costs of the actions (if any), and the consequences in case the legal obstacles cannot be removed or the permits cannot be obtained, or only with a delay and/or with unexpected conditions.

The legal authority of the public partner to implement the project must be established and the required institutional arrangements for the implementation of the project must be comprehensively discussed, gaps identified, and recommendations to address these gaps included.

9. Risk Analysis

A risk matrix is to be established providing a comprehensive list of risks impacting the project, containing the following columns:

- name of risk;
- description of risk;
- consequence in case the risk occurs (qualitative description);
- indication of the probability of occurrence (low/moderate/high);
- indication of the consequences on costs or revenues (low/moderate/high);
- grade of risk: product of probability and consequence;
- proposed allocation: public, private or shared;
- proposed management and mitigation measures (at least for the high grade risks); and
- additional remarks (if any).

The information to be supplied in the risk matrix may be collected from other parts of the feasibility study (in particular the legal analysis, the technical analysis, the analysis of user demand, the environmental impact analysis and the social analysis). To complete the information, a risk workshop may be held with key experts of the public partner and the Advisor. Further guidance on risk Management is provided in section D.2 of this PPP Guideline.

Data permitting, the high grade risks may be quantified. A minimal quantification would include: (i) the probability of occurrence of risk, and (ii) the damage, costs or revenue loss in case the identified risk occurs. This allows for the calculation of the expected loss and the maximum loss due to the risk.

For the quantified risks, the impact on the economic and financial viability must be assessed, among others, by applying sensitivity analysis and testing the robustness of the financial returns.

The impact of the quantified high-grade risks on the financial viability of the project and on the need for government support and guarantees may be determined with a detailed financial model such as described above in the section on the financial analysis.

This detailed risk analysis determines the impact of the occurrence of risks on key financial parameters such as return to shareholders, the debt service coverage ratio and the ability to repay debts. In case particular risks threaten the bankability of the project, remedial actions are developed. These may comprise:

- changes in the scope or timing of the project, in a way that avoids risks or reduces their impact;
- risk management measures;
- contingent government support and guarantees that shift some risk to the government so that the residual risk becomes acceptable for investors and lenders.

The detailed quantitative risk analysis should be updated in light of the outcomes of the applications for government support and guarantees. An assessment on the effectiveness of the approved project support package on bankability-threatening risks may also be included.

Common pitfalls in risk assessment

- A project specific risk assessment, in which project specific sources of risk are identified and impacts are quantified, is often lacking.
- Often only cost and revenue scenario is considered, ignoring the uncertainty that characterizes cost and revenue assumptions. No sensitivity analysis is carried out to acquire a more complete picture of the plausible range of cost and revenue developments.
- Risks are often allocated according to a generic, standardized allocation matrix not taking into account the project specific characteristics of the risk factors (such as likelihood, impact on cash flow, degree of control over the risk). Insufficient attention is given to risk experiences in real projects, and to the perception of investors and lenders about risks and guarantees and their impact on the bankability of the project.

10. Project Implementation Strategy

The FS should outline the proposed implementation arrangements for the project. For this purpose, a Procurement Plan is to be developed as part of the FS addressing the main design parameters of the procurement strategy. This will cover matters such as timetable, key milestones, resourcing needs, project governance and strategy for addressing major requirements such as land acquisition and other necessary approvals.

This should also include an assessment of the Public Body's capacity to implement the procurement strategy and, if applicable, to secure the required resources to augment its capacity.

Further details on preparing a Procurement Plan are provided in Annex 10 of this Guideline.

11. Conclusions

The FS should conclude whether:

(i) the project is technically feasible and describe the recommended project option;

(ii) the preferred procurement option and if it is a PPP, the recommended PPP model; and

(iii) the project is financially feasible and describe its costs to government.

Should a PPP model be recommended; the FS should conclude whether

(i) the project services can be defined in stable output specifications that can be included in a long-term contract. In particular:

   a. it is possible to describe the services in clear, objective output- and result-based terms (and not in terms of activities);

   b. the contractual outputs and the required quality of the services can be defined so that they can be objectively measured and assessed;

   c. the output specifications are stable over time, i.e. the probability that there will be large changes in service needs (due to changing circumstances or changes in technology) requiring a change of the PPP contract is small;

   d. the PPP contract does not unduly interfere with the other activities of the contracting authority;

   e. the provisions in the PPP contract with respect to the quantity and the quality of the services delivered by the private partner to the public partner grants sufficient operational flexibility to respond to future needs;

   f. any interfaces between the services performed under the PPP contract on the one hand, and other services or other projects not covered by the PPP contract on the other hand, can be managed; and

   g. if the PPP arrangement necessitates the transfer of public sector staff to the private partner, it will be possible to accomplish this transfer without major problems or resistance.

(ii) the private sector is interested in bidding for the PPP contract, and technically and financially capable of implementing the project. The evidence submitted may, among other, consist of: (i) results of the market analysis and market sounding, and (ii) experience of similar projects in the Pacific Region, or in other countries in similar physical and socio-economic circumstances as the project site;

(iii) there are no policy and regulatory barriers to the implement the project as a PPP. The evidence submitted to confirm this may refer to the findings of the legal analysis;

(iv) the project does not feature large risks (i.e. with a large impact on costs or revenues) that cannot be insured and fall outside the control of both the government and the private sector ; and

(v) the implementation of the project as a PPP is feasible, or alternatively, that the implementation of the project as a PPP is feasible provided that certain optimizations of the scope and structure of the project and/or proposed PPP arrangement are carried out.

(vi) the Relevant Public Body has demonstrated it is capable of procuring the project as a PPP. The submitted evidence may, among other, consist of:

a. experience in the procurement of similar PPP projects in the past;

b. overview of the expertise and experience of the project management team; and

c. actions or committed intentions to augment the technical capacity with external experts and consultants.

E EVALUATION

At the conclusion of the study, the PPP Project Team will submit the feasibility study – along with a covering submission and updated project management plan – to the PPP Steering Group for a decision as to whether the project should proceed to PPP procurement and, if so, the details of costings and the PPP model to be used.

To ensure that the FS provides an appropriate information for decision-making, the PPP Unit will confirm that the following criteria are met:

1. Completeness of the FS
2. Accuracy and reliability of the FS
3. Appropriateness of the FS

1. Completeness of the FS

The FS should include at least the following sections unless any omissions can be motivated:

No	Section of feasibility study	Included (yes/no)	Remarks
1	Strategic Needs Assessment		
a	Project rationale		
b	Strategic and policy context		
c	Demand Analysis		
2	Technical Feasibility		
a	Technical requirements		
b	Reference Design		
c	Site assessment		
d	Technical Risks		

No	Section of feasibility study	Included (yes/no)	Remarks
e	Cost Estimates		
3	Economic Feasibility		
4	Procurement Options Assessment		
a	Market Testing		
b	Qualitative Assessment		
c	Quantitative Assessment		
5	Commercial Feasibility		
a	Bankability		
b	Financial feasibility		
6	Fiscal Feasibility		
a	Direct Liabilities		
b	Contingent Liabilities		
7	Social and Environmental Impact Assessment		
a	Environmental assessment		
b	Social analysis		
c	Plan of land acquisition and resettlement		
8	Legal Due Diligence		
9	Risk Analysis		
10	Project Implementation		
11	Conclusions		

2. Accuracy and reliability of the FS

For each of the sections the following qualification requirements apply:

(i) The assumptions and calculation methods should be comprehensively documented and justified.

(ii) The various parts of the feasibility study should be internally consistent (use of same assumptions where relevant; cost estimates in the technical analysis must correspond to cost inputs in the economic and financial analysis; updates must be applied in all parts of the study so that consistency is maintained).

(iii) The most recent available data should be used (when new information becomes available with a significant impact on the results, the study must be updated while taking care to preserve internal consistency as mentioned in the preceding point).

(iv) If the feasibility study has been made in accordance with the above criteria, then the evaluator or decision-maker can, to a certain extent and even if he/she is not a sector expert, assess the degree of reliability of the study. In particular he/she can verify whether:

- appropriate research methods have been used;
- the study is based on relevant information, i.e. derived from project-specific research or from suitable benchmark projects;
- all reasonable, feasible project options have been considered;
- all relevant impacts, costs and benefits have been examined; and
- the assumptions are up to date, reasonable and realistic.

However, it must be pointed out that the accuracy of assumptions and research methods can never be fully verified by an evaluator that is not a sector or discipline expert. When there are doubts about the quality of all or parts of the feasibility study, a second opinion by relevant sector or discipline experts must be carried out.

3. Appropriateness of the FS

The FS should provide unambiguous confirmation of compliance with the following requirements:

Dimensions/Judgement Criteria	Yes	No
A. Project Rationale and Assessment of Need		
1. The problem or opportunity to be addressed is clearly demonstrated and the way in which the project will help solve the problem or respond to the opportunity is explained and appears plausible.		
2. The description of the scope of the project is sufficiently detailed for the FS stage and there are no obvious omissions of major components that could potentially jeopardize the achievement of the project purpose or materially affect the cost estimates.		
3. There is an urgent need, i.e., within the next 3 years, for the services of the project as evidenced by one or more of the following: • existing demand for a facility close to the end of its economic life or technologically obsolescent; • a severe capacity constraint in existing facilities resulting in suppressed demand; • strongly growing demand, likely to outstrip the capacity of existing facilities in the near future; • demand for new services not previously provided; or		

Dimensions/Judgement Criteria	Yes	No
• Economic benefit from transfer of functions to private operation.		
4. The project will contribute to the achievement of relevant strategic goals and objectives as set out in duly authorized relevant national and or sectoral development plans		
B. Economic Case		
5. The proposed technical solution appears appropriate to the problem identified, and the risk analysis and cost estimates appear realistic and complete, based upon available information.		
6. The postulated project benefits and identification of potential negative impacts appear realistic in the context of this project.		
7. Alternative solutions have been adequately considered, and the preponderance of evidence supports the conclusion that the preferred option is the most advantageous to the country.		
8. On balance, there is good reason to believe that in the preferred option the proposed project costs are likely to be exceeded by the potential benefits.		
C. Assessment of Affordability		
9. Budgetary resources for the implementation of the project are available, or can reasonably be expected to be made available if the project is approved.		
10. Benefits to users are likely to be achievable at an acceptable cost, for example, approximate capital costs per user or per unit of output are in line with comparable projects and/or international experience.		
D. Market Assessment		
11. The market assessment demonstrates that there is private sector interest, experience, and capacity to undertake the project. If there are concerns about the adequacy of any of these factors, a plausible plan is presented to address the concern(s), and is considered in the relevant cost estimates.		
E. Identification of Issues		
12. The FS has identified the relevant technical, environmental social and legal issues, the associated risks, and the costs associated with mitigating those risks.		
13. Affordable and practical mitigation measures are identified for all of the relevant risks.		

Dimensions/Judgement Criteria	Yes	No
F. Summary and Recommendation		
14. The recommendation to proceed to preparing the tender documents is to be supported by the information and analyses included in the FS, which are fully compliant with all regulatory requirements.		

F RESOURCE PLANNING FOR FEASIBILITY STUDY

The resource planning should reflect on the following:

1. Staffing
2. Costs and funding
3. Timeline

1. Staffing

The procuring authority should establish a sufficiently resourced and capable team that will be credible in the eyes of bidders in order to develop the project. The PPP Steering Group will review the PPP Project Team leadership and membership and will facilitate the engagement of expert PPP advisers to assist with the procurement process.

Leadership of the PPP Project Team requires the services of a suitably experienced and capable officer who can devoted the necessary attention to the project. This may be the PPP Centre CEO. However, if there are multiple PPP projects occurring simultaneously and the PPP Centre CEO cannot give sufficient focus to lead both/all projects, another senior officer from the PPP Centre or Relevant Public Body may be appointed PPP Project Team leader. In this case, the PPP Project Team Leader would report directly to the PPP Steering Group, but would consult closely with the PPP Centre CEO to avoid conflicts arising.

Additional officers from the Relevant Public Body, PPP Centre and any other agencies represented on the PPP Steering Group may be added to the PPP Project Team and/or the time dedication of existing team members increased.

Even if the capacity within the organisation is adequate to manage the project development process, a professional firm associated as the technical advisor adds value to the process by:

- Bringing in their experience in similar transactions and protecting against costly, avoidable mistakes
- Providing technical strength to the institution's team
- Bringing legitimacy to the PPP process and placing an external stamp of endorsement on the Government's proposals, increasing investor and public confidence
- Providing an opportunity for knowledge transfer to the institution

There are two main governance options for engagement and management of advisers to undertake the FS. A firm or consortium of firms capable of providing the full range of services is engaged; in this case, these advisers will be co-ordinated by a lead Advisor who

reports to the PPP Project Team Leader. Alternatively, the specialist advisers may be engaged individually with each reporting directly to the PPP Project Team Leader.

The capabilities necessary for an appraisal process as to be reflected in the FS can be divided into five main groups.

(i) Technical:

- In charge of the project's design, with expertise in the type of infrastructure that is the subject of the contract;
- Expertise in the technical aspects of the services involved.

(ii) Environmental:

- In charge of environmental impacts; should provide relevant expertise/ experience in environmental analysis.

(iii) Economic:

- Expertise in economic appraisal, preferably in the same sector/ infrastructure or service type.

(iv) Financial:

- Expertise in financial analysis in the field of user-paid or government-paid PPPs, preferably in the same sector/infrastructure or service type and also knowledge of financing similar PPP projects (when the government needs to develop a bankable structure);
- Expertise in contract risk structuring and payment mechanisms, preferably in the same sector/infrastructure or service type.

(v) Legal:

- Expertise in public law/ administrative framework; and
- Experience in drafting PPP contracts. Although the drafting of the PPP contract will not occur until a later phase, knowledge of PPP contracts will be necessary to enable a proper assessment of the existing legal framework. For a PPP covering existing operations, the legal due diligence will need to look at existing contracts, legal actions, loan contracts, and so on.

2. Costs and funding

Costs for preparing a FS are very much project specific depending largely on the complexity and scale of the project. Small scale straight forward projects tend to cost in the range of US$ 100 to 200 thousand whereas the costs for preparing a FS for complex and large projects can amount up to several millions of dollars. Key costs drivers include the need for technical data gathering such as ground conditions and demand studies.

Possible sources of funding include (i) budget appropriations of RPB, (ii) financial support from development partners and (iii) when established, a Project Development Fund[4].

[4] It may be considered to establish a Project Development Fund in cooperation with development partner to provide for a sustainable source of funding and organized process for engaging advisory services for PPP project preparation and procurement

3. Timeline

The timeline for preparing a FS is also very much depending on the complexity and scale of the project and can range between 6 to 18 months. Planning is also very much impacted by the time required for necessary reviews and corresponding iterations.

Annex 4: Hiring Advisors

A INTRODUCTION

Infrastructure projects are often complex, requiring multidisciplinary inputs. In the context of PPPs, all matters associated with the development, construction, financing and operations of a project must be addressed in their entirety up front, prior to signing the contract and well in advance of shovel hitting earth. This requires the coordination of engineering, financial, legal, safeguards, insurance, and other specialist disciplines in order to assure that all aspects of the project are covered and captured in the context of project documentation – whether in bids or resulting contracts.

All of these pieces must be designed, coordinated, balanced, and fitted together to make a single whole. To do so properly requires a fully engaged transaction team from day one of detailed project development through to financial close. Rarely do all of these disciplines exist within a government ministry and the full scope of appropriately experienced and available experts is not likely to exist within the entirety of government.

Judicious use of external professional advisors and consultants is required. Government may have an aversion to using the full range of outside consultants to prepare projects for bidding and then support those projects through to the conclusion of negotiations – particularly in commercial, financial, and legal matters – but if appropriate advisors are engaged, their use will also represent a good use of money. For instance, an hour of a high-cost professional advisor's time can be worth weeks of an inexperienced person's time and lead to a better outcome. These professionals draw upon their body of experience to efficiently address matters that might not be recognized by a lay person. They can also help the government understand the trade-offs inherent in a project's design or the provisions offered in a contract. An independent outside expert can also be queried and challenged in a way that perhaps government staff cannot.

Multidisciplinary transaction advisors are required throughout the development lifecycle. Using consultants for preparing feasibility studies is not sufficient on its own. Such advisors are typically viewed as expensive, but can help avoid costly project delays or even cancellation due to lack of preparation.

Regardless of how many consultants or advisors are used for a project, ultimately there must be Government officials must understand and ultimately 'own' the resulting project and its contractual arrangements. Thus, a balance must be struck between prudent use of advisors to drive a transaction to close and their management by Government bodies who must live with the outcomes of these developments.

- Particularly in the early days of PNG's PPP program, it will be important to utilize the skills of an experienced PPP practitioner (e.g. an individual engaged by a donor to assist the PPP

Centre) in the hiring of advisors (e.g. drafting ToRs, evaluation, finalization of contracts) and in their management.

B IMPLEMENTING PRINCIPLES

In line with international practices, the following implementing principles apply to the hiring and managing of advisors for the purpose of preparing and tendering a PPP transaction:

6. Identify the need for advisors as early as possible. Good practice suggests that the need for advisors should be identified as early as possible, ideally as part of the project management plan. This should include an estimate of the scope of work for the different phases of project preparation up to Financial Close, the likely range and duration of advisory skills required, the required budget, the procurement strategy, source of funding and management structure. As per the PPP Guideline, this can be captured after Initial Assessment, in a submission by the PPP Project Team to the PPP Steering Group seeking approval for the undertaking of a pre-feasibility and/or feasibility study. The use of the term ''advisor'' can mean either an individual advisor or a team of advisors covering the full range of necessary skills.

7. Define clear and comprehensive terms of reference. To manage advisers successfully it is very important that the terms of reference are clearly defined. Typical terms of reference include:
    a. *Background* providing information on the project and its origin, the PPP framework and the Relevant Public Body;
    b. *Objective* of the advisory services;
    c. *Scope of work.* Whether it is for a (Pre) Feasibility or Feasibility Study only or also for Transaction Advisory Services to support the further structuring and tendering of the project up to Financial Close. For the scope of work (e.g. a Feasibility Study) identify the content areas and, within these, particular requirements such as degree of cost estimation; whether assessment of benefits is to be qualitative or quantitative; range of technical drawings etc. (See annex on Feasibility Study for the scope of work for a Feasibility Study);
    d. *Required resources* in terms of expert's profile and level of effort, and time in country vs remote workings;
    e. *Duration of assignment* addressing whether or not contract includes the Project Preparation and Procurement phase (subject to positive conclusion of Feasibility Study) or not;
    f. *Schedule of Deliverables* in terms of specific reports that have to be submitted by the advisors and the respective due dates;
    g. *Institutional arrangements and counterpart assistance* addressing how the advisors will be supported and managed and by whom. This will essentially refer to the project governance arrangements, including the role of the PPP Project Team and the PPP Steering Group;

h. *Payment terms* indicating how and when the advisors will be paid.

