Value for Money Procurement for Pacific Infrastructure

TOOLKIT

Pacific Region Infrastructure Facility

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All tables and figures are provided by the author, unless otherwise specified.
Note: In this publication, "$" refers to United States dollars unless otherwise state.

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Abbreviations

ADB	Asian Development Bank
APCC	Australasian Procurement and Construction Council
CIPS	Chartered Institute of Procurement & Supply
D&B	design-and-build
DBB	Design–Bid–Build
DFAT	Department of Foreign Affairs and Trade (Australia)
FIDIC	International Federation of Consulting Engineers
GPI	Global Procurement Initiative (USTDA)
MAPS	Methodology for Assessing Procurement Systems
MDB	multilateral development bank
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
NPV	net present value
PIC	Pacific island country
PPP	public–private partnership
PRIF	Pacific Region Infrastructure Facility
RFB	Request for Bids
RFP	Request for Proposals
USTDA	United States Trade and Development Agency
VfM	Value for Money

Note: “In this toolkit, “$” refers to United States dollars, unless otherwise stated.

Introduction to the Toolkit

Infrastructure is a significant and high-value category of public purchasing. With careful identification, definition, and mitigation of risks, as well as clarity regarding the required outcomes and benefits during the procurement-strategy planning phase, it is possible to deliver the required quality.

This report provides a set of tools for Pacific island country (PIC) governments, to assist them in achieving Value for Money (VfM) in their procurement decision-making. It is a companion report to the diagnostic report provides a general overview and principles for success:

- *Value for Money for Pacific Infrastructure: Diagnostic Report and Principles for Success*
- *Value for Money for Pacific Infrastructure: Toolkit for Practitioners*

The tools in this toolkit can help PICs achieve VfM through their procurement processes. The objective is to help practitioners to:

- optimize economy, efficiency, effectiveness, equity, and ethics in public procurement to obtain VfM in line with Principle 2 of the Pacific Quality Infrastructure Principles;
- identify the required "value" of infrastructure and possible additional sources of value that could be identified during the procurement process;
- promote competition and foster participation in procurement proceedings by providing equal opportunity and fair and equitable treatment to all suppliers and bidders;
- ensure transparency and promote integrity, fairness, accountability, and public confidence in procurement processes and decisions;
- support the implementation of sustainable public procurement processes;
- increase local content in infrastructure projects; and
- contribute to economic development through VfM procurement and capacity building.

This toolkit contains a suite of procurement tools such as flow charts and checklists to identify critical aspects of procurement that may require improvement to ensure that objectives are met throughout the life of the infrastructure. The tools are intended to operationalize procurement approaches to assist government agencies and donor partners in the selection of the most appropriate contracting models, procurement strategies, and evaluation criteria. The tools can be adapted, if necessary, to comply with national procurement policies, legislation, codes, and guidelines. The tools include:

- Tool 1: Infrastructure Procurement Cycle
- Tool 2: Infrastructure VfM Checklist
- Tool 3: Project Infrastructure Procurement Strategy
- Tool 4: Preparation of a Procurement Plan
- Tool 5: Evaluation of Criteria
- Tool 6: Total Cost of Ownership (TCO)
- Tool 7: Evaluation of Contractor Offers
- Appendix: Additional Resources and Capacity-Development Options

PICs may use the tools and guidance for their national procurement systems and procedures. Note that this toolkit is not intended to replace any national legislation, regulations, processes, or guidance; nor any development partner's mandated procurement policy, guidelines, tools, or processes that PICs may be required to comply with under the terms of a funding agreement, trust fund, or partnership agreement.

Tool 1: Infrastructure procurement cycle

Purpose

The process flow may be used to communicate the steps in the infrastructure procurement cycle to leaders and project managers and for training, providing an overview of the activities at each stage. The infrastructure procurement cycle can be broken down into seven steps, as shown in Figure 1.

Figure 1: Infrastructure Procurement Steps

RFB = Request for Bids, RFP = Request for Proposals.
Source: World Bank Group. 2023b. *World Bank Pacific Procurement Implementation Guidance for World Bank Investment Project Financing following the Procurement Regulations for IPF Borrowers*. https://thedocs.worldbank.org/en/doc/251ac0a5c7c5d0aa2e74bf9a31d27eea-0070012023/original/Pacific-Procurement-Guidance-2023.docx.

The guidance notes below should be read in conjunction with the seven steps listed in Figure 1 and Table 1. (A sample process map for procuring infrastructure is provided in Tool 4). More information on these steps is available in the report titled, *Value for Money Procurement for Pacific Infrastructure*, from the Pacific Region Infrastructure Facility (PRIF).

Table 1: Guidance Notes for Tool 1

1	**Development of infrastructure procurement strategy.** The strategy should include an assessment of the operational context (political, economic, social, technical, legal, and environmental), the capacity of the project-implementing agency or unit, market analysis, procurement-related risks, and the governance required. Based on this assessment, appropriate procurement approaches for the major contracts **and** activities are proposed, including any necessary consulting services. Related services may include supply market research, design, surveys, procurement, any specialist contract or engineering supervision, and independent testing. The proposed approach for each requirement and the selection methods are then included in a procurement plan. The **Infrastructure VfM Checklist (Tool 2)** and **Project Infrastructure Procurement Strategy (Tool 3)** can be used during this stage.
2	**Procurement planning.** The procurement plan should contain a schedule of activities, including all the separate packages of goods, services, or works that need to be procured. The schedule should also consider whether the packages could be offered as smaller "lots," with each lot awarded as a separate contract, to encourage local or SME participation. The procurement plan should be updated frequently during the early stages of project implementation and at least annually during the later stages of the project. When determining the time allowed for suppliers to submit offers for each activity, it is essential to consider the time it will take to prepare a suitable offer**.** Refer to **Preparing a Procurement Plan (Tool 4).**
3	**Invitation to bidders.** Once the procurement plan and method of procuring each package are finalized, a procurement notice should be published, including advertising on a publicly available and free-of-charge website. Direct outreach to capable infrastructure contractors or suppliers and business associations is encouraged, to allow them to prepare for the opportunity. In some countries, radio, industry journals, or newspaper announcements are preferred venues for advertising procurement opportunities. At this stage, the request for quotations, tenders, participation, or bid documents is prepared. These documents include the **Evaluation Criteria (Tool 5).** Once the bidding documents are published, bidder conferences may be held to provide more information. This information, as well as any questions and answers, must be shared with all potential bidders.
4	**Reception of bids.** The agency documents the bids received and keeps appropriate records, ensuring that the original documents are retained unaltered in paper or electronic form.
5	**Evaluation of bids.** The four-step evaluation process detailed in the **Evaluation of Contractor Offers (Tool 7)** can be used. Total cost of ownership may be calculated for the evaluation of financial offers (Tool 6). A bid evaluation report is produced and approved.
6	**Contract award.** The agency informs bidders of the outcome and publishes a public notice of the contract award. Briefings for unsuccessful shortlisted bidders can be held to help them improve their offers in the future.
7	**Contract management.** This process begins with the issuance of the notice of award and involves both commercial and technical teams. It includes the monitoring of compliance with the contractual terms; financial monitoring and expenditure forecasting; the monitoring of quality and of compliance in delivery and reporting; performance assessments of suppliers, contractors, and consultants; and the successful conclusion of contracts. For higher-value and/or complex contracts, professional management consultants may be hired to assist with contract management, such as a supervision consultant for civil works contracts.

SMEs = small or medium-sized enterprises, VfM = Value for Money.

Source: World Bank Group. 2023b. *World Bank Pacific Procurement Implementation Guidance for World Bank Investment Project Financing following the Procurement Regulations for IPF Borrowers.* https://thedocs.worldbank.org/en/doc/251ac0a5c7c5d0aa2e74bf9a31d27eea-0070012023/original/Pacific-Procurement-Guidance-2023.docx.

Tool 2: Infrastructure Value-for-Money Checklist

Purpose

This tool can be used to organize consultations with stakeholders to understand and prioritize the expected sources of value from an infrastructure asset, the associated public services, and the additional value potentially available from the procurement process itself. The checklist is used to inform the project infrastructure procurement strategy and procurement planning (VfM tools 3 and 4). The points covered by this tool can be adapted for an infrastructure procurement project either:

- at the procurement planning stage to support the calculation of the expected "value" that the strategy or plans will need to obtain, as well as any risks that might prevent this from happening; or
- during a VfM review that looks at whether the expected value defined in the checklist was delivered by the infrastructure or the project. Lessons learned could be captured at this stage.

The value of infrastructure can be hard to define unless stakeholders are consulted for their views regarding the value that should be obtained from a particular asset or public service. This checklist guides project participants in working with stakeholders to establish the required value drivers during the procurement process. Initial attention given to the key drivers can ensure that stakeholder and project needs and priorities, plus any applicable partner or government procurement policies, are fulfilled during the procurement process. The process outlined for the VfM checklist tool may require one or more workshops with key stakeholders.

The business case or funding agreement that justifies the investment in infrastructure is a key document that may set out the expected outputs, outcomes, and benefits of the assets or services.

If the proposed value drivers for an infrastructure project are not clearly identified at the procurement strategy and planning stage, VfM may not be achieved. The identification of value drivers will require procurement specialists to consult with many stakeholders who may have different views on what drives value. The information gathered should be incorporated into the procurement strategy and each procurement process step, including the formulation of the specifications or terms of reference; evaluation criteria; contract deliverables; key performance indicators; and contract management plan, including how these drivers are to be measured and reported.

The checklist and associated guidance are in Tool 2. Potential areas for consideration are provided in italics to guide the completion of the answers to each question.

Table 2: Value-for-Money Checklist

Project Name:
Participating Stakeholders:
Date of Workshop:

Value-for-Money Drivers	Value Driver Considered (Yes/No)	How will this be, or was it, achieved? *[Guidance to be deleted]*	Agree/Disagree Response and Comments
Project Drivers and Stakeholders (i) What value drivers or outcomes were approved or suggested that must be considered in the procurement strategy and process? (ii) Which stakeholders must benefit from the outcomes? (iii) When does the infrastructure need to be fully available? (iv) What is the expected useful life of the works or asset, assuming they are adequately maintained or supported?		... *[Drivers could include Budget, Total Cost of Ownership, Quality, Technical Performance or Standards, Revenues, Performance, Environmental Considerations, Innovation, Risk, Legal and Regulatory Requirements, political commitments]* *[key users, community groups, including any vulnerable groups with special needs to be addressed – including their contribution or needs for social safeguards]* *[dates for different phases, if applicable – also consider what this means for supplier's financial stability]* *[life in years]*	
Governance (v) What rules does the procurement process need to comply with? (vi) How can one ensure that procurement decisions will be made in an accountable and transparent manner?		*[Approvals, reviews, thresholds, policies which may affect the process, etc.]*	

Competition (vii) How is the procurement process maximizing competition in the market regarding the inputs and outputs?		*[Can bid packages be advertised with opportunity for smaller contracts or lots, do requirements allow international suppliers to bid]*	
Budgets and Performance (viii) Have the financial and nonfinancial targets, outcomes, or performance criteria been defined for the useful life of the asset? (ix) Who will be responsible for approving the nonfinancial targets, outcomes, or performance criteria proposed for the project?		*[What Outcomes or Key Performance Indicators may be important.* *Do the budget and outcomes need to cover delivery, testing, acceptance, customer service, maintenance services, spares, associated consumables, and technical support to sustain the asset or service throughout its expected life.]*	
Supplier Performance and Risk (x) Has the performance history of each prospective supplier been considered? (xi) Does each supplier's capacity need to be scalable over the term of the project? (xii) What does this information on suppliers tell us about potential risks?		*[Consider lessons and integrity risks from previous similar contracts – this may include contingency plans, mitigation strategies, insurance coverage and contract terms.]*	
Costs of Contracting, Operation, and Disposal (xiii) Are the estimated transaction costs (i.e., those associated with acquisition, use, holding, maintenance, and operations) plus the reuse and recycling costs related to disposal available, included, reliable, and appropriate? (xiv) Are the whole-of-life costs commensurate with budgeting and long-term financial goals?		*[How have estimates been obtained. Are these reliable and sufficient to undertake the project and maintain the infrastructure through its useful life. If the budget does not include operating costs, how will this be funded?]*	

Environmental Issues (xv) How does the procurement strategy address environmental sustainability?		*[Consider widely available green technologies and standards, energy efficiency, emissions and pollution reduction, waste, disposal, natural environment, and biodiversity]*	
Local Content (xvi) How should the procurement strategy address local content in terms of materials (e.g., aggregate), suppliers, subcontractors, and the workforce? (xvii) Will enforcement of local content require any additional project or supplier actions such as engagement, training, apprenticeships, partnering, or certifications that may affect project bidding or implementation **time frames**? (xviii) Is there a register of local suppliers or could potential subcontractors register their interest during an EOI or bidder conference?			
Risk Mitigation, Including Possible Legal and Insurance Requirements (xix) What project- and supplier-related risks have been identified that may need to be addressed? (xx) How flexible do the requirements or contract terms need to be to enable adaptation to possible changes over the lives of the goods or services?		*[How important is on time delivery. Should this be incentivized and/or separately scored?* *Is the budget flexible?* *Any risks such as modern slavery or other sanctions in the supply chain?* *Should the Government or the supplier bear or insure against these risks? Can insurance be gained at a reasonable cost locally?* *What local risks are there such as cyclones, theft, civil disturbance?* *Consider communal land ownership or extraction or access rights, etc.]*	

Market Engagement (xxi) What should the project managers do to encourage good bidders and cost-effective bids?		*[**Has early engagement of potential contractors been considered? (Should this include supplier conferences during bidding or construction contractors challenging the "buildability" of any design before it is finalized?).**]*	
Supply Market Alignment (xxii) To what extent do the project requirements match what the supply market could possibly deliver? (xxiii) If there is a need for partnerships, how could this be achieved within the project's time frame?		*[What does market research or past performance tell us. Is more supply market information required e.g. about original equipment suppliers?]*	
Meeting Customer Needs (xxiv) How will the project ensure that the specifications or Terms of Reference for the works or services procured are fit for purpose? (xxv) Are the service quality and support levels required for the infrastructure well defined and adequate? (xxvi) What reports and key performance indicators are required for customers or users? (xxvii) How can one verify that the stakeholders are satisfied with the proposed approach and services? (xxviii) How should users be involved in commissioning and acceptance?		*[Consider the drivers identified above. What does this mean for* *- specification or Terms of Reference;* *- evaluation criteria;* *- KPIs reported by supplier, or met before payment;* *- key milestones, such as user acceptance tests;}*	
Critical and Priority Factors (xxix) Which of the following elements are critical to the project? And when should they be prioritized (e.g., during evaluation or in performance reports)?		*[identify any other special project procurement or supply risks which may need to be monitored, mitigated or separately addressed in specifications, TORs, evaluation criteria supported by evidence obtained in*	

(a) the d**esign**—specifically, whether it is **fit for purpose** and **for special local conditions (e.g., coastal, remote)**; (b) the **site team** (i.e., its appropriateness); (c) r**isk analysis, management, and mitigation**; (d) s**upply chain management plans**; (e) e**nvironmental** management system; (f) health and safety; (g) c**ommissioning, user, and security testing**; (h) a**vailability**, and the timing **and locations of delivery**; and (i) d**ata capture, analysis, and reporting**.		*response to bidding document questions, amendments to standard contract terms, etc.]*	
Community Participation (xxx) If required, how will the procurement process have a positive effect on community participation (regarding land, resources, access, etc.)?		*[How, when, and how often does the community need to be consulted. How will this be done in an inclusive way, so all affected people are reached? Does the supplier need to participate or consult]*	
Innovation (xxxi) How will the project drive market innovation to promote added value? (xxxii) Are alternative solutions or substitutes acceptable?		*[Can alternative offers be accepted in addition to, or instead of compliant bids? What percentage of the evaluation score will be allocated to added value or innovation (usually no more than 5-10%)]*	

For Projects with IT Implications (xxxiii) **Who are the main users? And how many licenses will be needed?** (xxxiv) **What backup, contingency, and disaster-recovery facilities are required?** (xxxv) **Should software be in** escrow **(third-party safekeeping)?** (xxxvi) **What support** will be **needed**, **and** during **what hours and days of the week**? (xxxvii) **What user-acceptance testing** will be **needed**? (xxxviii) **How will cyber security be handled**? (xxxix) **How should the contract cover data ownership, data protection**, **and privacy concerns**?	*[Check legal requirements such as data ownership, protection and privacy against contract. A lawyer and technical expert should do this].*	
Additional Elements to be Considered (xl) **What is the maximum budget for this infrastructure**, including **the initial purchase**, **the running**, **and disposal costs over** its **expected useful life? If the** associated **services will** generate **revenue, will** it **be** enough to **offset** the **costs**? (xli) **Would it be beneficial for a quantity surveyor to review the costs or** for **a value-engineering activity to be carried out?** (xlii) **How do** the total cost and total cost of ownership of this project **compare with historic project cost benchmarks and/or estimates?** (xliii) Will the **resources** be **used efficiently to maximize customer service and minimize turnaround time?** (xliv) **What key risks** will affect **the successful delivery of any public services based on the infrastructure?** (xlv) **Who should own the designs or modifications if they need to be used again?** (xlvi) **How can** the **costs**, **revenues**, or **tariffs be controlled over the medium and/or longer term via the contract to ensure that the infrastructure or public service remains affordable?**	*[If capital and operating budgets are separate projects or budgets, will the funding be available and what requirements need to be addressed in each project. Consider the risks of price/toll/tariff increases and revenue collection, if any]* *[Is this budgeted and when should it start?]* *[Check requirements against intellectual property clause in the contract. A lawyer should do this].* *[How should the contract need to address this, e.g. a cap on annual rises. Will it be linked to an index or justified? Can the maintenance contract be terminated, and the Government replace the supplier?]*	

EOI = Expression of Interest.
Source: The authors.

