POWER AFRICA UNDERSTANDING SERIES (VOL 3)

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Understanding Power Project Procurement

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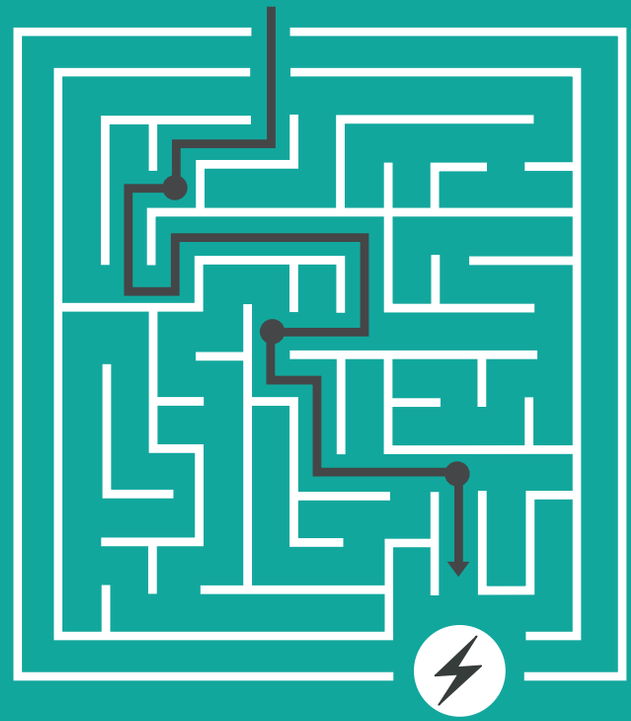

UNITED STATES DEPARTMENT OF COMMERCE
The Secretary of Commerce
Washington, D.C. 20230

Welcome Letter for "Understanding Power Project Procurement" Handbook

Since 2013, the U.S. Government's Power Africa initiative has sought to marshal technical, legal, and financial resources to support the goal of doubling access to electricity in sub-Saharan Africa. Through a substantial network of public- and private-sector partners, Power Africa is working alongside dozens of African governments to facilitate the development of power projects on a scale that will meet the continent's power deficit. I am particularly proud of the leading role the U.S. private sector plays in this development effort and consider Power Africa to represent one of the best models for collaborations between the U.S. Government and the private sector to achieve positive commercial and policy outcomes.

Power Africa has developed a series of handbooks to establish a common understanding of best practices around successful power project development. The *Understanding* series now includes a total of four handbooks, with 40,000 copies in print and tens of thousands more copies downloaded online. As with the previous handbooks, the development of this handbook, which was coordinated by the U.S. Department of Commerce's Commercial Law Development Program and the African Development Bank's African Legal Support Facility, was a consultative process involving U.S. Government agencies, African governments, multilateral institutions, and private-sector stakeholders.

The focus on power project procurement in this handbook is timely and relevant since many governments in sub-Saharan Africa are seeking to procure power projects quickly to meet rising demand for affordable and reliable electricity. Selecting a procurement strategy often requires balancing competing – and sometimes contradictory – interests. Should a government pursue competition to drive down costs or instead take advantage of the potential for more rapid project development through direct negotiations? Should the primary focus of procurement be securing the lowest cost of power, or should the government include related priorities that increase project costs, such as local content requirements and reduced sovereign credit support? Should a government predetermine project details, such as site selection and project scale, or defer to the expertise of the private sector in developing bankable power projects? Should transmission capacity be procured concurrently with generation or developed independently?

The purpose of this handbook is to lay out the principles of successful power project procurement drawn from the collective wisdom of the authors to accelerate the critical planning underway in the African power market. In order to make these important decisions, governments must be confident in their objectives for project procurement and strategic in choosing a procurement strategy that will produce desired outcomes. In addition to achieving desired outcomes, procurement strategies can also aid efforts by governments to regulate the power sector in a more transparent manner, both to increase investor confidence and bolster public support.

It is our hope that African governments will use this handbook as a reference for the principles underlying predictable, efficient, and effective power project procurement strategies. It has been an honor for the U.S. Department of Commerce to play a leading role in developing this resource, and I sincerely hope that this contribution can advance the shared aspiration of the U.S. and African governments to lay a foundation for development and economic growth through increased access to electricity.

Sincerely,

Wilbur Ross
U.S. Secretary of Commerce

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Foreword

Access to the energy that is needed to sustain our contemporary and connected life represents perhaps the greatest development challenge of our time. Whether it is the power to operate a factory or even the simple act of charging a cell phone, individual access to reliable, affordable electricity underpins the ability to participate in the modern economy. And yet, despite this fundamental connection between prosperity and power, estimates suggest that almost a quarter of the world's population lacks secure access to energy. The problem is particularly acute in Sub-Saharan Africa, where a full two-thirds of the population lacks access to electricity.

Part of the challenge in delivering the power that the world so desperately needs is the inherent complexity of power project development. Power projects are unique in that they are meant to produce a public good, through a private project, and within a highly-regulated market. Despite growing investment interest in power projects, emerging markets continue to suffer from delays due to project development strategies that are inefficient, costly and/or plagued by corruption. These delays may cause even the most dedicated developer to walk away from a project and, worst of all, leave the public with the double loss of both delayed delivery of power and further destabilisation of an already challenging market.

In response to these delays, power markets have adopted a set of procedures to manage the orderly planning, negotiation and construction of power projects. This process combines the transparency and competitiveness of procurement with the legal, technical and financial planning for infrastructure development and has enabled governments and the private sector to work together to deliver power projects on a timely and cost-efficient basis. For the

purposes of this handbook, we will describe this collection of principles as Power Project Procurement.

This handbook is intended to provide the reader with an overview of the mechanisms and strategy behind successful Power Project Procurements. For those that are new to the concept of procurement generally, or the particulars of power projects specifically, we recommend reading the early chapters of the book to develop an understanding of the framework within which a procurement should operate to be successful. For those who are more experienced in procurement matters, you may wish to proceed directly to Chapter X for a comparison of procurement options. The handbook also includes several break-out boxes with insights from practitioners and other examples that help to place the procurement principles in a power market context.

The group of authors who prepared this handbook, all of whom contributed their precious time freely, were gathered from governments, development finance institutions, project developers, law firms and advisors, and have extensive experience in successfully developing power projects. Our hope is that by establishing a common understanding of the core elements of effective power project procurement, this handbook will aid governments in their mission to secure increased access to power for the public. The principles outlined in this handbook can also aid the private sector in its efforts to serve as a productive partner for power project development in emerging markets.