8. Ensure appropriate budget. The costs for a PFS are typically in the range between US$ 50 to 200 thousand, a full FS can cost somewhere between US$ 200 thousand and US$ 1 million and the total costs for advisory services including project preparation and tendering could amount up to US$ 1-3 million depending on the scale and complexity of the project. It is not recommended that short cuts be taken on advisory fees as poor-quality advisory or incomplete project preparation is likely to backfire to the government at a point in time. Furthermore, selecting a reputable advisor has an impact on the perception of potential bidders on the quality of the project preparation and thus the appetite for the project. However, advisors do need to be managed well to ensure that unnecessary tasks are not undertaken and unnecessary costs expended (see point 6 below). For example, development of a set of clear commercial principles prior to drafting of the project agreement can reduce legal advisory costs.

9. Select competitively in a fair and transparent manner. It is strongly recommended to apply a competitive process to select a suitable advisor. This may take more time than direct contracting though but will provide a higher likelihood of engaging the best available advisors and a competitive proposition. The process for selecting an advisor – whether an individual or a firm - will be determined by the PPP Steering Group as procurement of advisors by the PPP Centre is not subject to the National Procurement Act 2018 . When seeking to procure a firm or consortia to provide a full range of advisory services commonly a 2-stage procurement process is used:

    a. Request for Expression of Interest
    b. Evaluate Statement of Qualifications and shortlist the most suitable advisory firms based on extent of compliance with the required competencies which focus on experience and quality of individual advisors as reflected by their respective CVs .
    c. Request for Proposal
    d. Evaluate Proposals based on the quality of their Technical Proposal in terms of expected probability of delivering the scope of work in an effective and efficient manner, and their Financial Proposal allowing for a Quality Cost Based Selection
    e. Award contract

    It is possible as illustrated by international experiences to shortcut the process by having in place already a Panel of Advisors i.e. a number of advisory firms that are already shortlisted based on their credentials and that have concluded a framework agreement with daily fee rates for respective levels of expertise. This will reduce the selection process to the request and consequent evaluation of proposals. Advisory panels take considerable effort to establish and are more commonly used in jurisdictions which have large mature PPP programs.

10. Phased contracting. Advisors can be engaged either for a single phase of work (e.g. Feasibility Study) or engaged for multiple phases of work (e.g. Feasibility Study and

Transaction Advisory). The benefits of multiple-phase engagement are that (i) it avoids the need for another tender process and (ii) avoids the need for new advisors to familiarize themselves with the project. This. can be avoided by having an appropriate provision in the advisory contract that allows the Relevant Public Body to extend the contract based on pre-agreed conditions and subject to a positive investment and procurement decision for the project at hand can save up to 6 – 12 months. The case against multiple stage engagement is that (i) it can lead to a biased appraisal of the project as advisors engaged with the prospect of an extension may be inclined to recommend favorably for the investment and procurement decision and (ii) the skill sets for the two phases are quite different.

11. Provide efficient and effective management of advisors. Although the risk of ineffective and inefficient project preparation is mitigated by selecting a competent advisor on appropriate terms, it is also important to ensure adequate management of the advisors. As good as the advisor may be, the advisor will have an incentive to maximize its profit by minimizing (senior-level) inputs and /or providing lower-specification outputs. The PPP Project Team, particularly its head, needs to have the right expertise and attitude to critically review and comment on the advisor's deliverables for appropriate compliance with the terms of reference, to discuss regularly with the advisor progress in meeting the deadlines, and to critically review the reports submitted and provide clear feedback on any shortcomings.

    •

12. Learn from advisors. As the PPP concept is fairly new to PNG, the involved government officials are likely to have limited experience with PPP contrary to the required level of expertise to be provided by advisors. Where possible, opportunities should be seized for transfer of skills; e.g. via requiring the consultants to provide the work out of the premises of the Public Body and to prepare guidance notes etc. that can be used in future projects. Ultimately it is the government's interest to continuous enhance its PPP capacity be it from external training or be it from in-house training based on actual projects.

13. Reward success. In some case it may be appropriate to financially align the interests of the advisor with the government's interest by including a success fee. This is a part of the overall remuneration of the advisor that is conditional upon the successful close of a contract and can be considered as an incentive for the advisor to deliver its utmost to ensure an effective project preparation and successful procurement. It is to be noted that this will introduce extra risks, namely (i) that the advisor will price in the risk of non-completion of the project, so it may cost the government more than necessary and should therefore only be applied in complex and challenging projects, and (ii) it may incentivize the advisor to recommend premature contract execution, on terms less favorable to government or with outstanding issues unresolved (e.g. landowner compensation).

14. Use Development Partners. Given the limited financial resources of the government for engaging advisors and given the limited capacity to manage advisors, it is encouraged to

seek support from development partners where possible. The likes of ADB, IFC, World Bank have ample resources for and experience with PPP including the hiring and managing of advisors and such resources should be tapped, particularly where government priorities are aligned with the strategic plans of the respective development partners.

C LEGAL REQUIREMENTS

The following regulatory provisions as per the PPP Regulations underly the further guidance for hiring and managing advisors.

Schedule 1, article 3: Project Studies

(12) The PPP Steering Group shall establish a Project Team to manage the project.

(13) The Project Team shall consist of persons with the skills, knowledge and experience relevant to the project and shall include the following members; -

d) a person nominated by the PPP Centre, who shall lead the Project Team; and
e) a person nominated by the Relevant Public Body whom the project is of interest to; and
f) such other persons, in the opinion of the PPP Steering Group, has the necessary technical skills required.

(14) The PPP Steering Group may co-opt advisers to assist the Project Team in the discharge of its functions.

(15) Where necessary, the PPP Centre shall issue such procedures, guidelines and instructions with respect to the Project Team.

(16) A project study, or studies as appropriate, must be undertaken to determine the feasibility of the project and to confirm its suitability, or otherwise, for PPP procurement.

(17) The Project Team shall make a submission to the PPP Steering Group seeking approval for the undertaking of a project study. The submission shall include the study's proposed terms of reference and budget estimate for consultancy services.

(18) Where the PPP Centre considers that the initial assessment report clearly indicates suitability for PPP procurement, the submission shall recommend that the project proceed directly to the undertaking of a feasibility study. In other cases, the submission shall recommend that a pre-feasibility study be undertaken to assess whether the project warrants the undertaking of a PPP feasibility study. The PPP Centre shall provide such guidelines on the undertaking and reporting of pre-feasibility and feasibility studies, including the areas to be covered in these studies.

(19) Following approval by the PPP Steering Group of the study and its terms of reference, and the securing of funding for the study, a tender process shall be undertaken to engage consultancy services to prepare the study.

(20) The approval of the PPP Steering Group shall be obtained prior to the appointment of the consultant(s) to undertake the study.

(21) The Project Team shall report to the PPP Steering Group on the study's progress at key milestones, and at other stages as necessary, to allow the PPP Steering Group to provide guidance or direction to the Project Team.

(22) Upon completion of the study, the Project Team shall submit recommendations to the PPP Steering Group which will include; -

c) for a pre-feasibility study, whether the project warrants the undertaking of a feasibility study; or
d) for a feasibility study, whether the project is feasible and whether it is suitable for PPP procurement under the Act.

(12) The PPP Steering Group shall consider the Project Team's recommendations and determine its own recommendations to be put to the National Executive Council and the recommendation to be submitted by the PPP Steering Group shall include the proposed key service output, technical, commercial and financial terms of the PPP and have regard to the guidance produced by the PPP Centre on the undertaking and reporting of pre-feasibility and feasibility studies.

(13) If the PPP Steering Group endorses that the project should not be procured as a PPP, the project shall be de-registered from the register of projects;

(14) Where the PPP Steering Group endorses the project to be procured as a PPP, the National Executive Council approval is required for the project to be undertaken as a PPP and funding shall be confirmed for the project and secured for the transaction process.

D PROCUREMENT

Pursuant to section 27 of the PPP Act, the procurement of advisors by the PPP Centre is excluded from the National Procurement Act 2018. The PPP Steering Group will establish the procurement arrangements for engagement of advisors by the PPP Centre.

E TEMPLATES

1. Preparation of Feasibility Study: Indicative Template for Engagement of Advisor
2. Transaction Advisory Services: Indicative Template for Engagement of Advisor

1 Feasibility Study[5]

(Insert project name)

Purpose

The Government of Papua New Guinea (**"The PNG Government"**), through the PPP Centre, wishes to appoint a suitably qualified firm to undertake a feasibility study for the (*insert project name*).

Background

Provide sufficient background information to interested parties to inform them of key elements of the project, including

- *Type of project and related service outcomes and, as relevant, proposed infrastructure investment*
- *Relevant Government agency(ies) responsible for the project*
    - *If an SOE, provide a brief overview of SOE's responsibilities*
- *Government's project objectives*
- *Project need*
- *PPP Framework – including, PPP Law, PPP Regulations, PPP Guideline etc*

List the scope of material prepared to date on the project (e.g. Initial Assessment, Pre-Feasibility Study) and which will be made available to the firm upon appointment.

Scope of Works

(Insert specific requirements. Annex 3 provides a guide.)

Competency Requirements of the Advisor

The Advisor must demonstrate a thorough understanding of, and experience in preparation of Feasibility Studies for projects in this sector (*insert sector*), in PNG or countries of similar development, and where PPP procurement is to be assessed and issues that can arise in such feasibility studies. The Advisor must also demonstrate a suitable understanding of the (*insert relevant sector*) and project issues specific to PNG and the South Pacific region.

The Advisor will be a full-service provider, whose expertise shall include sectoral (*insert sector name*) operations, technical/engineering, commercial, financial, and legal skills.

[5] These ToR relate to the undertaking of a Feasibility Study. Necessary changes will need to be made for the undertaking of a pre-feasibility study.

Commencement and Duration of Advisory Services

It is proposed that the Advisor begins services on (*insert date*) and continue until the Feasibility Study is accepted by the PPP Steering Group (*insert indicative date*).

Confidentiality

All reports and information associated with this assignment are strictly confidential and are the property of the PNG Government and/or (*insert name of SOE where relevant*). These are to be returned at the conclusion of the assignment. Any dissemination of such information outside the boundaries of Government is strictly prohibited unless prior approval is obtained from relevant authorities with whom the information is vested.

The Advisor will be required to sign a Non-Disclosure Agreement on terms acceptable to the PPP Centre.

Reporting Requirements

The Advisor will report to the CEO, PPP Centre and will be required to provide regular regular updates on the Transaction Advisor's progress to the PPP Centre. Secure office space will be provided for use by the Transaction Advisor, if required.

Applicable Laws

The Advisor shall be engaged under the laws of PNG.

Submission of Proposal

Proposals should include:

1. An Executive Summary, summarising the main aspects of the proposal, including the proposed fees in accordance with the Fee Structure set out below;

2. Experience and capability of the firm(s) and key personnel in undertaking similar studies, including in this sector and in countries of a similar level of PPP development;

3. Approach to the assignment and possible issues that need to be addressed; this section should highlight any issues that the applicant believes are relevant to the assignment and make initial suggestions on how these might be dealt with;

4. A description of the roles of each team member, Curriculum Vitae of each team member and limitations on availability of any team member;

5. Process and timetable - A detailed indicative timetable for the execution of the tasks outlined in the scope of works should be included in the proposal. This should be broken down into weeks and clearly show the tasks that will be undertaken each week by each team member;

6. Fee (PNG Kina)

- Total capped fee;
- Fee structure broken down for each task stated in the Scope of Works and showing the assumed effort by, and fee contribution of, each team member;
- Showing assumed travel, out-of-pocket expenses and taxes; and

7. Response to the proposed contract for engagement of the Advisor (*insert copy of the contract as an annexure to the ToR)*.

Proposal Conditions

1. The PPP Centre may request additional information or clarification on any aspect of the proposal and may seek at its discretion a presentation or interview with shortlisted applicants. Applicants will bear all costs associated with the submission of such proposals and any subsequent presentation/interview.

2. All proposals must remain valid for a period of at least ninety (90) days.

3. The PPP Centre reserves the right not to accept any bid.

Lodgement

Proposals are to be submitted by 5.00 PM (Port Moresby time) on (*insert date*) to (*insert name of receivals officer and address for lodgement of proposals*).

Liaison and Enquiries

Any queries in relation to the assignment should be directed towards (*insert name of contact officer and details of how they can be contacted i.e telephone and/or e-mail*).

2 Transaction Advisory Services

(Insert name) PPP Project

Purpose

The Government of Papua New Guinea (**"The PNG Government"**) wishes to appoint a suitably qualified Transaction Advisor to assist the Government in undertaking the transaction process and executing a contract with the preferred consortium for the (*insert project name*).

Background

Provide sufficient background information to potential transaction advisors to inform them of key elements of the project, including

- *Type of project and related service outcomes and, as relevant, proposed infrastructure investment*
- *Relevant Government agency(ies) responsible for the project*
    - *If an SOE, provide a brief overview of SOE's responsibilities*
    - *If established, briefly outline project governance arrangements*
- *Government's project objectives*
- *Project need*
- *Government's commitment to the project*
- *PPP Framework – including PPP Law, PPP Regulations, PPP Guideline etc*
- *Other major relevant legislation, where relevant (e.g. establishment of the SOE, Independent Competition and Consumer Commission)*
- *Current arrangements (if any) for provision of the services*
- *Key project commercial parameters, eg*
    - *Proposed PPP model*
    - *Service demand projections*
    - *Major service users*
    - *Pricing for services*

The PNG Government, through the PPP Centre, is seeking a long-term strategic partner to (*insert brief overview of services to be provided by the successful PPP consortium)* in a way which best meets the Government's project objectives.

List the scope of material prepared to date on the project (e.g. Feasibility Study) and which will be made available to the Transaction Adviser upon appointment.

Scope of Works

The Transaction Advisor will be required to:

1. Work with the PPP Centre and other members of the PPP Project Team to develop an initial strategy and timeline for the undertaking of the transaction process to meet the Government's objectives. This strategy and timeline are to be reviewed regularly and updated and expanded as necessary during the transaction;

2. Finalise a Request for Qualification (RfQ) or an Expressions of Interest (EoI) document for issue by the Government inviting reputable parties to register interest in participation in the transaction;

3. Use their network of market contacts to promote bidder interest in the project;

4. Assist in the evaluation of RfQ/EoI responses and in determining which parties are to proceed to the next stage of the bidding process;

5. Work with the PPP Project Team to address issues necessary to preparation of Request for Proposal (RfP) documentation, including
    - Determination of solutions to policy and regulatory issues impacting the transaction which have been identified and to other relevant issues identified during the transaction process;
    - Identification and resolution of key project-specific commercial issues;
    - Identification and specification of the key contractual services to be provided;
    - Finalisation of financial estimates;
    - Development of an RfP Evaluation Plan; and
    - Collection of detailed data and other informational materials required to support the transaction and establishment of a secure electronic data room.

6. Prepare RfP documentation for approval by Government and release to those bidders successful from the RfQ/EoI stage. This documentation may include
    a. Overview document;
    b. Performance specification requirements;
    c. Draft project agreement;
    d. Returnable schedules; and
    e. Background information documents.

7. Support the PPP Centre in management of the transaction process, including in interaction with bidders;

8. Support the PPP Project Team in its assessment of RfP responses and in negotiations to contract execution;

9. Support the PPP Centre in management of any issues arising between contract execution and financial close (*include as applicable)*;

10. Prepare a contract management plan, prior to the date when the successful bidder begins to undertaken their contractual responsibilities; (*refine these words according to the type of PPP model)*

11. Prepare a case study of the project (circa 30 pages) suitable for publication by the PNG Government.

Competency Requirements of the Advisor

The Transaction Advisor must demonstrate a thorough understanding of, and experience in (*insert relevant PPP model)* procurement arrangements and issues that can arise in such undertakings. The Advisor must also demonstrate a suitable understanding of the (*insert relevant sector*) and market issues specific to PNG and the South Pacific region.

The Transaction Advisor will be a full-service provider, whose expertise shall include commercial, financial, legal, (*include sector name*) sector operations and related technical/engineering skills.

Commencement and Duration of Advisory Services

It is proposed that the Transaction Advisor begin services on (*insert date*) and continue until Financial Close. Contract Execution is expected by (*insert date*).

Confidentiality

All reports and information associated with this assignment are strictly confidential and are the property of the PNG Government and/or (*insert name of SOE where relevant*). These are to be returned at the conclusion of the assignment. Any dissemination of such information outside the boundaries of Government is strictly prohibited unless prior approval is obtained from relevant authorities with whom the information is vested.

The Transaction Advisor will be required to sign a Non-Disclosure Agreement on terms acceptable to the PPP Centre.

Reporting Requirements

The Transaction Advisor will report to the CEO, PPP Centre and will be required to provide regular progress reports to the PPP Centre. Secure office space will be provided for use by the Transaction Advisor, if required.

Applicable Laws

The Transaction Advisor shall be engaged under the laws of PNG.

Submission of Proposal

Proposals should include:

1. An Executive Summary, summarising the main aspects of the proposal, including the proposed fees in accordance with the Fee Structure set out below;

2. Experience and capability of the firm(s) and key personnel in undertaking similar transactions, including in this sector and in countries of a similar level of PPP development;

3. Approach to the assignment and possible issues that need to be addressed; this section should highlight any issues that the applicant believes are relevant to the assignment and make initial suggestions on how these might be dealt with;

4. A description of the roles of each team member, Curriculum Vitae of each team member and limitations on availability of any team member;

5. Process and timetable - A detailed indicative timetable for the execution of the tasks outlined in the scope of works should be included in the proposal. This should be broken down into weeks and clearly show the tasks that will be undertaken each week by each team member;

6. Fee (USD / PGK)

- Total capped fee;
- Fee structure broken down for each task stated in the Scope of Works and showing the assumed effort by, and fee contribution of, each team member;
- Showing assumed travel, out-of-pocket expenses and taxes; and

7. Response to the proposed contract for engagement of the Transaction Advisor (*insert copy of the contract as an annexure to the ToR)*.

Proposal Conditions

1. The PPP Centre may request additional information or clarification on any aspect of the proposal and may seek at its discretion a presentation or interview with shortlisted applicants. Applicants will bear all costs associated with the submission of such proposals and any subsequent presentation/interview.

2. All proposals must remain valid for a period of at least ninety (90) days.

3. The PPP Centre reserves the right not to accept any bid.

Lodgement

Proposals are to be submitted by 5.00 PM (Port Moresby time) on (*insert date*) to (*insert name of receivals officer and address for lodgement of proposals*).