Table 3: Guidance Notes for Tool 2

1	**Conduct desk research.** Before using the checklist, it will be helpful to gather and summarize the following information: • background project details, including any existing designs and surveys; • the government agency or stakeholder expected to own, operate, and/or maintain the infrastructure; • budget information, including the outputs and outcomes expected from any related business case or investment appraisal; • the policies required to achieve VfM, including the delivery of objectives that may provide a lasting benefit to the economy, environment, social conditions, and well-being of stakeholders; • a list of the expected benefits and risks for the project that need to be considered during the procurement and contracting processes; • relevant market or sector surveys; • the expected useful life span of the infrastructure or assets in years; • relevant benchmarks, historic costs, or performance reviews of similar projects; • the required technical standards, including any commissioning or user acceptance tests; • relevant issues regarding privacy, data protection, security, data, or intellectual property; and • any associated business cases, cost benefit analyses, and documents concerning development partner loans or grant funding. It will also be useful to understand the following points: • *Governance:* Determine whether the government or development-partner procurement frameworks (regulations, structures, roles, approvals, and processes) apply. Also find out if the frameworks impose any conditions, such as restrictions on supplier eligibility or requirements for prior approval. • *Complexity and capability assessment:* Ensure that procurement capability matches the complexity of the project requirements when planning and conducting procurement and contract management. To achieve VfM, adopt an approach that would be most appropriate, given the complexity of each procurement activity. This may require support or advice from an external procurement specialist, supervising engineer, or quantity surveyor. • *Market analysis and review:* Review similar past procurement exercises and strategies to understand whether and how the local and regional markets can supply the goods, works, and services required for the infrastructure project. This review must inform an appropriate market approach for matching supplier capability and achieving VfM. • *Market engagement*: It is important to document the results of market analysis and ensure that all potential suppliers approached are given the same information, to avoid preferential treatment. Promote open and inclusive competition, with an emphasis on innovation. Encourage suppliers to participate, including SMEs and **nonprofit** enterprises, by providing clear requirements, responding quickly and accurately to questions, and considering the supplier's cost of making an offer relative to the value and profitability of the opportunity. Clearly communicate how offers will be evaluated and whether alternative offers are possible or even encouraged. • *Leveraging of collaborative arrangements:* This should include national purchase contracts that may achieve additional VfM. Consider how to achieve both VfM and effective competition when using prequalified contractor arrangements (registers) and supplier panel arrangements (which do not rely on the original VfM assessment). Consider whether additional research or requests for information should be used to obtain data from the market before the procurement begins. • *Contract management and disclosure:* Decide how the project will manage contracts to ensure that contractors deliver the agreed outcomes, and that the government agency meets its public service obligations or customer needs.

2	**Identify agreed-upon requirements.** Use the information gathered to draft answers in the template, especially any requirements identified based on the project business case or funding agreement, and pre-populate the checklist. This should align the investment case and the VfM drivers identified for the project.
3	**Hold stakeholder workshops.** Each workshop should include the project manager or coordinator. Seek advice from technical, procurement, and financial members of the project team on what would generate value for the assets or services, including the way they are procured. Also ask how to involve the people who write business cases and any key customer, community, or user representatives.
4	**Agree on priority value drivers.** The requirements and issues discussed in the workshop(s) should be summarized in writing. Then the stakeholders should confirm the priority of each element of value to be achieved. This may require a second meeting or workshop, or discussion via email.
5	**Review the completed checklist.** Use the information in the checklist to do the following: • Inform the procurement strategy and plan (tools 3 and 4). • Identify the key outputs and outcomes required from suppliers, contractors, and consultants. • Determine the relative priority of each value driver, which may be helpful for choosing evaluation criteria and any associated rating or weighting (tools 5 and 7). • Draft key performance indicators, project milestones, and reporting requirements in the specifications and terms of reference to be attached to the contract. • Define the scope and requirements in the specifications or terms of reference, including whether to use conformance- or performance-based specifications. Outcomes or performance-based specifications may encourage innovation. • Identify key risks in a project risk register and determine whether the suppliers or customers are best placed to manage these risks; your conclusions should inform the contract terms. • Identify any gaps in information that require market research or surveys, or information to be requested from potential suppliers, contractors, and consultants. • Determine which value or risk elements may require expert assistance, such as maritime specialists needed to assess shipyards that build international ferries.
6	**Conduct a VfM review or audit.** Once the infrastructure is operational or the project is completed, a VfM review or audit can compare the expected value defined in the VfM checklist to what was actually delivered by the infrastructure or project. Lessons learned could be captured at this stage to inform managers of similar future projects on how they can obtain VfM more effectively.

SMEs = small and medium-sized enterprises, VfM = Value for Money.
Source: The authors.

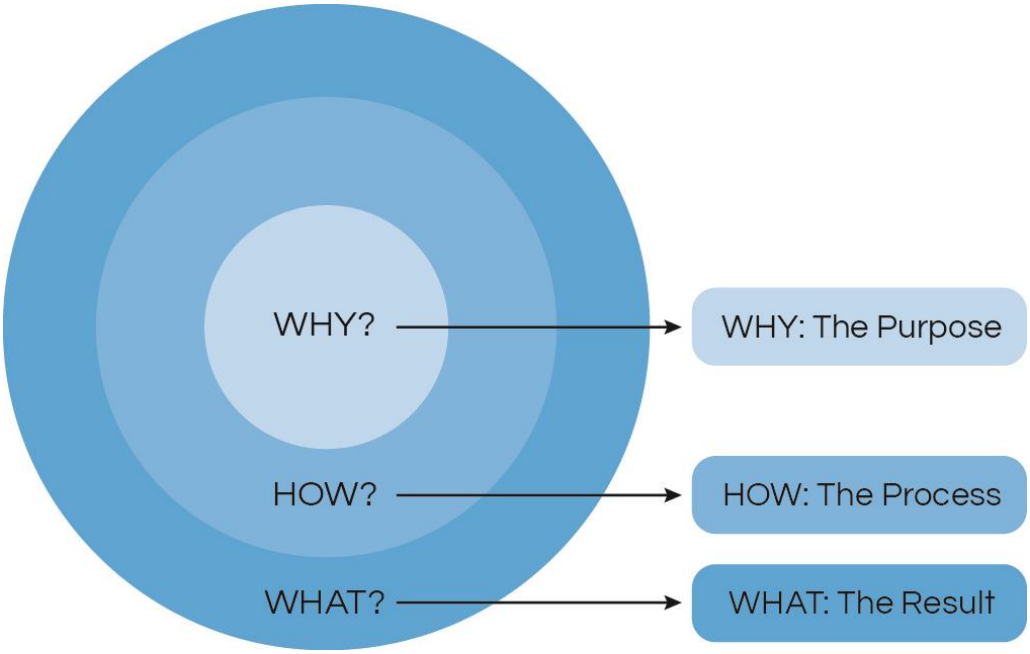
Tool 3: Project Infrastructure Procurement Strategy

Purpose

This tool describes a typical process for preparing a procurement strategy for a project involving complex infrastructure. A good strategy will consider whether and how the supply market can deliver the required value.

The strategy should be documented by an experienced procurement specialist working with the project manager. It can be used by agencies to support strategic procurement planning; and it can be used to identify the individual contract opportunities (procurement packages) that could feed into an agency's or project's annual procurement plan. This tool is a simpler version of the processes typically recommended by the Asian Development Bank (ADB) and the World Bank, although both institutions also provide strategic-procurement-planning templates that can be simplified.

Figure 2: Basic Components of a Project Infrastructure Procurement Strategy



Source: The authors.

Objective

Procurement strategies play a crucial role in any project, as they help to ensure that the project runs smoothly and efficiently, and that it informs the procurement plan. They also help to ensure that procurement processes are efficient, effective, and aligned with the government's objectives.

The procurement strategy considers the value drivers identified in the project business case and/or through the use of Tool 2. It considers a list of all the external elements that need to be contracted to complete the project. This will include any consultants such as project implementation staff, designers, engineers, environmental specialists, surveyors, procurement specialists, etc.; as well as any components of the infrastructure such as goods, services, works, software, and systems. The strategy then considers how to package the requirements for introduction to the local, regional, or international markets.

Strategic procurement is an art that involves shepherding resources, securing government engagement, and ultimately laying out processes and systems to help execute the procurement process in an efficient and effective way.

The information from the checklist in Tool 2 can be used during the preparation stage to provide some information in response to the questions in Table 4 and to assist in setting the strategy.

Table 4: Strategic Decisions in Planning a Procurement Strategy

1	**Assess operational context.** Is the operational context—including the political, economic, social, technical, legal, and environmental factors—documented and understood? • **Yes** Proceed to question 2. • **No** Conduct an assessment of the operational context using the PESTLE analysis tool, and document the results.
2	**Evaluate project capacity.** Does the government agency or project manager have the capacity and skills to manage the procurement process? • **Yes:** Proceed to question 3. • **No:** Consider training or other capacity-building activities, or engaging external consultants to undertake the strategic planning.
3	**Conduct market analysis.** Does the agency have a clear understanding of the supply market for all the project's requirements? • **Yes:** Proceed to question 4. • **No:** Undertake supply market research to document the supply positioning and potential supplier preferencing for the project. For complex or new requirements, this may involve interviewing contractors or using development partners' local capability assessments, if available. Research should consider which of the public services can be provided cost-effectively and with sufficient quality by public sector entities, and which will need to be delivered by private sector suppliers or contractors.
4	**Identify procurement-related risks and governance requirements.** Are the risks and governance requirements identified, documented, and understood? Is a project and/or procurement steering committee required for the project? And does one exist? • **Yes:** Proceed to question 5. • **No:** Identify and document procurement-related risks and required governance structures.
5	**Determine project complexity and value.** Is the project of high complexity and value? • **Yes:** Consider prequalifying suppliers via a two-stage RFP or more sophisticated procurement methods, such as a PPP or a "design-and-build" contract. • **No:** Proceed to question 6.
6	**Review selection method.** Should the procurement emphasize technical quality over cost or vice versa? • **Technical emphasis:** Use a procurement strategy that allows for quality- or merit-based selection. • **Cost emphasis:** Use a procurement strategy that focuses on the lowest-cost technically compliant bid.

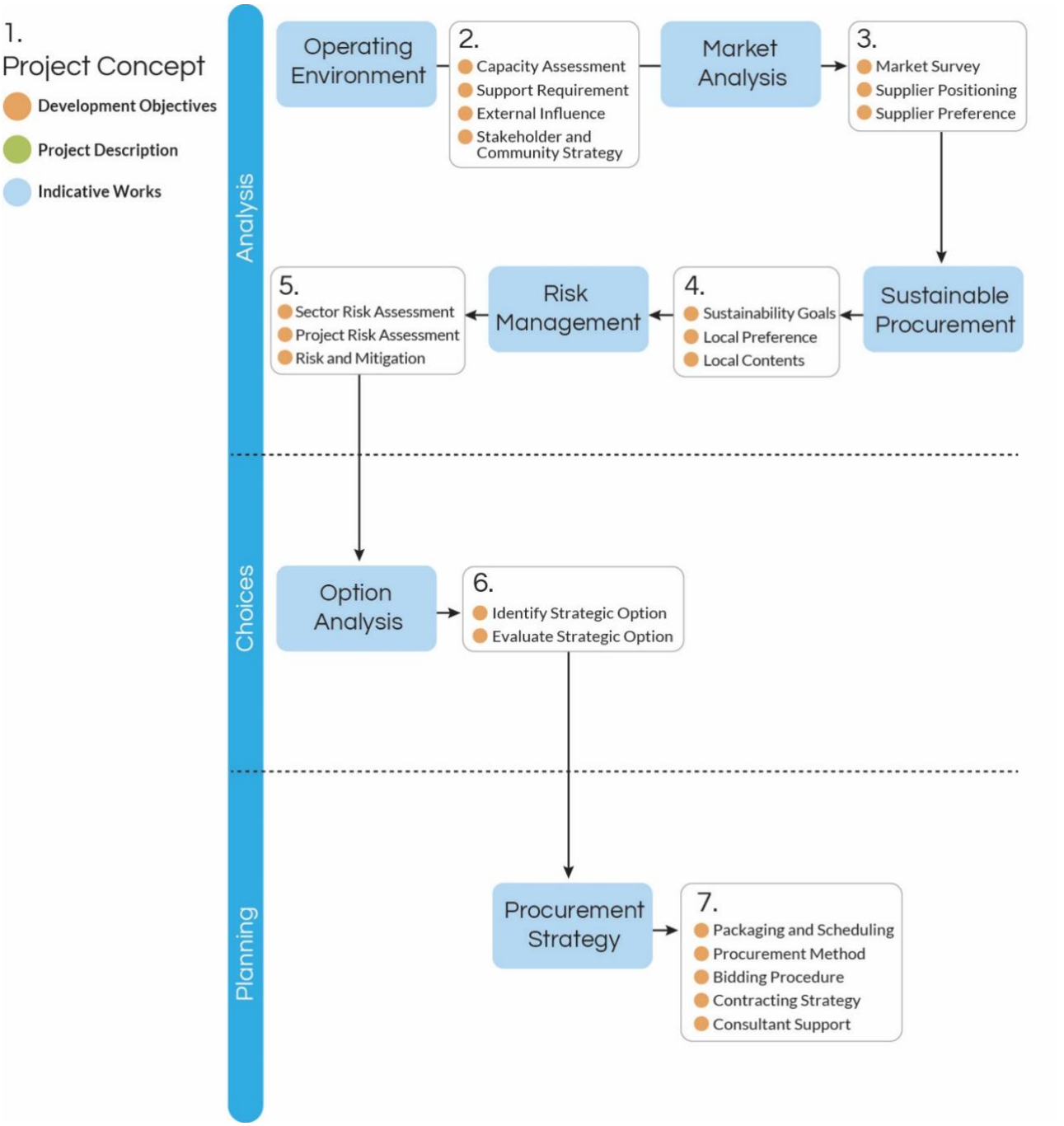
7	**Consider local content and market capabilities.** Does the project require, or the government prefer, local content? • **Yes:** Document information on local market capabilities and plan to encourage competition, while mitigating the risks accordingly. • **No:** Proceed to question 8.
8	**Select procurement method.** What is the most appropriate procurement method based on the project's complexity and value? How will VfM be incorporated into the procurement process (e.g., via selection based on rated or merit-based criteria, rather than on the lowest-cost bid or lowest cost technically conforming bid)?. • Should the method include international competitive bidding or national competitive bidding? One or two stages? One or two envelopes? • Decide on the procurement method and proceed with the development of the procurement plan (see below).
9	**Plan procurement packages.** Should the project be divided into separate procurement packages? Should the packages be split into smaller lots to allow local suppliers to bid? • **Yes:** Plan procurement packages and lots considering both the market capabilities and project needs. • **No:** Proceed with a single procurement package.
10	**Choose contract type.** What contract type would be suitable for the project? • The options would include fixed-price, lump-sum, cost-reimbursement, design-and-build, Build–Operate–Transfer, etc. Select the contract type and proceed to the finalization of the procurement strategy. •
11	**Develop procurement strategy.** Is there a suitable procurement strategy aligned with organizational objectives and project goals (e.g., as identified in the project business case or the checklist)? • **Yes:** Finalize, document, and implement the procurement strategy. • **No:** Undertake the process described in #12.
12	**Prepare procurement plan.** Has a detailed procurement plan been approved? And does it cover all necessary activities and time lines? • **Yes:** Implement the procurement processes. • **No:** Develop a comprehensive procurement plan and incorporate it into the project plan, also into the government agency or national procurement plan.

PESTLE = Political, Economic, Social, Technological, Legal, and Environmental; PPP = public–private partnership; RFP = Request for Proposals.
Source: The authors.

The Process

It is recommended that the Value for Money Checklist (Tool 2) be completed before or alongside the procurement strategy. Preparation should include gathering or revisiting any information to be gathered for step 1 of the checklist. Once the strategic questions in Table 4 have been answered, the preparation of the procurement strategy should begin. This process consists of seven steps, which are laid Figure 3.

Figure 3: Process of Developing an Infrastructure Procurement Strategy



Source: The authors.

1. Project Concept

This is the first step in strategic procurement planning, and involves defining the scope, objectives, and outcome. It is a summary of the key project development objectives, and includes the following:

- **Project description.** For each requirement that may result in a contract or subcontract, there should be a short description of what is required from suppliers, including the overall budget.
- **Needs assessment.** There should be a determination of what infrastructure and associated goods, consumables, and services are needed. This will involve identifying the organization's requirements, including any public services. This step will establish the budget funding available for each procurement package, and will determine the time frames for delivery. Once the needs assessment has been completed, the organization can develop its procurement plan. The procurement plan should always have the following elements for it to be efficient:
  - an estimation of costs,
  - identification of the methods that must be followed,
  - planned delivery or implementation dates for the products or services,
  - estimation of procurement time lines, and
  - an alignment of the lead times with the project schedule.

2. Operating Environment

The strategic planning should take into consideration the operational context factors that may affect the procurement:

- **Governance aspects.** These include legislative processes that may regulate the market and/or suppliers, the overall legal framework, and disaster or emergency situations.
- **Economic aspects.** A small economy may result in a lack of competition or difficulty in attracting international suppliers. Another consideration is the track record of on-time payment to suppliers.
- **Sustainability aspects.** These include sustainable procurement requirements, the social impacts on sensitive environments, and labor standards.
- **Technological aspects.** The need for information transfer and security must be considered, to avoid a continued dependency on the suppliers. Also in this category are internet access and restrictions, cell phone access and coverage, and any opportunities for the use of technology for project delivery.

A PESTLE (Political, Economic, Social, Technology, Legislative and Environment) analysis is a useful tool for supporting this assessment. It involves considering each of the six factors that comprise the name and its relevance to the project. A workshop for key stakeholders could be helpful, as they will differ in their expertise and knowledge of these areas.

Table 5: PESTLE Analysis

Political	Economy	Social	Technology	Legislative	Environmental
• Foreign trade policy • Political stability • Labor laws • Trade restrictions • Environmental laws • Corruption • Tariffs	• Inflation rates • Interest rates • Economic growth • Unemployment rates • GDPR • Median household income • Stock market trends • Budget deficit	• Education standards • Cultural trends • Lifestyle • Age distribution • Population growth rates • Health and safety policies	• Mobile technology • R&D capacity • Digital technology • Internet and communications • Manufacturing technology • Distribution methods • Levels of automation	• Antitrust laws • Taxation laws • Consumer protection laws • Health and safety regulations • Employment laws • Copyright and patent laws • Labor laws • Data protection laws	• Climate • Weather • Ethical product sourcing • Waste disposal • Environmental offsets • Renewable energy availability • Natural resources

GDPR = General Data Protection Regulation, R&D = research and development.
Source: The authors.

The PESTLE analysis may provide a lot of information. The priority is to identify factors that could impact the procurement strategy, both positively and negatively.

3. Market Analysis

Market analysis involves considering:

- the nature of and level of competition in the market;
- suppliers, contractors, and service providers, and their market shares;
- the market's ability to meet the project needs and development objectives for varying package sizes and procurement methods;
- the market's views of the government or private agency in terms of attractiveness as a contract employer (e.g., based on its payment promptness, history of complaints);
- quality of management, responsiveness to queries, procurement capability, etc.; and
- supplier preferences regarding the packaging process and specific packages.

Supplier evaluation is a tool that enables the purchaser to identify how a supplier is viewed by reputable contractors, consultants, and other suppliers; how attractive a particular project or contract may be to the supplier; and the likelihood that the supplier will participate in the bidding and will contribute to the fulfillment of the project's objectives and outcomes.

Strategic procurement involves developing long-term relationships with suppliers, which can result in better quality products and services, greater cost savings, and improved supply chain efficiency. Strong and positive relationships with suppliers can lead to enhanced collaboration, improved communication, and better outcomes. Effective supplier relationship management involves engaging in regular communication, monitoring supplier performance, and addressing any issues or concerns that arise in a timely manner.