The handbook was produced using the Book Sprint (http://www.booksprints.net) method, which allows for the drafting, editing and publishing of a complete book in just five days. Along with "Understanding Power Purchase Agreements," "Understanding Power Project Financing," and "Understanding Natural Gas and LNG

Options," this is the fourth book in Power Africa's Understanding series to be produced using the BookSprints method. Using this method, the authors were able to channel the insights gathered from hours of debate and brainstorming into text and illustrations you will find in these pages. The result is a plain-language resource that does not represent the opinions of any one author, but rather the decades of collective wisdom within the group.

To borrow an old adage, if you ask 16 procurement experts about how to guarantee fast and cheap power project development, you are likely to get 17 answers. This was certainly our experience as a group of authors when preparing this handbook. During our deliberations, it became clear that there are no absolutes when it comes to procurement policy. For example, competitive tenders are not always fast, and direct negotiations are not always easier. What is certain, however, is that if one follows the core principles common to most successful power project procurements, there is a significantly greater likelihood of reaching targets for speed, cost and transparency. There is also the potential of further improving outcomes as the procurement principles are refined, project by project. Ultimately, as this handbook attempts to make clear, power project procurement is not a science of rigid rules but rather an art of vision and detail.

The authors would like to thank our BookSprints facilitator Barbara Rühling for her inspiring spirit and steadfast guidance throughout the nearly 75-hour drafting process. The authors would also like to thank Henrik van Leeuwen and Lennart Wolfert for turning our rushed scribbles into beautiful and meaningful illustrations. The tireless work of BookSprints' remote staff, Raewyn Whyte, Julien Taquet and Katerina Michailidi, should also be recognised. The authors would also like to single out Sana Akili (CLDP) for her role as the target reader for the BookSprint; her diligent reading (and re-reading) of the book helped to ensure that it was written in plain-language.

Considerable planning and development went into the conceptualisation of the power project procurement handbook. The authors would like to recognize the following individuals and institutions that helped focus dialogue to build a consensus around the need for this handbook: Vibuhti Jain, Albert Osueke, and Emily Wann (Power Africa); Gadi Taj Ndahumba and Toyin Ojo (African Legal Support Facility); Nnamdi Ezera, Mohammed Loraoui, and Sheryl Bennett (Commercial Law Development Program). The authors would also like to recognise the generous funding and logistical support of Power Africa, the United States Agency for International Development and the African Legal Support Facility.

 The handbook is initially published in English with French, Portuguese and Spanish editions soon to follow. The handbook is available in electronic format at http://go.usa.gov/xn9bb, and print format by contacting Mohamed Badissy (CLDP) at mbadissy@doc.gov or ALSF at alsf@afdb.org.

We sincerely hope that the knowledge and insight shared in this handbook will aid public and private stakeholders as they seek to chart a pathway for the predictable and efficient procurement of power projects. In many ways, the journey of the authors from inquiry to understanding mirrors the path from conception to construction that power projects must follow. Thank you for considering this

contribution and for joining the authors on their mission to delivering on the promises of a more electrified world.

Sincerely,

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Introduction

Many developing countries are yet to achieve universal electricity access for their citizens. Although various energy resources could be used to generate electricity, such as solar, wind, hydroelectric, geothermal, natural gas, and coal, and are available in abundance, more than 1.2 billion people remain without access to electricity. Access to affordable and reliable electricity plays a critical role in economic development, employment creation and investment.

For example, the International Energy Agency has estimated that Africa needs to develop more than 250 gigawatts (GW) of additional generation capacity, and associated transmission and distribution infrastructure, from 2017 to 2030, to fulfil the unmet demand for electricity. This equates to an investment of approximately US$275 billion in additional generation capacity alone. Beyond Africa, many other countries require significant investment in new power generation to keep up with the growing demand for power.

The procurement of power generation projects is at the centre of addressing these critical needs. This handbook explains policy considerations that governments must take into account in structuring procurement processes and various options for power project procurement. The handbook represents the collective wisdom of a wide range of practitioners who have been engaged for decades in power project development around the world.

At its heart, the goal of this endeavour is to provide the reader with an understanding of the power procurement process which can enable governments and decision makers to best structure the programs they use to procure power projects.

Who is this handbook for?

This handbook is primarily intended as a practical resource for government officials who are involved in the policy and implementation of the procurement of power projects. This handbook may also be helpful to other sector participants. Readers will gain an understanding of the various considerations that could impact successful procurement and the policy issues that underpin procurement from a government's viewpoint.

What is the scope of this handbook?

This handbook is the fourth in a series. The first handbook, *Understanding Power Purchase Agreements*, focused on the mechanics and specifics of a Power Purchase Agreement (PPA). The second handbook, *Understanding Power Project Financing*, focused on the financing structures and mechanisms that can be employed to finance privately-owned independent power projects. The third handbook, *Understanding Natural Gas and LNG Options*, was developed by the US Department of Energy and is an in-depth guide on upstream and downstream development of natural gas.

Understanding Power Project Procurement will explore the complexity of procuring privately-owned power projects. It will describe the approaches that public procuring entities can use to establish and sustain power projects, including the advantages and disadvantages of the alternatives. It will also describe how these entities can implement these alternatives.

The authors recognise the diversity of legal systems, policies, and contexts of the various jurisdictions where this handbook can be utilised, and understand that no single book can offer a one-size-fits-

all solution. This handbook is the authors' best attempt at drawing on lessons learned throughout the world, contextualised for developing countries.

When should this book be used?

Policy makers, regulators, offtakers, and procuring entities should consult this handbook early in the process of developing their power sector strategy. The handbook can also be used as a reference during a procurement process. While it is not prescriptive, the handbook provides useful signposts that offer guidance in the course of implementing a power procurement.

Why is power procurement different from traditional public procurement?

Public procurement usually involves the acquisition of goods and services, but the procurement of a power project involves the acquisition of neither of those things. It instead involves the selection of a group or consortium that will be responsible for developing, designing, financing, constructing, commissioning, operating and maintaining, for a very long period, a high-value asset that is immovable. It is due to the long-term nature, and the often difficult-to-quantify risks associated with the development of the power project, which often makes traditional public procurement laws inappropriate or inapplicable.