Liaison and Enquiries

Any queries in relation to the assignment should be directed towards (*insert name of contact officer and details of how they can be contacted i.e telephone and/or e-mail*).

Annex 5: Overview of Request for Qualification[6] (RfQ) Contents

Purpose

The purpose of a Request for Qualification (RfQ) is to identify the most capable consortia to whom a Request for Proposal (RfP) should be issued for the project.

As such, a RfQ is partly:

- marketing document, to articulate and "sell" the opportunity being offered to the market so as to promote bidder interest in the project;
- capability criteria document, to clarify the type of capabilities that are being sought from potential bidders so as to identify the most suitable consortia; and
- instruction document, advising on the RfQ and broader procurement process and how to respond to the RfQ.

The RfQ is a public document, being provided to any party that registers interest. Rather than simply provide a public link to the RfQ document, it is good practice to have interested parties seeking to obtain an RfQ to be formally registered. This allows the Relevant Public Body to monitor interest in the project and to contact registered parties during the RfQ process as necessary e.g. to provide supplementary information.

Contents

The RfQ describes the opportunity being offered to the market, the relevant government policy framework, the procedures and requirements for the preparation and submission of the Qualification Documents by respondents and the process to be followed by the Relevant Public Body in its evaluation of the Qualification Documents and the selection of qualified bidders.

The RfQ will need to include sufficient information to meet the functions outlined above and be structured in a clear and easily navigable way to enable senior executives to readily assess the opportunity. The size of the RfQ may vary across projects but is likely to be between 15 and 30 pages in length, exclusive of attachments.

There is no universal template for RfQ documents but generally they should address the following content areas:

1. Mandate
2. Overview
3. Government Policy Framework
4. Project Description
5. Commercial Features of Project

[6] A common alternative term to RfQ is a call for Expressions of Interest (EoI).

6. Project Governance
7. RfQ Evaluation
8. Project Process and Timeline
9. Procedural Matters
10. Responding to the RfQ

1) Mandate

- A short message from the Responsible Minister or Prime Minister shows interested parties that this project has support at the highest levels of Government. This is important as interested parties will not want to waste their time on projects that are not a priority for Government or where there is not Government support for the project being procured as a PPP

2) Overview

- Provides a brief outline of key features of the opportunity addressing matters such as
    i. Purpose of the RfQ
    ii. The PPP opportunity
    iii. RfQ timelines, including industry briefing (if proposed), closing date for clarification questions and deadline for RfQ submissions
    iv. How to obtain an RfQ
    v. Overview of RfQ document contents
    vi. Government funding commitment
- The primary target audience of this section is senior executives in firms for whom the opportunity may be of interest. If the opportunity appears to be attractive they may ask their staff to investigate the opportunity further

3) Government Policy Frameworks

- Specific references to relevant government policy frameworks include
    i. Sectoral Policies/Plans
        - List relevant sectoral plans and their specific reference to the project
    ii. Government Infrastructure Plans/Pipelines
        - Show reference to the project in such approved plans/pipelines
    iii. Budget/SOE Approval framework
        - Briefly describe process for approval of this project, its funding and procurement as a PPP
    iv. Legal framework
        - Show evidence that provision of the services to be delivered by the private party in the PPP is legally feasible
    v. PPP framework
        - PPP Policy
        - PPP Legislative and Regulatory Framework
        - PPP Guideline

vi. Other policies that could potentially have a significant impact on the project and/or the interest of potential bidders, such as
    - Competition policy (e.g. if ICCC has jurisdiction in this sector)
    - Foreign ownership restrictions
    - Capital outflow restrictions
    - Government guarantee policy
    - Compensation to traditional landowners

- This is important to show potential bidders the robustness of the government's policy framework and provide confidence that the existence of such frameworks will facilitate the process for procurement and undertaking of the project

4) Project Description

- Provide a relatively fulsome description of the project covering matters such as
    - Background, including the need for the project, and project objectives
    - Project scope, including the extent of new/upgraded infrastructure and range of services
    - Project site and availability and proposed land tenure arrangements
    - Suitability of connecting infrastructure (where relevant) such as roads, utilities etc
    - Planning approvals
- Provide relevant maps and other useful pictorial information
- (As relevant) Dependency upon completion of prior or contemporaneous projects by other parties

5) Commercial Features of Project

- Proposed commercial structure of the project, including
    i. Proposed PPP model
    ii. Allocation of project scope between government and private parties
    iii. Key PPP service requirements and proposed payment mechanism
    iv. High level allocation of project risks
    v. Intent of Government to contract with a single corporate entity, which may be a consortium who establish a special purpose vehicle for the purposes of this project
    vi. Contract length

6) Project Governance

- Government's project governance arrangements, outlining the roles of
    - Key agencies eg PPP Centre, Relevant Public Body, Treasury etc
    - Key project bodies, namely Project Steering Committee and Project Team

    - Key Ministers and Cabinet
    - Government's specialist advisers
- Contact officer for RfQ registration and
- Other key stakeholders, such as (as relevant)
    - Other national ministries or agencies (eg ICCC)
    - Provincial and/or local government
    - Customary landowners
    - Community groups

7) RfQ Evaluation

- RfQ **Evaluation Criteria** to assess capability of respondents typically focus on

    i. Demonstrated experience to deliver the project. In support of their claims, respondents will need to demonstrate experience with respect to
        - Delivery of all project requirements of a private partner, covering (as relevant to the project) design, construction, operation and maintenance
        - Delivery of the project services
        - Raising finance for projects of this type (cost, size, sector, region.

    In support of these claims, reference should be made to

        - Relevant previous projects and the roles played by consortium member(s) and by key individuals in those consortium members

    ii. Understanding of the project:
        - Respondents should provide a brief outline of the key issues that may need to be addressed to deliver the project successfully, and their proposed approach to management of these issues. The key issues nominated could be those that have arisen in similar previous projects undertaken by the consortium as well as likely projects specific to this project

    iii. Consortium Organisational, Financial and Commercial Structure
        - Organisational structure: the relative role of each member, their proposed equity share, and the proposed consortium organisational and management structure for the bid stage and subsequent stages;
        - Financial capacity: the financial capacity of each consortium member to undertake their role (should they be successful) and to sustainably manage these obligations
        - Commercial structure: the proposed intra-consortium risk allocation arrangements

- Evaluation Process
    i. Outline the evaluation process, addressing such matters as
        - Opening of RfQ responses
        - Definition of a compliant response, and treatment of non-compliant responses
        - Process for seeking clarification from RfQ respondents, as necessary
        - Relative importance or weighting of the evaluation criteria
        - Minimum hurdle levels for satisfaction of qualification
        - Parties to undertake the evaluation assessment and the approval process
        - Maximum number of parties to be qualified, should a larger number pass the minimum qualification hurdle

8) Project Procurement Process and Timelines
    - Set out steps and timelines for RfQ process
        i. Due date and time for lodgement of responses
        ii. Date and time for information workshop (if applicable) and venue location and electronic access details; for a common six-week RfQ period, it commonly held about two weeks after advertisement of the RfQ
        iii. Closing date for written requests for clarification by interested parties
    - High level outline of broader project process and indicative timeline
        i. Announcement of qualified parties
        ii. Issue of RfP
        iii. Negotiations
        iv. Contract Award
        v. Commencement of Operations

9) Procedural Matters
    - Process for registered parties to raise queries during RfQ period; typically, it is through the officer listed in the RfQ document only
    - Process for access to data room controlled by Relevant Public Body, should this be made available during the RfQ stage
    - Explanation of what constitutes a potential conflict of interest for interested parties, and the need to expose any identified potential conflicts of interest in responses
    - Other informational matters, such as
        i. Respondent to bear own costs of RfQ preparation
        ii. After closing date, names of RfQ respondents will be made public but content of responses will remain confidential
        iii. Offer to debrief parties that are not short-listed, after contract award
    - Relevant Public Body retains the right to cancel the RfQ process at any time and for any reason

10) Responding to the RfQ

- This section of the RfQ provides instructions to interested parties in how they should responds to the RfQ. These instructions fall into two categories
-

    i. Structure and content of the supporting material to be provided by each consortium to address the evaluation criteria and other requirements;
        - Name of each consortium member and list of information sought on each member company's business;
        - For each of the evaluation criteria, list the minimum informational supporting material required (use of templates can provide a useful checklist for respondents and facilitate evaluation of responses);
        - Level of authorisation of the submission from each consortium member (eg number of Directors' signatures; and
        - Warranties about conflicts of interests, company solvency, current litigation etc

    ii. Submission procedure, including
        - Deadline for receipt of responses;
        - Address for lodgement of responses;
        - Whether electronic and/or hard copy;
        - Responses to be in English
        - Respondents may add, replace or withdraw their response any time before the deadline

Annex 6: Overview of Request for Proposals (RfP) Contents

Purpose

The RfP issued to short-listed bidders is a suite of documents that provides the necessary information on the project and the government's requirements to allow short-listed bidders to submit a full and binding proposal to government.

Contents

There is no single universal template structure for an RfP. Indeed, the contents of an RfP will vary according to the type of project and the PPP model. For instance, for PPP models that require design and construction of public infrastructure, the RfP will include details about the scope and performance requirements of the infrastructure. For PPP models that require private financing, the RfP will set out requirements for bidders to show how they will obtain their finance.

Whilst the structure of the RfP will differ internationally, for most PPP projects the key content areas will be similar. An indicative RfP structure is:

1. Offer document;

2. Service specification and other performance requirements;

3. Evaluation criteria and returnable schedules; and

4. Draft project agreement.

This structure and a detailed list of matters that may be covered in an RfP is provided below, within each of the five document categories respectively.

1 Offer Document

Commonly, this document contains (i) a project summary and (ii) instructions to bidders. An indicative more detailed list of contents within each is provided below:

1) Project Summary

i) *Background to the project*, including
   (1) broader industry/sectoral context;
   (2) the need for the project;
   (3) project objectives; and
   (4) project schedule

ii) *Project governance*, including
   (1) project governance structure;
   (2) roles of relevant government agencies;
   (3) project approval arrangements;
   (4) government advisors; and
   (5) a list of other key stakeholders;

iii) *Scope of project*, including
   (1) an overview of infrastructure and service requirements;
   (2) site boundary (where relevant); and
   (3) existing on-site or access infrastructure (where relevant);

iv) Procurement Framework, including
   (1) use of PNG PPP framework; and
   (2) steps in the procurement process

v) *Key commercial elements*, including
   (1) proposed payment arrangements, including abatements;
   (2) summary of allocation of key project risks;
   (3) rationale for treatment of key project-specific commercial issues;
   (4) government support for the project, including financial (where relevant); and
   (5) list of principal contractual documents

vi) Relevant local policies, such as (as relevant)
   (1) foreign investment;
   (2) capital inflow/outflow restrictions;
   (3) local content; and
   (4) domestic taxation

vii) Evaluation process, including
   (1) steps in the process;
   (2) methodology, including any ranking or weighting of evaluation criteria;
   (3) assessment of value for money for GoPNG, including use of public sector comparator or benchmark (where relevant); and
   (4) governance arrangements.

viii) *Disclosure and transparency, including*
   (1) matters for public disclosure following contract execution; and
   (2) ongoing public consultation arrangements.

2) Instructions to Short-listed Parties

i) *Tender Process, including*
   (1) Timeline for response;
   (2) Process for seeking clarifications;
   (3) Interaction between the PPP Centre and short-listed bidders; and
   (4) Site inspections and site access;

ii) *RfP document,* including
   (1) purpose of RfP;
   (2) structure of RfP document; and
   (3) data room access and contents

iii) Confidentiality and probity, including
   (1) Treatment of RfP materials;

(2) Channel for raising any probity concerns; and
(3) Conflicts of interest

iv) Tender response, covering
(1) Format for response;
(2) Lodgement of response; and
(3) Conforming vs variant responses.

2 Service Specification and Other Performance Requirements

This part of the RfP spells out in detail the performance requirements set by the GoPNG that are required to be met by bidders in their response solution. These performance requirements will relate to (i) services: the range of services that are to be provided, their performance quality levels and minimum quantity capacity (as relevant) and to (ii) the infrastructure facility that is to be constructed to enable the production of services and (iii) potentially other project requirements, such as equipment.

1) Services

There may be a single service or a range of services that the private partner is to deliver. These services will vary from project to project and, as such, a generic detailed list of service specifications cannot be provided. However, the contents of service requirements are illustrated below by using a water treatment project example.

For each service that is to be delivered by the private partner, the following should be clearly defined:

i) Description of the nature of the service to be delivered (eg potable water) *;*
ii) Service quality performance indicators (eg WHO drinking water safety levels – list all specific parameters that are to be met);
iii) Service level (where relevant) (eg capacity to provide X ML/day, frequency (ie continuous))
iv) *Point of delivery of service* (eg to water utility distribution system at Y location).

Each listed service must be measurable, directly attributable to the private partner and readily monitored. In the water treatment example, the listing and description of services to be provided is relatively simple. In contrast, in a DBFM PPP such as a hospital, there will be a wide range of services levels that the facility must sustainably deliver (eg from those that directly enable the delivery of clinical services - such as temperatures in theatres, to ancillary services - such as waste management.)

2) Infrastructure

Whilst in a PPP, the GoPNG will be concerned primarily with the service outcomes, and the choice of infrastructure design is left to bidders, it will want confidence that the infrastructure (i) can sustainably provide these services (ii) will have a useful life beyond the contract period and (iii) for DBFM PPP models in particular, can facilitate the efficient and effective use of the infrastructure by the relevant government agency to deliver public services.

The infrastructure that is to be constructed by the private partner to facilitate the delivery of the services may be a single facility (eg building) or a group of buildings/plant and/or a piece

of linear infrastructure (eg pipeline, road, electricity transmission system, telecommunications cable). Performance requirements will vary widely depending on the nature of this infrastructure. A list of indicative requirements is provided below:

i) Building/facility standards to be met
ii) Minimum useful life of building
iii) Environmental standards, including minimum star rating (as relevant)
iv) Mechanical, hydraulic standards etc for key components such as lifts, pumps (as relevant)
v) Information Communications Technology (ICT) standards to be met

3) Other

In some PPP projects, particularly DBFMs, the private partner may be required to provide a range of fittings and furnishings within the facility to be used by the relevant government agency in its use of the facility to provide public services. For instance, in a school DBFM PPP, the private partner may be required to provide whiteboards, audio-visual equipment and furnishings such as desks/tables and chairs. The performance outputs required of this equipment would need to be adequately described (but not prescriptive inputs or specific brand names).

3 Evaluation Criteria and Returnable Schedules

1) Evaluation Criteria

Bidders' responses can be assessed only against the evaluation criteria listed in the RfP. It is critical therefore that these criteria address all the assessment matters that are important to the GoPNG. It is equally important that the criteria are drafted in a way that is clear and unambiguous.

The RfP evaluation criteria will vary from project to project but should always include the following matters:

- *service delivery*: how well the bidder's proposal will sustainably deliver services that meet KPIs;
- *technical*: suitability of proposed facility technical/design solution (for PPP projects with an infrastructure component);
- *commercial*: extent of acceptance of risk allocation in the draft Project Agreement (i.e. contract), including of the payment mechanism;
- *consortium structure and methodology*: composition of bidder consortium and process for organisation of the consortium's team to deliver the project and ongoing services; and
- *financial:* quantum (ie level of price/cost) and certainty of the financial offer.

Other evaluation criteria may be used in addition for some projects. For instance, the degree of local ownership could be an evaluation criterion or, alternatively, a minimum level could be set as a condition of a conforming bid.

Underpinning each of these (five) high-level criteria will be a range of explanatory components and indicators that spell out what each criterion means and which provide information that enable assessment of bids against that criterion. An indicative list for each criterion is provided below.

i) Service Delivery

(1) Mobilisation plan for implementation of the services;
(2) Project management approach to ongoing delivery of the services;
(3) Methodology for delivery of each of the services to meet the performance requirements; and
(4) Identification of any departures proposed by the bidder from the target service specifications

ii) Technical

(1) Design solution, including functional (particularly for "availability" PPP models) and aesthetic (where relevant);
(2) Engineering solution, including technological, mechanical, hydraulic elements etc
(3) Construction management, including planning, methodology, milestones etc

iii) Commercial

(1) Acceptance of risk profile as set out in the draft Project Agreement, including
    (a) Allocation of risks; and
    (b) Payment mechanism and abatement regime; and
(2) Acceptance of proposed use of independent parties and of dispute resolution procedures
(3) (For lease and concession PPP models) Demonstrated understanding of the business and plans for growing the business consistent with GoPNG's objectives

iv) Consortium Structure and Methodology

(1) Appropriateness of bidder's management structure and intra-consortium relationship, including management solution eg corporate structure, interface management strategy; and
(2) Appropriateness of equity structure, including consortium members, equity shares and consortium member equity exit arrangements;
(3) Internal commercial relationships, including relative roles and risk allocation

v) Financial

(1) Level of financial offer;
(2) Certainty of financial offer, including description of financing sources, assumptions, , commitment and terms of financial providers, gearing ratio, level of working capital, and any caveats
(3) Financial capacity to deliver the entire project, including financial strength of each consortium member (supported by audited financial statements) and strength of their financial support mechanisms eg bonds, parent guarantees;
(4) Refinancing strategy, including upon commercial acceptance

2) Returnable Schedules

The purpose of the Returnable Schedules is to simplify the evaluation process. They seek to ensure that all the information to be provided by each bidder with respect to each evaluation criteria, and for other assessable requirements such as reviewing responses to government

policy requirements and potential conflicts of interest etc, is provided in a readily identifiable part of each bidder's RfP submission.

Accordingly, there will be a Returnable Schedule for each evaluation criteria. There will also be Returnable Schedules to cover all other assessable matters (eg how each of the GoPNG policy requirements, such as local content and local ownership requirements-as relevant- will be met). Considerable thought needs to go into construction of each Returnable Schedule to ensure that there is:

- a clear place for providing each piece of required information from bidders; and
- a preferred format for ease of provision of that information (eg pre-set tables for financial information and assumptions, size and scale of drawings to be provided).

4 Draft Project Agreement

The draft Project Agreement sets out the rights and obligations of each of the public and the private partner and the allocation of project risks. Whilst PPPs require both partners to work harmoniously over a long period (ie the 'partnership' element of a PPP) to achieve project objectives and manage ''change" events that arise, the Project Agreement has a well-defined and clear allocation of risks between the parties.