4. Sustainable Procurement

Sustainable procurement is also an important consideration in procurement planning, as it involves integrating environmental, social, economic, and governance factors into the procurement process. This can include selecting suppliers that use sustainable practices, such as reducing carbon emissions or supporting local communities. It encourages the procurement of works that are assessed to be less damaging to the environment during their production, use, and disposal.

Strategies should encourage social inclusion and economic development to positively contribute to the communities in which the project will operate, for instance by involving local residents in community projects.

Table 6: Sustainable Public Procurement

Economic Pillar	Environmental Pillar	Social Pillar
• Economic regeneration • Sustainable economic development • Emerging markets • Development of SMEs • Total cost of ownership and life-cycle costing • Value for Money • Poverty reduction	• Environmental resource management • Urban planning • Alternative energies (e.g., solar, wind) • Water management • Sustainable agriculture • Marine resource management • Protection of ecosystems • Pollution and waste management	• Human rights • Clean drinking water • Food security • Fair pay and labor law protections • Anti-child labor and forced labor laws • Fair trade • Health and safety • Gender equality, including universal education

SMEs = small and medium-sized enterprises.
Source: The authors.

5. Risk Management

The purpose of risk management is to identify and address potential procurement and contract-management risks to the project, considering:

- government experience in implementing similar projects;
- issues encountered during past procurement and contract-management processes;
- market issues (e.g., insufficient competition; failure of reputable firms to win bids; and fluctuations in prices, lead times, or supplies);
- safety and security of the project site, and access to the site;
- business and operating environment;
- effectiveness of oversight mechanisms;
- procurement regulation compliance;
- weather-related issues, such as cyclone damage;
- insufficient quality or performance, including late delivery; and
- contract management.

Once all the key risks have been identified, they need to be expressed in appropriate terms in the risk description. The risks then need to be rated and prioritized in the project risk register. Risk-mitigation options considered during the procurement process can include different contract terms; better public agency or supplier insurance (or self-insurance by the government); separate supervision, monitoring, or quality assurance contracts; and financial or parent company guarantees or securities.

6. Options Analysis

This stage examines the procurement options that could fulfill the project needs; achieve the procurement principles; and address issues raised in the capacity assessment, market analysis, and risk analysis. These options can include:

- international or national advertising to attract competition;
- a one-envelope or two-envelope (commercial and technical) procedure;
- traditional Design–Bid–Build (DBB) or a design-and-build (D&B) contract;
- use of prequalification (with or without ranking);
- application of counterpart finance for packages;
- public–private partnerships (PPPs);
- lump sum, unit price, or admeasurement methods of pricing;
- evaluation method that applies only pass–fail criteria, or that also includes the use of weighted scoring;
- site security provided by the client or contractor; and
- a reimbursement mechanism.

7. Procurement Strategy

When procuring construction for infrastructure projects, there are several contracting options and strategies available. Some common options and factors to consider when choosing among them are listed in Table 7.

Table 7:Types of Procurement Contracts

1	**Design–Bid–Build (DBB), the Traditional Method** • The project owner contracts separately with a designer (architect or engineer) and a works contractor. The design phase is completed before the bidding process for construction begins. • A variant of this approach is "early contractor involvement," in which the contractor is engaged during the design phase and comments on the "buildability" of the design, offering suggestions for increasing VfM. See the relevant companion volumes in this series for more details.
2	**Design-and-Build (D&B), or Turnkey** • A single entity is responsible for both the design and construction of the project under one contract. • This can lead to faster completion and a more unified workflow.
3	**Engineering, Procurement, and Construction (EPC)** • This is similar to D&B, but with a focus on industrial projects such as chemical processing plants, and used mainly for procurement by the private sector. • The EPC contractor handles the detailed engineering design, procures all the equipment and materials, and then constructs a functioning facility or asset.
4	**Design–Build–Operate–Maintain (DBOM)** • This is a contractual agreement between a public agency and a private sector entity, a form of PPP. • The private entity typically finances, designs, builds, operates, and maintains the project for a specified period.
5	**Build–Operate–Transfer (BOT)** • This is a contractual agreement between a public agency and a private sector entity. • The private sector partner finances and builds the asset and operates it for a set period, after which the asset is transferred back to the public sector.

PPP = public–private partnership, VfM = Value for Money.
Source: The authors.

Table 8 demonstrates some of the benefits and risks of the options commonly used by the public sector:

Table 8: Advantages and Risks of Different Infrastructure Delivery Models

Delivery Model	Advantages	Risks	Mitigation
Design–Bid–Build (DBB)	• Offers the highest level of control over design and construction. • Grants the public agency full control over the project. • Reduces financial vulnerability. • Allows agency to select both design and construction teams.	• Potential exists for fragmented communications and longer time lines. • Risk is shared by the contractor and agency in a balanced manner.	To mitigate risk of delays and cost overruns, it is essential to have a well-defined and detailed design before requesting bids for the construction. Additionally, a thorough evaluation and selection of experienced contractors can help mitigate the risk of poor construction quality.

Design-and-build (D&B)	• Combines the design and construction processes, resulting in time and cost savings.
	  ○ Reduces the risk of communication breakdowns and streamlines the overall process.
	  ○ Offers greater efficiency and collaboration.
		• There may be a restriction of agency oversight of the design process.
		  ○ Initial costs could be higher, but there will be potential long-term savings due to greater efficiency and collaboration.
			To mitigate the risk of reduced agency oversight of the design process, it is crucial to establish clear communication channels and maintain active involvement in the design phase. Additionally, conducting thorough due diligence on the private sector planner's spending and track record can help mitigate the risk of design and construction quality issues.

Public–private partnership **(PPP)**	• Provides access to private sector funding and expertise. • Increases flexibility and innovation in project delivery. • Shares risk and reward between the public and private partners.	• Contractual arrangements may be complex and the project may go over budget. • Necessitates diligent oversight.	To mitigate the risk of complex contractual arrangements and potential budget overruns, it is important to ensure transparency and accountability in project delivery. Thorough risk assessment and the negotiation of contractual terms can help mitigate financial and operational risks associated with PPP projects.
Design–Build–Operate (DBO)	• The private sector planner assumes responsibility for designing, building, and operating the asset for a specified duration, which can range from a few years to several decades.	• The agency may assume increased risk if the private sector partner lacks the requisite expertise.	To mitigate the risk, verify the private sector partner's skills and resources, and establish clear accountability measures to ensure successful project execution.
Build–Operate–Transfer (BOT)	• Transfers the financial risk to the private sector partner. • Allows agencies to make gradual payments for the asset.	• Requires thorough assessment of the terms of the transfer to ensure that the agency receives a fully operational asset.	To mitigate the risk of financial exposure and ensure the successful transfer of the asset back to the public sector, it is crucial to conduct comprehensive financial due diligence on the private sector partner. Additionally, establishing clear terms for the asset transfer and performance guarantees can help mitigate the risk of incomplete or substandard asset handover.
Design–Build–Operate –Maintain (DBOM)	• Provides a centralized point of accountability, minimizing conflicts among multiple contractors. • Assures that the private sector partner will handle all maintenance and repair tasks.	• There is potential for conflicts among multiple contractors. • The private sector partner may lack the requisite expertise to execute all facets of the project.	To mitigate the risk of increased public agency exposure and ensure the private sector partner's capability to manage the asset's complete life cycle, a thorough evaluation of the partner's skills and resources is essential. Additionally, establishing clear performance metrics and accountability mechanisms can help mitigate the risk of inadequate maintenance and operation.

Source: The authors.

Factors to Consider When Choosing a Contracting Option

When choosing an option, it is essential to conduct a thorough analysis of the project's specific needs, goals, and constraints. Methods such as the VfM checklist under Tool 2 can help determine the most cost-effective procurement option that meets the project's objectives, while considering the full life-cycle costs and benefits. Factors to be considered include the following:

- **Project complexity.** For complex projects, a design-and-build (D&B) or Engineering, Procurement, and Construction (EPC) contract might be more suitable due to the integrated approach to design and construction.
- **Risk allocation.** Consider which contracting method best aligns with the owner's ability to manage risk. PPPs can transfer more risk to the private sector or to the construction manager.

- **Budget and cost certainty.** Consider the extent of the budget, funding availability, and the cost structure. If cost certainty is a priority, a lump-sum turnkey contract might be preferred.
- **Time constraints.** If the project has a tight schedule, D&B (or turnkey) options can expedite the process, as the design and construction phases can overlap.
- **Quality control.** A DBB contract will allow for more owner control over the design, but D&B can lead to better coordination between the design and construction processes.
- **Owner's expertise.** Owners with less construction expertise might benefit from a D&B or EPC contract, under which the contractor has more responsibility for both the design and delivery.
- **Financing.** PPPs can be beneficial for projects that require significant capital investment, when the public sector is unable to provide it up front. However, long-term affordability and cost control need to be considered.
- **Long-term operation and maintenance.** If the project includes long-term operation and maintenance, which a government agency may struggle to finance, a PPP might be the most suitable option.
- **Market conditions.** The availability of suitable and experienced contractors, local market conditions, and the competitive environment can influence the choice of contracting method.
- **Regulatory environment.** Legal and regulatory requirements can limit or dictate the type of contracting methods available. This is especially important where some separation is required between the operators and any regulator.
- **Stakeholder considerations.** The interests and influence of stakeholders, including the community, government, and funding agencies, can impact the choice of procurement method.
- **Agency considerations.** These include whether the government agency requires support for post-construction services, such as the operation and maintenance of the asset; the degree of technical expertise the agency has, versus what is available in the market; and whether the agency wants to own the design and construction process or is willing to transfer control and ownership to the private sector partner.

Choosing the right delivery model is crucial for the success of a construction project. Government agencies must consider their goals, budget, tolerance for risk, and resources, as well as the specific needs and requirements of the project. Each delivery model has its pros and cons, and it is essential to evaluate all available options before deciding. The traditional DBB approach model offers a high level of control, but other approaches, such as integrated project delivery and D&B models promote strong teamwork and collaboration. The PPP model offers access to private sector funding and expertise, but it requires more complex contractual arrangements and diligent oversight.

The Results

The final step is to synthesize the analyses, preferred options, and strategy into the project procurement plan which should do the following:

Increase Efficiency and Reduce Procurement Time

- Flexibility enables procurement arrangements to be more appropriate to the contracts being procured, delivering faster processes and more efficient contract implementation.
- Appropriate procurement arrangements increase the level of attractiveness to reputable contractors, suppliers, and consultants.
- Accounting for supply market conditions, local capacity, stakeholders, and risks helps to structure procurement arrangements to minimize the risk of collusion, insufficient bids, the need for rebidding, and/or cost overruns.

Reduce Risk and Improve Quality

- A comprehensive project procurement risk assessment during procurement planning ensures that borrower and supply-market risks are identified and mitigated.
- Better planning helps to ensure that contracts are awarded based on suitable specifications, and that the evaluation criteria include an appropriate assessment of the cost over the life of the asset.

Deliver Value for Money

- Well-planned, fit-for-purpose procurement arrangements will deliver better VfM, with better consideration of the trade-offs between cost and quality.
- Planning should also consider sustainability, including environmental and social factors.

Improve Fitness for Purpose

- Procurement arrangements are designed and implemented to reflect the strategic needs and circumstances of the contract to be procured.
- A better understanding of key procurement options—such as specifications, bidding procedures, review requirements, and contract packaging—helps to ensure that they are used appropriately.

Improve Fairness and Transparency

- Well-planned procurement arrangements will reassure reputable contractors, suppliers, and consultants that they will be treated fairly, with transparency and accountability, so they will be encouraged to bid.

Tool 4: Preparation of a Procurement Plan

Purpose

The purpose is to provide guidance to a procurement specialist or project manager on the process of preparing a detailed procurement plan for an individual contract or procurement package. The process map of a typical infrastructure procurement process can be used:

- for training in the practical steps needed to implement a procurement process;
- as a process checklist to guide procurement specialists, if adapted or customized to match local requirements (involving governance checks; reviews; and system updates and approvals stages, such as for a legal review of documents and/or approval by a tender board or person with financial or legal authority);
- to clarify when approvals by the development partner of documents, decisions, or audits will be required; and
- as a procurement project plan or spreadsheet for tracking purposes.

When preparing a procurement plan, timing is an important consideration. Estimating procurement time lines includes aligning supplier and transport (freight) lead times and process steps with the project schedule to ensure that the process does not cause project delays. Procurement activities should be planned well in advance so that the necessary resources are available when needed and there is sufficient time for suppliers to prepare a high-quality response. This can involve developing procurement schedules and time lines, as well as identifying any potential bottlenecks or delays in the process, enabling organizations to take proactive measures to address issues and ensure a timely and successful result.

Procurement planning can contribute to a reduction of costs by identifying cost-saving opportunities and ensuring that procurement activities are conducted in a cost-effective manner to achieve better VfM. Moreover, by recognizing the potential risks and mitigating them, an organization can reduce the likelihood of costly mistakes or delays.

Procurement planning must ensure that the processes are compliant with legal and regulatory requirements and that they are ethical, sustainable, auditable, and accountable. This can avoid legal and reputational risks. Sustainable procurement techniques ensure that a government agency can contribute to a better world while reducing supply-chain risk. By ensuring that procurement activities are auditable, a project can avoid fraud and corruption and maintain public trust.

One of the essential elements is the identification of the type of contract that will be used for the procurement. This is crucial because it will determine the legal framework for the procurement process and the respective rights and obligations of the parties involved.

Preparation of the Plan

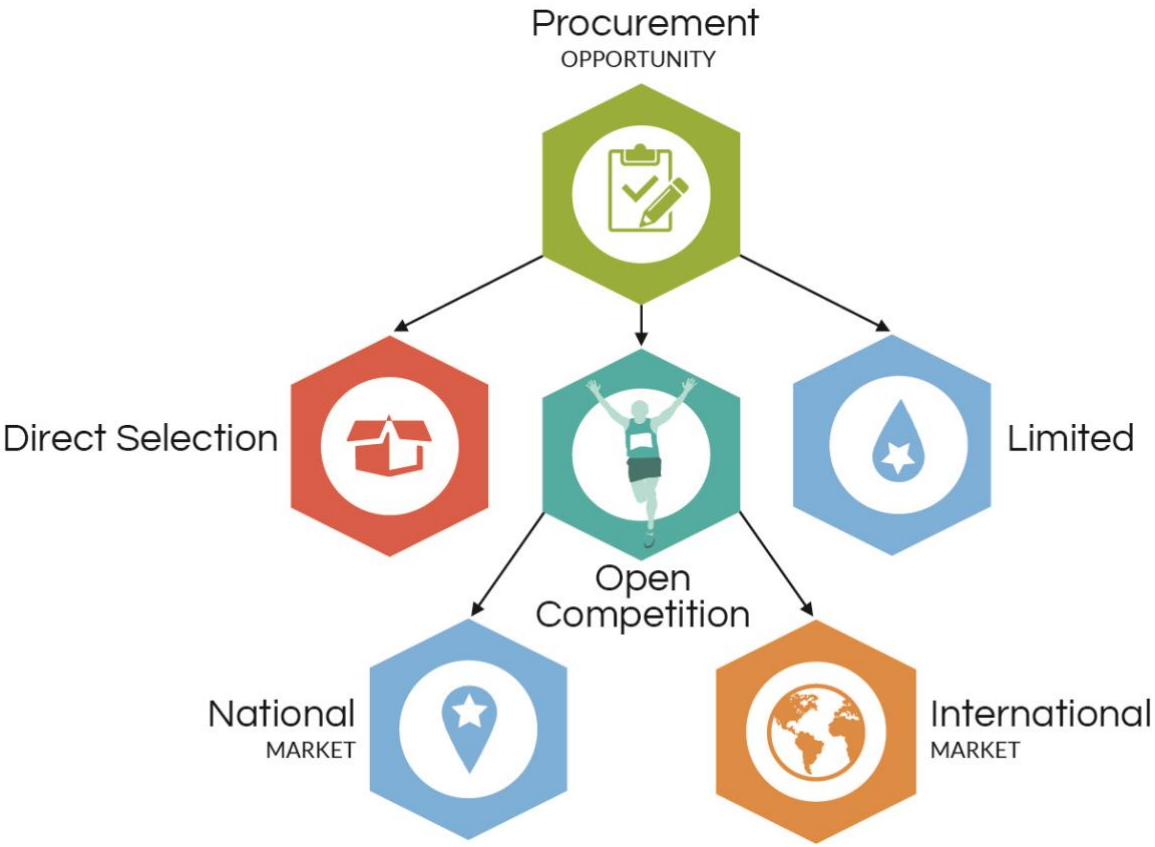
To help estimate the costs, the procurement plan should include a clear description of the goods and/or services that are needed. This description should outline the quality requirements, specifications, and standards that must be met. Determining the estimated costs of the procurement helps organizations to determine their budget for the procurement process. The estimated cost includes not only the cost of the products or services, but also the cost of the procurement process itself, such as the cost of sourcing suppliers and associated consultants, negotiating contracts, and managing suppliers. Estimates may be based on input from specialist consultants, benchmarking, and historic procurement activities. The decisions to be considered include the factors listed below.

1. The Market Approach

This covers the extent of the market and the types of contractors allowed to bid. The options are:

- **direct selection,** in which negotiations are conducted with only one firm (allowed in certain circumstances);
- **limited competition,** including only those firms that are invited to participate or have been prequalified;
- **national open competition,** used when the procurement bidding is unlikely to attract foreign competition (opportunity openly advertised, with all eligible firms having an equal opportunity to participate); and
- **international open competition,** used when the participation of foreign firms will increase competition and deliver the best VfM and fit-for-purpose results (opportunity openly advertised, with all eligible firms having an equal opportunity to participate).

Figure 4: Market Approaches



Source: The authors.

2. The Selection Method

The next step is to decide on a selection method. One of the methods, **direct selection**, is not usually the preferred procurement approach, as it limits competition. However, it may be appropriate if there is only one suitable firm or:

- an existing contract may be extended;
- a firm that has completed a contract within the last 12 months can be reengaged;
- the procurement is low value and low risk;
- there are exceptional circumstances (e.g., an emergency situation);
- standardization is a priority, so goods must be technically compatible;

- proprietary equipment is needed for which there is no reasonable substitute;
- the achievement of the objectives, or a functional guarantee, is required; and/or
- the contractor is a state-owned enterprise, university, or research center that is providing services of a unique or exceptional nature.

Open competition is a selection method that allows all eligible firms an equal opportunity to compete. After a decision in favor of open competition, the next step is to choose between the national and international markets. An international approach is likely to increase competition, potentially leading to the best VfM and fit-for-purpose results. Open competition should be used for contracts that are complex and high risk and/or high value.