When is power procurement different from procurement of public-private partnerships?

PPP legislation regularly includes a separate procurement regime that governs the procurement of PPPs. In some countries, a power project may fall within the definition of a PPP. In other countries, a power project may fall outside the definition of a PPP. In these cases, options for power project procurement are either addressed in public procurement legislation or are not specifically addressed by any procurement-related legislation.

When not specifically addressed in the PPP framework, public procurement act or electricity act, a country may consider procuring the power project using the procurement rules required by a development financing institution or else obtaining authorisation (for example, from a ministry or presidential unit) for the use of alternate procedures.

As a result, the processes that are used to procure power have evolved. This handbook will inform the reader about the alternatives available to optimally structure the procurement process, together with the advantages and disadvantages associated with each alternative.

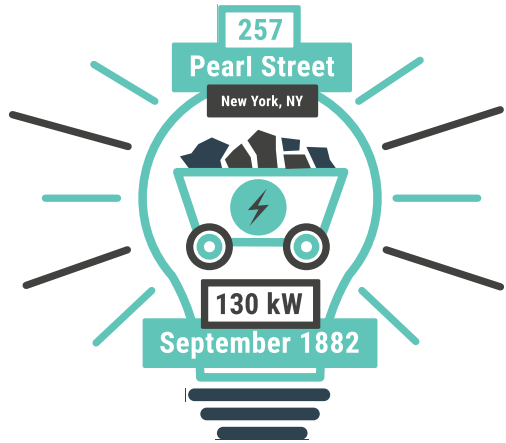
Context and Objectives

Market Overview

Stakeholders

Procurement Objectives

Enabling Environment



Market Overview

In September 1882, Thomas Edison opened a 130kW coal-fired cogeneration plant at 257 Pearl Street in New York. This plant initially supplied direct current to up to 500 customers and 10,000 lamps, as well as heat to the nearby buildings. The world's first power generation plant, this was also the first investor-owned electric utility.

During the following seventy years, with the exception of the Union of Soviet Socialist Republics, electricity generation, transmission, and distribution services were almost exclusively private business. By 1950, North America and Europe essentially had almost universal access to electricity.

However, after the Second World War, governments throughout Europe enacted nationalisation policies to protect and develop capital-

intensive and strategic industries, including the electricity sector. By the mid-1960s, the only Western country which had not nationalised its electricity sector was the USA.

In the late 1970s and early 1980s, many countries started implementing market-oriented reforms to their electricity sectors. Several Latin American countries unbundled electricity generation assets from transmission and distribution, allowing private investments to rehabilitate depleted plants and develop new ones. Investor-owned Independent Power Producers (IPPs) were allowed to build and own facilities to generate electricity for sale to public utilities and, in some cases, to eligible end-users such as energy-intensive industries. IPPs are typically companies created for the purpose of financing, developing, owning and operating energy-generating facilities.

This model was perceived to be so successful in attracting private investments that by the 1990s most European governments had opened the electricity generation sector to private investment. Recognising the transparency and efficiency of energy pricing that the model brings, European governments started a deregulation process which led to the creation of regional markets for electricity.

As of 2017, most countries in North America, South America, and Europe (including Turkey, Ukraine and Russia) have abandoned the traditional model of a vertically integrated, state-owned electric utility. The model has been replaced by a power market in which the state often no longer has a role in financing, owning, or operating electricity generation assets, and in which energy prices are determined on the basis of supply and demand. The state retains a regulatory role in these markets.

The establishment of credit-worthy entities that operate regional markets, clearing transactions between energy producers and sellers, has gone a long way towards removing the need for states to guarantee

long-term energy purchase contracts. The role of national governments is now mostly confined to the definition of market policies, partial control of transmission assets, and price regulation of services to certain consumer categories.

Reform and Private Power Investment in Developing Countries

Power sector reforms introducing private sector participation are implemented where the public sector can no longer afford to fund system expansion.

Reforms were initially introduced in industrialised nations to address issues of economic efficiency, that is, to lower tariffs. In developing countries, these same reforms were initiated to address poor financial and technical performance, which in some cases prompted tariff increases to ensure sufficient operating revenues.

Sub-Saharan Africa has witnessed widespread reform efforts, but in no case has this resulted in the fully unbundled power markets of the early industrialised reformers. Instead, many power markets in the sub-Saharan region exhibit a new, hybrid reform model dominated by vertically integrated utilities, with private participation in the form of IPPs coming in on the margins to address growing electricity demand deficits in a context of limited fiscal resources.

Historically, public utilities have been the major source of new investment in the power sector, as many governments are unable to fully fund their power needs. In addition, many offtakers do not have investment-grade credit ratings and cannot raise sufficient debt at affordable rates. Donor funding, including funding received from Development Finance Institutions (DFIs), has only partially filled this

funding gap. For example, in Africa, the fastest growing sources of financing are now private investments in IPPs and Chinese-sourced funding. Another alternative being explored in order to scale-up investment in generation capacity is public-private partnerships (PPP).

Traditionally, IPPs have invested in baseload thermal and hydropower projects. Renewable energy technologies are now playing and will continue to play, a major role in the development of the global energy sector. There is significant interest in off-grid systems, mini / micro-grid systems, and distributed generation.

One of the benefits of IPPs (and public-private partnerships generally) is that they allow the government to harness the strengths of the private sector to preserve and develop public resources for the public good. IPP programs are also a reflection of the fact that governments do not have endless resources and time, and are sometimes neither sufficiently funded nor staffed.

Stakeholders

The procurement of a power project is a complicated undertaking, requiring coordination of decision-making across government. Governments should establish guidelines and procedures that identify the roles and responsibilities of all stakeholders. Successful project implementation will be a function of timely and efficient project procurement where respective stakeholders are accountable for their roles in the process.

Overview of Stakeholders

There are various stakeholders involved in the procurement of power projects depending on the national context. Their roles and responsibilities include approval and implementation of, and compliance with, legal and regulatory frameworks. The roles of the main stakeholders in a typical procurement of a power project are detailed below.

Achieving Buy-In and Alignment

Buy-in and coordination between governmental stakeholders are critical to the achievement of successful project execution. Although the scope of stakeholder participation can vary, all steps are necessary to avoid bottlenecks, delays during project implementation, and the overturning of procurement awards.

It is important for the procuring entity to identify in advance what each stakeholder will require during the process. This will affect the timing of when applications and submissions need to be made, as will the processing time to obtain those approvals.