It is important that a full draft Project Agreement is included in the RfP, as this sets out the details of the proposed commercial arrangements to which each bidder must respond. This enables the evaluation team to understand the extent of acceptance of the GoPNG's proposed contractual terms by each bidder. It also reduces the scope for a preferred bidder to walk-back from their position, or claim a mis-interpretation during negotiations as ca happen when only a Term Sheet is provided with the RfP.[7]

It is important also that the terms and risk allocation set out in the draft Project Agreement reflects a fair commercial outcome. This will generally facilitate GoPNG achieving a better value for money outcome. Were the PPP Centre to submit a draft Project Agreement which was unfair to bidders, they will respond through either a list of proposed departures and/or through adding a risk premium to their financial offer. Additional risk premiums translate into a higher price that users pay for the services delivered under the PPP contract. Prolonged legal wrangles where the preferred bidder seeks to wrestle the draft Project Agreement terms to a fairer position takes undue time, adds to costs, and undermines goodwill.

A list of key commercial issues common to PPPs is outlined below.

1) Contract term

- the appropriate length of contract is likely to vary between types of projects and should be that which facilitates the best value for money outcome for government ('social' PPPs) and/or fairness across generations of users ('economic' PPPs);
- the start date for setting the contract length is typically the date of contract execution for projects which do not require private financing. Where private financing is

[7] A Term Sheet is a pre-contractual document. It sets out the key terms of a transaction agreement between parties.

required the period between contract execution and financial close can be unpredictable; in such cases, it is common for the construction start date to be the start date for the contract duration.

2) Payment provisions

- In a PPP, the private partner receives ongoing payment for services delivered during the contract term. This is a defining feature of PPPs and differentiates it from contracting methods where government pays for the delivery of public infrastructure upon its completion. The Project Agreement will set out the details of the payment mechanism, including abatement arrangements;
- The service fee may be comprised of components, reflecting different categories of services or expenses incurred by the private partner, but collectively will comprise a single unitary service fee. Service fees will begin upon commissioning of part or all of the facility;
- Where payment is provided through receipt of revenues from 3rd party users, the contract will outline the arrangements for such charges and their movement over time;
- Where payments are primarily from the public partner, and if that public partner does not have an established record of meeting payment obligations when they come due, it is likely that some form of payment security may be sought by the private partner.

3) Protection against late or insufficient performance

- Government needs sufficient protections from the private partner to compensate it against costs and losses incurred through late or insufficient completion of the facility and/or delivery of services by the private partner.
- Commonly performance bonds and liquidated damages are used as protection. However, having a fixed contract period also provides some protection to government as the private partner will not want to reduce the period over which it can receive revenues under the contract.

4) Government contributions/subsidies (construction; operation)/concession fees

- In a PPP, government may opt to do or seek one or more of the following
    - make capital contributions to the project during the construction stage if this can assist with project financial viability (ie act as a subsidy) or provide value for money benefits to government;
    - make subsidy contributions to the project during the operations stage if this can assist with project financial viability; or
    - receive concession fees from the winning bidder in return for the provision of commercial development opportunities associated with PPP projects.
- In a DBO PPP model, the government will make a capital payment to the private partner at the time of Practical Completion. In some cases, it may also make some interim milestone payments.

Any such arrangements should be set out in the RfP documents and the level of subsidy or concession fee should generally be determined as part of the bidding process. If government

proposes to make a capital contribution, it will set that amount in the RfP to inform bidders, and subsequently include it in the Project Agreement

5) Supervening events

- Some risk events in a PPP project agreement should be allocated to government, either because they are directly controlled by government or government is best placed to manage them. These events fall into two categories: compensation or relief events
    - Compensation events: should such risk events occur and pose additional costs on the private partner, it is appropriate that the government provide compensation. For specified compensation events, commonly a materiality threshold must be reached before compensation is payable. Examples of such risk events include:
        - Failure by government to perform its contractual obligation, such as securing access to the site or meeting payment obligations under the contract;
        - Change in law or policy;
        - For projects where tariffs are set by an independent regulator, where the approved tariffs fall below the tariff path assumed in the contract;
        - Change in taxation arrangements;

    - Relief Events: should such risk events occur and delay the private partner in performance of its contractual obligations – particularly during construction, but not impose material costs, it is appropriate that government provide relief to the private partner from these obligations. Typically, contractual milestone dates are also extended. Examples of such risk events include:
        - Failure or delay by a government authority (eg utility) in carrying out works or provide services;
        - Government-initiated modifications;
        - Discovery of archaeological artefact which requires a suspension of works.

6) Force Majeure

- Force majeure events are those events of exceptional severity which are outside the control of either party and prevent the private partner from performing all or a material part of their obligations under the contract. Examples include severe weather events (eg cyclones) and widespread civil unrest;
- The nature of force majeure events is that whilst their likelihood is very small their impact on the project is potentially catastrophic. Given this, and that their occurrence is outside the control of both parties, it is a risk that is best shared between government and the private partner;
- The government will not be entitled to performance by the private partner of its contractual obligations, to the extent that they are impacted by the force majeure event, and the private partner may not be entitled to service payments during the event or financial compensation in respect of the event. During the force majeure

event, the government is not entitled to serve a default notice on the private partner for its inability to meet contractual obligations directly as a result of the force majeure event;
- Should the force majeure event extend indefinitely (eg beyond 6 months), commonly contracts allow either party to seek early termination.

7) Insurance

- The Project Agreement will require the private partner to obtain and maintain those insurances that would be taken out by a prudent owner of those type of facilities and prudent provider of those type of services similar to that in the PPP Project Agreement. Insurances must be from providers approved by GoPNG;
- The draft Project Agreement will list the minimum range of events for which insurance is to be obtained and maintained by the Private Partner (eg construction, public liability, workers' compensation, marine cargo-for delayed arrival of necessary equipment). The private partner should be free to take out additional insurances, at its cost;
- Contracts should cover actions to be taken and risk allocation in the event that a required event becomes 'uninsurable'. PPPs are long-term contracts and insurance markets can be subject to volatility from time-to-time making it possible that some insurance for some risks may become unavailable during the life of a PPP contract
    - In availability PPPs, it is common for the government to agree to 'self-insure' where insurance is unavailable in the market place; whilst
    - In concessions and DBFOs, it is common for uninsurability to be treated as an event of force majeure.

8) Contract Variations

- A PPP Project Agreement may be varied by agreement between the public and private partner for a range of reasons, including for modification to service levels and/or facility capacity augmentation.
    - Consistent with the use of PPPs to provide public infrastructure and related services, the government may initiate project augmentations or modifications at any time during the contract. Generally, government will bear the cost of variations it initiates unless the costs can be covered by additional revenues.
    - The private partner may propose augmentations or modifications at any time but government retains discretion as to its acceptance of such proposals and also as to its sharing of related costs, and any additional revenues.

9) Equity Transfer Restrictions

- The government needs to be aware at all times of its private partner control and ownership arrangements and should seek to ensure that the private party continues to be controlled by capable, solvent and reputable investors and operators (where relevant);
- The rationale for this position is that, under PPP arrangements, the government transfers the financial accountability to the private partner for the costs of providing

public services but ultimate accountability (at least, in the eyes of the public) for delivery of those services remains with the government;

- The government should seek the right to impose restrictions on equity transfer arrangements that change ownership and control of the private party, noting that such restrictions do not come without cost. Commonly, restrictions on equity transfers are eased after Commercial Acceptance as the risk profile of the project changes.

10) Key Sub-contractors

- In a PPP project, the government contracts with one private sector party only (i.e. the 'private partner') for the provision of all the contracted services. The private partner remains fully responsible to the government at all times during the contract period for the actions and inactions of its sub-contractors. However, in each PPP project, there are likely to be some sub-contractors that the government considers as 'key' to the successful delivery of the contracted services. Key sub-contractors are likely to be those that fit the following criteria:
    - Are the sole constructor or responsible for at least 35% of the value of the construction activity;
    - (2) In their operational role, have direct interface with the government or 3rd party customers in the delivery of services; or
    - (3) In ''Availability" PPP projects, in their maintenance role, have direct interface with the government's staff or clients.

It is appropriate for government to seek:

- in all projects, approval rights over appointment and replacement of key sub-contractors and provision of nominated key sub-contracts; and
- in selected projects, maintenance of a minimum equity share of a key sub-contractor(s).

11) Refinancing

- Typically, in privately financed PPPs, the private partner will obtain debt finance for a period less than the full contract term. The reasons being that the tenor available in the market at commercial rates is generally relatively short and also it is common for the private partner to seek to refinance after Commercial Acceptance, when the risk profile of the project often reduces;
- The risk of increased or decreased financing costs upon a refinancing event lies with the private partner;
- For public perception reasons, some countries seek to share in the gains from unscheduled gearing changes on the basis that these gains are underpinned by contracting with the government. However, in the practice of more modern PPP programs, most regearing events and related expected gains are scheduled in bid pricing or at financial close and the government has already shared in the gains.

12) Default and Step-in

- An event of private partner default in a PPP project can be triggered by a range of events, such as failure to achieve construction completion by the long-stop date, a serious service failure, a breach of equity lock-up provisions, a breach of change in control provisions, among others;
- Some default events can lead directly to a private partner default termination event but, typically the private partner is given a period to cure the default, and this period will give an opportunity for the financiers to step-in and cure the default before the government can invoke a private partner default termination event. The Project Agreement should contain an appropriate curing regime with associated timelines;

13) Early Termination

- Government should have the right to terminate the Project Agreement upon the occurrence of a private partner default termination event, a force majeure termination event or for at its convenience. The private partner should have the right to terminate the contract upon a force majeure termination event or an event of government default;
- The range of termination events that can give rise to termination should be limited and listed in the contract.
- Termination events invoke the following payment obligations by government:
    - Private partner default – an appropriate 'fairness' payment so that government does not receive a windfall gain on early receipt of the asset;
    - Force majeure – an appropriate payment to reflect that government needs to bear an equitable proportion of the losses, which have arisen outside the control of either party; and
    - Government default/voluntary termination – an appropriately full payment of the private partner's interests in the project and their financing and other break costs – to keep them 'whole', to reflect the unilateral action by government.

14) Dispute Resolution

- A dispute may arise between the government and the private partner over a contractual provision, a matter not explicitly covered by the PPP contract or a decision by an Independent Consultant/Expert. Dispute resolution processes should be designed to provide resolution of matters in dispute in an expeditious, non-litigious, fair, cost-effective and independent manner;
- There should be a tiered process for resolution of disputes eg
    - (i) Discussion between the parties, at senior level;
    - (ii) Reference to an independent expert, particularly for calculation of monetary amounts (eg compensation);
    - (iii) arbitration.

15) End of Term Arrangements

- At the end of the contract term, the Project Agreement typically will require that the rights and obligations associated with the PPP facility be transferred by the private partner to government for a nominal or no consideration;

- Government will need sufficient contractual protections to ensure that the full set of project assets is transferred and that the facility meets minimum handover specifications. Such protections may include:
    - Joint or independent facility condition survey 24 months prior to the contract expiry date, potentially resulting in a list of matters requiring rectification;
    - Lodgement of a handback security by the private partner or withholding of payment by governments up to a pre-specified amount.

Annex 7: Contract Administration Manual[8]

The objective of this Annexe is to provide guidance on the development of two key documents central to government's management of the PPP contract:

1. Contract Management Plan; and
2. Contract Administration Manual.

The Annexe also provides an introductory context explaining how these documents fit into the broader contract management framework.

A7.1 Introduction

Contract management incorporates the range of activities required to identify, monitor and mitigate risks over the life of the PPP contract so as to allow the ongoing delivery of contracted services and to achieve the government's project objectives more broadly.

A consideration of contract management begins during project procurement and becomes the primary focus upon contract execution, or financial close where relevant.

Contract management requires an understanding of the range of risks inherent in a PPP project and, in particular, how they may impact ongoing delivery of the contracted services. Whilst the private sector partner most likely will have contracted with government through a special purpose vehicle (SPV), an understanding of the dynamics amongst the private parties to the consortium will be informative for the contract management unit (CMU).

Effective contract management requires the successful undertaking of a range of activities of which contract administration is but one, albeit fundamental, component.

Contract management over the project lifecycle

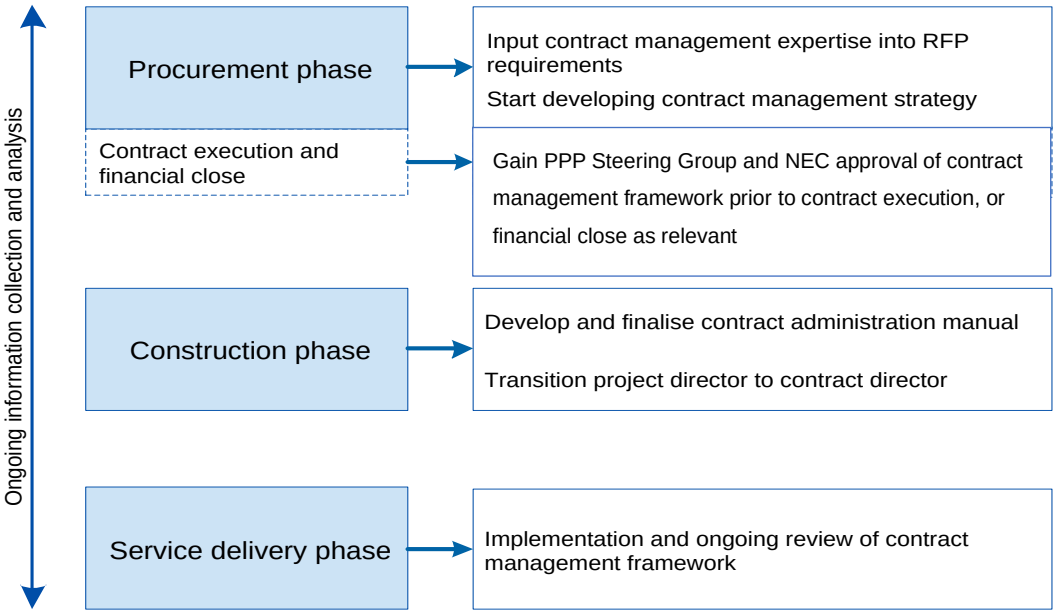
As shown in Figure A7.1, a consideration of contract management should begin during the procurement phase through input into the request for proposal (RfP) documents. Areas of input typically include review of proposed (i) contractual KPIs to ensure suitability and measurability, (ii) KPI monitoring and measurement arrangements and (ii) private sector partner reporting requirements to the CMU.

During the **construction phase**, relationships with the private sector partner that are embedded in the contractual arrangements formally commence. The period of design development requires care by the contract management team to ensure the required standard of asset is built and that the asset will have the capability to provide the contracted services. The technical completion tests for the asset are a key milestone during the construction phase (in projects where technical completion is contemplated) as is the operational readiness period leading up to commercial acceptance and its related commissioning tests.

Contract performance during the **service delivery phase** focuses on monitoring service provision, maintaining asset condition and managing payments.

[8] This Annexe draws heavily on Victorian Government, Partnerships Victoria Contract Management Guide https://www.dtf.vic.gov.au/public-private-partnerships/policy-guidelines-and-templates This document also serves as a useful reference document, providing a more detailed coverage of contract administration activities and a more fulsome discussion of the other key components of effective contract management.

Figure A7.1 Contract management over the project lifecycle



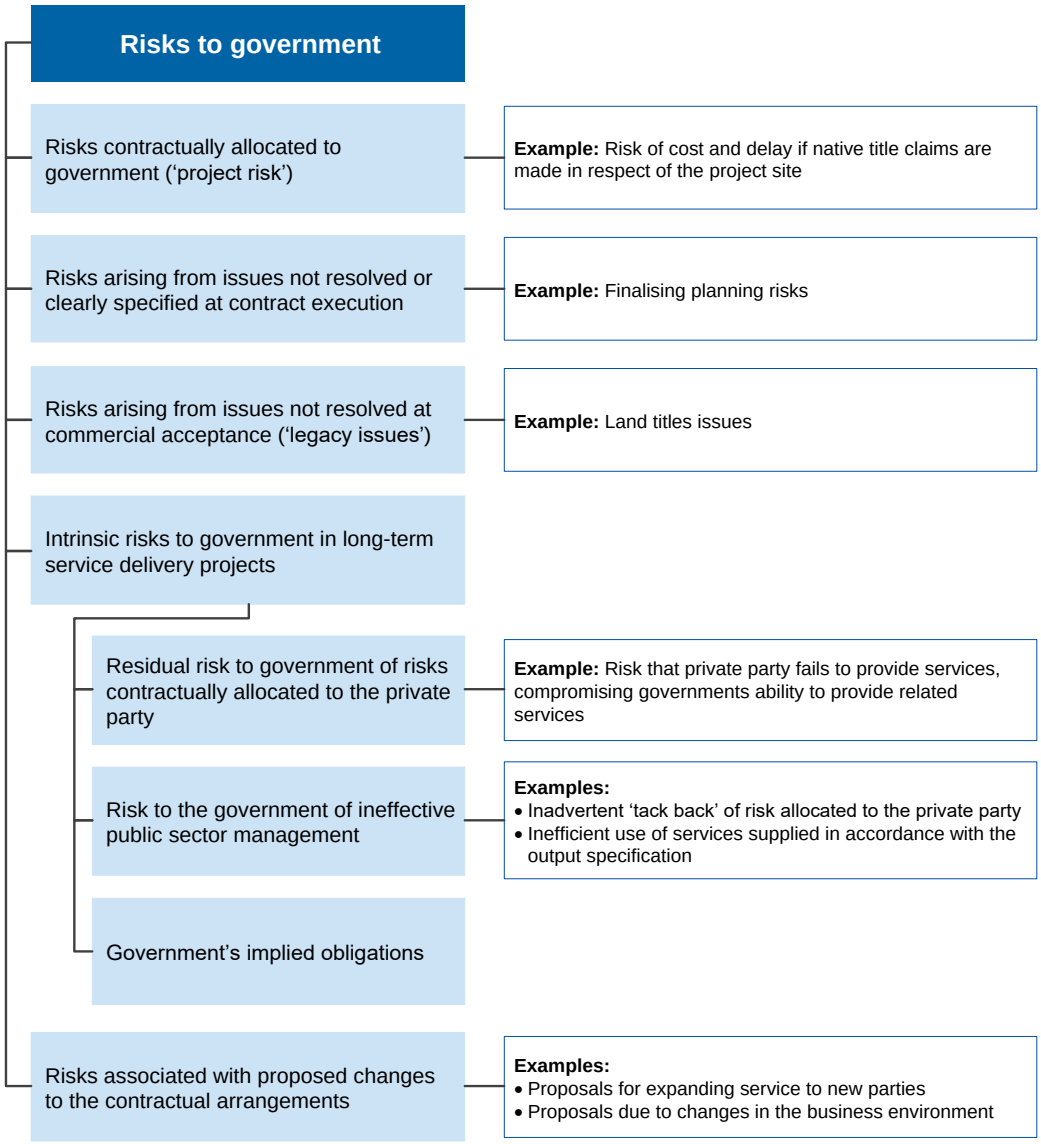
Risk management in a PPP project

There are a variety of sources of risks for government in a PPP project, as shown in Figure A7.2. These go beyond the risks addressed in the project agreement and are explained briefly below:

- Project risks: risks addressed specifically in the project agreement. The CMU must adhere to this allocation and ensure that government meets its contractual obligations and the private sector partner meets theirs;
- Risks unresolved at contract execution: this may include risks that are due for resolution by financial close but which have not been resolved fully at that time, for instance environmental planning approvals;
- Risks unresolved at commercial acceptance: at commercial acceptance, the facility is deemed to be substantially complete (except for minor defects and omissions). It is important that all minor defects and omissions are rectified and all operational plans that are to be provided to the CMU by the private sector partner are completed and forwarded;
- Risks inherent in long-term contracts: under a PPP, government can transfer the financial consequences of service delivery failures to the private sector partner (through abating or ceasing payments) but it cannot delegate its responsibility for delivery of these services to the community. Contingency arrangements for service delivery need to be considered; and
- Change events: the risk that either government or the private sector partner may seek to vary the contract.