Limited competition could be used where there is only a small number of relevant suppliers in the market, and these suppliers can be readily identified. It may also be used for small-scale procurement for which the advantages of open competition are outweighed by the administrative or financial burden. Finally, it may be appropriate when there is an existing framework or panel contract that was originally competitively tendered, and a secondary limited procurement method will achieve VfM.

3. Number of Envelopes and Stages

Two-stage procurement processes allow for the prequalification of bidders; and they can be useful when there are high risks connected to supplier selection or the cost of bidding is expected to be very high. The first stage is usually openly advertised.

A two-envelope process for detailed bids requires the submission of separate envelopes or files for technical and commercial offers before the bid-closing deadline. Separate opening supports the evaluation of the technical and quality aspects without being influenced by price. First, only the technical envelopes are opened and evaluated. The financial envelopes are kept in safe custody until the second opening. During the second opening, only the financial envelopes from technically compliant bidders, and/or offers that achieve a minimum technical score, are considered.

To assist in determining the best option and the best fit-for-purpose process, the following factors need to be considered:

- the key characteristics of each process,
- the pros and cons of each process type, and
- whether additional process elements should be included (e.g., negotiations).

4. Procurement Procedure

- **Request for Quotations.** The RFQ is a competitive method of seeking quotations for readily available goods, works, and services. It is appropriate for (i) contracts of low to medium value for which the requirements are simple and easy to specify, (ii) standard off-the-shelf products or services, (iii) products, works, or services for which there is a ready market with many suppliers, and (iv) procurement decisions based on the technically conforming offer with the lowest quotation.

- **Request For Bids.** The RFB is a competitive method used when the government specifies requirements and wishes to maintain a higher degree of control over the delivery of the goods, works, or services. It can be appropriate for standardized procurement with requirements that are simple and easy to describe, or for complex procurement with specifications that can be clearly described and a market with a proven ability to deliver. Under this method, the owner retains tight control over the design and delivery, and accepts the risks associated with the design and the specifications. The procurement decision is usually based on the lowest-price technically conforming bid.

- **Request For Proposals.** The RFP is a competitive method used when the owner specifies functional or performance needs and the market proposes solutions. It can be appropriate for nonstandard procurement, or when complexity is moderate to high and the cost of bidding is high. Other characteristics are: (i) a high potential for alternative solutions or technologies, or an owner that is actively seeking innovation; (ii) suppliers that have a greater degree of flexibility and/or control over the design and/or delivery, along with an owner that does not want to accept the risks associated with the design or specifications; the quality of design and/or execution as important priorities; and (iv) the use of quality plus cost evaluation (using rated criteria) to enhance VfM.

5. Consulting Service Selection Methods

The procurement regulations or code should specify whether the methods listed above can be used for the recruitment and selection of consultants. However, some governments and private sector agencies require or allow different methods based on those used by development partners. The methods include the following:

- **Quality and Cost-Based Selection.** QCBS is a competition among shortlisted consulting firms that takes into account the quality of each proposal and the cost of the services. The RFP must specify the minimum scores and weights for the evaluation. Selection is based on the most advantageous proposal with the highest combined quality and cost score.
- **Fixed Budget-based Selection.** FBS is a competitive process similar to QCBS, but with a fixed budget specified in the RFP. This method is used when the consulting services needed are straightforward and easily defined and when the budget can be reasonably estimated and is sufficient.
- **Least Cost-based Selection.** LCS is a competitive process that also resembles QCBS. It is appropriate for assignments of a standard or routine nature with well-established practices and requirements. Selection is based on the most advantageous proposal.
- **Quality-Based Selection.** QBS is a competitive process in which quality is evaluated without considering cost as an evaluation criterion. A technical proposal is typically requested along with a financial proposal. The method is appropriate for complex or highly specialized services with terms of reference that are difficult to define, services with high downstream impact, and for services that are not comparable because of many ways they could be carried out.

6. Effective Procurement Planning

In summary, to prepare a comprehensive procurement plan, the team should gather all relevant information and consult with key stakeholders, such as end users, budget holders, and legal advisers. The procurement plan should outline the market approach to be used for each package, based on:

- open competitive bidding,
- limited competitive bidding,
- a framework agreement,
- an RFQ,
- direct contracting, and
- the number of stages and envelopes.

In terms of the procurement procedure, the team should identify:

- the type of contract (e.g., works, DBB; D&B, Design–Build–Operate, lump sum, time based);
- whether early contractor involvement will be used for DBB;
- the pricing and cost mechanism (e.g., lump sum, admeasurement);
- the type of procurement document required;
- review type (prior or post) if funded by a development partner;
- evaluation criteria and methodology (e.g., lowest price conforming, merit point criteria); and
- advertising media, using a national, international, e-procurement, or direct approach.

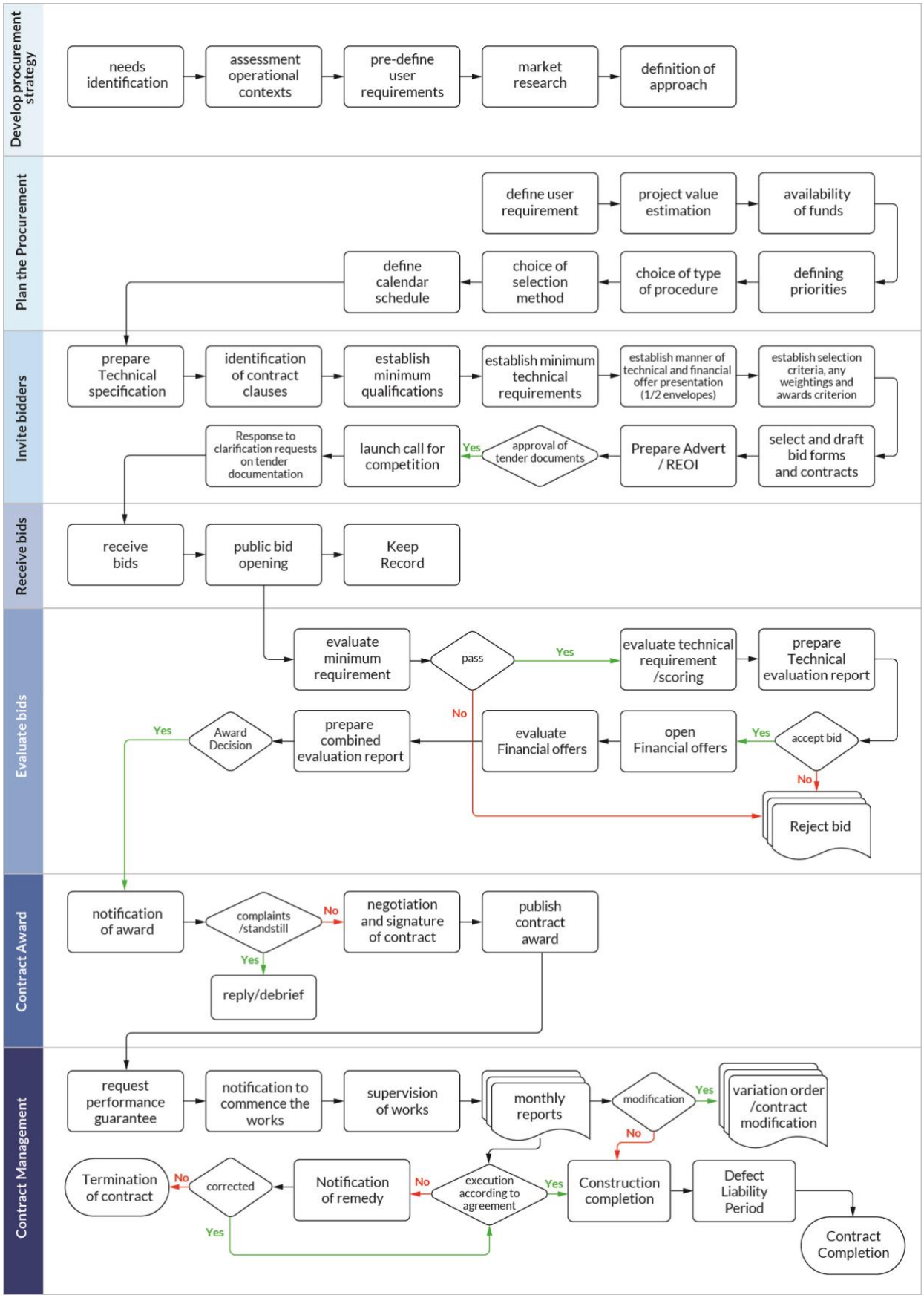
All these decisions should be based on the type and value of the procurement, supplier capability, market conditions, and on the availability of goods and services. Once the procurement method has been identified, the procurement plan should outline the procurement schedule, which should include key dates for the issuance of the procurement documents to potential suppliers, deadline for offers, bid evaluation, contract award, and the delivery of goods or services.

An effective procurement plan should also consider sustainability and social responsibility, including the environmental impact of the procurement, as well as the social and ethical considerations to be added to the requirements, such as the use of sustainable materials, fair labor practices, and support for local businesses. It must also ensure that the procurement process is transparent and fair. This means that all potential suppliers have equal access to information and opportunities to bid, and that the evaluation process is objective and based on clearly defined criteria. This can help to prevent corruption and ensure that the best VfM is achieved.

The plan should be reviewed and updated regularly to ensure that it remains relevant and effective. It is also important to establish a procurement risk-management plan or add identified risks to the project risk-management plan, to address potential risks that may arise during project implementation, such as supplier nonperformance, budget constraints, or changing market conditions. This plan should outline how these risks will be managed and mitigated.

Figure 5 presents a map of a typical infrastructure procurement process, showing the steps of public-sector procurement of infrastructure assets through to completion.

Figure 5: Sample Infrastructure Procurement Process



REOI = Request for Expressions of Interest.
Source: The authors.

Tool 5: Evaluation of Criteria

Purpose

This tool sets out the types of evaluation criteria, and presents some examples of them, including criteria used to achieve sustainable public procurement outcomes. Standard or model bidding documents and templates may include some criteria that must always be used as they are, but also some that can be adjusted as required. Evaluation criteria for infrastructure can include:

Administrative or qualifying criteria. These normally include the minimum or mandatory requirements that determine the supplier's eligibility to participate in the procurement process. They may include declarations of conflict of interest, blacklisting or sanctions, insurance, bid securities offered, bid validity period, etc. Minimum standards for sustainability criteria may also be included, if required, such as guarantees to pay at least the local minimum wage and proof that the local taxes due have been paid.

Financial and cost criteria. The bidding documents must request the information required to calculate all relevant prices in a way that can be easily compared among bidders. They typically include:

- purchase price or up-front charges, including the costs of financing, hiring, or leasing, if any;
- installation, testing, and commissioning costs;
- cost of operation and maintenance, including materials, consumables, energy, servicing, and spare parts used during the asset's useful life;
- sustainability savings such as lower use of energy or consumables; and
- decommissioning, destruction, and disposal costs.

Technical criteria. These allow the compliance, conformance, quality, sustainability, local content and/or performance of the infrastructure to be evaluated against the specifications, terms of reference, or standards. Many technical criteria will be specific to the sector and project design. They may also consider the qualifications of suppliers in terms of business capability and capacity, including viability, staff resources, commercial management, commercial terms, risk management, warrantees, and relevant experience.

- Relevant experience focuses past performance, i.e., the proven ability to supply or deliver goods, works, and services that can be checked by the evaluation committee.
- The warrantees must be effective in providing long-term service support over the duration of the contract, over the life of the product, or in accordance with the construction contract.

Evaluation criteria can be further categorized into:

Required or mandatory criteria. These are pass–fail criteria that establish the absolute minimum acceptable performance that must be met. Pass–fail questions requesting information should require the bidder to supply objective evidence that can be validated or verified. Care should be taken in using pass–fail criteria, however, as having too many criteria, or criteria set above the minimum acceptable standards, can lead to lower competition and the potential rejection of suppliers that are capable of providing goods, works, and/or services of acceptable quality.

Qualitative criteria. These are criteria that are used to reward performance that exceeds the minimum standards. They may be part of the supplier's technical bid or methodology offered in response to the requirements defined in the project's specifications, fixed budget, or bill of materials. The criteria may be scored and weighted during evaluation. The list of procurement criteria should be reviewed to determine (i) which ones need to be converted into specific questions in the bidding documents; (ii) which should be used to obtain objective evidence or information for the evaluation of the goods, works, or services; (iii) or which should be incorporated into the specifications or Terms of Reference, under which the supplier or contractor will need to specifically confirm their ability in writing to fulfill all the relevant requirements.

The bidding document could require that the supplier provide the details about any costs that were excluded and, potentially, about the assumptions used to calculate the costs. The response document should be clear regarding the currencies for each cost, the period for which the costs are fixed, how any cost escalation will be agreed to (if not covered by the contract), and what cost elements are included or not included (e.g., goods; sales and value-added taxes; and withholding taxes on income, duty, and freight).

Some examples of administrative and qualifying criteria are presented in Table 9. A more comprehensive list of possible costs is provided in Figure 6 in Tool 6 (Total Cost of Ownership).

Table 9: Examples of Questions and Evidence for Administrative Evaluation Criteria

Questions from a Request for Bids or Request for Proposals	Possible Evidence
Is the company certified based on a recognized quality standard (e.g., by the International Organization for Standardization)? Provide the title of the standard, the awarding body, and your certificate or certification number.	Verification of certification of a relevant standard from the website or a copy of the certificate
Have the greenhouse gas emissions from your equipment been measured or tested in the last 2 years? Please supply evidence.	Recent test certificate
Does your company have a code of conduct that covers employment and working conditions? Please supply a copy, reference, or website link.	Published code of conduct
Are working conditions along the supply chain regularly audited? State how you do this.	Recent audit report or policy statement

Source: The authors.

Examples of Technical Criteria

Each criterion should include one or more questions and/or requests for data in the bidding documents and any relevant response forms issued by the procuring agency to require the bidder to supply the relevant information, so that it can be evaluated.

The criteria can be identified by the procuring agencies and their construction consultants or designers when drawing up the technical specifications for the infrastructure project. High-priority activities may be addressed by evaluation criteria. However, consider limiting the number of evaluation criteria to avoid diluting the importance of those activities during scoring and weighting.

Some examples of technical evaluation criteria and evidence are given in Table 10.

Table 10: Examples of Evaluation Criteria and Associated Evidence

Criterion	Possible Evidence Supplied in Response to Request for Bids or Request for Proposals
Design: Does the design meet the project requirements, and is it appropriate for the site's conditions?	Drawings, plans, and bill of materials
Quality of methodology: Does the bid/proposal describe the methodology of delivery and define appropriate performance?	Details on the methodology for delivering the project
Relevant regional experience: Has the supplier worked on similar projects in the region?	Short case studies and references from the Pacific region
Overall experience: Does the supplier have relevant construction experience and a good track record that includes projects with similar requirements?	List of similar projects completed in the last 5 years (at least two)

Criterion	Possible Evidence Supplied in Response to Request for Bids or Request for Proposals
Requirements and standards: Does the supplier's bid/proposal meet the specified minimum level of essential technical, performance, and functional requirements and standards?	Performance record and specifications for the handling of key equipment
Cost control during implementation: Does the supplier appear to be thorough and credible, and to have integrity?	Proposed approach to controlling costs and/or a gain-share offer
Overall innovation in the bid/proposal: This may include opportunities for added value.	Explanation of the innovative features of the bid/proposal, plus an optional alternative bid/proposal
Appropriate site team: Does the supplier's team include an experienced project manager, qualified experts, and appropriate personnel (with technical depth and appropriate numbers and resources)?	Organization chart and résumés for key personnel
Risk management: Does the bid/proposal include a clear risk analysis and appropriate mitigation measures, including effective supply-chain management plans?	List of risks and proposed mitigation measures for the project
Environmental impact: Does the bid/proposal feature a comprehensive environmental-management system, including environmental-management implementation plans?	An environmental-management policy (or plan for large projects)
Health and safety: Does the bid/proposal include detailed plans for ensuring health and safety on the project site, and for preventing and recording accidents?	An appropriate health and safety policy
Cybersecurity: Does the bid/proposal include appropriate plans for identifying and managing infrastructure cybersecurity risks?	A user acceptance and security-testing plan
Local labor and content: Does the bid/proposal show a satisfactory commitment to using local materials and labor, and for providing training to local people?	A local content and labor plan

Source: The authors.

Examples of Other Technical Criteria for Sustainable Procurement

Technical criteria may also include those to promote sustainable public procurement. This is a strategic approach that promotes the integration of the pillars of sustainable development, i.e., economic development, social development, environmental protection, and high-quality (institutional) governance. It involves a high degree of collaboration and engagement among all parties in a supply chain. Some examples given in Table 11.

Table 11: Examples of Sustainable Infrastructure Activities and Criteria

Social, Economic, Environmental, and Governance Aspects	Type of Activity	Details of Activity
Social	Utilization of local construction resources	Utilization of construction materials from the local district, city, or province
Social	Gender mainstreaming	Use of female labor in demolition activities

Social, Economic, Environmental, and Governance Aspects	Type of Activity	Details of Activity
Social	Involvement of marginalized people or disadvantaged groups	Use of marginalized labor in demolition activities
Social	Disability engagement	Use of disabled labor in demolition activities
Economic	Use of local suppliers	Purchase of locally sourced concrete, desalinated sand, and gravel or aggregate
Economic	Use of local subcontractors, including MSMEs	Commitment to using local subcontractors—specifically, to a minimum value and percentage of local subcontractors as a proportion of all subcontractors
Social	Local labor	Commitment to recruiting and training local labor—specifically, to a minimum value and percentage of local labor as a proportion of total labor
Environmental	Utilization of environmentally friendly technology	In construction, the use of environmentally friendly glass, paint, certified wood, cement, Freon (for air conditioners), HDPE and PVC pipes, bricks (from processed domestic waste), and non-asbestos materials
		Use of renewable energy
Environmental	Energy conservation	Use of energy-efficient appliances
		Use of lighting from solar panels or biodiesel generators
		Prioritization of gravity systems in drinking water provision and wastewater management
		Use of water-efficient sanitary equipment
		Monitoring of water use at each source of water output, the use of recycled water sources, and the provision of the required water quality
Environmental	Water conservation	Design of water-catchment spaces
		Planting of grass on road medians
		Use of biopores, infiltration wells, swales, filter lanes, and infiltration trenches
		Selection of alternative building sites to minimize changes in land contours, river cuts, and hill cuts
		Adherence to a supplier code of conduct provided by the government
Governance	Supplier code of conduct	

HDPE = high-density polyethylene; MSMEs = micro, small, and medium-sized enterprises; PVC = polyvinyl chloride.
Source: The authors.

If sustainable public procurement elements have been identified as important value factors, government agencies may wish to consider the examples of sustainability criteria and verification methods presented in Table 12. These requirements must be included in either the specifications or Terms of Reference for the design consultants and/or contractor, making it clear whether there are any minimum compliance levels, values, or threshold scores to be achieved. Any commitments should be included in the supplier's bid or proposal, and translated into contractual deliverables or key performance indicators to be reported.