Example of Stakeholder Consultation:

In line with its goal of reducing carbon emissions, a government announces its intent to procure a solar PV facility and charges the procuring entity with the development of the project. The procuring entity proceeds to engage government, public and private sector stakeholders on issues related to land, resource quality, and energy cost. As part of the planning and coordination exercise, the procuring entity determines that the tariff for the project will be higher than the current diesel-fired generation. Through additional rounds of consultations, it is agreed that the utility will only cover the portion of the solar tariff that matches the diesel-fired tariff and that the government will be directly responsible for payment of the portion of the tariff in excess of the diesel-fired tariff. As a result of planning to identify project challenges and consultations to build consensus around solutions to those challenges, the procuring entity is able to successfully procure the solar PV project.

Public Sector Stakeholders

Depending on a country's legal and regulatory framework, there are a number of stakeholders who are involved in decision-making, implementation, and oversight of a procurement process. The table below illustrates the key public sector stakeholders and their involvement.

Key Public Sector Stakeholders		Approval	Implementation	Compliance	Other roles
Legislative Branch	Parliament	•			Enact / ratify legislation and agreements
Government	Head of State / Cabinet [1]	•			
	Attorney General [2]	•			
	Ministry responsible for Finance	•			
	Ministry responsible for Power / Energy	•			Procuring entity [3]
	Ministry responsible for Land	•		•	
	Ministry responsible for Environment	•		•	Environmental and social clearances
	Ministry responsible for Foreign Affairs		•		Bilateral investment treaties
	Ministry responsible for Employment	•		•	Local content consideration (local workforce, job creation)
	Others e.g. the Ministry in charge of Water Resources (water licence for hydro projects)	•		•	Licenses and permits as needed
Agencies	Central Buyer		•		Offtaker
	Electricity Regulator	•		•	In some jurisdictions can be the procuring entity
	Public Procurement Authority	•			Provide oversight and also has the ability to approve and overturn procurement awards in case of non-compliance with the procurement laws
	PPP Unit [4]	•	•		
	Revenue Authority			•	Including customs / imports duty exemptions / permits
	Investment Promotion Agency				Fiscal incentives, marketing and advertising
	Other				Licenses and permits / as needed
Landowners	National Government				Allocation / lease / other applicable land title and / or land rights
	Local Government				Allocation / lease / other applicable land title and / or land rights
	Site Community				Allocation / lease / other applicable land title and / or land rights
	Private Landowner				Allocation / lease / other applicable land title and / or land rights

1 In certain countries, depending on the size of the procurement/project, or the project's strategic importance, a clearance or approval may be required by the highest level of political / administrative authority.

2 Or the appropriate legal authority for making determinations of legality, validity and constitutionality.

3 For the purposes of this table, the Ministry responsible for Power / Energy is considered the procuring entity. However, the procuring entity can be any body or agency charged with the responsibility for owning and managing the procurement process.

4 Some countries have a dedicated PPP unit, sometimes a separate entity, with varying mandates and authority to facilitate or provide oversight to the PPP procurement process.

Other Actors Involved

Developers, local or foreign, who may also be known as investors or sponsors, invest time and capital resources to develop energy projects. Developers also maintain relationships with potential sources of financing, including private commercial banks and institutional lenders.

Sometimes developers are joined in a consortium by Engineering Procurement and Construction (EPC) contractors and equipment suppliers, who may benefit from the financial backing of export credit agencies of their respective countries of origin.

Bilateral and Multilateral Stakeholders, including **DFIs,** periodically visit the various line ministries to offer reform sector advice, loans, and a suite of guarantee and credit enhancement products (backed by sovereign guarantees). DFIs also may offer transaction and financial advisory services to national and subnational government entities. Bilateral and multilateral stakeholders sometimes provide support to the procuring entity or government in undertaking the planning activities required for successful procurement. They can also provide support during and post-procurement.

Donor countries and agencies may establish **project-preparation facilities** which fund part of the cost of preparing a project for development, including advisory support.

Civil Society Organisations, consumer associations, and other interest groups engage the public and private sector actors with a view to ensuring that the interests of consumers and citizens are considered and protected. They often bring an independent perspective on the project and its impacts.

Customers include residential, commercial and industrial users and purchasers of electricity.

Procurement Objectives

An effective procurement policy provides a framework which allows policymakers to achieve certain objectives. For instance, for a procurement policy to develop power projects, a menu of options can be considered which will impact the design and implementation of the procurement process. To achieve a coherent and consistent procurement policy, it is important that all stakeholders involved in the decision-making and oversight in the procurement process share aligned objectives. Such objectives must be balanced and prioritised in order to meet governmental strategic goals, such as adding installed capacity or growing the economy.

Transparency

Transparency can be a stakeholder objective in helping to demonstrate that impartiality and due process have been applied in the selection of, for example, a power project. From the perspective of a procuring entity, transparency of the procurement process and procedures is important to demonstrate full accountability to the public that it serves.

Perceptions of non-transparency or inconsistent application of rules and regulations can compromise confidence in the integrity of the process, resulting in allegations of corruption and public disapproval.

The objective of increasing transparency can be at odds with several other key objectives, such as providing the intended service or

securing critical investments in an efficient and timely manner. Achieving transparency within the procurement process can translate into additional procedures, oversight bodies, and reporting processes, however, transparency should not be conflated with accountability. The processes that accompany accountability should not be used as an obstruction to achieving transparency.

Expediency

One of the greatest criticisms made against governments around the world is that governments are often slow and bureaucratic and may struggle to procure power projects in a timely manner. Critics often assert that governments should be able to function more like businesses, which are generally able to procure and implement projects quickly, often with less rules and fewer layers of decision-making than those which bind a government. However, governmental authorities, as stewards of public funds, are rightly subject to very high levels of scrutiny. Given the long lead times associated with planning and building new generation capacity, governments must strike a fine balance between transparency and expediency in order to meet goals such as increasing power supply, often a stated public commitment which governments are held accountable for during election cycles.

Efficiency

Efficiency within the context of government procurement relates to the government's ability to structure a procurement in a fair and transparent manner, and to issue a tender in a timely fashion while using as few government resources as possible. The purpose of

the procurement system is to allow the government to procure what it needs, when it needs it, in order to serve the best interests of the public. Minimising the number of processes and levels of approvals may be in the government's best interest in terms of gaining efficiencies and shortening the procurement timelines, which could, in turn, shorten the time to reach financial close. However, efficiency and expediency must be carefully balanced with the objective of increasing transparency.