The CMU needs to be aware that risks can arise from each of these sources, undertake sufficient research to identify them and ensure that the more important risks are monitored actively.

Figure A7.2: Categories of risk in a PPP project



The private sector partner's approach to risk

The project agreement allocates project risks. While the private sector partner (operating through the SPV) is responsible to the government party for the project and services, the private sector partner typically passes down most of these risks to relevant consortium members through sub-contracts. The risk allocation between the consortium members is determined during the procurement phase and will be priced by the builder, facility management subcontractor, operator (if applicable), debt financiers, equity participants etc. There are often interface agreements between consortium members that specify risk allocation and the financial consequences of the risk. This is particularly relevant in relation to the payment mechanism that underpins the contractual performance regime.

The CMU should understand how risks are shared between consortium members. At times, there may be competing or differing views between consortium members. However, the CMU also needs

to ensure that the private sector partner as a whole remains accountable and not be induced into dealing with individual consortium members to resolve specific issues.

Key elements of effective contract management

Successful contract management requires the effective undertaking of a range of activities. These are outlined below:

- Resourcing and governance:
    - the CMU must be provided with adequate resources – both budget and experienced dedicated personnel - to ensure that contracted performance standards are not compromised and risk is managed over the life of the project;
- Relationship management:
    - given the long-term nature of PPP projects, and the need for ongoing continual communication, it is important to maintain an effective working relationship between the contracting parties. This will facilitate the two parties in anticipating and dealing with risks and benefiting from opportunities that arise;
- Contract management planning:
    - upfront and ongoing planning, information collection and analysis are key steps in effective contract management. An approved contract management plan addressing all the necessary components for effective contract management of that project is required prior to contract execution/financial close. It is imperative that contract management arrangements be in place at the outset of the life of the contract and be maintained throughout the duration of the contract;
- Contract administration:
    - contract administration is a significant task. It requires the development of a contract administration manual (CAM) and its ongoing review and update. The CAM is based on the approved contract management plan but developed into a more detailed document or manual. The CAM will evolve over time as the project moves through different phases and will cover the key aspects of managing performance and reporting;
- Knowledge and information management:
    - a large amount of material is generated in a PPP project, including the contractual documents and information arising during the life of the contract. The CMU needs to implement a knowledge and information management strategy tailored to the project that ensures that the information collected is retained, maintained and updated, periodically reviewed and organised for easy retrieval. Such a strategy will enable the CMU to efficiently undertake its range of activities including contractual obligations such as payment arrangements to the private sector partner and reporting to senior government officers; and
- Contingency planning and ongoing review:

- the objective of contingency planning is to ensure that the CMU can respond to unplanned events and control the impact of these events on service delivery and value for money outcomes. In addition, there should be ongoing review of the information required from the private sector partner, and its ongoing collection and analysis by the CMU.

The remainder of this Annexe focuses on the 3rd and 4th of these activities respectively, contract management planning and contract administration.

A7.2 Contract Management Planning

As set out in Schedule 1 of the PPP Regulations, prior to contract execution - or financial close as applicable - the PPP Project Team shall prepare a proposed framework for ongoing management of the contract for submission to the PPP Steering Group and ultimately to NEC. The framework (or plan) shall include proposed governance arrangements, contract management procedures and processes, funding and consultancy resource requirements, and reporting arrangements.

Given the differences in focus between the construction and operations stages of the project, Schedule 1 also sets out that the proposed arrangements for contract management are to be reviewed and approved by the PPP Steering Group and NEC prior to the start of the operations stage.

It is imperative that contract management arrangements are established prior to commencement of the construction stage of the project and revised as necessary prior to the beginning of the operations stage of the project, when the focus moves to service delivery.

Contract Management Plan

The contract management plan is a relatively high-level document (around 20 pages) outlining the key steps that are proposed to develop an effective contract management regime for a PPP project.

The contract management plan should address:

- contract management strategy, listing the contract management objectives and how these are to be achieved;
- governance arrangements, identifying the government entity and key persons responsible for management of the project and related contractual arrangements and outlining associated committee and reporting arrangements. These apply to each of the construction phase and the service delivery stages, and any transfer of responsibilities between these stages;
- approved budgetary and staff position allocations for contract management. This covers staffing and funding for consultancy, administrative and systems support;
- proposed structure and contents of the contract administration manual (CAM) and timing and process for its preparation and implementation; and
- proposed knowledge management arrangements for storage and retrieval of relevant documents and material.

A potential contact management plan template is provided below.

Contract Management Plan Template

1. Introduction and purpose
   - 1.1 Introduction
   - 1.2 Purpose
2. Resourcing and governance
   - 2.1 Contract management budget and source of funds
   - 2.2 Implementing agency governance and reporting structure
   - 2.3 Project/contract management team structure
   - 2.5 Delegation arrangements
   - 2.6 Probity protocols
   - 2.7 Knowledge management tools
   - 2.8 Register of key documents
3. Key project commercial features
   - 3.1 Project summary (including objectives, context, scope, timeframes, new assets, services)
   - 3.2 Parties to the project agreement and other project contracts
   - 3.3 Key dates in the project agreement
   - 3.4 Project contractual relationships
   - 3.5 High level risk allocation
   - 3.6 General obligations of private sector partner
   - 3.7 General obligations of the government party
   - 3.8 Payment mechanism and performance regime
   - 3.9 Default, termination and step-in regime
   - 3.10 Structure of private finance
   - 3.11 Government party rights at expiry of contract
4. Contract management strategy
   - 4.1 Objectives
   - 4.2 For performing contractually defined contract management roles
   - 4.3 For communication with private sector partner
   - 4.4 For identifying necessary and critical obligations and activities
   - 4.5 For managing risks
   - 4.6 For addressing potential contract variations
   - 4.7 For reporting to senior management and PPP Centre
   - 4.8 For communication with key external stakeholders
   - 4.9 For transition from construction to service delivery stages
   - 4.10 For strategy review and succession planning
5. Proposed structure of the contract administration manual

A7.3 Contract Administration Manual (CAM)

Contract administration is about the how the CMU leader and their team works with the private sector partner and relevant government parties to achieve the government's project objectives. Effective and efficient public sector contract administration is essential to the delivery of project and government objectives, including the value for money outcomes agreed at contract execution.

Contract administration encompasses a range of tasks, including:

(a) Formalise management responsibilities for transition between the project stages;
(b) Monitor project delivery during construction;
(c) Monitor the service outputs;
(d) Manage variations;
(e) Maintain the integrity of the contract;
(f) Monitor contract performance;
(g) Maintain strong working relationships with the project parties and service providers;
(h) Resolve project issues and disputes fairly and efficiently;
(i) Work with government colleagues to identify potential service delivery and other change events that may impact the project;
(j) Ensure that standards of probity, governance and compliance are adhered to; and
(k) Conduct regular contract and project reviews to ensure continuous improvement.

The CAM is based on the approved contract management plan and sets out in detail how the contract is to be managed, including how this range of tasks listed above is to be undertaken. Its purpose is to provide detailed information for the CMU that will support its administration of the contract over the life of the project. More specifically, the CAM will facilitate the ongoing identification, understanding and management of project risks and contractual obligations of both parties. It is a detailed document and needs to be regularly reviewed and updated.

In summary, the CAM should provide answers to the following questions:

- What needs to be done, by whom and when?
- What are the ramifications of any failure to deliver the facility to the agreed design or to deliver the contracted services, or default by the private sector partner or government party, and how should these be addressed?
- What are the service delivery requirements and payment arrangements?
- Who are the key stakeholders and what are the communication arrangements?

It should also provide the historical context and address strategic issues, such as:

- How will the government party's role be performed?
- What is the strategy for managing the project and for dealing with the private sector partner?
- What was the rationale for key decisions made in the project to date, and what lessons have been learnt?

CAM structure and contents

The contents of a CAM should include:

- a strategic context – a brief historical summary of the project to date, including the construction and service delivery context, the rationale for key decisions and discussion of key issues with the private sector partner, and outline key elements of the private sector partner consortium. It should outline the strategy for achieving the government's project objectives. It should also include a summary of 'the deal' that illustrates the intent behind the project agreement and its key provisions, rather than simply repeating or describing the meaning of contractual clauses. That is, it should capture what the project agreement is trying to achieve and whether it is in fact being achieved;
- construction stage deliverables – a list of the private sector partner's deliverables during this design and construction stage, the dates/milestones for these deliverables, the roles of 3rd party experts (e.g. independent reviewer) as applicable, and the government's obligations with respect to these deliverables (e.g. design review); a clear listing of the processes for technical completion and commercial acceptance; a clear listing of the process for consideration of design modifications and contract variations;
- service delivery stage deliverables & payments – a list of the private sector partner service deliverables, their timing, and measurement; process for monitoring of deliverables and payment of private sector partner; outline of private sector partner reporting arrangements to CMU; a clear listing of what constitutes grounds for (i) payment abatement, (ii) contract breach and issuing of such notices to the private sector partner;
- immediate necessary actions – a highlighting of the most immediate and critical actions that must be taken by the CMU to administer the project agreement. These actions need to be set in the context of a clear understanding of the commercial intent of the parties, and the relevant commercial, legislative, regulatory and policy background and updated on a rolling basis;
- CMU resources – a list of resources (staffing, external consultants, budget) available to the CMU to enable it to perform necessary tasks and manage the most time-critical and materially significant risks at various stages during the project lifecycle;
- governance and reporting arrangements– how the process of contract administration will be consistent with public sector governance and reporting practices, including communications, accountability and decision-making. It should outline internal reporting processes, including to senior management and to the PPP Centre;
- interface arrangements with private sector partner – a process for regular face-to-face communication forums with, in addition to regular reporting by, the private sector partner; a listing of key private sector partner (i.e. SPV) counterparts; a listing of issues management and dispute resolution processes; joint maintenance of an up-to-date issues log;
- communications arrangements with stakeholders – arrangements for regular reporting to PPP Centre and a clear list of issues that warrant immediate contact to be made by CMU with PPP Centre (e.g. refinancing request); arrangements for communication with other key stakeholders (e.g service delivery recipients)
- contract management tools and processes - a cohesive set of contract management tools and processes for:
    - identifying, monitoring, analysis and reviewing contractual & other risks;
    - understanding service obligations, obtaining reports, monitoring performance and making contractual payments to the private sector partner;

- collecting, storing and retrieving of relevant information and documents; and
- contingency arrangements; and

- contract rights and obligations- a listing of each contractual right and obligation of both parties and any agreed additional rights and obligations; the ramifications of any non-performance or default by the private sector partner or the government party, and how these should be addressed; and
- arrangements for ongoing review and development – the CAM must be a dynamic document, updated regularly so that it remains relevant throughout the contract lifecycle. It should contain procedures for its review and update at regular intervals.

Preparation of a CAM

In preparing a CAM, it is important to appreciate that a PPP contract is long-term and that there is likely to be a succession of staff administering the contract over its term. As such, it needs to be readily useable by an officer with limited project/contract background. An indicative CAM Template is provided below.

CAM Template

Part A: Preliminary details

1. Glossary
2. Introduction
   - 2.1 Purpose and scope of manual
   - 2.2 Responsibility for developing the manual
3. The project and its status
   - 3.1 Summary of the deal
   - 3.2 Parties to the project agreement and any other project contracts
   - 3.3 History of the project to date
   - 3.4 Key dates
   - 3.5 Unresolved issues at commercial acceptance
4. The project in the context of the broader service delivery framework
   - 4.1 Role of the project within the government's/Relevant Public Body's service delivery framework
   - 4.2 Stakeholders and communication arrangements

Part B: Governance and resourcing

5. How will the government party's role be performed?
   - 5.1 Contract management team staffing
   - 5.2 Operational budget
   - 5.3 Governance arrangements
   - 5.4 Delegations/authority

5.5 Internal reporting

5.6 Knowledge management tools

5.7 Interface with PPP Centre

Part C: Contract management strategy and framework

6. Contract management strategy

6.1 Approach to managing the contract

6.2 Key relationships and forums for communication

7. Dispute resolution

7.1 Contractual provisions and their implementation

7.2 Actions to date and lessons learnt

8. Risk analysis

8.1 Risk register and its review and update

8.2 Issue escalation to other government entities

8.3 Contingency framework

Part D: Contract obligations and management processes

9. Obligations of Government

9.1 Key activities and obligations

9.2 Other relevant government entities/persons

10. Reporting obligations of the private sector partner

11. Contract variations

12. Invoicing, payment and abatement

12.1 Regular services payments and abatement provisions

12.2 Invoicing submission and review and payment processes

13. Public communications

14. Change events

15. End of contract term

Part E: Ongoing review and development

16. Project reviews

16.1 Project benefit evaluation

16.2 Contract management review

17. Updating the contract administration manual

Appendices (Attach as relevant)

Annex 8: Disclosure Template

Post-Contract Award Template

1. Project name & location: _____

2. Service to be provided:

3. Status: ❑ under design ❑ under construction ❑ in operating phase
❑ contract expired or terminated ❑ other_____

4. Procurement process: ❑ solicited tender ❑ unsolicited bid ❑ other _____

Number of parties to receive RfP: ❑ : Number of parties to submit RfP ❑

5. Consortium members: (Name and % ownership)_____

6. Dates: Contract Execution signing _____ Financial Close signing _____
Commissioning _____ Contract Expiry _____

7. PPP model:

❑ Performance-based maintenance contract

❑ O&M (Operating & Maintenance)

❑ DBO (Design, Build, Operate)

❑ Lease

❑ DBFM (Design, Build, Finance, Maintain)

❑ DBFO (Design, Build, Finance, Operate)

❑ Concession

❑ other

8. Land title: ❑ private freehold ❑ government lease ❑other

9. Facility service capacity eg size, output, _____ .

Key service KPIs: _____

10. Government guarantees ❑ none ❑ direct ❑ via utility ❑ other _____

11. Government financing: amount USD_____
Terms: ❑ grant ❑ loan ❑ in kind.

If in kind, describe:_____

12. Official international financing: amount total US$_____
Each agency: Name: _____Type: ❑ grant ❑ loan ❑ equity ❑ guarantee
Financing terms: _____

13. Special terms: ❑ tax holidays _____ ❑ accelerated depreciation _____

14. Payment arrangements: ❑ government fee ❑ tariffs/charges ❑ other _____

Payment mechanism disclosed? ❑ yes ❑ no

15. Termination payment summary for each of:

(i) force majeure _____

(ii) contractor default_____

(iii) PNG government/agency default

16. Dispute resolution procedures_____

17. Legal reforms necessary for the implementation of the PPP _____

Annex 9: Value for Money

INTRODUCTION

Consideration of Value for money is a key principle in the use of PPP procurement. Value for money is a broad concept and encompasses a consideration of the project features and the Government's project objectives and what form of procurement of that project can best meet these objectives.

APPROACH

Assessment of whether PPP procurement is likely to deliver a value for money outcome for Government in comparison to Traditional Procurement occurs at three points in the PPP process:

- In the Initial Assessment prior to Registration;
- In the Feasibility Study; and
- In the evaluation of RfP proposals from tenderers and after negotiations.

Initial Assessment and prior to Registration

The Initial Assessment involves a screening process to identify the potential suitability of a project to be procured as a PPP. This screening process focuses on

1. the project's features, to see if they are suited to PPP procurement; and
2. the government's objectives for the project, to see if they are suited to PPP procurement.

However, the Initial Assessment does not undertake a comparative assessment of the suitability of various PPP models or whether PPP procurement is likely to provide better value for money than use of Traditional Procurement. Such an assessment requires an understanding of the various PPP models and also Traditional Procurement models and an analysis of comparatively how well each of these models suits the project features and government objectives for the project.

Assessment at this stage is preliminary. It is based on a high level review of the project's features and a consideration of the potential to structure it commercially to produce a project offering that can meet the government's objectives whilst being viable for the private sector.

Feasibility Study

Assessment at this stage is a more considered and detailed view about whether a PPP procurement method should be used for the project. The undertaking of a pre-feasibility study and/or feasibility study provides the data and analysis that enables a detailed assessment of whether PPP procurement is likely to provide better value for money to Government than use of a Traditional Procurement method. It also enables a determination of which PPP model is most suitable and the key commercial features (e.g. service scope, risk allocation, payment mechanism, contract length) for use in that model.

An informed and considered analysis to identify which procurement option – PPP or Traditional Procurement - and if PPP which model, is most likely to achieve the best value for money outcome for the Government requires understanding of the following four parameters:

1. Features of successful PPP projects;
2. The government's objectives for the project;
3. The range of PPP models, and their strengths and weaknesses; and
4. The range of relevant traditional procurement models, and their strengths and weaknesses.

Generally, such a comparative assessment will be undertaken in a pre-feasibility study and/or a feasibility study.

Tender Assessment

Assessment at this stage is about whether any of the tenders submitted in response to the RfP provides value for money for the Government i.e. provides better value than procuring the project through a Traditional Procurement delivery method.

The Government's project objectives should be reflected in the Evaluation Criteria used by Government to assess RfP responses. These criteria contain both quantitative and qualitative aspects. RfP responses are assessed against these Evaluation Criteria to determine which of the tenderer offers the best value for money to Government.

However, the determination of whether this best tender offers better value for money to Government than Traditional Procurement requires an additional assessment of the comparative benefits of this tender proposal against the likely outcome if a Traditional Procurement method was used.