Table 12: Examples of Sustainability Criteria and Means of Verification

Sustainability Criterion	Potential Means of Verification
Promotion of local businesses and suppliers	The supplier's business registration number and office address included in the bidding documents
Use of local materials	Origins of goods, services, and raw materials noted
Use of local subcontractors	• List of subcontractors who will be involved in the activity • Legally registered names and addresses of subcontractors who will be involved in the activity
Use of local labor	• Letter of commitment to using local workers • Schedule of on-site personnel, including a list of workers involved in the work (reporting, monitoring, and evaluation to be carried out after the work is underway)
Fulfilment of minimum-wage and employment requirements	• Proof of employment report • Proof of employment payments for the last 3 months • Proof of health and social security payments for the last 3 months
Involvement of interns and apprentices	Labor report that includes the number of apprentices trained and employed, disaggregated by gender
Mainstreaming of gender (use of female labor)	• List of the workers provided in the labor report • Detailed plans for involving female workers included in the technical bid document
Involvement of disabled workers	Detailed plans for involving workers with special needs included in the technical bid document
Use of environmentally friendly building materials (glass, paint, and certified wood)	• List of specifications for the tools and materials to be used • Details on the environmentally friendly building materials to be used, with references to environmental standards, provided in the technical bid documents and cost bids
Use of environmentally friendly cement	• List of specifications for the tools and materials to be used • Details on the environmentally friendly cement to be used provided in the technical bid documents and cost bids
Use of environmentally friendly air conditioning	• List of specifications for the tools and materials to be used • Details on the eco-labeled air conditioning to be used provided in the technical bid documents and cost bids
Use of environmentally friendly pipes	• List of specifications on the tools and materials that will be used • Details on the HDPE and PVC pipes that will be used included in the technical bid document and cost bid
Implementation of water-conservation applications	Details on water-conservation applications that will be implemented given in the technical bid documents and cost bids, including: • the design of water-absorption spaces

Sustainability Criterion	Potential Means of Verification
	• planting of grass in the road medians • the use of biopores, infiltration wells, swales, filter lanes, and infiltration trenches • monitoring of water use at each water output source
Selection of alternative building sites to minimize changes in land contours, cutting rivers, cutting hills	Details on the water-conservation applications to be implemented, including the selection of suitable building sites, included in the technical bid documents and cost bids

Source: The authors.

Benefits of Using Rated Criteria

The selection method and relevant government requirements will dictate whether rated criteria can be used. This is recommended for optimizing VfM, as the use of rated criteria:

- facilitates the evaluation of technical benefits and quality;
- enables the ranking of technical bids in order of merit;
- rewards the technical bids that exceed the minimum requirements;
- allows an objective comparison of solutions or methodologies offered by the potential suppliers;
- enables the offering of a premium for technical bids with better environmental impacts and higher standards for health and safety management; and
- enables the offering of a premium for the use of local content.

Table 13: Value-for-Money Considerations When Preparing Rated Criteria

Category	Considerations
Quality	Identify the technical criteria that will help determine the degree to which goods, works, or non-consulting services meet or exceed the requirements. Are there any appropriate quality standards that are commonly used for the requirements?
Risk	Identify the criteria that will help mitigate the relevant risks.
Sustainability	Identify the criteria that will take into account the stated economic, environmental, social and/or governance benefits in support of the objectives. This may have to include the ability of the bid or proposal to adapt to possible changes over the project's life cycle.
Innovation	Identify the criteria that will enable an assessment of innovation in project design and/or delivery, and that will give potential suppliers the opportunity to include in their bids or proposals, when appropriate, alternative solutions that exceed the requirements or deliver better VfM.
Financial Cost	Identify the criteria that are appropriate to the nature of the procurement, including: • adjusted bid or proposal pricing; or • adjusted bid or proposal pricing, plus the recurrent costs over the useful lifetime of the asset on a net present cost basis (life-cycle costs).

Source: The authors.

How Criteria Can Be Used During an Evaluation Process

Once selected, different criteria may be assessed in different stages of the evaluation as shown in Table 14:

Table 14: Application of Criteria During Evaluation

Use of Criteria	Type of Criteria	Test Result	Test Objectives
Step 1			
Evaluate the substantive responsiveness of supplier's offer	Process criteria	If the bid or proposal meets the requirements without material deviations, reservations, or omissions	A preliminary check undertaken when bids or proposals are opened to establish their compliance with required procedures and processes prescribed in the procurement document
Step 2			
Evaluate qualifications	Mandatory criteria	Pass/fail	An assessment of whether the bid or proposal meets the mandatory or minimum qualification standards
Step 3			
Evaluate fulfillment of minimum requirements	Minimum technical and performance requirements	Pass/fail	An assessment of whether the bid or proposal meets the specified minimum technical and performance requirements and standards
Step 4			
Evaluate qualitative aspects	Rated criteria	Weighted and scored	An assessment and comparison of qualitative aspects of the supplier's technical document, such as quality, risk, and innovation

Source: The authors.

The **weighting of rated criteria** is designed to reflect the relative importance of the requirements. This enables an evaluation of the overall technical aspects (e.g., quality, sustainability, environmental, social). Specific technical sub-criteria can be used with corresponding weights, if appropriate. An example of rated criteria weighting for a higher-risk, higher-value procurement is presented in Table 15. In this case, the program team would have debated the importance and priority of each criterion to determine the overall weighted score.

Table 15: Example of Rated Technical Scoring for an Infrastructure Project

Criterion and Weighted Score	Weighted Score Breakdown for Assessment, If Any
1. Site organization, team composition, and qualifications and experience of contractor's representative and key personnel (20%)	• Project management team composition, including proposed subcontractors (15%) • Organizational setup, including proposed subcontractors (5%)
2. Work program (25%)	• Work program and a statement clearly indicating the strategy of execution (15%) • Description of how lessons learned from similar projects will be implemented (5%) • Measures to avoid potential delays (5%)
3. Approach and method statements on construction activities (25%)	• Quality control and assurance (5%) • Approach and method statement on logistics, phasing, and overcoming challenges of building on an island (5%) • Approach and method statement on coordination and integration with other contractors (5%) • Measures to avoid and/or mitigate risk (10%)
4. Value engineering in response to suggestions for cost reduction, money savings, and efficiency (10%)	
5. Economic participation (15%)	• Economic integration plan, including, for example, the involvement of local subcontractors, suppliers, and personnel (10%) • Plan for technical knowledge transfer to local staff, thereby enabling future maintenance and operation activities (5%)
6. Management strategies and implementation plans for handling environmental and social impacts (5%)	

Note: A blank cell indicates that the criterion weighting was not broken down into subcategories.
Source: The authors.

Tool 7 (Evaluation of Contractor Offers) provides two methods, one simple and one more complex, for evaluating all types of criteria; and it offers further examples to demonstrate these methods.

Tool 6: Total cost of ownership

Purpose

VfM does not always mean choosing the option with the lowest price. It may be the option with the lowest total cost of ownership (TCO) over an allotted time, usually the asset's expected usable (or useful) life. TCO, also known as "life-cycle cost," is based on the calculation of the costs associated with procuring, operating, maintaining, and disposing of an asset or system through to the end of its life. Calculating the TCO may be part of the evaluation of infrastructure bid or proposal costs. This tool provides an overview of the TCO and shows how it might be calculated.

It is important to consider a whole-of-life approach to infrastructure procurement planning and investment for VfM reasons. The choice of one of the various ways of presenting the government's requirements in bidding documents, structuring, requesting costing information from suppliers, and presenting the contract terms can have a huge impact on the TCO and on the amount of information available for analysis and comparison during the evaluation of the costs.

Objective

Incorporating the TCO into infrastructure planning will require a more complex method of cost evaluation during procurement. VfM requires an optimal balance between quality and TCO to satisfy the needs of the buyer and the users of the infrastructure. It allows the relative benefits of different proposals to be measured by considering all costs, including the:

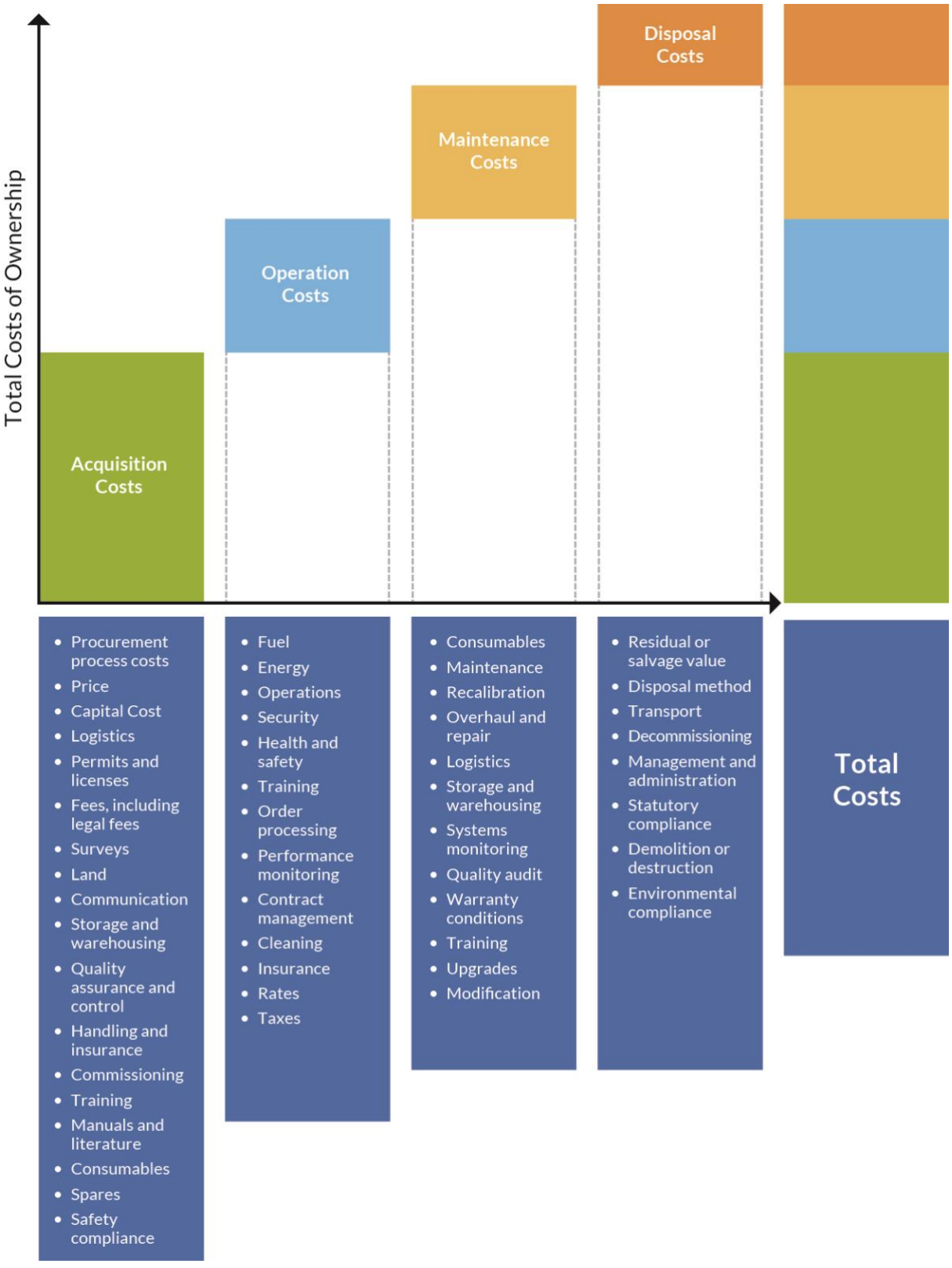
- purchase price or up-front costs of acquisition, including the costs of financing, hiring, or leasing;
- installation, testing, and commissioning costs;
- cost of operation and maintenance, including the costs of materials, consumables, energy, servicing, spare parts, etc., over the asset's useful life.
- sustainability savings (e.g., lower fuel consumption); and/or
- decommissioning, destruction, and disposal costs.

When comparing costs, it is important to calculate them in the same way (e.g., inclusive of all relevant costs such as taxes, duties, and freight) and convert them into the same currency at a rate agreed upon with finance colleagues.

Infrastructure procurement or evaluation teams calculating TCO should consult their finance colleagues to see if there is an approved method to be used. If the useful life is many years, discounting or cost-escalation adjustments may need to be considered. Advice should be sought on how any revenue generated by the infrastructure is to be accounted for in the calculation of the TCO, especially if revenue accrues to consolidated revenue, rather than to the government agency supplying the infrastructure.

A simple way to calculate the TCO is to add the capital costs, operation-and-maintenance costs, and disposal costs minus any residual value. Some costs can only be obtained from the potential supplier, so the request for proposals, bids, or tenders document should require that suppliers provide estimates and the assumptions on which they were based. The types of costs under these categories are shown in Figure 6.

Figure 6: Categories of Potential Infrastructure Costs



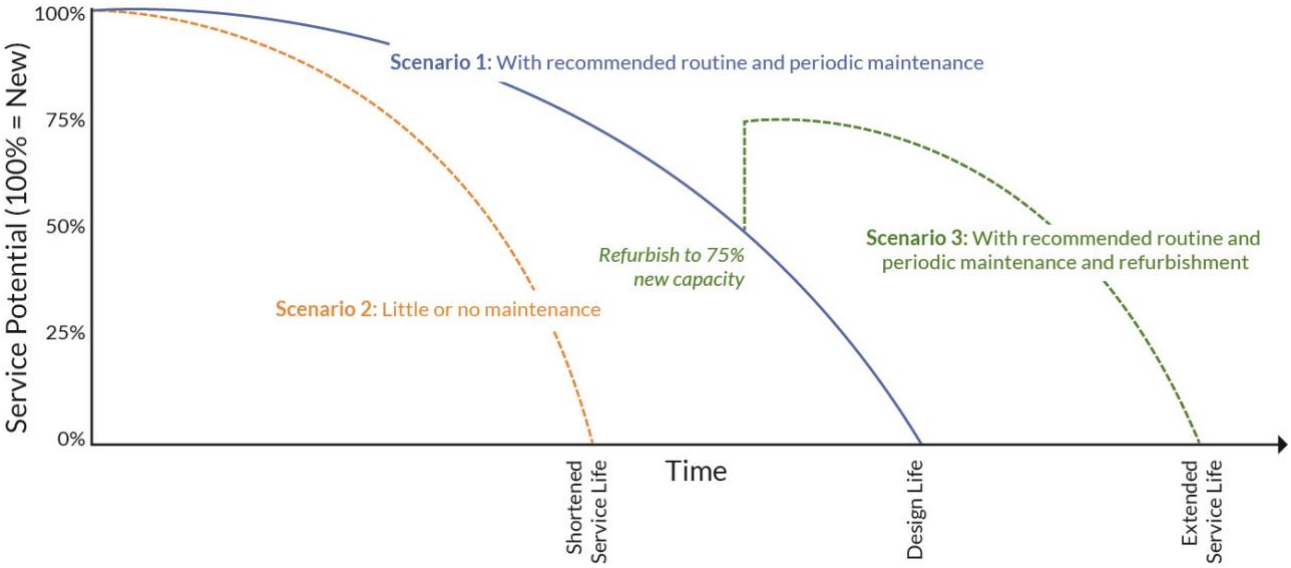
Source: The authors.

Making assumptions about expected future occurrences and their effects on costs is a necessary step in the process of completing a TCO analysis. Underestimating or overestimating these costs could waste government resources.

A PRIF Pacific infrastructure maintenance benchmarking report highlighted the point that plant-based infrastructure planning and estimations of the costs of new assets can account for as little as 20% of the asset's TCO.[1] Therefore, the capital cost of design and construction is only a partial predictor of the TCO.

A PRIF study on maintenance across the Pacific region outlined the importance of adequately budgeting and managing "whole-of-life" infrastructure costs to ensure the maximum potential life of infrastructure. When new infrastructure is built, it will typically have a design life assigned to it, upon which its economic viability will have been assessed. To ensure that the asset lasts as long as expected, the managers need to adhere to the manufacturer's recommended maintenance regime or to accepted best practice. When the maintenance is not followed, the asset will fail to meet the requisite service standards, and will thus need replacement before the end of its assigned design life. Figure 7 shows the relationship graphically.

Figure 7: Effect of Maintenance on Asset Life Scenarios



Source: The authors.

In Figure 7, routine and periodic maintenance is the normal assumption (Scenario 1). If maintenance is neglected, the "service life" of the asset will be less than its design life (Scenario 2). Routine and periodic maintenance plus refurbishment can restore the service potential of an asset and extend its service life beyond its original design life (Scenario 3). The PRIF maintenance-benchmarking report promotes a greater volume of planned capital maintenance to extend the service life of infrastructure assets beyond their original design life, resulting in lower whole-of-life costs. Therefore, providing adequate funding for maintenance investments helps to achieve VfM.

[1] PRIF. 2022. *Pacific Infrastructure Maintenance Benchmarking Report: 2021 Baseline Assessment*. https://www.theprif.org/document/regional/infrastructure-maintenance/benchmarking-infrastructure-maintenance-pacific-island.

Estimating Total Cost of Ownership

When the costs of operation and maintenance over the defined life of the goods or works are projected to be significant in relation to the initial cost, and possibly differ among various proposals, TCO costing should be considered. To incorporate the time value of money, it is assessed using net present value (NPV). When using TCO costing, the following information should be specified in the Request for Bids (RFBs) or Request for Proposals (RFPs):

- the number of years used in the life-cycle cost determination;
- discount or interest rate (as a percentage), to be used to calculate the NPV of future costs over the specified life-cycle period; and
- the factors and methodology to be used in calculating the operation, maintenance, and residual value costs, including the information and functional guarantees provided by the bidders or proposers in their offers.

It is important to take care in setting the discount rate and the number of years (although some governments and agencies mandate a standard rate and term) to ensure that they are suitable for the specific contract. These factors should be modeled with input from financial specialists to more accurately assess the factors' impacts and risks.

Tool 7: Evaluation of Contractor Offers

Purpose

An evaluation strategy is the final step in identifying the proposal, bid, or tender that best meets the project requirements and offers the optimum VfM.

Objective

An evaluation is conducted based on the responsiveness of the bid, proposal, or tender; the qualifications of the contractor; and the contractor's ability to meet the minimum requirements. It uses the criteria that have been specified in the procurement documents. The stages of the application of the evaluation criteria include:

- prequalification (if required);
- request for bids, proposals, or tenders, summarizing the evaluation criteria and method; and
- evaluation of the bids, proposal, or tenders undertaken using the four steps outlined in Table 16. Detailed guidance notes follow the table.