> **PRACTICE TIP:** The government can structure the procurement process to ensure accountability through post-procurement audits rather than multi-tiered pre-approvals. Any audit red flags could then be factored into the next procurement round.

Affordability

Governments generally procure critical infrastructure for the ultimate benefit of the public. Governments must consider the cost of this infrastructure, and how it is to be funded. Generation plants are high-cost infrastructure. Long lead times associated with cumbersome or process-driven procurement processes can also add to the cost of project development.

Power plants are intended to be paid for by the end users who benefit from the consumption of the energy generated, therefore, decision makers must balance various expectations along the electricity generation value chain:

- the investor's anticipated revenues;
- affordability and liquidity on the part of the offtaker to pay for the electricity delivered;

- value for money to the government in choosing the route of procurement of power generation capacity from the private sector;
- offtaker cost recovery of the cost of electricity delivered from the end consumer;
- affordable electricity prices to the end consumer.

Balancing these expectations is not an easy task and is often at the core of the work undertaken by electricity regulatory bodies.

Security of Supply

Amongst the various competing objectives for procuring power generation capacity, governments often strive for both energy independence and sufficient energy supply for citizens. Achieving both may not be practical in the short term and will depend on resource availability, the state of the grid, and capital available for infrastructure development. Governments should aim to diversify the resource base of the generation sector to insulate them from energy disruptions arising from natural disasters, terrorist-related attacks, climate cycles or swings in resource prices. Governments may also consider how best to optimise the percentage of energy imported versus that domestically produced, with a view to ensuring insulation from foreign political interference. If imports are required, diversifying import arrangements from more than one neighbour and utilising the regional power pools, where possible, may be worthy of consideration.

Many developing economies are seeing continued and increasing demand growth, with lagging supply growth. Governments need to review the supply-demand balance during the planning process to ensure that supply, including reserve capacity, is adequate to meet the demand.

Power procurement processes should be geared towards achieving both security and sufficiency of supply with a recognition that trade-offs may be necessary. This is an important objective to help governments gain energy independence and stability by increasing availability, reliability, and security from multiple sources.

Access to Power

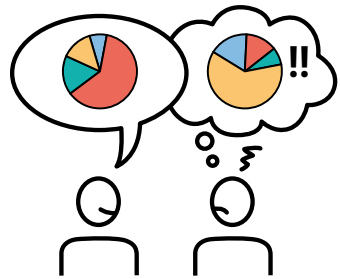
Not only must the power produced by the power project be available, reliable and affordable, it must be accessible. In a number of countries, communities living in rural areas do not have electricity supply due to their lack of connection to the grid. Providing access to power is a primary responsibility of the government. Locating new utility-scale power plants in weak or under-served areas of the grid may underpin a business case in expanding the grid to or within that area. Distributed energy solutions may offer ways to improve the security of energy supply to households and small business located beyond the grid. The objective of improving access to power can contribute to inclusive economic growth by targeting energy supply to otherwise marginalised populations that cannot benefit from grid-connected generation. Inclusive economic growth is the single most effective means of alleviating poverty and boosting prosperity.

Economic Development

Many governments in developing countries believe that all procurement processes should benefit a country's economic development through innovation and job creation. Local content requirements often include local equity ownership and debt financing requirements, local job targets and local manufacturing.

During the planning stages, an assessment of realistic and affordable local content and financing options should be considered, plus the procuring entity should understand the implications of its decisions concerning local content requirements (and thresholds) with regard to the availability of international financing sources and existing trade treaties. Being fully informed about the local and international market's capabilities will help inform the government about what types of solutions are available and the best procurement path for the power project procurement.

Enabling Environments



Introduction

Enabling environments are critical to ensuring that power project procurements are successful. The government should assess the enabling environment in order to understand how attractive their market will be for private power procurement.

There are four areas where the government may take positive action to improve the enabling environment:

- Political Will for Power Sector Development;
- Energy Access and Market Policy,
- Legal/Regulatory Framework;
- Institutional Capacity.

It is important to recognise that improving the enabling environment for procurement of power projects does not always necessitate wholesale reform of the power sector, or more challenging still, macro-level reform of the economy. Many developing markets have succeeded with targeted reforms around power project procurement that have led to increased investment and market growth. To the extent that procurement reform takes place alongside broader reform efforts, governments should consider the following high-level indicators to achieve a successful procurement outcome:

- stable macroeconomic policies;
- a legal system that enforces contracts on a consistent and timely basis;
- a good repayment record and investment-grade rating;
- previous experience with private investment.

The following sections will provide a brief overview of factors which can facilitate an appropriate enabling environment. These factors are interlinked and are often best addressed collectively. The government may consider the impacts of these factors on investment outcomes. Of particular importance is the need to localise reforms and recognise that success with procurement in other jurisdictions is only replicable if the reforms in those jurisdictions are also adopted. Failure to do so may lead to unrealistic expected outcomes for the procurement of power projects.

Political Will

Without political will, policy is little more than a wish-list. Political support is the key for power project procurement since such projects are complex and will require approvals, permitting, and administrative

coordination from multiple public sector stakeholders. A procuring entity itself must enjoy high-level political support since successful development and implementation of the procurement process often requires buy-in across government. The government should build consensus across political party lines to ensure that the procurement process is able to weather any political transition.

Top-down support and short-term political incentives can assist in kick-starting a procurement programme. Enshrining a procurement programme in law ensures stability and commitment to the programme in the long term. Ideally, procuring entities should be able to rely upon the value proposition of an effective procurement process to encourage support from a range of actors across the political spectrum.

> *Example of Political Will: South Africa's Renewable IPP Procurement Programme*
>
> South Africa had already set ambitious renewable energy targets in its policy documents by 1998. Two events provided the political will to turn the ambition of procuring renewable energy into the reality of a procurement programme. First, consequential to blackouts in the 2008-2011 period, the Department of Energy introduced a private sector power procurement programme, even though Eskom (the vertically integrated national utility) was historically opposed to such opening of the market. Second, South Africa was chosen to host the United Nations Climate Change Conference in 2011 and aimed to showcase its own renewable developments. The political mandate for the country's renewable energy IPP procurement programme, therefore, came from the highest levels of government and ensured execution.