In some countries, a Public Sector Comparator is constructed to assist in this assessment. The Public Sector Comparator is an estimate of the whole-of-life risk-adjusted cost to Government of delivering the project requirements set out in the RfP using the most likely Traditional

Procurement. A reference design needs to be prepared for the project, outlining the physical/technical solution that the Government would use to achieve the output specifications included in the RfP document, to provide a basis for the Public Sector Comparator. Considerable effort, skill, cost and good data is required to estimate a robust Public Sector Comparator. Its use in PNG will be determined on a case-by-case basis.

In many jurisdictions no comparative assessment occurs at this stage and reliance is placed on the feasibility study stage assessment decision to proceed with PPP procurement together with the strengths of a competitive procurement process, to produce a value for money outcome for the Government.

METHODOLOGY

The methodology outlined below applies to projects that have been registered with the PPP Centre, following their initial screening for PPP suitability by the Relevant Public Body and confirmation by the PPP Centre.

A five-step process is used:

1. Firstly, the potential procurement models are reviewed to prepare a short-list of models (three to five is recommended) for detailed assessment; these will include a mix of PPP and Traditional Procurement models;
2. Secondly, a matrix is prepared that describes the key features of each of these models;
3. Thirdly, the major government objectives for the project are identified (ideally no more than six) and, as appropriate, these objectives are ranked by their relative importance;
4. Fourthly, a second matrix is prepared that provides an assessment of how well each of the short-listed procurement models rates against each of these government objectives; and
5. Finally, an assessment is made comparing the overall performance of each short-listed procurement model against the set of government objectives, to identify which procurement model is likely to offer the best value for money outcome to government.

This methodology is illustrated using a fictional water treatment project requiring major works to build a new water treatment facility, which must then be operated and maintained.

Step 1: Short-listing of models. Five models have been short-listed: two traditional procurement models [(models (i) and (ii)] and three PPP models where the role for the private sector increases from model (iii) to model (v)]

(i) Construction based on in-house design (Construct Only), with in-house utility operations and maintenance (O&M)

(ii) Design & Construction (D&C) contract with in-house utility O&M;

(iii) D&C for construction with a performance-based O&M contract;

(iv) Design Build Operate (DBO); and

(v) Design, Build, Finance, Operate and Maintain (DBFO).

Step 2: The five models are described using a range of key project descriptors. This step is undertaken to ensure that the features of each of the short-listed models are understood, as this will be important to the undertaking of Steps 4 and 5.

Step 2: Key Features of each Procurement Model

Procurement Model	Operational performance responsibility	Operator's source of revenues	Responsibility for financing construction of facility	Operator's role in design & construction of facility	Contract Length (years)
1 Construct only with in-house water utility design and O&M	Government (Water Utility)	Customer tariffs/charges + (any) government subsidy	Water Utility	Operator responsibility, directly for design and is client for construction works	Around 2 (Length of construction period)
2 D&C with in-house O&M water utility	Government (Water Utility)	Customer tariffs/charges + (any) government subsidy	Water Utility	Operator responsibility as client for design and construction contract	Around 3 (Length of period for design and construction)
3 D&C plus O&M contract with private sector - PPP Model	PPP party (ie Private sector)	Performance-based management fee payable by government	Water Utility	Nil (generally)	4 to 6 (Enough time for private party to gear up and perform)
4 Design Build Operate (DBO) – PPP Model	PPP Party	Performance-based management fee payable by government	PPP Party initially but Water Utility pays after commissioning of facility	PPP Party (ie Operator) responsibility	7 to 10 (4 to 7 years post construction)
5 Design Build Finance Operate (DBFO) – PPP Model	PPP Party	Customer tariffs and/or performance-based management fee payable by government	PPP Party	PPP Party (ie Operator) responsibility	20 to 30 (enough time for revenues to offset construction cost)

Step 3: The Government's primary objectives for the project are identified. Six objectives have been identified relevant to the fictional project (note that, these will not necessarily be applicable to other projects). Consideration is given to whether a relative weighting should be applied to government objectives. For simplicity, in this example, achievement of each objective is considered to be equally important.

Step 4: Each of the short-listed procurement models is rated against each project objective. Various rating scales can be used. In this example, a scale of 1 – 10 is used; this allows a quick summation of scores to calculate a numerical preferred model.

Step 4: Rating of Each Model against Each Government Objective

	Likelihood of meeting service level targets sustainably[9]	Likelihood of meeting efficiency targets sustainably[10]	Capacity building effectiveness	Harnessing markets & competition	Ease of implementation	Minimises Upfront Cost to Government	TOTAL SCORE/ RANKING
1 Construct only with in-house design and O&M	2 (little experience in design and O&M of facility)	2 (limited success in meeting efficiency targets to date)	2 (no exposure to additional expertise)	2 (competition only for construction)	10 (only one service to contract)	0 (utility pays at construction milestones)	18 (5)
2 D&C with in-house O&M	3 (limited incentive on D&C party and little O&M experience)	3 (limited success in meeting efficiency targets to date)	3 limited exposure to additional expertise)	4 (competition for design and construction)	9 (only a single contract to procure)	0 (utility pays at construction milestones)	23 (4)
3 D&C with O&M contract with private sector	6 (impacts PPP Party revenues but not if from poor design)	6 (strong incentive to meet targets but no D&C involvement)	6 (can be a KPI impacting payments)	10 (allows regular competition for O&M)	7 (O&M contracts are relatively simple)	0 (utility pays at construction milestones)	35 (3)
4 DBO	8	8	10	10	5	5	46 (1)

[9] Service level targets relate to matter such as (1) water quality (2) continuity of supply (3) water pressure (4) time to restore supply after outages etc
[10] Efficiency targets relate to matters such as (i) non-revenue water (NRW) (2) payment collection etc

	(impacts PPP Party revenues including if from poor design)	(strong revenue incentive)	(O&M period of contract allows good training)	(allows regular competition for O&M)	(relatively complex procurement)	(utility pays in full at commissioning)	
5 DBFO	10 (as for DBO but for up to 30 years)	10 (strong long-term revenue incentive)	4 (utility will not assume O&M for many years)	7 (competition large but infrequent)	3 (complex procurement)	10 (no construction payment by utility)	44 (2)

- The table entries are written from the Government perspective. Scores are in the range 0 to 10, with a higher score being better than a lower score for all entries
- Assumptions include that Water Utility has limited experience in water treatment design and operation and limited success with issues like NRW.

Step 5: Having regard to the relative ratings of each model against each government objective, an overall assessment is made as to the preferred procurement model. This should allow a ranking of models. If numerical scoring is used, the relative total scores will provide a ranking of models. The worked example shows how this methodology can provide a preferred procurement model.

- However, it is important to appreciate that this ranking is the outcome of the individual ratings applied in each cell, for each model against each selected government objective, and also the relative weighting used for each government objective (equal weightings are assumed in the example). It is recommended that both of these elements be reviewed to confirm, or otherwise, the choice of the preferred procurement model.

INPUTS

In order to implement the methodology as outlined an understanding is required of the following four parameters:

1. Features of successful PPP projects;
2. The government's objectives for the project;
3. The range of PPP models, and their strengths and weaknesses; and
4. The range of relevant traditional procurement models, and their strengths and weaknesses.

Details on each of these parameters is provided below.

1 Features of Successful PPP Projects

For a public infrastructure project to be considered suitable for PPP procurement, it should have a value equal to or greater than the Referral Threshold and possess the following features:

- Service focus: the project can be structured so that it produces a flow of services over time to the Relevant Public Body, or to the community on behalf of the Relevant Public Body;
    - i.e. it cannot simply be a construction project without any ongoing involvement by the construction firm beyond completion of construction;

- Output requirements that can be clearly specified and monitored: the service outputs to be produced by the Private Sector Partner must be able to be clearly specified and easily measured. They also must be distinguishable clearly from other related services that are produced (e.g. by Government or other private parties):
    - If not, it is difficult to determine whether the Private Sector Partner has fully met their contractual commitments each period and therefore should be fully paid; the focus of a PPP is on the services to be delivered from the infrastructure facility;

- Service needs are relatively stable over the contract lifetime: the assets to be built by the Private Sector Partner are expected to have a long useful life and the related services are not expected to change quickly over time
    - the long-term nature of PPP contracts reduces to some extent the flexibility of the Government to adjust its specifications over time;
        - where agencies remain interested in using the PPP model for services where the nature of demand and/or technology is subject to rapid change (e.g. projects with a significant IT component), short-term contracts should be used (e.g. five to seven years, with scope for further short-term extensions);

- Sizeable scope for innovation or improved infrastructure/service performance: the project has sufficient complexity and/or there is significant scope for improving the efficiency or service quality of current arrangements
    - it is those sectors and services that are currently under-performing, or where there is significant untapped scope for improved service performance, where PNG could benefit most from introducing private sector and international experience and expertise; PPPs' use of output requirements rather than prescriptive input requirements provides greater scope for innovation in design and operation;

- Opportunities for significant risk transfer: are there major project risks which traditionally the Government has not managed well and could be transferred to a private party who is better incentivised to, or more capable of, bearing them?
    - for instance, in a PPP, if services are not delivered fully to contractual requirements or they are delivered late, payments to the Private Sector Partner are delayed or reduced. This is something that debt financiers, in particular, in PPPs with a privately-financed build component, will seek to avoid occurring; they will closely monitor the Private Sector Partner's cash flows and will directly intervene to seek its improved performance as necessary; and

- Sufficient bidder appetite: there is demonstrated strong bidder interest in the project
    - generally, PPP procurement will provide a value for money outcome for Government only when a strongly competitive bidding field exists; this requires at least two competent bidders. Particularly for the initial PPPs undertaken in PNG, it is advisable that a market sounding process be conducted by the PPP Centre or PPP Project Team to ascertain likely market interest and to receive feedback on commercial structuring of the PPP offer to be put to market.

These six project features are essential to structuring a PPP that can deliver a value for money outcome for Government. Only those projects with these features should be considered for PPP delivery. However, another project feature that can assist in achieving a value for money outcome in some circumstances is:

- Ability to generate revenues beyond Government payments: there is the opportunity for the Private Sector Partner to generate additional revenues from the sale of services to third parties

- where such opportunities are likely, Government will note this in the tender documents or a tenderer may propose this as an innovation in their bid response. The prospect of this additional revenue stream can generate efficiencies and allow tenderers to reduce their bid price for supplying Government's service output requirements, thereby providing value for money to Government as long as the meeting of the PPP contractual service requirements is not impacted adversely.

2 Project Objectives

Governments undertake projects to meet specific needs which have identified. The Government may also have specific objectives relating to the manner in which a project is delivered.

For all public infrastructure projects, the following Government objectives are likely to apply:

- sustained delivery of the required services;
- lowest whole-of-life cost;
- delivery to schedule;
- allocation of risks to party (ies) best able to manage those risks, or to manage their consequences if the risk eventuates; and
- no probity events.

For projects with the right features), PPP models have the capability of meeting each of these objectives well and potentially better than under Traditional Procurement.

However, beyond this generic list, there may also be some project-specific objectives, which will vary from project to project according to the project characteristics and the needs of Government and any direct users.

Often, it is these objectives that can either enhance or reduce the suitability of PPP procurement. For instance, other project objectives may include a need for Government to:

- maintain a high level of control over direct service delivery;
  - makes some PPP models less suitable; or
- maintain a high degree of flexibility of service levels over time;

- generally, makes PPP models less suitable; or

- achieve a tight deadline for the beginning of operations (e.g. start of a school year, or date of a major event);
    - the suitability of PPP procurement will vary from project to project. PPP procurement can be expected to take longer to reach contract execution and, if relevant, financial close but typically takes less time to build and is much less prone to construction delays; or
- ensure a high level of skill transfer to the Government agency;
    - can make PPP models highly suitable as specific KPIs can be built into the payment mechanism; or
- ensure a high level of technology transfer to the Government agency;
    - can make PPP models highly suitable as specific contractual obligations can be tailored; or
- defer the incurrence of large funding outlays, for cash flow or balance sheet reasons[11]
    - only PPP models can achieve this objective.

If the list of project objectives is relatively long, Government's ranking of them (e.g. critical, very important, important) will assist in the procurement assessment exercise.

3 Common PPP Models

There is a wide variety of PPP models and they can be categorised many ways. In this Guideline, they are categorised according to whether or not there is a build component and whether this build is publicly or privately financed:

(i) Services Only; or

(ii) A Build Component with Public Finance; or

(iii) A Build Component with Private Finance

[11] Except for those PPPs which are fully funded by user charges, and privately financed, all PPPs will have cash flow and significant balance sheet implications for Government. However, for PPPs with a privately financed build component, balance sheet impacts do not incur until the facility reaches Practical Completion.

Typically, as you move down these categories (from i to iiii) there is more complexity, risk transfer to the private sector party and longer contract periods.

(i) Services Only PPPs

These PPPs relate to services being provided using already completed public infrastructure. There are two main types of PPP in this category:

- Performance-based maintenance: the Private Sector Partner maintains existing public infrastructure to specified performance levels;
    - E.g. a Private Sector Partner is contracted by a Relevant Public Body to maintain a section of the arterial road network to specified standards, such as with respect to smoothness and rutting etc., for a period of at least three to five years and is paid a regular service fee (e.g. quarterly). The Private Sector Partner provides all equipment necessary to perform this task. The Private Sector Partner receives a regular service fee from the Relevant Public Body which is abated if performance standards are not met fully;

- Operations & maintenance (O&M): a Private Sector Partner maintains and operates existing public infrastructure to provide services to specified performance requirements;
    - E.g. a Private Sector Partner is contracted by a Relevant Public Body to operate and maintain an existing hydro-electric plant to produce electricity for a period of at least three to five years in accordance with protocols set out in the contract. The Private Sector Partner is paid a regular service fee (e.g. quarterly) by the Relevant Public Body. These payments are abated to the extent that contractual performance standards are not met fully.

Service Only models generally have a relatively short contract period, of three to five years. This provides sufficient time for the Private Sector Partner to provide their services in a way that sustainably operates and/or maintains the asset but also allows the Relevant Public Body to harness competitive tension by testing the market via competitive tender at regular levels.

(ii) PPPs with a Publicly Financed Build Component

There are two main PPP models within this category:

- Design, Build, and Operate (DBO): the Private Sector Partner designs, builds, operates and maintains public infrastructure to specified performance levels; the facility is publicly financed at Practical Completion[12]
    - E.g. a Private Sector Partner is contracted by a public water utility to design, build, operate and maintain a waste-water treatment facility to produce waste that is suitable for discharge and/or reuse. The Private Sector Partner is paid a regular service fee (e.g. quarterly) to cover operating costs. The payments are abated to the extent that contractual performance standards are not met fully. Any design deficiencies, or damage caused by faulty operation, must be rectified by the Private Sector Partner at its cost.

- Lease: the Private Sector Partner assumes responsibility for an existing public facility or infrastructure system which it operates and maintains. Any extensions or upgrades are undertaken or overseen by the Private Sector Partner and funded from tariff revenue and/or by Government
    - E.g. a Private Sector Partner is contracted to assume responsibility for a town's water supply and distribution to customers and to oversee upgrades to the system. Its revenue source is tariffs from users and, in some cases, may be supplemented by a contracted public subsidy. The Private Sector Partner will face penalties if water supply service standards, as specified in the contract, are not fully met.

The contract period for DBOs is typically five to ten years, depending on the length of the build period. It is advisable to have a minimum three-year operational period beyond infrastructure completion so that Government can gain comfort that the facility has been designed and built appropriately and is capable of sustainably meeting service requirements. The contract period for leases is commonly longer and may extend to twenty years or more.

(iii) PPPs with a Privately Finance Build Component

There are three main types of PPP model in this category:

[12] Practical Completion is when the facility has been accepted by the Relevant Public Body as being finished and ready for operation.

- Availability – Design/Build/Finance/Maintain (DBFM): the Private Sector Partner designs, constructs, finances and maintains a specialist piece of public infrastructure and ensures its ongoing availability – as measured by 'availability' specifications - to the Relevant Public Body who uses it to provide public services
    - E.g. a Private Sector Partner designs, constructs, finances and maintains a package of new schools and ensures their ongoing availability for use by the PNG Department of Education to provide teaching services. The Private Sector Partner is paid a regular availability service fee (e.g. quarterly) by the PNG Department of Education, or other Relevant Public Body, which is abatable to the extent that all school buildings are not available for use or performance standards are not met fully;

- User pays - Design/Build/Finance/Operate (DBFO): the Private Sector Partner designs, constructs, finances, *operates* and maintains a specialist piece of public infrastructure to provide final public services, often directly to the public
    - E.g. a Private Sector Partner designs, constructs, finances, operates and maintains a new public hospital to serve the community. It receives its revenue directly from the PNG National Department of Health, or other Relevant Public Body, for supplying contracted services. These payments are paid at regular intervals (for instance, monthly or quarterly) and may be abatable by Government where contractual performance conditions are not met fully;

- User pays – Concession: a Private Sector Partner assumes responsibility for an existing public facility or infrastructure system which it operates and maintains. Depending upon the forecast profitability of the concession, the concessionaire may pay an upfront concession fee to the Government and/or a share of revenues over the life of the concession. Unlike a lease, any upgrades or extensions are generally financed by the Private Sector Partner. A concession has a similar commercial structure to a DBFO
    - E.g. a Private Sector Partner assumes responsibility for an existing airport and for its operation, maintenance and necessary upgrades. The concessionaire funds its activities through charges on users, such as airplane companies and travellers, and leasing out airport space (such as for retailing). The contract will include an obligation on the Private Sector Partner to enhance or upgrade the airport at either fixed dates or when trigger points are met (e.g. demand level threshold). The contract will provide for the Private Sector Partner to pay penalty payments to Government where contractual performance conditions are not met fully.

The contract period for DBFOs is generally between twenty and thirty years; a sufficient period for the Private Sector Partner to recoup its capital investment without user payments being unduly high. The contract period for a concession can be longer, recognizing the benefits of encouraging the concessionaire to grow the business and the need to undertake major capital investment during the concession period.

Under the concession model, ownership and control of the public infrastructure assets always returns to Government at contract expiry (for nil or nominal consideration). In the DBFM and DBFO models, this is also most commonly the case.

4 Common Traditional Procurement Models

The relevant Traditional Procurement models for consideration will differ between Service Only PPP projects and those PPP projects with a Build component. Accordingly, the description below of common Traditional Procurement models is separated into:

a) Service Only; and

b) Those with a Build Component.

a) Service Only projects

- Maintenance (e.g. roads); short-term contracts with only basic KPIs and where there is no incentive on the private party to undertake measures such as preventative maintenance
- Cleaning or grounds maintenance
- Catering e.g. in hospitals
- Retail leases in an airport.