Table 16: Evaluation Stages

Prequalification and Requests for Bids, Proposals, or Tenders
Prequalification is a process used to assess the suitability of applicants to carry out a specific contract before inviting them to submit a bid (or proposal or tender). Generally, all applicants that meet the minimum prequalification criteria are invited to bid, though there are situations when a limit may be placed on the number of successfully prequalified applicants. This process ensures that only those with appropriate and adequate capacity, capability, and resources as assessed against the prequalification criteria are invited to submit bids. This avoids wasting the time and resources of suppliers who cannot meet the criteria. The prequalification stage also provides an opportunity to take into account each bidder's past performance and record of accomplishment. This is particularly important for complex or innovative projects where quality is a key factor. The factors that often determine the need for prequalification include, but are not limited to, the following: (i) large or complex works, (ii) custom-designed equipment, (iii) the need to use an industrial plant, (iv) complex information and technology systems, (v) high-level technology, (vi) a design-and-build (turnkey) contract, (vii) consulting services,(viii)contracts in which the high cost of preparing detailed bids may discourage participation, (ix) a high number of qualified bidders, and/or (x) when a "standing list" of prequalified bidders is to be established for groups of contracts to be awarded over a fixed period. Selecting the best qualified bidders is more likely to achieve VfM outcomes.
Requests for bids, tenders or proposals include the description of the services required, along with detailed specifications; the evaluation criteria (which could be selected from the examples in Tool 3); an outline of the proposed method of evaluation; and other important documents, such as bidding instructions, proposed contract terms and conditions, special contract conditions, and submission requirements. These documents are published following the finalization of the prequalification stage and supplied to those who have been shortlisted. When a one-stage procurement process is used (i.e., with no prequalification), direct outreach to known capable contractors and business associations is encouraged, provided that all the potential suppliers are given the same information. If the number of capable suppliers or contractors is likely to be inadequate, the project-implementation agency should consider international advertising, as well as publication (when possible) on the national e-procurement or business-opportunities website. The evaluation criteria (and associated weighting, if any) that will be used to assess their proposals should be included.

The procuring public agency nominates a **procurement evaluation (or selection) committee** (preferably with no more than five people) whose members are technically competent to evaluate the offers and recommend an award to the agency or tender board, as appropriate. If the project is implemented by a PIU/PMU, its procurement officer should be included as adviser to the committee, whenever possible. The evaluation can be conducted using a four-step method, as follows:

Four Steps of the Evaluation Process			
Step	**Criteria**	**Test**	**Examples of Criteria**
1. Determine if the supplier is substantially responsive.	Project criteria or administrative requirements	If the supplier meets the requirements without material deviation, reservation, or omission	This would be a preliminary examination to determine if the bid, proposal, or tender has any material deviations, and if all the required response documents have been submitted. For example, the documents could include: • detailed works methodology, • detailed health and safety plan, and • all the costing information.
2. Gauge the supplier's qualifications.	Based on mandatory criteria	Pass–fail	These criteria could include: • relevant regional or global experience and track record, • demonstrated financial capabilities and capacity, • specific experience in managing environmental issues.
3. Gauge whether the supplier fulfills the minimum project requirements.	Based on minimum technical and performance requirements	Pass–fail	The objective would be to determine if the supplier can meet the specified minimum and/or essential technical, performance, and functional requirements and standards.
4. Judge the quality of the bid, proposal, or tender.	Rated criteria	Weighted and scored	The criteria could include the following: • The design is fit for purpose and appropriate for the site conditions (and possibly includes opportunities for added value or innovation). • The methodology for delivery and/or performance includes a full explanation of the processes, systems, and approach that is credible, realistic, and thorough. • The proposed approach for managing and controlling costs during implementation is both thorough and credible, and shows integrity. • The supplier has an appropriate site team structure and composition and a qualified manager. • The supplier's documentation includes a clear risk analysis and appropriate mitigation measures. • The supplier has an effective supply chain management plan. • The supplier has appropriate plans for identifying and managing cyber security risks.

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Substantial Responsiveness

The evaluation process should begin soon after the opening of the potential supplier's bid, proposal, or tender, with a preliminary examination to verify that it is complete and conforms to the requirements laid out in the procurement document (e.g., with a quotation and application), before undertaking a detailed examination or evaluation. All offers should receive a preliminary examination.

This action enables the evaluation committee to identify and reject offers that are incomplete, invalid, or substantially nonresponsive. A material deviation in a bid (or proposal or tender) is a component that

- negatively affects the validity of the bid;
- has been specified in the bidding documents as grounds for rejection; and/or
- deviates from the commercial terms or technical specifications given in the bidding documents, and whose effect on the bid price would thus be substantial, though it could not be given a monetary value.

In the preliminary examination, attention should be directed toward deficiencies that, if the bid (or proposal or tender) were accepted, would provide unfair advantages to that potential supplier. Justification for a rejection must therefore be based on the existence of one or more major deficiencies or material deviations that could not be permitted or rectified. To determine if this is the case, the following checks should be effected:

- **Validity.** The validity of the offer requires that all the relevant forms be signed by an authorized person or persons. Depending on the requirements of the procurement documents, if the potential supplier is a joint venture, a joint venture agreement must be submitted. If the potential supplier is an agent, an authorization of the agent from the supplier or manufacturer must also be provided.
- **Eligibility.** All goods and services shall originate from eligible source countries.
- **Bid (or proposal or tender) security.** The procurement documents may require the submission of a bid (or proposal or tender) security declaration. If this is the case, the security declaration must conform to the requirements given in the procurement documents, and it must accompany the offer.
- **Completeness.** Unless the procurement documents have specifically allowed potential suppliers to quote for only selected items or for only partial quantities of a particular item, bids (or proposals or tenders) not offering all of the required items should ordinarily be considered nonresponsive. However, under works contracts, missing prices for occasional work items may be considered to be included in prices for closely related items elsewhere.

The results of the preliminary examination should be presented in the evaluation form or report. If an offer fails to receive a preliminary acceptance, the reasons must be clearly explained in the form or report. Since rejection at this stage eliminates the offer from any further consideration, the decision to reject must be objective and justifiable.

An abridged example of an administrative evaluation template, as shown in Table 17, enables evaluation teams to identify the points in an offer that respond to the administrative requirements listed in the procurement documents.

Table 17: Sample Administrative Evaluation Template

No.	Administrative Requirements	Bidder 1		Bidder 2	
		Page #	Point	Page #	Point
1	Background or history of the company, including details of parent companies and subsidiaries				
2	Certified copy of a valid company registration certificate, whether local or overseas				
3	Certified copy of a valid business license, whether local or overseas, if applicable				
4	• Quotes from local suppliers that include duty, VAT, and delivery-to-site (on an "as and when required" basis) • For overseas suppliers: quotes that also include the CIF for the specific port of landing				
5	Furnished prescribed forms (if any) and any other relevant documentation				
6	Separate quotes for each item, unless required to do otherwise				
7	Price that is valid for 90 days from the closing date of tender				
8	Regarding business relationships: • Lists of all partner(s), supplier(s), and/or subcontractors • Letter(s) from each partner, supplier, and/or subcontractor to confirm the business relationship (for all applicable)				
9	Financial statements provided (for past 3 years)				
10	Specified payment terms, including the stipulation that payment be made upon the satisfactory execution of the order in compliance with the tendered price, delivery time, and full supply of quantity ordered				
11	Inclusion of relevant contact details in bids, proposals, or tenders				
12	Specified delivery time or completion period (or plan)				
13	Contract price after award that covers the period of contract duration				
14	Product samples, as well as technical literature, brochures, and photos, if required				
15	Specified warranty period				
16	Company documents signed and stamped (verifying that they are fully completed)				
17	General terms and conditions form signed and returned				

CIF = Cost, Insurance, and Freight; VAT = value-added tax.
Source: Government of Fiji, Fiji Procurement Office. 2023. Guide to the Tender and Evaluation Process. www.fpo.gov.fj.

Technical and Commercial Qualifying Criteria

Technical and commercial qualifying criteria are the minimum and/or maximum requirements in the procurement documents that are normally evaluated on a pass–fail basis. Qualifying criteria should be stated in such a way that an assessment can easily determine whether the offer is substantially responsive to the technical and commercial requirements. The government agency should be careful not to limit competition by including unnecessary criteria, or by setting the minimum levels too high.

Material deviations from the commercial requirements and technical specifications are bases for the rejection of an offer. As a general rule, material deviations gaps in information or terms that, if accepted, would not fulfill the purposes for which the offer is requested, or would prevent a fair comparison with other, compliant offers. Examples of material deviations include:

- not addressing important required responsibilities and liabilities, such as performance guarantees and insurance coverage;
- inability to adhere to the critical delivery schedule or work schedule clearly specified in the procurement documents;
- failure to comply with minimum experience criteria as specified in the procurement documents;
- failure to fulfill major technical requirements (e.g., offering completely different equipment from that specified, plant capacity well below the minimum specified, a system unable to perform even the basic functions needed); and/or
- failure to bid for the required scope of work (e.g., for the entire works, the complete package, or complete schedule) as instructed in the procurement documents, and when failure to do so has been indicated as unacceptable.

Guidance for Evaluation, Scoring and Weighting of Qualitative Criteria

To enhance the transparency and integrity of the procurement process, the evaluation criteria must be defined in the Request for Proposals (RFP). The methodology for assessing each criterion should be established once the contract requirements have been determined and the type of selection document—RFP, Request for Bids (RFB), etc.—has been chosen, so that the evaluation committee can properly assess which bid or proposal is most qualified to fulfill the project requirements and maximize VfM.

Criteria are typically weighted to reflect their relative importance. The total weighting of financial scores and of technical or qualitative criteria should add up to 100%.

The following example illustrates an evaluation method given in a Request for Proposals using rated criteria and life-cycle costing criteria. In this example, the price is weighted at 30% and technical elements at 70%:

- The score per criterion is 1 to 10 (1 = poor and 10 = excellent).
- Total score = evaluated score x weight.
- The price score typically assigns the highest points to the lowest evaluated price or the TCO; this may be calculated on a relative basis.
- The company with the highest number of points in the totals row is awarded the contract.

Table 18: Simple Tender Evaluation Scheme

Tender Evaluation			Weight	Score			Total score		
				Tenders from:					
				Coy 1	*Coy 2*	*Coy 3*	*Coy 1*	*Coy 2*	*Coy 3*
Criteria	1	Technical/Quality	40%	9	7	5	3.6	2.8	2
	2	Price	30%	6	9	7	1.8	2.7	2.1
	3	Qualification of suppliers	10%	8	7	7	0.8	0.7	0.7
	4	Relevant experience	10%	8	6	5	0.8	0.6	0.5
	5	Support service/warranty	10%	7	8	5	0.7	0.8	0.5
		Totals	**100%**				**7.7**	**7.6**	**5.8**

Source: Government of Fiji, Fiji Procurement Office. 2023. Guide to the Tender and Evaluation Process. www.fpo.gov.fj.

A more complex evaluation process based on World Bank procedures is provided in Table 19. In this example, financial and technical criteria are equally weighted, at 50%.

Table 19: Examples of Weighted Criteria (%)

Rated Criteria	Percentage Weighting
Financial Criteria (e.g., total cost of ownership)	50
Technical Criteria	
Category 1: Methodology and Work Plan	
Methodology	10
Work plan	10
Category 2: Management and Technical Skills	
Management team	4
Technical skills	4
Category 3: Past Performance	10
Category 4: Relevant Experience	12
Total technical weighting	50
Total	**100**

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Example of a Scoring Method for Qualitative Criteria

Scoring schemes should be used consistently. Table 20 shows how scores might be calculated for sub-criteria under one particular category (Category 3: Past Performance). Note that all suppliers are scored on the scale specified in the RFB or RFP for each criterion.

Table 20: Evaluation of a Qualitatively Rated Criterion

Past Performance of Supplier (Rated-Type Criterion)								
Sub-Criteria							**Maximum Score**	**Remarks**	**Submission Requirement**
• Number of similar contracts (RFB or RFP specifies a minimum of x=3 contracts completed in 5 years.) • Number of successfully completed contracts, over the minimum number of three, that (i) had requirements similar to those of the current project, and (ii) were completed within the past 7 years.							4[a]	For joint ventures, all members evaluated together	Relevant forms as stipulated in the RFB documents
Scoring Methodology									
• Number of contracts = x • Add the number of successfully completed similar contracts	>/= x+4	x+3	x+2	x+1	x				
Scores	4	3	2	1	0				

RFB = Request for Bids, RFP = Request for Proposals.
[a] This score is for the whole "Past Performance" category (i.e., combining all the sub-criteria), which represents 10% of the final score.
Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Evaluation of Technical Scores

The total technical points assigned to each proposal, bid, or tender will be determined by adding up the weighted scores assigned by an evaluation committee to the technical features of the proposal, bid, or tender, in accordance with the following criteria:

- the technical features specifically identified in the RFP, RFB, or Request for Tenders;
- the extent to which the performance, capacity, or functionality features meet or exceed the levels specified by the performance and functional requirements, also the extent to which they will likely influence the life-cycle cost and effectiveness of the infrastructure;
- the quality of the suppliers' method statements, key personnel, access to key equipment, site organization, safety, quality assurance, mobilization schedules, implementation schedules, and any other factors as specified by the public agency, taking into account each supplier's experience; and
- any sustainable procurement requirements as specified by the public agency in charge of the project.

During the process, the evaluation committee will assign each desirable or preferred feature a whole number score, as stated in the RFB, RFP, or Request for Tenders.

For example, a range of scores from 0 to 4 is shown below, with:

- "0" for a feature that is absent;
- "1" for a feature that is present, but has deficiencies;

- "2" for a feature that meets the requirements;
- "3" for a feature that marginally exceeds the requirements; and
- "4" for a feature that significantly exceeds the requirements.

To provide an example, Table 21 shows how an evaluation committee might score proposals from four suppliers.

Table 21: Examples of Scoring Based on Qualitatively Rated Technical Criteria

Criteria Category	Proposal A	Proposal B	Proposal C	Proposal D	Best Score
Category 1:					
Methodology	4	2	2	3	4
Work plan	3	3	2	2	3
Category 2:					
Management team	2	3	2	2	3
Technical skills	2	3	2	2	3
Category 3:					
Past performance	3	2	2	3	3
Category 4:					
Relevant experience	3	2	2	3	3

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

It is possible to calculate the total scores at this point by multiplying each score by its assigned weight. However, in the example shown in Table 22, from the World Bank, the scores are compared with those achieved by the highest-scoring proposal (Proposal A) to provide a relative score out of 10 for each criterion. Specifically, a proposal's score for each criterion is divided by the highest score among all the proposals for that criterion, and the result is multiplied by the percentage weight of that criterion. This can widen the gap between the best and lowest scores. The overall technical score for each proposal is the sum of these calculations for all the criteria.

Table 22: Weighting of Qualitative Scores for Rated Technical Criteria

Criteria Category (Weight of Criterion)	Proposal A	Proposal B	Proposal C	Proposal D
Category 1				
Methodology (10%)	4/4*10=10.0	2/4*10=5.0	2/4*10=5.0	3/4*10=7.5
Work plan (10%)	3/3*10=10.0	3/3*10=10.0	2/3*10=6.7	2/3*10=6.7
Category 2	2/3*4=2.7	3/3*4=4	2/3*4=2.7	2/3*4=2.7
Management team (4%)				
Technical skills (4%)	2/3*4=2.7	3/3*4=4	2/3*4=2.7	2/3*4=2.7
Category 3		2/3*10=6.7	2/3*10=6.7	3/3*10=10.0
Past performance (10%)	3/3*10=10.0			
Category 4				
Relevant experience (12%)	3/3*12=12	2/3 *12=8	2/3 *12=8.0	3/3*12=12
Technical Scores	**47.4**	**37.7**	**31.8**	**41.6**

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Net Present Value of the Total Cost of Ownership

Applying the principles of Tool 6 (on the TCO), the net present value (NPV) of each proposal may be calculated as follows.

[NPV Calculation Formula:

NPV = Initial Price + O&M Cost Year 1 * $(1 + i)^{-1}$+ O&M Cost Year 2 * $(1 + i)^{-2}$+ … + O&M Cost Year * $(1 + i)^{-n}$- Residual Value *$(1 + i)^{-n}$ **]**

This formula uses (1+i)^n, where "i" is the discount or interest rate, and "-n" is the number of years.

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Applying Total Cost of Ownership and Combined Scores

Once each proposal TCO has been calculated, it is scored using the following calculation:

$$B \equiv \frac{C_{low}}{\frac{W}{C}}$$

C	=	Evaluated Proposal Cost
C_{low}	=	the lowest of all Evaluated Proposal Costs among responsive Proposals weight
W	=	for the cost as specified in the Request for Proposals

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

For example, for Proposal B below

C = $25,068,198

C_{low} = $21,658,132

W = 50% of the total score

= $21,658,132 * 50% = 43.2% of $25,068,198

Table 23: Analysis of Total Cost of Ownership Using Net Present Value

Life-Cycle Cost Analysis	Proposal A	Proposal B	Proposal C	Proposal D
Initial price	$15,000,000	$7,000,000	$6,400,000	$12,000,000
Yearly O&M costs	$900,000	$1,750,000	$2.300,000	$1,000,000
Residual value	$800,000	$200,000	$150,000	$500,000
NPV	$23,957,879	$25,068,198	$30,201,061	$21,658,132
Financial score	45.20	43.20	35.90	50.00

NPV = net present value, O&M = operation and maintenance.
Notes:
1. The discount rate is 5% and the period is for 15 years.
2. The currency is United States dollars.
Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

Combined Technical and Financial Scores

The government agency will evaluate and compare the proposals that have been determined to be substantially responsive. An Evaluated Proposal Score is calculated for each responsive proposal using the following formula, which permits a comprehensive assessment of the evaluated cost and the technical merits of each proposal.

$$B \equiv \frac{C_{low}}{C} X + \frac{T}{T_{high}}(1 - X)$$

where

C = Evaluated Proposal Cost

C_{low} = the lowest of all Evaluated Cost among responsive Proposals

T = the total Technical Score awarded to the Proposal

T_{high} = the Technical Score achieved by the Proposal that was scored best among all responsive Proposals

X = weight for Cost as specified in the PDS

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

The proposal with the best evaluated combined score among responsive proposals shall be deemed to be the proposal offering the most VfM. Table 24 shows how price is weighted and combined with the technical score to determine the combined score.

Table 24: Evaluation of Combined Scores

Scores	Proposal A	Proposal B	Proposal C	Proposal D
Technical score	47.3	37.7	31.7	41.5
Financial score	45.2	43.2	35.9	50.0
Combined score	**92.5**	**80.9**	**67.6**	**91.5**

Source: World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

The analysis of the results shows that Proposal D, though it has the lowest evaluated cost, does not win the contract. Instead, the contract shall be awarded to Proposal A, as it has the highest combined score, and is therefore considered the proposal offering the best VfM.