Policy

Unlike legislation and regulation, which are formally adopted and publicly accessible, a government's policy objectives for power project procurement are often articulated across a series of documents that may or may not be accessible to the public. Policy objectives may include the quest to increase and improve energy access, economic development, reduce carbon emissions, attract foreign direct investment, advance job creation, ensure energy security, stabilise the grid, and position the country for industrialisation. It is helpful when policy documents include the decision to procure power from IPPs rather than relying solely on government-owned power projects.

Conflicts in the policy documents can create confusion for stakeholders. For example, one policy document advises increasing baseload generation through coal power generation, and on the other hand, a different policy document advises elimination of fossil fuel energy and ramping up renewable power generation. Misaligned policies can translate into misaligned laws and regulation. This would further create a challenging environment for successful implementation of procurement.

Local Content Policy

Power procurement policy may also impact a country's socioeconomic development goals, such as the use of local content requirements to promote local industry and jobs. The goal is also to ensure that the local services economy receives benefits from the energy project, and there could be other added benefits such as the empowerment of marginalised social groups and local communities.

The government may wish to consider whether a local content requirement should be coupled with a gradual phase-out plan (time-bound and accompanied by measures that facilitate financing of the industry, the creation of a strong domestic supply chain, and a skilled workforce), beyond which the national industry ought to be able to compete directly with international players. Another concern regarding local content requirements is a legal one with regard to potential impacts on international trade treaties.

Timing Policy Implementation

A further area where policy clarity may be helpful is with regard to any procurement transitions, such as, for example, switching from direct negotiations to competitive procurement at a time when several unsolicited projects have been licensed by the regulator or acknowledged in some way by the procuring entity. Consideration of these projects under development and clear communication to the market will provide comfort to the investors.

Example of Renewable Portfolio Standards

Renewable Portfolio Standards (RPS) are a policy that requires utilities to have a specified quota of renewable generation in their portfolios. This approach is an important factor driving deployment of renewable energy in countries such as Chile and Mexico. RPS policy is designed to allow promotion of either specific technologies or applications while considering impacts on the end-user tariff. To satisfy compliance, the utility may decide to own its own RE generation facilities, purchase energy generated from a private RE generation facility (IPP), from distributed generation, or a combination of these approaches. The utility procurement process is defined in the policy and legal framework, and in some cases, may be dictated by the regulatory authority. This type of policy works well in a developed, mature and well-regulated electricity market.

RPS is a good example for illustrating how policy can contribute to the procurement of power projects. In Chile, utilities are, for example, required to include a 5% renewable energy quota in their contracted generation, increasing 1% per year until reaching 12% in 2021; then increasing by 1.5% per year to reach the policy quota of 20% in 2025. Mexico has established similar renewable purchase obligations, using clean energy certificates to ensure 5% of total energy consumption in 2018 is sourced from clean energy technologies.

Legal

Legal/Regulatory

The legal framework for power project procurement is defined as the laws and regulations that directly touch upon procurement procedures and the power market. The legal framework is a mix of procedural, commercial, and technical regulations that regulate the complex nature of power project procurement.

If properly coordinated, the legal framework can serve to facilitate investment, protect the validity of transactions, reduce associated

costs, formalise the roles and responsibilities of stakeholders, ensure appropriate regulatory controls, guide negotiations and enable the resolution of disputes.

Key Considerations When Establishing an Enabling Legal Framework

The legal framework for power procurement should take into consideration existing laws and policies, including technical regulations governing the power sector, for example, the grid codes. There needs to be a high level of harmonisation among laws and policies to avoid conflicts and, in some cases, arguments over which law takes precedence.

An analysis of the existing framework by the government is essential to identify potential gaps in the regulatory regime. To save time and encourage efficiency of delivery of power projects, the government is encouraged to look at the enabling environment prior to constructing a procurement framework. Otherwise, there is a risk that matters of legal concern may arise.

If a misalignment in the law is discovered during the development process, a law may need to be amended. This may take time and may have been avoidable if the issue had been addressed in advance.

PRACTICE TIP: *Regulatory Mismatch*

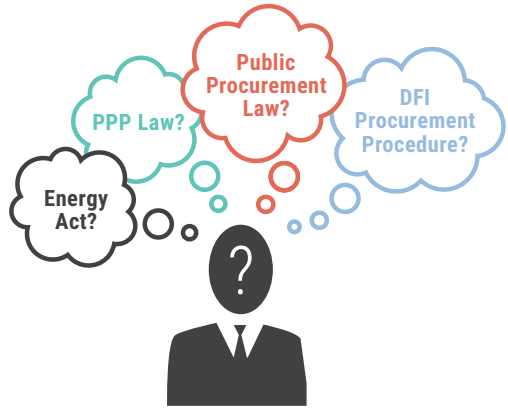
The law may prescribe a term for a power generation licence (5-10 years) that is shorter than the term of the PPA (20-25 years). This mismatch may give rise to the following issues:

1. a challenge in raising long-term debt that exceeds the license term (as lenders will want to ensure that the license extends beyond the debt tenor);

2. where a fuel supply agreement is necessary, a misalignment of the licence with the term of the fuel supply agreement, leading to uncertainty and potential additional exposure for the project company;

3. a potentially higher tariff due to the increased risk of license non-renewal being taken by the developer.

Under Which Law Should the Procurement of Power be Undertaken?



There is a question as to under which law the procurement of power should be undertaken: PPP act, or electricity act, or other general procurement act? In many cases, procurement of a generation facility is excluded from the PPP legislation. Power project procurement is not

always considered under the general procurement legislation either. If this is the case, then new legislation is likely to be needed.

> **PRACTICE TIP:** The first step of implementing any new procurement process is to determine under which existing regime the procurement of a new power project or programme would fall.

One subset of the legal framework is the regulatory framework. Having a solid regulatory framework will establish a level playing field for all players, promote competition, and seek to prevent abuses of the rights of the concerned parties. The regulatory framework should provide the rules and procedures governing the exercising of their roles and responsibilities by parties involved in the procurement process. Transparent and objective rules and procedures lead to a credible, fair and impartial process.

In the presence of ambiguous or conflicting regulations, investors and lenders may face difficulties in participating in the projects. In common law jurisdictions, this may be resolved with the issuance of a legal opinion by the country's Attorney General to the sponsors and the lenders showing that the project fulfils legal requirements.

> **PRACTICE TIP:** Implementation of corrected legislative or regulatory frameworks is a more bankable option than seeking deviations from existing laws.