A potential service contract between Government and private sector providers would not satisfy the conditions to be considered as a PPP if it includes any one of the following attributes:

- A contract value less than the Referral Threshold
    - Estimated contract value may be small because of either a short contract period and/or small annual contract value;
- A short-term contract length

- contracts with a term of less than five years provide little scope for consideration of partnering or change events in the contract and are inconsistent with the PPP definition in Schedule 3 of PPP Amendment Act;

- Provision of simple services only (e.g. cleaning of a public building or reactive maintenance)
    - these type of services, by themselves, provide little scope for significant risk transfer or innovation; and
- Contracts without a need or capability for a clear specification of services to be provided with related minimum quality and quantity aspects or without the capability of objective monitoring of actual service levels
    - services provided by the private sector provider need to be able to be readily measured, to determine whether they fully meet the contracted requirements and accordingly whether the private sector provider should receive full payment.

b) Projects with a Build component

Under Traditional Procurement, the typical approach is to unbundle the project components (e.g. design, build, operate, maintain) and contract most, or all, of these separately. A consequence of such approaches is that a consideration of how to design and build the infrastructure may occur a number of years before a consideration of the procurement approach for any private sector role in operations and/or maintenance.

Internationally, common Traditional Procurement methods to build public infrastructure include:

- Construct Only: Government either undertakes the design in-house or engages a design specialist. Tenders are then let for a contractor to build the infrastructure to this design. Progress payments are made at pre-set milestones
    - Suitable for standard and relatively simple builds, particularly where design is proven and little innovation is needed from the contractor. Only construction risk is transferred to contractor. Potential for significant cost escalation exists if Government wishes to vary design during construction
- Design and Construct: Government provides its detailed requirements for the building (e.g. size, functional, aesthetics, information technology) and seeks tenders for a contractor to undertake both design development and construction. Progress payments are made at pre-set milestones
    - Suitable for more complex, less standardised builds, particularly where there is significant scope to use innovative design measures to meet the Government's requirements. There is greater risk transfer to the contractor than under "Construct only".
- Turnkey: similar to Design and Construct except that it will generally include full facility fit-out and no payment is made until Practical Completion

- Contractor assumes larger financial risks than under Design and Construct, providing very strong incentive to ensure design meets requirements and build is of appropriate quality

- Construction Management: Government engages a Construction Manager to manage construction works on its behalf. The Government retains control of design and directly engages the sub-contractors. The Construction Manager purely performs a management and co-ordination role and is paid a fee
    - Suitable where a project has collapsed mid-project or where Government wishes to retain direct control over works (e.g. in an operating hospital or a rail corridor)

- Managing Contractor: Government determines its requirements and engages a specialist contractor (the Managing Contractor) to manage the tender and build process. This may involve the Managing Contractor's engagement of sub-contractors to deliver the facility. The Managing Contractor is paid a set fee and a performance fee if benchmarks are exceeded
    - Particularly suitable where the Government agency lacks practical experience and/or the project is specialized, and also where Government wishes to maintain control over design but utilize expert input. Government retains less risk than under the Construction Management procurement model but more risk than under the Turnkey model

- Project Alliance: Government selects a contractor – generally after a non-price competitive tender - to work with it to design and build the project on a basis of sharing risks and rewards (up to a cap for the contractor)
    - Particularly suitable where (i) Government is unable to clearly specify its requirements, or identify all risks, upfront (e.g. because not all information is available at the outset) or (ii) the project has a very tight timeline (e.g. construction of a venue for a scheduled major event). In practice, Government retains greater risk than under most other procurement methods.

Annex 10: Procurement Plan

A INTRODUCTION

The purpose of this section is to provide further context for the drafting of a procurement plan. As per the Guidelines, such a plan is to be outlined as part of the Feasibility Study in phase B2 encompassing the Project Studies and finalised as part of the Preparation for Market before tender launch in phase B3 on Project Preparation and Procurement. The procurement plan aims to structure the tender proceedings in terms in its design based on the main implementing principles and subject to the relevant legal requirements and should also reflect on the necessary resources and timelines in order to plan and budget accordingly.

B IMPLEMENTING PRINCIPLES

In line with international practices the following implementing principles apply to the procurement of a PPP arrangement:

15. Value for Money: The procurement of a PPP is to serve the interest of the government and the society at large in terms of delivering value for money by concluding an arrangement where the costs to the government and or the quality of the service provision are favourable and optimised in comparison with the use of conventional contractual arrangements; and
16. Efficient: The procurement of a PPP is to be delivered in an efficient manner by benefiting to the extent possible from prior experiences and or the use of predefined templates and or proceedings, and the use of recognised and relevant experts to prepare and support the procurement process; and
17. Flexible: The procurement of a PPP is to take into consideration the requirements of prospective bidders and where necessary be able to adapt to unanticipated bidder's needs and interest subject to the condition of value for money for the government and the society at large; and
18. Quality: The procurement of a PPP is to be prepared and delivered with the highest quality standards in mind in order to minimise the risk of any failure upon implementation of the contractual arrangement and to minimise any extent of reputational risk for the government that may impact the future market appetite for PPP in PNG; and
19. Fairness: The procurement of a PPP is to be delivered in a fair and transparent manner in order to ensure accountability, optimise value for money and minimise any extent of reputational risk for the government that may impact the future market appetite for PPP in PNG.

C LEGAL REQUIREMENTS

The following regulatory provisions as per the PPP Regulations underly the further guidance for preparing and delivering the procurement of a PPP arrangement:

Section (2):

Procurement of PPP projects shall follow the processes outlined in the guidelines and the relevant guidance materials, as endorsed by the PPP Steering Group.

Section (3):

Consistent with the procedures, guidelines and instructions to be prepared by the PPP Centre, project preparation and procurement shall be undertaken having regard to, inter alia; -

(a) management of the project by a suitably-resourced and capable Project Team, supported by the engagement of expert advisers;
(b) issuing of Request for Proposal (RFP) documentation only when there has been appropriate due diligence undertaken by the Project Team and when any major identified issues or constraints to project success have been resolved or suitable management or mitigation arrangements are put in place;
(c) use of tendering processes that are competitive, efficient and fair;
(d) project assessment and approval of governance structures that are capable, nimble and respectful of the commercial-in-confidence nature of these transactions; and
(e) an ongoing focus on achieving a value for money solution that meets the Government's project objectives.

Section (4):

The Project Team shall report regularly to the PPP Steering Group during the project preparation and procurement phases of the project including at the following project milestones (where they occur);-

(a) Release of request for pre-qualification (RFQ) or expressions of interest (EoI);
(b) short-listing of bidders;
(c) release of RFP;
(d) selection of preferred bidder;
(e) prior to and after negotiations with the preferred bidder;
(f) prior to contract execution; and
(g) prior to and after financial close.

Section (5):

Approval from National Executive Council for the purposes of the project, is required prior to:

(a) issuance of an RFP from bidders; and
(b) execution of a contract with the preferred bidder.

D DESIGN PARAMETERS

The design of a procurement process is to reflect on the following parameters:

1. Procurement process: One-stage or Two-stage process

There are two basic options for the procurement process refer to the phasing of the procurement process:

(a) One-stage process
(b) Two-stage process

(a) One-stage process

Option (a) is a one-stage process also known as an open tender process. It implies that the Request for Qualification and the Request for Proposal are joined and issued at the same time, typically under the heading of Request for Proposal.

Bidders are invited to submit their response to the Request for proposal in 3 separate envelopes:

(i) Statement of Qualifications
(ii) Technical Proposal
(iii) Financial proposal

These envelopes are to be successively opened i.e. firstly the Statement of Qualification, followed upon satisfactory evaluation by the Technical Proposal and concluded upon satisfactory evaluation by the opening of the Financial Proposal

An open tender implies that bidders are unaware of their competitors. They will be uncertain about their odds of winning. This will impact their decision making on preparing and submitting a bid. If the costs for preparing a bid are extensive i.e. for complex projects i, bidders will be reluctant to prepare a bid as that would imply incurring substantial costs with a high uncertainty of winning and the ability to recover the costs. A one-stage process is more appropriate for more straightforward smaller value PPP arrangements where the costs for preparing a bid are relatively limited, where a small number of bidders is expected and similar recent PPPs have been undertaken successfully in that jurisdiction.

(b) Two-stage process

A two-stage process also known as Restricted Procedure implies that firstly a Request for Qualification will be issued and that following evaluation of received applications only a selected number of respondents will be invited to respond to a Request for Proposal.

This process implies that the bidders will be aware of their competitors. They will be informed through the Request for Proposal on the number and names of the other selected respondents allowing them to assess their probability of winning. Simply put, if 4 respondents are selected to submit a proposal, the odds of winning the tender is 25%. In practice, the assessment will be more nuanced considering also the relative strengths of the competitors in relation to the project specifications and characteristics.

A two-stage process is more appropriate for the more complex projects, providing bidders with a restricted competition allowing them to make a more accurate assessment of the odds of winning in relation to the costs of preparing a bid.

In practice in PNG, it is expected that the two-stage process will be used more commonly.

2. Qualification method: Pre-qualification or shortlisting

There are two basic options to qualify respondents in terms of their capacity to deliver the project:

(a) Pre-qualification
(b) Shortlisting

It is to be noted that the qualification method does not refer to the qualification criteria but to the manner of selecting the participants whose technical proposal will be evaluated in a one-stage process or who will be invited to submit a proposal in a two-stage process.

(a) Pre-qualification

Pre-qualification implies that every respondent to a Request for Qualification (or a Request for Proposal in a one-stage tender) that complies with the qualification criteria qualifies for the evaluation of a technical proposal.

This approach implies an uncertainty for the contracting authority as the outcome could be a limited number of qualified companies or it could be a large number of qualified companies. And - as indicated - a large number of qualified companies could have a negative impact on the bidders' interest particularly for complex projects. It will also impact the number of bids that potentially have to be evaluated which will impact the resources and time required for evaluation. It is therefore recommended to consider this approach only if the contracting authority has a good understanding of the market of prospective bidders and its main and the capacity to define the qualification criteria such that the likely number of qualified bidders is manageable and appropriately competitive.

It is typically applied in a one-stage process though occasionally also in a two-stage process primarily if the contracting authority has reasonable certainty that the number of qualified bidders will be manageable and duly competitive.

(b) Shortlisting

Shortlisting implies that only the highest ranked respondents in terms of compliance with the qualification criteria will be invited to submit a proposal. It implies this a ranking based on a score that reflects the technical and the financial compacity of the respondents e.g. the higher the technical capacity, the higher the score, the higher the position on the rank.

It allows the contracting authority to restrict the number of qualified bidders to a manageable yet still competitive number of interested parties. This is beneficial for the contracting authority as it enables the contracting authority to plan the timeline and required resources for evaluation accordingly. And it is attractive for the prospective bidders as it provides them with an indication on the extent of competition they will be facing. The typical number for a shortlist is minimum 3 and maximum 5. A lower number would have the risk of insufficient number of bids if 1 or 2 shortlisted bidders decide not to submit a bid for any which reason or when 1-2 submitted bids do not meet the requirements. Both situations are not uncommon for a PPP in view of the complexity of a PPP arrangement. A higher number would reduce the appetite from bidders as it reduces the odds of winning.

The shortlisting approach requires scoring and ranking the qualifications (e.g. technical capacity and experience; financial capacity; PPP experience; country experience; sectoral experience) of the interested parties which may involve an element of subjectivity and thus a risk of being challenged for an incorrect score. It requires defining objective and measurable qualifications that clearly indicate the capacity of the respondent to deliver the project.

3. **Local participation:** Mandatory, preferable, or voluntarily

From a PNG private sector perspective, PPP can be very beneficial. It can generate a stable revenue stream because of the long-term nature of PPP, it can provide opportunities to deploy engineering and operating innovations and it can strengthen capacity through partnerships with overseas developers.

The government can facilitate local participation through its approach to the evaluation criteria in the selection and award of a PPP contract. There are basically 3 options:

(a) Mandatory participation of PNG enterprises
(b) Preferable participation of PNG enterprises
(c) Voluntary participation of PNG enterprises

(a) Mandatory participation of PNG enterprises

Mandatory implies that the contracting authority requires a minimum level of participation from PNG enterprise in the PPP arrangement. This could refer to:

(i) Minimum equity participation from PNG investors; or
(ii) Minimum share in operating expenditures supplied from PNG enterprises

Such requirements are to be stipulated in the Request for Qualification so interested parties can take this into consideration when establishing their consortium. It should not be defined as eligibility criteria for qualification, particularly the minimum share in the operating expenditure as the consortium will not yet have defined their proposal and the corresponding breakdown of cost when responding to the Request for Qualifications

Contracting authorities are advised not to impose overly severe requirements with regard to local participation. The requirements should clearly reflect the specifications of the project at hand and the capacity of the private sector in PNG to participate in the PPP in an effective and efficient manner with an eye for value for money of the envisaged PPP.

In some cases, PNG law reserves certain procurements for PNG-owned companies; for example, the National Energy Authority Act reserves IPPs of less than 10MW for PNG companies; this is not at the discretion of the contracting authority.

(b) Preferable participation of PNG enterprises

Alternatively, it can be considered to incentivise overseas developers to use PNG resources by including in the bid evaluation criteria the extent of local participation. The more local participation, the higher the score for the proposal.

It implies that an objective and unambiguous indicator has to be defined to measure the extent of local participation that takes into account the project specifications and the capacity of the PNG service providers. This could refer to the extent of equity participation or the share of operating expenditures sourced from local resources.

(c) Voluntary participation of PNG enterprises

The contracting authority could also consider refraining from any provisions with regard to local participation and allow interested parties to decide to use local resources or not. It is most likely that bidders will use PNG resources to provide for a competitive bid in view of the cost effectiveness of using local resources.

Whatever approach is chosen, it should be clearly stipulated in the tender documents so interested parties can act accordingly.

4. **Participation**: Free or Fee

Contracting authorities need to decide whether or not to charge a fee for receiving the tender documents.

Arguments for imposing a fee include:

- Ensures that only serious companies consider participating in the tender; and
- Provides an indication of how many applications the government can expect; and
- Allows for an element of cost recovery for the transaction costs incurred by government.

Arguments against imposing a fee include:

- Provides an entry barrier for interested parties;
- Requires proceedings to administer the charging and collection of fees; and
- Costs of tendering are likely to be significant for bidders

If the contracting authority prefers to apply a participation fee, it is recommendable to set the amount not too low such that it will deter unqualified or opportunistic bidders though also not too high to deter qualified and serious bidders.

The participation fee needs to be clearly stipulated in the advertisement for the RFQ that launches the tender with reference to the payment details.

5. Bid Costs: shared or private

Contracting authorities can consider to compensate the qualified bidders for their bid costs in view of the substantial costs commonly incurred by bidders for preparing their proposal.

The main argument in favour of such an approach is to enhance the probability of receiving high-quality proposals which will have a positive impact on the value for money potential in relation to the PPP.

The main drawback of this approach is obviously the costs for the contracting authority as a result of this compensation. All bidders are entitled to such compensation and bid costs can exceed US$ 1.5 million because of the due diligence requirements for the bidders to confirm that the available data necessary to develop a technical solution and corresponding business case is complete and reliable, as well as the legal fees and the financial advisory costs. If 3 or 4 bidders are shortlisted as recommended and a substantial part of the bid costs is compensated e.g. 25 to 40%, the costs to the contracting authority may add up to some US$ 1.5 million or higher. It is therefore advised to consider such an approach only where there are strong concerns with attraction of sufficient high quality bidders.

6. Ownership Eligibility: Include or exclude State Owned Enterprises

Some countries allow State Owned Enterprises (SOEs) to participate in the tender. Such entities are considered to act at arm's length of the government and apply regular commercial principles in developing their technical and financial proposals. Allowing their participation will strengthen the competition and provide SOEs with an opportunity to expand their business.

On the other side, such participation may not be perceived by private entities as a level playing field despite the assumption of arm's length, even when embedded in regulations. A World Bank publication on the participation of SOEs in the PPP market in Indonesia suggests that private sector interest in the PPP market is limited because tenders are open to SOEs which are perceived to be supported by government and able to accept risk allocations and returns that are beyond commercial requirements[13].

It is also for this reason that the PPP Certification Guide defines SOEs as a public partner and that any contractual arrangement between a government and an SOE qualifies not as a PPP but as Public Public Partnership.

Consequently, PNG SOEs are not eligible to participate in a tender process. This does not apply to provident funds being capital providers or foreign SOEs. However, with regard to foreign SOEs, the risk of collusion needs to be addressed. If several SOE's from the same country participate in a tender, there is a risk that the owner be it direct or be it indirect i.e. the respective government, controls the extent of competition among these bidders.

7. Bidder Interaction: Q&A or Dialogue

It is good practice to facilitate any necessary interaction with bidders whilst they are preparing their RFP responses. No matter how well written, tender documents can portray ambiguity or omit reference to important relevant matters. At minimum this interaction should include proceedings for addressing questions from bidders seeking clarification on the tender documents and or project data. This should be arranged at least through written communication and can possibly be expanded through a pre-bid conference.

Alternatively, it could be considered to include a dialogue in the tender process. This implies that a series of one-on-one meetings between the contracting authority and its advisors with the shortlisted bidders will be scheduled. This would be after the release of the RFP and before submission of proposal with the aim to clarify elements of the tender documents and/or confirm whether key elements of the bid may be acceptable to the Government (e.g. non-compliant aspects) or that any requirement as stipulated by the contracting authority is acceptable by the respective bidders or at least the majority of them. Advice provided by the Government during

[13] Indonesia Infrastructure Sector Assessment Program, World Bank 2018

these sessions should be provided to other bidders to allow for a level playing field.

Using such interactive processes could be relevant for projects that clearly demand significant interaction before finalizing contract stipulations. It also enhances commercial feasibility, reduces the risk of a major misinterpretation of the Government's requirements and can optimize the value for money. Dialogue/interaction is a strong driver for better outcomes as it ensures that the government is asking for something that can be delivered by the market or that bidders fully understand the government's requirements.

However, this approach demands significantly more time and resources from all parties and creates risks that transparency and fairness may be compromised, which need to be duly managed by appropriate proceedings. If an interactive dialogue process is used, consideration should be given to the use of probity advisor to oversee the process and attend each meeting.

After the submission of RFP responses, the contracting authority and its advisers may also need to contact bidders to clarify elements of their proposals. The contracting authority may also wish to hold negotiations with one or more of the bidders, allowing bidders to update their proposal, to achieve a better value for money outcome for government. It could also be considered to arrange a process of interaction after submission of proposal allowing bidders to update their proposal based on discussions with the contracting authority.

8. Market Sounding: Inform or sound

It is good practice prior to the launch of the RFQ to engage with the market, to inform the market on the upcoming opportunity. This prompts the interest of the industry and lets the potential bidders prepare themselves (that is, screen the project and look for partners so as to create a consortium when this is necessary or desirable). It is in the Government's interest to maximise the potential market interest in the project.