References

APCC (Australasian Procurement and Construction Council). n.d.-a. “Procurement Leaning Register.” Accessed XX Month Year. https://www.apcc.gov.au/procurement-learning-register.

APCC (Australasian Procurement and Construction Council). n.d.-b. “Why Procurement?” Accessed XX Month Year. https://www.apcc.gov.au/transferrable-skills-why-procurement.

Asian Development Bank (ADB). 2017a. *ADB Procurement Policy: Goods, Works, Nonconsulting and Consulting Services.* ADB. https://www.adb.org/sites/default/files/adb-procurement-policy.pdf.

Asian Development Bank (ADB). 2017b. *Procurement Regulations for ADB Borrowers: Goods, Works, Nonconsulting and Consulting Services.* ADB. https://www.adb.org/sites/default/files/procurement-regulations-adb-borrowers.pdf.

Asian Development Bank (ADB). 2021. *Value for Money: Guidance Note on Procurement*. ADB. https://www.adb.org/sites/default/files/procurement-value-money.pdf.

Australasian Procurement and Construction Council. n.d.-a. “Procurement Leaning Register.” Accessed XX Month 2023. https://www.apcc.gov.au/procurement-learning-register.

Australasian Procurement and Construction Council. n.d.-b. “Why Procurement: Discover a Meaningful Career That Makes a Difference.” Accessed XX Month 2023. https://www.apcc.gov.au/transferrable-skills-why-procurement.

Barnett, Chris, et al. 2010. *Measuring the Impact and Value for Money of Governance & Conflict Programmes*. Final Report. Itad. https://bigpushforward.com/wp-content/uploads/2011/09/itad-vfm-report-dec10.pdf.

Chartered Institute of Procurement & Supply (CIPS). 2021. “Generation and Capture of Value in Supply Chains.” CIPS Intelligence Hub (members-only resource). Accessed 23 August 2023. https://www.cips.org/intelligence-hub/member-only/generation-and-capture-of-value-guide.

Chartered Institute of Procurement & Supply (CIPS). n.d. “Study Centres.” Accessed XX Month Year. https://www.cips.org/study-centres.

Danish Institute for Human Rights. 2020. *Driving Change Through Public Procurement: A Toolkit on Human Rights for Procurement Policy Makers and Practitioners*. https://www.humanrights.dk/sites/humanrights.dk/files/media/document/dihr_toolkit_public_procurement_2020_webaccessible.pdf.

Engineering Education Australia. n.d. “Managing Construction Contracts.” Short Courses. Accessed XX Month 202X. https://eea.org.au/courses/managing-construction-contracts#details.

Engineering New Zealand. 2023. “NZS3910:2023 – An Introduction for Engineers.” Accessed XX Month 202X. https://www.engineeringnz.org/courses-events/online/nzs3910_2023_an_introduction_for_engineers/.

Engineering New Zealand. n.d. “About Us.” Accessed XX Month 202X. https://www.engineeringnz.org/about/.

Engineers Australia. n.d. “Managing Construction Contracts.” Short Courses. Managing Construction Contracts. Accessed XX Month 2023. Managing Construction Contracts | Engineering Education Australia (eea.org.au).

European Investment Bank (EIB). 2018. *Guide to Procurement for Projects Financed by the EIB*. EIB. https://www.eib.org/en/publications/20240132-guide-to-procurement-for-projects-financed-by-the-eib.

Government of Fiji, Fiji Procurement Office. 2023. "Guide to the Tender and Evaluation Process." Accessed XX Month 202X. www.fpo.gov.fj.

Government of New South Wales, Australia, Independent Pricing and Regulatory Tribunal. 2021. *Typical Scopes and Benchmark Costs of Local Infrastructure*. Government of New South Wales, Australia. https://www.ipart.nsw.gov.au/sites/default/files/cm9_documents/Information-paper-and-Report-Typical-scopes-and-benchmark-costs-of-local-infrastructure-12-November-2021.PDF.

Government of New Zealand, Ministry of Business, Innovation & Employment. 2021a. "Business Practice." Construction Sector Accord. Updated 27 July 2021. https://www.constructionaccord.nz/good-practice/resource-hub/business-practice.

Government of New Zealand, Ministry of Business, Innovation & Employment. 2021b. "Health, Safety and Wellbeing." Construction Sector Accord. Updated 27 July 2021. https://www.constructionaccord.nz/good-practice/resource-hub/health-safety-wellbeing.

Government of New Zealand; Ministry of Business, Innovation & Employment. 2021c. "People Development." Construction Sector Accord. Updated 27 July 2021. https://www.constructionaccord.nz/good-practice/resource-hub/people-development/.

Government of New Zealand; Ministry of Business, Innovation & Employment. 2021d. "Procurement and Risk." Construction Sector Accord. Updated 27 July 2021. https://www.constructionaccord.nz/good-practice/resource-hub/procurement-and-risk.

Government of New Zealand; Ministry of Business, Innovation & Employment. 2022a. *Broader Outcomes Guidance for the Construction Sector: Module 2*. n.p.: Government of New Zealand. Broader outcomes guidance for construction sector: Module 2 (constructionaccord.nz).

Government of New Zealand; Ministry of Business, Innovation & Employment. 2022b. *Broader Outcomes Guidance for the Construction Sector: Module 3*. n.p.: Government of New Zealand. Broader outcomes guidance for the construction sector - Module 3 (constructionaccord.nz).

Government of New Zealand; Ministry of Business, Innovation & Employment. 2022c. "The Accord." Construction Sector Accord. Updated 22 December 2022. https://www.constructionaccord.nz/the-accord.

Government of New Zealand; Ministry of Business, Innovation & Employment. 2023. "Environment." Construction Sector Accord. Updated 27 February 2023. https://www.constructionaccord.nz/good-practice/resource-hub/environment.

Government of New Zealand; Ministry of Business, Innovation & Employment. n.d.-a. "Accord Resource Hub." Construction Sector Accord. Accessed XX Month 202X. https://www.constructionaccord.nz/good-practice/resource-hub/accord-resource-hub.

Government of New Zealand, Ministry of Business, Innovation & Employment. n.d.-b. "Good Practice in Construction." Construction Sector Accord. Accessed XX Month 202X. https://www.constructionaccord.nz/good-practice/good-practice-in-construction .

Government of New Zealand; Ministry of Business, Innovation & Employment. n.d.-c. "Hīkina – Learning for Government Procurement and Property." Accessed XX Month 202X. https://learning.procurement.govt.nz/?redirect=0.

Government of the United Kingdom, HM Treasury. 2022. *The Green Book: Central Government Guidance on Appraisal and Evaluation*. Government of the United Kingdom. https://assets.publishing.service.gov.uk/media/6645c709bd01f5ed32793cbc/Green_Book_2022__updated_links_.pdf.

IFAD (International Fund for Agricultural Development) and ITCILO (International Training Centre of the International Labour Organization). n.d. "Certification Programmes in Project Procurement for Agricultural and Rural Development." BUILDPROC. Accessed XX Month Year. https://ifad-buildproc.org.

Infrastructure Transparency Initiative. 2020. *Infrastructure Transparency Index Manual*. Infrastructure Transparency Initiative. https://infrastructuretransparency.org/wp-content/uploads/2020/12/ITI-Manual.pdf.

Institute for Public Procurement. n.d. "Specialization Certificate: Construction Procurement." Accessed XX Month 202X. https://www.nigp.org/course/specialization-certificate-construction-procurement-121725-531753.

Inter-American Development Bank (IDB). 2020. *MDB Infrastructure Cooperation Platform: A Common Set of Aligned Sustainable Infrastructure Indicators (SII)*. IDB. https://publications.iadb.org/en/mdb-infrastructure-cooperation-platform-common-set-aligned-sustainable-infrastructure-indicators.

FIDIC (International Federation of Consulting Engineers). n.d.-a "Quality Education for the Global Infrastructure Industry." FIDIC Academy. Accessed XX Month 202X. https://fidic.org/training%20.

FIDIC (International Federation of Consulting Engineers). n.d.-b "Welcome to FIDIC Academy." Accessed XX Month 202X. https://fidic.academy.

International Fund for Agricultural Development. n.d. "Certification Programmes in Project Procurement for Agricultural and Rural Development." BUILDPROC. Accessed XX Month 202X. https://ifad-buildproc.org/.

International Labour Organization, International Training Centre. n.d. "Diploma in Public Procurement Management for Sustainable Development." Accessed XX Month 202X. https://www.itcilo.org/diplomas/diploma-public-procurement-management.

ITCILO (International Training Centre of the International Labour Organization). n.d. "Do You Want to Learn Today?" International Training Centre. Accessed XX Month 202X. https://www.itcilo.org.

MAPS Secretariat. 2018. *Methodology for Assessing Procurement Systems (MAPS)*. Paris: Organization for Economic Co-operation and Development (OECD). https://www.mapsinitiative.org/methodology/MAPS-Methodology-ENG.pdf.

MAPS Secretariat. 2023. *Professionalisation: Supplementary Module*. Paris: OECD. https://www.mapsinitiative.org/methodology/MAPS-Professionalisation-module.pdf.

New Zealand Government Procurement. n.d. "Construction Procurement Guidelines." Accessed XX Month 202X. https://www.procurement.govt.nz/procurement/specialised-procurement/construction-procurement/construction-procurement-guidelines/#developing-your-construction-procurement-strategy.

New Zealand Infrastructure Commission. 2022a. *International Best Practice in Tender Price Evaluation*. New Zealand Infrastructure Commission. apo.org.au/sites/default/files/resource-files/2022-03/apo-nid317223.pdf.

New Zealand Infrastructure Commission. 2022b. *The Lay of the Land: Benchmarking New Zealand's Infrastructure Delivery Costs*. New Zealand Infrastructure Commission. https://media.umbraco.io/te-waihanga-30-year-strategy/dtofavg2/the-lay-of-the-land-benchmarking-new-zealands-infrastructure-delivery-costs.pdf.

New Zealand Infrastructure Commission. n.d. "The Lay of the Land: Benchmarking New Zealand's Infrastructure Delivery Costs." Accessed XX Month 202X. https://tewaihanga.govt.nz/our-work/research-insights/the-lay-of-the-land-benchmarking-new-zealand-infrastructure-delivery-costs.

NIGP (Institute for Public Procurement). n.d. "Specialization Certificate: Construction Procurement." Pathways. Accessed XX Month 202X. https://www.nigp.org/learning/all-courses/specializations/specialization-certificate-construction-procurement.

Organization for Economic Co-operation and Development (OECD). 2021. *The OECD DAC Blended Finance Guidance*. OECD Publishing. https://doi.org/10.1787/ded656b4-en.

Pacific Region Infrastructure Facility (PRIF). 2022. *Pacific Infrastructure Maintenance Benchmarking Report: 2021 Baseline Assessment*. PRIF. https://www.theprif.org/document/regional/infrastructure-maintenance/benchmarking-infrastructure-maintenance-pacific-island.

Standards Australia. n.d. "General Conditions of Contract." Accessed XX Month 202X. https://www.standards.org.au/flagship-projects/general-conditions-of-contract.

Sustainable Infrastructure Foundation. n.d. "SOURCE." Accessed XX Month 202X. https://sustainable-infrastructure-tools.org/tools/source/.

United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), Asia and the Pacific. "Guides on Integrating Gender into Infrastructure Development in Asia and the Pacific." Accessed XX Month 202X. https://asiapacific.unwomen.org/en/digital-library/publications/2019/03/guides-on-integrating-gender-into-infrastructure-development#:~:text=from%20Asia%2DPacific-,Guides%20on%20integrating%20gender%20into%20infrastructure%20development%20in%20Asia%20and,while%20mitigating%20risks%20and%20threats.

University of the South Pacific. n.d. "Bachelor of Arts (Law)." Learning and Teaching. Accessed 30 October 2023. https://www.usp.ac.fj/learning-teaching/usp-graduate-attributes-and-outcomes/programme-graduate-outcomes/solass/bachelor-of-arts-law/.

Victoria State Government (Australia). "Making It Easier to Do Business with Government: The Place to Go for Victorian Government Procurement." Buying for Victoria. https://www.buyingfor.vic.gov.au/making-it-easier-do-business-government.

Wilkie, David. 2022. *Update on the Revision of NZS 3910*. Standards New Zealand. https://nzcic.co.nz/wp-content/uploads/2022/08/20220801-Chair-update-meeting-5.pdf.

World Bank. 2016. *Evaluation Criteria: Use of Evaluation Criteria for Procurement of Goods, Works, and Non-Consulting Services Using RFB and RFP*. Procurement Guidance. World Bank. https://thedocs.worldbank.org/en/doc/201591478724669006-0290022017/original/ProcurementGuidanceEvaluationCriteria.pdf.

World Bank. 2017. *The World Bank Environmental and Social Framework*. World Bank. https://documents1.worldbank.org/curated/en/383011492423734099/pdf/The-World-Bank-Environmental-and-Social-Framework.pdf.

World Bank. 2020a. *Benchmarking Infrastructure Development 2020: Assessing Regulatory Quality to Prepare, Procure and Manage PPPs and Traditional Public Investment in Infrastructure Projects*. Washington, DC: World Bank Group. https://documents1.worldbank.org/curated/en/369621602050134332/pdf/Benchmarking-Infrastructure-Development-2020-Assessing-Regulatory-Quality-to-Prepare-Procure-and-Manage-PPPs-and-Traditional-Public-Investment-in-Infrastructure-Projects.pdf.

World Bank. 2020b. *Procurement Regulations for IPF Borrowers*. 4th ed. World Bank. https://thedocs.worldbank.org/en/doc/178331533065871195-0290022020/original/ProcurementRegulations.pdf.

World Bank. 2023a. *Evaluating Bids and Proposals*: *Including Use of Rated Criteria for Procurement of Goods, Works, and Non-Consulting Services.* Procurement Guidance. 2nd ed. World Bank. https://thedocs.worldbank.org/en/doc/61a81c4c9c79428afa613f076fa8bb2e-0290032023/original/Evaluating-Bids-and-Proposals-with-Rated-Criteria.pdf.

World Bank. 2023b. *World Bank Pacific Procurement Guidance: For World Bank Investment Project Financing Following the Procurement Regulations for IPF Borrowers.* World Bank. https://thedocs.worldbank.org/en/doc/251ac0a5c7c5d0aa2e74bf9a31d27eea-0070012023/original/Pacific-Procurement-Guidance-2023.docx.

World Bank Group. 2020. *Benchmarking Infrastructure Development 2020: Assessing Regulatory Quality to Prepare, Procure and Manage PPPs and Traditional Public Investment in Infrastructure Projects*. World Bank Group. https://documents1.worldbank.org/curated/en/369621602050134332/pdf/Benchmarking-Infrastructure-Development-2020-Assessing-Regulatory-Quality-to-Prepare-Procure-and-Manage-PPPs-and-Traditional-Public-Investment-in-Infrastructure-Projects.pdf.

Appendix: Additional resources and Capacity-Development Options

CAPACITY BUILDING RESOURCES

MAPS Core Assessment

The Methodology for Assessing Procurement Systems (MAPS) is an international standard and universal tool for evaluating public procurement capability (MAPS Secretariat 2018). MAPS is used by multilateral development banks (MDBs) and other development partners globally to identify risks and capacity-building opportunities. Countries may receive technical assistance from development partners to undertake a MAPS assessment.

MAPS consists of the following elements:

- a user guide on how to conduct a MAPS core assessment of the overall procurement system;
- instructions on how to analyze the country context; and
- a framework comprising four thematic pillars, with each pillar containing indicators, sub-indicators (qualitative and quantitative), and assessment criteria.

The thematic pillars are: (i) the legal, regulatory, and policy framework; (ii) institutional framework and management capacity; (iii) public procurement operations and market practices; and (iv) accountability, integrity, and transparency of the public procurement system.

MAPS Professionalization Assessment

A supplementary module is available for the assessment of professionalization (MAPS Secretariat 2023). The findings of a core MAPS assessment can be used to ensure a proper understanding of the context and to facilitate a targeted application of this module. The module is intended to provide the following additional value:

- a universal tool for assessing the state of professionalization of public procurement;
- identification of the aspects of a country's professionalization policy that require improvements, as well as the best way to implement them; and
- indicators to guide and accelerate the professionalization of public procurement.

The module covers the following key issues:

- the existence in the public-procurement legal, regulatory, and policy frameworks that give stability to the professionalization policy, as well as the necessary participation of public and private stakeholders;
- development of the regulatory framework's implementation instruments that define the policy and recognize the importance of professionalization and its impact on public finance and quality of expenditure;
- the integration of the professionalization policy as one of the key components of the public procurement system, with mandates clearly assigned to the normative and regulatory functions, and implemented during planning, monitoring, and evaluation;
- financing mechanisms for the qualification and certification of professionals;
- adoption of internationally recognized standards, best practices, and tools;
- the existence of a recognized career path for public procurement professionals; and
- consideration of ethics and accountability.

New Zealand Construction Capability Framework

The New Zealand Construction Sector Accord has published a Capability Framework for leaders in construction and infrastructure procurement (Government of New Zealand, n.d.-b), aimed at clients and individual practitioners in the following categories:

Construction Capabilities

- construction industry
- project delivery
- risk
- contracts

General Procurement Capabilities Applicable to Construction

- procurement fundamentals
- planning
- sourcing
- contract management
- general soft skills

Infrastructure Benchmarking

- Benchmarking and accurate estimates provide insights that inform decisions, establish targets, determines contract values, and supports the case for investment.
- Benchmarking infrastructure-delivery costs can help governments and development partners find out if there are ways to improve the affordability of infrastructure delivery. Knowing what projects should cost to build and maintain can guide better infrastructure decisions.

INFRASTRUCTURE BENCHMARKING

World Bank

The World Bank report *Benchmarking Infrastructure Development 2020* assessed the regulatory quality of large infrastructure projects financed by public–private partnerships (PPPs) in 140 economies, and by traditional public investments in 40 economies (World Bank 2020a). The key findings that emerged from the data were organized around the infrastructure project cycle phases (regulatory and institutional framework, preparation, procurement, contract management, management of unsolicited proposals, and infrastructure asset management). By providing actionable indicators, the tool supports evidence-based regulatory reforms to foster an enabling environment for developing quality infrastructure projects.

Below are some examples of benchmarking initiatives.

Australia

The Government of New South Wales, Australia, performed benchmarking on typical costs and scopes for local infrastructure in 2014 and 2021 (Government of New South Wales, Australia, 2021). Infrastructure Australia does periodic updates on market capacity that look at availability per cost of key inputs. Its 2022 *Infrastructure Market Capacity* report found that labor shortages and the cost of construction materials have risen significantly, the productivity rate has remained low for 30 years, unfair risk allocation pervades working practices, and the industry has struggled to grow female participation beyond 12% of women working in construction (Infrastructure Australia 2022).