The exact nature of the legal and regulatory framework applicable to power procurement projects may also depend on the financing mechanisms contemplated and the technology involved. These issues are addressed later in the handbook.

What about PPPs?

There are varying definitions of a public-private partnership (PPP). The term is used to describe a wide range of agreements between public and private sector entities, and different countries have adopted different definitions as their PPP programs have evolved. PPPs are commonly understood to be a mechanism by which a government can procure and implement public infrastructure and / or services using the resources and expertise of the private sector.

Many emerging market countries have enacted legislation that specifically governs PPPs. This legislation usually includes a separate procurement regime that governs the procurement of PPPs. In some countries, a power project may fall squarely within the definition of a PPP set forth in the PPP legislation. In these countries how a power project can be procured will be governed by the PPP legislation.

In some countries, a power project may fall squarely outside the definition of a PPP. In these cases, how a power project can be procured is either addressed in generally applicable public procurement legislation or is not specifically addressed by any procurement-related legislation.

If PPP legislation is complete (i.e. with a comprehensive PPP act, a PPP Unit in government and applicable PPP regulations across a variety of sectors), this legislation may be better suited to the procurement of a power project than generally applicable public procurement law. On the other hand, PPP legislation, which generally implies the use or exploitation of a public asset, may not always be suitable for certain types of independent power projects, for a variety of reasons (including the way that PPPs are defined in the legislation). In any event, it is advisable that legal counsel is consulted in order to ascertain the relevant applicable regime.

PRACTICE TIP: Check public procurement laws to see if they limit the ability of procuring entities to discuss exceptions (which may also be known as variations or reservations in some markets). The ability to negotiate exceptions may be important for the successful conclusion of a competitive tender.

Institutional Capacity

Institutional Roles and Responsibilities

Power procurement needs to align with the policy objectives of the government and, to the extent that there are any areas of uncertainty, there may be a need for an early interface with the Ministry of Energy or a similar ministry or department responsible for providing policy guidance on power procurement.

Some agencies may feature at the earlier planning phase of the procurement, while others may become more relevant towards the end of the procurement cycle. Inter-agency frictions could scuttle the power procurement, with negative outcomes for the country (lack of additional power) and the potential developers (wasted time and effort).

The initial phase may involve engagement between the procuring entity including:

- the entity in charge of transmission / systems planning (to confirm requirements for connection to the grid);
- the environmental agency (for the issuance of environmental impact assessment permit / approval);
- the regulator (for the issuance of any required approvals, clarification of any regulatory preconditions, or securing of any required waivers).

Different government agencies will impose different time requirements for granting approvals. It is necessary to factor in these lead times to avoid delays. Satisfaction of these requirements could possibly take up to a year or more, and so should be commenced as early as possible after the initial conceptualisation of the project. This could be a consideration in establishing timelines in bid documents, as well as the lead times granted in directly-negotiated contracts.

> **PRACTICE TIP:** Consult environment and land authorities who may require analyses spanning different seasons and resettlement action plans where either people or economic crops are to be removed from the proposed construction site.

Procuring entities should be aware of the potential financial structure of the power project. This could involve guarantees or sovereign support which may trigger additional approvals from parliament or other stakeholders.

> **PRACTICE TIP:** Consult the Ministry of Finance to confirm whether any sovereign guarantees or financial support may be required for the project. This may have implications for the country's debt sustainability policy. This is also the case where the country expects to utilise partial-risk guarantees issued by multilateral development banks.

At some point during the procurement cycle, it may be necessary to secure some sort of approval or non-objection from a procurement authority / regulatory entity confirming that the procurement is in conformity with existing procurement legislation in the country. This ensures that the procurement is not subject to nullification for failure to conform with the law.

PRACTICE TIP: In some jurisdictions (particularly in common law countries), an approval or legal opinion may be required from the Attorney General or the Ministry of Justice to confirm that the relevant agreements can be executed and that the transactions contemplated are valid and enforceable.

Institutional Capacity Building

It is essential that public agencies involved in power procurement are properly staffed to ensure that they deliver on the mandates of these agencies. A procurement process managed by staff that are not experienced is likely to encounter all sorts of avoidable problems that could scuttle the process or result in sub-optimal outcomes. Also, given the time and expense involved in putting together a bid, ensuring adequate capacity on the part of government institutions goes a long way in encouraging serious bidders to participate in a procurement process.

There may be a need to hire expert advisors to augment existing staff. Structured training and refresher courses can also benefit existing staff.

Ministries and agencies of government that interface with the procuring entity may consider designating specific officers to liaise with the procuring entity. These officers will ultimately have a deeper understanding of the relevant issues as they handle more transactions. This will ensure a more efficient consideration of such requests and approvals.

These matters are further discussed in chapter The Role of External Advisors (see page 66).

Clarity of Roles and Alignment Amongst Key Stakeholders

Transactions move faster when government stakeholders work in harmony and not with conflicting purposes.

It is important to ensure a clear delineation/streamlining of the work of various agencies involved in power procurement, with a view to reducing or eliminating areas of overlap and potential conflict. This also ensures that prospective bidders do not get confused about the process.

> **PRACTICE TIP:** To coordinate stakeholders, several countries have established a one-stop shop that handles all issues relating to procurement, including permits, licenses and approvals, and authorisations that may extend beyond the power sector, such as issues relating to tax waivers, capital importation approvals, etc. This may be housed in a PPP coordinating unit or an investment promotion agency.

Successful procurements need a 'champion' in the government who shepherds the transaction to a successful conclusion. Ideally, the person has formal authority and / or requisite influence to manage inter-agency frictions that can create unnecessary delays.

Planning for Procurement

Understanding the Current Power Market

Planning the Procurement Process

Technology and Resource Considerations

Site Selection

The Role of External Advisors

Understanding the Current Power Market

An assessment of the current national power market provides the foundation for procurement planning. This inquiry will often focus on the intersection of demand, supply, natural resource, grid and fuel supply constraints, and may take into account the existing market, projected growth of that market, and reserve margin considerations. Most countries have a least-cost power development plan or a sector strategy which may include a comprehensive market assessment.

The key components to understanding the current power market are an evaluation of supply and demand, existing system constraints, macroeconomic conditions, and sector liquidity.