Marketing the project should include at least an industry meeting (an open meeting targeted at industry players, such as contractors, investors, lenders, advisors, and so on). It should also include the delivery (usually through a specific web page) of a detailed project information memorandum. This should include a summary of the contract structure, procurement strategy/basic tender process, and targeted timeline.

It can be considered to extend the scope of the market engagement to market sounding i.e.

to collect reactions, suggestions, and concerns from the industry. This process should test the key commercial features of the project the structure is finalized. Whether this is required will depend upon the extensiveness of market soundings undertaken during the feasibility study preparation also on the relative novelty of the project.

In addition, especially when there will not be an interactive process of negotiations, a formal interaction could take place before publishing the final tender documents and request proposals.

9. **Bid Evaluation**: Price only or Quality and Cost Based

There are two basic options for the bid evaluation:

(a) Price only evaluation
(b) Price and quality evaluation

(a) Price only evaluation

A price only evaluation is more straight forward. The Technical proposal will be evaluated based on a pass/fail principle and the contract will be awarded to the conforming bidder that quotes the lowest price. This can be for example the lowest tariff, the lowest availability grant, the lowest subsidy required, the highest concession fee or any other price indicator.

Such an approach is least subject to the risk of challenges as the award criteria is objective and measurable. However, it does not take into account any difference in quality of the proposed technical and/or commercial solution by the different bidders. A bidder can propose a much more attractive solution from a quality perspective e.g. more friendly for environment, better technical design or less disturbance upon implementation than its competitors though may not be selected because the price is higher.

(b) Price and quality only evaluation

Alternatively, it can be considered to also take into account the relative quality of the range of non-price features of the proposed solution, such as design, flexibility, construction methodology, acceptance of risk allocation, operational methodology etc. Such an approach is also known as Most Economically Advantageous Tender (MEAT) or Quality Cost Based Selection (QCBS). Given that PPP procurement is used primarily on the more complex projects, this is by the far more commonly used method of bid evaluation.

This approach assumes a scoring and corresponding ranking of the Technical Proposals based on a set of weighted criteria and combines that with the evaluation. In the relatively simplistic example below (with only two evaluation criteria), the total score is then based on the weighted score of the Technical Proposal and the weighted score of the Financial Proposal. The consequent evaluation of 2 received bids could be as follows.

	Weight	Score Bid 1	Weighted score	Score Bid 2	Weighted score
Technical Proposal	70%	80	56	70	49
Financial Proposal	30%	60	18	70	21
Total score			**74**		**70**

Bid 2 is more attractive from a financial perspective though when considering the qualitative merits of Bid 1, the proposal as per Bid 1 is more attractive.

TheQCBS approach requires defining the range of criteria, their weights and their scoring method is a sensitive and challenging exercise. If not done properly, the evaluation subject to the risk of being challenged. It therefore requires an objective and measurable set of criteria.

QCBS is likely to be more appropriate for the complex and innovative projects where there can be a broad range of possible technical solutions and where the difference in quality is relevant from a value for money and value for people perspective.

A price only evaluation should be considered only for less complex projects with simple output requirements where the difference in quality of the technical and/or commercial solutions is less relevant and where bidder trust in Government's consideration of non-price attributes is low.

10. **Certainty of Financing**: Fully committed or only Equity committed

There are 2 basic options for the proposed financing scheme underlying the Proposal:

(a) Fully Committed
(b) Equity Committed

(a) Fully Committed

The ideal scenario would be a fully committed Proposal. This refers to a Proposal where the capital providers, both investors and lenders have confirmed their commitment to providing the necessary financing in terms of respectively equity and debt. This would imply that upon contract close there would be no need for financial arranging and, in the absence of any other conditions precedent, contract close would coincide with financial close reducing substantially the lead time for the contract to become effective.

However, this ideal scenario is not likely to be realistic for PNG (or most other developing countries). Banks are not likely going to be inclined to commit to a debt package upon bid submission as that would require substantial costs for the bank to undertake a due diligence and seek the necessary internal approval and with the risk of not being selected. Such a requirement would only be feasible in markets where PPP is mainstreamed allowing for due diligences with limited efforts and where there are sufficient banks with the understanding of and capacity for PPP.

(b) Equity Committed

More realistic would be to limit the certainty of financing to the equity providers as to be stipulated in the RFP. This implies that the RFP includes a requirement for the bidders to include in their proposal duly authorised letters from the respective sponsors confirming their commitment to provide equity in accordance with the assumptions as provided in the financing scheme for the Proposal.

In order to have some certainty on the availability of debt financing, letters of intent/support) can be required from financial institutions upon bid submission confirming that they are willing to consider providing loans subject to a satisfactory outcome of the due diligence as to be confirmed by their credit committees.

E RESOURCE PLANNING

The resource planning should reflect on the following:

4. Staffing
5. Costs and funding
6. Timeline

4. Staffing

The procuring authority should establish a sufficiently resourced and capable team that will be credible in the eyes of bidders in order to develop the project. The PPP Steering Group will review the PPP Project Team leadership and membership and will facilitate the engagement of expert PPP advisers to assist with the procurement process.

Leadership of the PPP Project Team requires the services of a suitably experienced and capable officer who can devoted the necessary attention to the project. This may be the PPP Centre CEO. However, if there are multiple PPP projects occurring simultaneously and the PPP Centre CEO cannot give sufficient focus to lead both/all projects, another senior PPP Centre officer may be appointed PPP Project Team leader. In this case, the PPP Project Team Leader would report directly to the PPP Steering Group, but would consult closely with the PPP Centre CEO to avoid conflicts arising.

Additional officers from the Relevant Public Body, PPP Centre and any other agencies represented on the PPP Steering Group may be added to the PPP Project Team and/or the time dedication of existing team members increased.

The PPP Project Team will require the support of specialist external advisors in project preparation and procurement. These advisors will add significantly to the Project Team's capacity and capability by

- Bringing in their experience in similar transactions and protecting against costly, avoidable mistakes
- Providing technical strength to the institution's team
- Bringing legitimacy to the PPP process and placing an external stamp of endorsement on the Government's proposals, increasing investor and public confidence
- Providing an opportunity for knowledge transfer to the institution

There are two main governance options for engagement and management of specialist PPP advisers. A firm or consortium of firms capable of providing the full range of services is engaged; in this case, these advisers will be co-ordinated by a lead Transaction Advisor who reports to the PPP Project Team Leader. Alternatively, the specialist advisers may be engaged individually with each reporting directly to the PPP Project Team Leader.

During the procurement phase, the specialist transaction advisors will advise the PPP Project Team on optimum risk allocation, technical specifications and the resultant contract structure including preparation of all necessary documentation and requisite approvals. More specifically:

(i) Prepare Tender Documents

Development of tender documents for implementing the Project, including Request for Qualification, Request for Proposal, evaluation and selection criteria, functional specifications, draft PPP Agreement, including but not limited to:

- Contract duration;
- Scope of work by private partner;
- Service output specifications;
- Payment terms and schedule;
- Returnable schedules;
- Obligations for implementation and monitoring;
- Penalty mechanism;
- Dispute settlement.

(ii) Facilitate Gateway Reviews

Before tender launch, PPP projects have to be reviewed and approved by the PPP Steering Committee in accordance with the provisions in the PPP regulations. The specialist consultants will support the PPP Project Team in preparation of documents for obtaining these approvals.

(iii) Tendering and Contracting

- Assistance to the PPP Project Team in tendering and evaluating of bidding proposals in accordance with the provisions of the PPP regulations;
- Submission of Bid Evaluation Reports to the PPP Project Team;
- Assistance to PPP Project Team at the stage of Contract conclusion with private partner up to Financial close.

5. Costs and funding

Transaction advisers typically include (i) lead transaction adviser (ii) commercial & financial (iii) sectoral/operational (iv) engineering/building (v) legal although, in practice, the full range of advisers needed will depend upon the project features. The corresponding costs for engaging these advisors i.e. the transaction costs to support the procurement process can be quite substantive amounting up to US$ 250 – 1,000k or even above.

The engagement of such advisory services requires therefore arranging the necessary funding and a competitive tender process to ensure the selection of a suitable advisor on economically advantageous terms. Possible sources of funding include (i) budget appropriations of Contracting Authority, (ii) financial support from development partners and (iii) when established, a Project Development Fund[14].

6. Timeline

Phase B3 on Project Preparation and Procurement is likely to take some 12 to 36 months (assuming a 2-stage process) though can take more if there are challenges or other unscheduled issues.

Activity	Lead time (months	Depending on
1. Preparation for Market	1 - 3	• Quality of project preparation • Extend and dept of market sounding
2. Finalisation of Tender Documents	3 - 9	• Complexity of project • Quality of project preparation • Capacity of transaction advisors • Capacity of project management team • Availability of templates or other reference materials • Efficiency of review and approval proceedings

[14] It may be considered to establish a Project Development Fund in cooperation with development partner to provide for a sustainable source of funding and organized process for engaging advisory services for PPP project preparation and procurement

Activity	Lead time (months	Depending on
3. Prepare response to RFQ	*1 - 3*	• *Complexity of project* • *Quality of project preparation* • *Quality of RFQ* • *Whether 1 or 2 stage tender process* • *Scope of qualification requirements* • *Extend of administrative requirements* • *Capacity to respond to Q&A*
4. Evaluate Response to RFQ	1-3	• Complexity of project • Quality of RFQ • Capacity of Evaluation Committee • Capacity of Transaction Advisor • Scope of qualification requirements • Extend of administrative requirements
5. Prepare Proposal in response to RFP	*3-9*	• *Complexity of project* • *Quality of project preparation* • *Quality of RFP* • *Scope of evaluation criteria (e.g. certainty of financing)* • *Extend of administrative requirements* • *Process of interaction*
6. Evaluate Proposal	2 - 3	• Complexity of project • Quality of RFP • Capacity of Evaluation Committee • Capacity of Transaction Advisor • Scope of evaluation criteria • Extend of administrative requirements
7. Negotiations	1 - 6	• Complexity of project • Quality of project preparation • Quality of RFP • Scope of evaluation criteria (e.g. certainty of financing) • Extend of administrative requirements • Process of interaction
8. Financial Arranging	0 - 24	• Complexity of project • Quality of project preparation • Quality of RFP • Scope of evaluation criteria (e.g. certainty of financing)

Activity	Lead time (months	Depending on
		• Process of interaction

Time to prepare and submit offers is usually longer than in a conventional procurement. Due to the intricacies of the PPP processes (including complexities faced by the private partner), it is essential to grant the bidders sufficient time for proper due diligence, analysis, and assessment of the project and the contract from different fronts.

It is good practice for the framework to establish a minimum time for bid submissions, at least 30 days. However, depending on the complexity of the project (in technical, financial, and even legal terms) and the degree of advance preparation required, a much longer period may be required. Therefore, a decision must be made on a project-by-project basis as to whether a longer period is required. For instance, in the sample of international PPP projects listed below, the time allowed to prepare RFP responses ranged from just over 1 month to 6 months).

For reference is indicated in the table below some examples of bidding periods.

Country	Project	Sector	Tender Process	Bidding Period (number of days)
Brazil	Abastecimento de Água Potável e Esgotamento Sanitário (Sumaré)	Water/ wastewater	Single-stage open tender	33
Philippines	Cavite-Laguna Expressway	Road	Single-stage open tender	70
Brazil	Hospital da Zona Norte (Amazonas)	Health	Single-stage open tender	106
Australia	Ravenhall Prison Project	Prison	Two-stage tender with short listing and interactive tender process	147
South Africa	Gautrain Rapid Rail Link	Rail	Two-stage tender with short listing and interactive tender process	180

Annex 11: Recommended Outline of Unsolicited Proposal

Section 1.0 - Executive Summary

Section 2.0: Project description and investment decision

- Section 2.1 - Strategic alignment and priority - Articulating the rationale for the project objective
- Section 2.2 - Summary of needs assessment
- Section 2.3: Description of the project sponsor
- Section 2.4: Project description and scope
- Section 2.5: Summary of why the Government should undertake this project as a USP

Section 3.0: Value for Money Analysis

Section 4.0: Project funding and affordability

Section 5.0: Risk Analysis and Quantification

Section 1.0 - Executive Summary

An executive summary of the USP should be included. The executive summary should summarize the case for why the Government should accept the USP and justify the recommended PPP delivery with supporting information regarding its qualitative and quantitative alignment with the project's objectives.

The purpose of the executive summary of the USP is to:

1. Outline the key components of the proposal in a form that is readily reviewable by senior government;
2. Explain the special nature of the proposal that may warrant its consideration by government as an USP; and
3. Describe the recommended procurement option with supporting information regarding its qualitative and quantitative alignment with the project's objectives.

This section of the USP is important because it:

- Frames the project in total for the reader;
- Demonstrates that the proponent has completed the necessary analysis that underlies the understanding of the project and planning of a PPP; and
- Demonstrates experience with, and commitment to, the project that will be undertaken as a PPP.

Section 2.0: Project Description and Investment Decision

Section 2.1 - Strategic alignment and priority - Articulating the rationale for the project objective

This part of the USP should:

- Articulate the project objective and the forces that are driving the need for the project;
- Show how it links to government priorities; and
- Identify the strategic policy and business, social and economic issues/drivers; and highlight the project's impact on these issues/drivers through completion and operations

Table 1: examples of project drivers project drivers

Project driver	Examples
Economic	(e.g., requirements to sustain or attract economic activity and investment)
Fiscal	(e.g., raising revenues, managing risk, mitigating cost)
Technological	(e.g., to address user safety, increase efficiency)
Social	(e.g., change in consumer demands/tastes, change in professional practices)
Environmental	(e.g., reduce environmental impact of government or public activity)
Legislative	(e.g., adhering to a change in law)
Programmatic	(e.g., new or existing public program requires enabling infrastructure)

Project proponent should ensure that the proposal answers these questions:

- What is the public interest being served by the project?
- Are the drivers behind the project presented and justified?
- Is a clear rationale for why the project is being proposed articulated and supported?
- Does the project deliver critical public infrastructure, leverage private sector expertise and capital, and help manage public sector exposure to risk?
- Are substantiating sources clearly disclosed and enumerated?

Section 2.2 - Summary of needs assessment

This part of the USP should:

- Assess and explain the community's need for the project in clear and specific terms and provide any supporting documentation that demonstrates that a methodical needs assessment was conducted;
- Describe the need in quantitative and qualitative terms; and include key constraints on the project's development and describe their impact on the decision making with respect to the project.

Project proponent should ensure that the proposal answers these questions:

- Is the need/issue that is being resolved by this project clearly presented and substantiated?
- Is a clear link made between the drivers and needs assessment and the project itself?

Section 2.3: Description of the project proponent

This part of the USP should:

- Provide a detailed description of the project proponent including its profile, strategic objectives, governance structures, financial capacity; leadership; and experience delivering major capital projects, to be substantiated with appropriate reference projects;
- Describe the proponent's anticipated involvement in the project and any other entities be it private or be it public which it believes will brought in to the project development process; and
- Clearly state that it has sufficient authority to undertake and make decisions with respect to the project.

Project proponent should ensure that the proposal answers these questions:

- Is it clear that the proponent has sufficient understanding and capacity to deliver the project?
- Are there other entities be it public or private that would be directly involved in the project? Who are they and what is their degree of involvement?

Section 2.4: Project description and scope

This part of the USP should:

- Describe and explain the project's key parameters. Specifically, the proponent should answer the What, Where and When of the project; and
- Clearly relate the project scope to the needs identified in Step 2 above.

Table 2: describing the project and its scope

Parameter	Definition
What	Definition of the project's mandate; scope; scale; functionality; capabilities; indicative cost; studies and planning completed to date; feasibility; economic impact; costing; design; engineering and other technical elements; and physical characteristics.

Where	The location of the project; physical context and any sensitivities; status of environmental approvals; planning or other municipal requirements; land acquisition and resettlement requirements, if any.
When	Information on planning horizons; design and construction horizons; operating horizons; and risks to timing (e.g., expiring leases, legislative changes.

Project proponent should ensure that the proposal answers these questions:

- Is an appropriate amount of planning and due diligence demonstrated through this section of the proposal?
- Does the description of the project demonstrate credibility and clearly satisfy the project's eligibility for implementation under the government's priorities and conditions?

Section 2.5: Summary of why Government should undertake this project as a USP

This part of the USP should have regard to the factors listed in s1(5) of Schedule 4 of the PPP regulations, which state that USPs will be of interest to the Government only if they -

(a) are consistent with the Government and Relevant Public Body priorities; and

(b) satisfy the requirements of a PPP as specified under Schedule 3 of the Act; and

(c) possess a means of delivering significant new public infrastructure and related services or related services without new infrastructure that is unlikely to have been considered by, or been feasible to, the Relevant Public Body; and

(d) are likely to provide a better value for money outcome for the Government in delivering significant new public infrastructure and related services or related services without new infrastructure than a project proposed in a Relevant Public Body's pipeline or, for projects not in a Relevant Public Body's pipeline, than delivery means likely to be used by the Relevant Public Body; and

(e) are considered to be capable of being delivered efficiently by the partner; and

(f) relate to infrastructure or services for which the Government has not already begun a solicited procurement process or announced publicly its intentions to begin such a process; and

(g) are affordable, including after consideration of likely contingent liabilities.

Section 3: Value for Money Analysis

This part of the USP should provide:

- Present indicative base project costs on a whole of life basis, which include the expected hard construction costs, soft construction costs, facilities management costs, maintenance and/or operating costs ("O&M Costs") and lifecycle costs.
- Outline and justify any efficiency gains and risk premiums;

- Key modelling assumptions such as inflation, construction escalation, discount rates and timing of cash inflows and outflows.
- Outline the assumptions made with respect to the financing of the project, including the level and timing of public and private sector financing

Section 4: Project funding and affordability

This part of the USP should:

- Describe the sources of funds committed and/or available to the project, including a description of the specific nature, structure, and timing of the funds to be provided. All sources and amounts of federal funding should be clearly disclosed;
- Outline any terms and conditions precedent associated with any funding source or funding commitments; and
- Ensure that any and all funding sources identified are reflected in the cash-flow models presented
- State where in the financial model these funding sources/commitments appear.

Section 5: Risk Analysis and Quantification

This part of the USP should:

- Identify and quantitatively assess project risks and allocate these risks between the private and the public sector partner for the delivery model under consideration;
- Outline the process and methodology used to identify, assess and allocate project risks;
- The description of the project's risk profile should discuss the underlying structure of the risks (e.g., are there a few big risks or a series of smaller risks that sum to a significant risk exposure) and relate back to the proponent's risk management objectives;
- The proponent should disclose any adjustments made for optimism biases, competitive neutrality and other factors that may be relevant to the accuracy of the VFM