New Zealand

A report by the New Zealand Infrastructure Commission found that projects such as electricity transmission lines, onshore wind farms, and hospitals cost roughly the same in New Zealand as in other high-income countries (New Zealand Infrastructure Commission, n.d.). Although construction labor costs were lower than in many high-income countries, costs for more complex infrastructure projects tended to be above average. Complex, large-scale projects such as urban and rural motorways, road tunnels, and underground rail projects managed to come with a cost premium. The research identified five ways in which New Zealand could improve its infrastructure delivery:

- Ensure that the government acts as a sophisticated client of infrastructure. This means taking the time to understand what it is building before it sets out to build it; establishing good processes and principles for making decisions about project scope and design; and investing in the development of the capacity to plan, procure, and manage infrastructure.
- Access independent advice for infrastructure prioritization and establish a pipeline of future investments to ensure more certainty for proposed projects.
- Be open to modern technologies and methods.
- Ensure the establishment of efficient planning and consenting systems that can make it easier to develop cost-effective infrastructure solutions and avoid costs arising from delays or scope uncertainty.
- Conduct ongoing infrastructure delivery-cost benchmarking to have a better understanding of what projects should cost.

The above report also provided a cost benchmarking methodology. This could be used in the future to compare costs across different Pacific island countries (PICs) if the base data are available.

PROCUREMENT TRAINING RESOURCES

Chartered Institute of Purchasing and Supply (Australia and New Zealand)

The Chartered Institute of Procurement & Supply (CIPS) is a global membership organization based in the United Kingdom (UK) and Australia, with professional coverage in Australia and New Zealand. It offers general procurement training and a professional qualification, Chartered Membership (MCIPS Chartered), which is equivalent to a bachelor's degree. The MCIPS qualification can be earned in four ways:

- examination by CIPS through self-study, online, or in a classroom (CIPS, n.d.);
- management entry route for senior professionals;
- in-house, using the CIPS Corporate Award; or by a
- partial or full exemption form examination due to prior study in an accredited course at a university, which could be sponsored under a scholarship from Australia, New Zealand, the United States (US), or the UK if available. For example, the following universities in Australia offer courses that have some level of accreditation:

    - Curtin University,
    - Griffith University,
    - Royal Melbourne Institute of Technology (RMIT),
    - University of Melbourne,
    - University of South Australia,
    - University of Technology Sydney (UTS),
    - University of Wollongong, and
    - Victoria University.

Procurement staff at MDBs, Australia's Department of Foreign Affairs and Trade (DFAT), and New Zealand's Ministry of Foreign Affairs and Trade have attained the MCIPS qualification.

CIPS also offers more general procurement courses, including a course on sustainable public procurement that helps people do a stock take of their skills and priorities. However, as desirable as a qualification may be (the MCIPS qualification appears on New Zealand's immigration "short skills" list for highly skilled professional visas), the costs of courses, membership, and certifications are often beyond the reach of many PIC organizations, so technical assistance (TA) projects have provided CIPS training in the PICs, mainly funded by DFAT or the World Bank. Currently, 17 public procurers from various Solomon Islands government ministries and agencies are taking various targeted CIPS courses.

Asian Development Bank, BUILDPROC

The International Training Centre of the International Labour Organization (ITCILO) has developed a three-module training certificate program for the Asian Development Bank (ADB). The program requires two online and two self-study courses, followed by an in-person module delivered in Turin, Italy (ITCILO, n.d.). The course covers public sector procurement, including for infrastructure, and is based on a course originally developed for the International Fund for Agricultural Development (IFAD and ITCILO, n.d.). A fourth module requiring research and study is an optional addition that allows the learner to gain a diploma. The ITCILO separately offers the Professional Diploma in Public Procurement. This is a foundational procurement course that is available to learners from ADB member countries and has mainly been attended by staff from central procurement agencies.

Institute for Supply Management (United States)

The Institute for Supply Management (ISM) is a membership organization, based in the US, offering qualifications for supply management professionals globally, generally in the public sector. The Certified Professional in Supply Management (CPSM) qualification offers skills, knowledge, and a greater understanding of the end-to-end supply chain. However, the TA team is not aware of any training taking place in the PICs.

Institute for Public Procurement (United States)

The Institute for Public Procurement (NIGP) offers 3-day construction training in the procurement of architectural and engineering professional services and construction services under US law (NIGP, n.d.). Certificates in other specialist areas, such as Technology Acquisitions or Sustainability, are also available.

Australasian Procurement and Construction Council Inc (Australasia)

The Australasian Procurement and Construction Council Inc (APCC) consists of Australian and New Zealand government agencies that specialize in procurement, construction, asset management, and property management policy and practice. It provides a central repository of knowledge and expertise to support improved delivery of services. APCC's Procurement Learning Register provides a list of general public procurement training courses across Australasia (APCC, n.d.-a), though none of them seem to deal specifically with construction (APCC, n.d.-b). However, it does have a useful list of case studies aimed at the construction industry. PIC procurement professionals may wish to subscribe to this organization for information and access to events.

International Federation of Consulting Engineers

The International Federation of Consulting Engineers (FIDIC) offers an online "Fundamentals of Infrastructure Procurement Management" course at an introductory level, requiring 0.8 hours. It is designed to provide professionals in the infrastructure sector with a comprehensive understanding of procurement principles, both in the private and public sectors, covering a wide range of topics, including:

- understanding the basic principles of sound procurement;

- distinguishing between public sector and private sector procurement;
- applying principles and processes to the procurement of consultancy services;
- exploring different types of selection processes (direct vs competitive selection);
- evaluating quality and quality plus cost-based selection methods;
- understanding the single and two-stage competitive selection processes;
- creating effective requests for proposal packages and submitting responsive proposals;
- exploring evaluation criteria, including the new rated criteria of the World Bank;
- examining best practices in procurement, including conflict of interest avoidance and the prevention of collusive, corrupt, or fraudulent practices;
- a solid understanding of infrastructure project financing; and
- developing the business-development skills to identify international procurement opportunities, and mastering bidding techniques and proposal preparation.

United States Trade and Development Agency

USTDA's Global Procurement Initiative (GPI) trains public officials in how to establish procurement practices and policies that integrate life-cycle cost analysis and best value determination in a fair, transparent manner. GPI helps countries acquire high-quality, long-lasting technologies, while building smart, sustainable infrastructure with overall savings for their governments. These procurement methods also open markets to greater international competition. GPI seeks to strengthen the professional capacity of procurement officials and to promote knowledge sharing regarding efficient, fair, and modernized procurement practices.

Under the GPI, USTDA provides customized country programs that include:

- training: in-country and virtual training at the GPI's partner organizations;
- study tours: sponsored visits for partner country delegations to key US procurement stakeholders at the federal, state, and local levels, to receive more in-depth training; and
- technical assistance: technical advisory support services for procuring entities, to help them with their implementation of value-based procurement methods and formulas to ensure the proper utilization and integration of methodologies learned from the GPI program.

Countries interested in being considered for GPI assistance should directly contact USTDA at gpi@ustda.gov, at the local US embassy, or through GPI partner organizations and collaborators.

Online Courses

Free or low-cost courses on public procurement and PPP skills are available at all levels, from entry level to expert, although these are not aimed solely at the PICs. Some courses offer certificates. It is recommended that the learner obtain the certificate, to demonstrate successful completion.

World Bank, Public Procurement (Certificate): Public Procurement Training Courses | World Bank (procurementlearning.org).

World Bank, Contract Management (Certificate): Public Procurement Training Courses | World Bank (procurementlearning.org)

World Bank, e-Procurement (Certificate): Public Procurement Training Courses | World Bank (procurementlearning.org)

United Nations Development Programme (UNDP), Public Procurement: Transparent and Open Public Procurement for Sustainable Development | Online course by United Nations Development Programme (anti-corruption.org)

United Nations Institute for Training and Research (UNITAR), Waste Management and Circular Economy: Waste Management and Circular Economy | UNITAR

European Union (EU), URBACT Toolbox, How to Use Public Procurement in a Strategic Way (seven courses) Resourcing | urbact.eu

EU, Urban Agenda – Public Procurement (maester.com)

EU, Supplier Engagement in Sustainable Public Procurement, for policymakers–expert level (test, no certificate): greener – Boosting industry engagement in green procurement (greener-project.eu)

International Anti-Corruption Agency (IACA), Anticorruption: Fraud and Corruption Prevention in Public Procurement (thinkific.com)

United Nations Commission on International Trade Law (UNCITRAL), Model Law Texts on Public Procurement and PPPs: Online Courses | United Nations Commission on International Trade Law

ADB Institute (ADBI), Circular Economy: Increasing Resource Efficiency and Designing Out Waste: ADBI eLearning video

New Zealand

The procurement branch of New Zealand's Ministry of Business, Innovation and Employment has developed a suite of eLearning modules on government procurement and property known as "Hīkina," which comprises four areas of learning and capacity building.[2] These modules have been licensed by the New Zealand Ministry of Foreign Affairs and Trade (MFAT), and they include:

- procurement,
- social services procurement capability,
- broader outcomes (sustainable procurement), and the
- Hīkina video library

Procurement Peer Support Models

Other forms of procurement support include arrangements for local councils in New Zealand to support the procurement capability of larger municipal councils in the region. Municipal councils may have significant expenditures on infrastructure construction or maintenance in the PIC towns or cities they are supporting. However, depending on their jurisdiction, the New Zealand councils' expenses on procurement may or may not fall under national public procurement legislation. The Ministry of Foreign Affairs and Trade (MFAT) has a memorandum of understanding with Local Government New Zealand to provide targeted support to councils in the PICs. For example, Auckland City Council is supporting Suva City Council, in Fiji, writing their procurement policy.

LEGAL AND CONTRACTING CAPACITY-BUILDING RESOURCES

The complexity of infrastructure contracting means that legal personnel may be involved in infrastructure procurement: reviewing bidding documents, drafting contracts, and negotiating.

Professional and tertiary courses in procurement, law, and engineering may contain general commercial contract law modules. The University of the South Pacific, in Suva, Fiji, offers a bachelor's degree in law that includes commercial law. It was unclear from the university's website if there are courses in

[2] Government of New Zealand; Ministry of Business, Innovation and Employment. n.d. Hīkina – Learning for Government Procurement and Property. https://learning.procurement.govt.nz/?redirect=0.

construction law, as well (University of the South Pacific, n.d.). Legal and contract advisers, including contract managers, may need targeted legal training. This will usually be connected to the specific standard form of contract they are using, for example the FIDIC forms. Some of the courses in the University of the South Pacific bachelor's program may be helpful for legal advisers and contract managers.

International Federation of Consulting Engineers

The International Federation of Consulting Engineers (FIDIC) offers training in the practical use of FIDIC contracts and best practices in international projects (FIDIC, n.d.-b). The training is expensive, and no courses were advertised on their website when this report was being written.[3] Generally, the online training includes:

- There is an introductory course covering the standard FIDIC forms in the 2017 edition of the Red (construction) and Yellow (design and build) books. This course should provide practical guidance, and can be followed by every contractor or consultant, but it does not address the requirements of the MDBs. The cost is around €1,600 per person for nine online sessions, with participation totaling 2 hours per week for the nine sessions and home study. A certificate is provided, as well as an electronic copy of the Red and Yellow books.
- The FIDIC intermediate contracts course discusses the application of FIDIC contracts. The course is practical and includes active participation in "hands-on" workshops and discussion sessions. It costs about €1,600.
- Some non-FIDIC training is also available on a customized basis, including on LinkedIn, which can include discussions on the structures and main clauses of the forms, and on the differences among the various book applications. These can be specifically addressed to an MDB audience and limited to what is needed for procurement practitioners.

Australian Standard 4000-1997 (AS4000)

Engineers Australia offers a live online course, Managing Construction Contracts, which teaches participants to draft, interpret, and manage contracts to ensure a construction project's success (Engineers Australia, n.d.). The cost of the course is A$882.35. AS4000 courses seem to be offered mainly on a bespoke basis by legal firms based in Australia that may offer lower-cost courses to clients.

New Zealand Standard 3910:2023 (NZS3910)

Engineering New Zealand offers a live online course, NZS3910:2023 – An Introduction for Engineers (Engineering New Zealand 2023). This is a membership organization promoting the interests of engineers from all disciplines. It covers the structure of NZS 3910 procurement considerations and explores the roles and responsibilities of the engineer to the contract, the engineer's representative, principal, and contractor. The course lasts 6.5 hours and costs NZ$720.

Other providers of NZS 3910 courses, including New Zealand law firms, may offer courses at a lower cost.

[3] This was as of 31 October 2023.

INFRASTRUCTURE PROCUREMENT TOOLS AND RESOURCES

In addition to the PRIF's VfM Toolkit, the following may be helpful.

A joint commitment consisting of representatives from the Government of New Zealand and from industry worked together to create a high-performing construction sector. Their efforts were embodied in the Construction Sector Accord, which provides the following tools and resources (Government of New Zealand 2022c):

- Accord Resource Hub (Government of New Zealand, n.d.-a);
- procurement and risk: guides on planning, contracts, risk, partnering, payments, and sustainability (Government of New Zealand 2021d);
- business practice: tools and information on bidding, contracts, risk, financial management, and digital technology (Government of New Zealand 2021a);
- people development: resources to support the development of the workforce and to boost diversity (Government of New Zealand 2021c);
- health, safety, and well-being: covering on-site health and safety, safety in design, and mental well-being; construction clients can find information on client leadership and the role of procurement in health and safety (Government of New Zealand 2021b);
- environment: tools and guides to support carbon reduction and sustainable construction practices (Government of New Zealand 2023);
- guidance for incorporating broader outcomes into construction procurement (Government of New Zealand 2022a);
- guidance for analyzing broader outcomes in depth (Government of New Zealand 2022b); and
- construction procurement guidelines for defining good practice. (New Zealand Government Procurement, n.d.).

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Established in 1967, the Australasian Procurement and Construction Council (APCC) is the peak body in in the industry, whose members are responsible for procurement, construction, and asset management policy for Australian state and territory governments, and for the national governments of Australia and New Zealand. The APCC enables members to come together, collaborate, and lead the broader public sector when it comes to issues involving procurement and infrastructure. APCC publications can be accessed from the organization's website (https://www.apcc.gov.au/publications), but some notable ones include:

- *New Starter Program Guide: Procurement*;
- *Harmonization of Building Information Modelling and Digital Engineering Services Procurement: A Guide to Contemporary Practices*;
- *Building and Construction Procurement Guide: Principles and Options*; and
- *APCC Contract Management Guide for Schools*.

SOURCE is a multilateral online platform that brings systemic changes to the way governments define, develop, and manage their sustainable infrastructure projects, for both traditional procurement and PPPs. It uses sector-specific question sets covering all the stages of the project life cycle and allows for the definition of specific targets to fulfill relating to the Sustainable Development Goals (SDGs) and the Paris Agreement. The online tool covers a broad set of functions, including project team management, customizable project time-line and task management, document management, portfolio and project monitoring, consistency checks on project documentation, a Project Preparation Facilities Finder, knowledge management, and a public pipeline for project promotion. [4]

The World Bank Environmental and Social Framework (ESF) sets out the World Bank's commitment to sustainable development through a set of environmental and social policies and standards that enable borrowers to better manage the environmental and social risks of projects and improve development outcomes. The tool offers an assessment of the environmental and social risks and impacts of projects throughout the project life cycle in a systematic manner that is proportionate to the nature and scale of the project, and thus to the potential risks and effects. Since 2018, the framework has been applied to all World Bank investment project financing. [5]

The Infrastructure Transparency Index (ITI) can be used to measure the level of transparency of the infrastructure sector and the quality of related participation and accountability processes at the national or subnational levels. The tool aims not only to assess the state of infrastructure transparency, but also to gauge the capacity of procuring agencies to improve their transparency and accountability, track their progress, facilitate peer learning, and raise awareness of the importance of transparency. The ITI sets out a methodology for score calculation to evaluate procuring entities. Individual scores are then used to generate an index that allows for performance comparison. [6]

The objective of the toolkit "Driving Change Through Public Procurement" is to enable public procurement policymakers, buyers, and contract managers to fulfill requirements that will promote respect for human rights by their suppliers. The toolkit highlights how such requirements can be incorporated into different stages of the procurement cycle, outlining a general approach that is applicable to different legal and market contexts, and can be adapted to national specificities. The toolkit offers specific guidance for policymakers and procurement practitioners. [7]

[4] Sustainable Infrastructure Foundation. SOURCE. https://sustainable-infrastructure-tools.org/tools/source/ (accessed XX Month 202X).
[5] World Bank. 2017. *The World Bank Environmental and Social Framework*. https://documents1.worldbank.org/curated/en/383011492423734099/pdf/The-World-Bank-Environmental-and-Social-Framework.pdf.
[6] Infrastructure Transparency Initiative. 2020. *Infrastructure Transparency Index Manual*. https://infrastructuretransparency.org/wp-content/uploads/2020/12/ITI-Manual.pdf.
[7] Danish Institute for Human Rights. 2020. *Driving Change Through Public Procurement: A Toolkit on Human Rights for Procurement Policy Makers and Practitioners*. https://www.humanrights.dk/sites/humanrights.dk/files/media/document/dihr_toolkit_public_procurement_2020_webaccessible.pdf.

The report titled *A Common Set of Aligned Sustainable Infrastructure Indicators (SII)* identifies the sixteen common elements that MDBs use to define sustainable infrastructure practices across the quadruple bottom line. The report provides insights into how stakeholders can incorporate the indicators into their infrastructure projects and monitor sustainability performance throughout the infrastructure life cycle. Moreover, it shows how reaching the sustainability indicators can help mobilize public and private investments.[8]

UN Women's guides on integrating gender into infrastructure development in Asia and the Pacific introduce the United Nations gender mainstreaming principles. [9] It also explains the importance of mainstreaming gender, presents the business case for gender mainstreaming, and provides an overview of the project life cycle. The document describes in detail each stage of the project life cycle and discusses key gender mainstreaming issues and social inclusion considerations. The guides on integrating gender are part of a practical series of how-to guides and checklists specific to the Asia–Pacific region.

Authors: Sarah Cotgreave, Viliame Kasanawaqa, Kitty (Maria) Villani Cohen.

[8] Inter-American Development Bank (IDB). 2020. *MDB Infrastructure Cooperation Platform: A Common Set of Aligned Sustainable Infrastructure Indicators (SII)*. https://publications.iadb.org/en/mdb-infrastructure-cooperation-platform-common-set-aligned-sustainable-infrastructure-indicators.

[9] United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), Asia and the Pacific. Guides on Integrating Gender into Infrastructure Development in Asia and the Pacific. https://asiapacific.unwomen.org/en/digital-library/publications/2019/03/guides-on-integrating-gender-into-infrastructure-development#:~:text=from%20Asia%2DPacific-,Guides%20on%20integrating%20gender%20into%20infrastructure%20development%20in%20Asia%20and,while%20mitigating%20risks%20and%20threats.

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