Demand

Although general demand for power may be evident in an emerging market, a detailed investigation of demand is still necessary to determine the precise nature of that demand and the potential for demand growth. A more precise demand forecast allows governments to plan for the appropriate scale of power procurement to produce significant benefits. For example, if the government can, through its investigation, identify a clear source of increased demand, it can increase the size of the procurement and reduce costs through greater economies of scale.

Demand forecasting incorporates a level of financial and economic elements in determining the cheapest way of meeting the forecasted demand while maintaining alignment with the policy's objectives. In some countries, this could be achieved through constraints on renewable energy targets or may take into account the price

"sensitivity" of consumers and further refine demand projections based upon segregated demand. For example, a government may plan for procurement based on the affordability of its electricity consumers, with the knowledge that industrial consumers may be willing to pay higher tariffs than can be paid by residential consumers.

Existing Supply

Investigating the existing supply in a market is often a more challenging and nuanced exercise than demand forecasting. Despite the challenge, developing a supply analysis that is able to capture all sources (utility, distributed) and all variables (seasonality, fuel supply volatility, and so on) is critically important for the government's ability to accurately determine the country's energy deficit.

> **PRACTICE TIP:** Identification of and accounting for all sources of generation may provide greater confidence to investors that the government is not over-procuring power. Diesel generators and solar rooftop installations should be included in this analysis.

System Constraints

Aside from the market level analysis of demand and supply, the investigation of the power market at the system level will also provide the government with additional insight to assist successful planning for power project procurement. System-level constraints, such as inadequate transmission capacity, should be taken into account alongside broader demand and supply projections in order to arrive at a procurement plan that is realistic and sustainable within the market.

PRACTICE TIP: If a government determines that it will, for example, have 2 GW of unmet demand over the next decade, it may also determine that over that same time period, the grid network will only be able to sustain an additional 1.2 GW due to a combination of insufficient maintenance and delayed development of transmission expansion projects. As a result, the government may elect to procure only the initial 1.2 GW of power and reserve the remaining 0.8 GW for a procurement that bundles power generation and transmission development.

In the event that the grid does not have the capacity to take on additional power, the procuring entity may need to consider off-grid solutions.

Macroeconomic Considerations

An important component of planning is setting the procurement policy / purchasing objectives within the macroeconomic context. The macroeconomic projections and outlook of a country may impact its ability to run successful procurement tenders. Where, for instance, there is spiralling inflation in a country, both developers and their lenders may be wary of participating in procurement bids in the country due to concerns that their investments could be rapidly devalued by deteriorating national economic conditions. In addition to concerns about inflation, concerns about foreign currency availability and currency convertibility may arise. Accordingly, within the context of broader economic planning in the country, there should be a consideration of how best to manage macroeconomic issues that could ultimately impact on the successful conduct of public procurement, especially with regard to power projects which tend to have long gestation periods, require long amortisation periods, and often involve investment capital importation in a foreign currency.

Sector Liquidity

In some countries, serious liquidity challenges may already exist in the electricity market, with the offtaker not receiving sufficient revenues from its resale of electricity to enable it to sustainably continue the procurement of additional power. In such cases, there may be broader systemic issues that need to be addressed in order to reduce revenue leakages and boost the functioning of the electricity market, including issues relating to tariff cost reflectivity, collections, and metering.

Procurement Planning

Having reviewed the government's broad policy objectives, procurement objectives, and sector planning, detailed procurement planning can begin with the following questions.

Does the procuring entity have a clear mandate to pursue the project?

The procuring entity must have a clear understanding of what it is to procure and how to procure this in a manner which aligns with the underlying objectives. It will require a clear procurement mandate from the relevant authority – whether a relevant ministry, department or agency (regulator). Such procurement mandate must align with the existing policies and comply with the legislative framework in place.

What skills, capacity and experience does the procuring entity have to undertake the procurement?

The procuring entity may decide to seek support externally. Independent advice by experienced advisors may be helpful in this regard. Some bilateral and multilateral organisations may already have some experience in supporting similar procurements in other jurisdictions and may be able to provide some guidance and support. This approach is further addressed below. There are significant costs involved in running an effective procurement process, but these costs may be outweighed by the outcomes of a well-structured and implemented programme.

Should the procuring entity engage with the market?

The procuring entity may wish to consider either a formal or informal market engagement or market-sounding approach. Given that the procuring entity is, at this stage, not in a formal procurement process, it would not be bound by procurement legislation, regulations and policy, and this should be viewed as an opportunity to solicit information to amend and / or refine the procurement approach. In this regard, requests for information have been successfully employed on power project procurement in emerging markets. The benefits of early engagement with the market can include:

- testing the market's capacity, willingness and appetite to respond to an envisaged bidding process;
- obtaining a better understanding of the current costing and pricing benchmarks;
- testing the procuring entity's early thinking around its procurement approach;
- providing an early indication to the market of a procuring entity's intention to procure.

The drawback may be, that after having engaged with the market, the procuring entity may choose not to proceed with the power project procurement.

The question of whether a procuring entity chooses to pursue formal or informal market engagement is often determined by policy as well as by practical considerations. For example, formal market engagement may serve to increase transparency in the process, however, depending upon the level of market interest, such engagement can be time-consuming for key decision-makers.

PRACTICE TIP: Information technology platforms can greatly assist in soliciting information in a formal and structured manner; adding to the ease of collecting and collating the information such that the information can be properly analysed.

What is the procurement approach?

Having identified its policy objectives and considered its key drivers of success, the procuring entity then needs to turn its attention to its procurement approach.

A more detailed consideration of the various bidding structures is addressed in section Introducing Procurement Types (see page 69). Examples of some approaches to procurement include direct negotiation versus competitive bidding versus feed-in tariffs, one-stage (RfP) versus two-stage (RfQ and RfP) bid processes, and single window versus multiple window approaches. Other commodities technologies, for example, solar photovoltaic technologies, may be better suited to a one-stage bid process and competitive bidding, whereas hydropower technologies may be better suited to a two-stage bid process with a negotiated power purchase agreement, or more suited to developing markets favouring a competitive bidding process, enhancing the price-discovery process.

At this point, it is not necessary for the final choice of procurement approach to be made, it is more important to consider the range of possibilities and the relative merits, and demerits, of each approach. This consideration serves to inform, amongst other matters, the resources and budget that the procuring entity would require to achieve a successful bidding process.

Example of Procurement Objectives:

The South African Renewable Energy IPP Procurement Programme (REIPPPP) set out to achieve multiple objectives.

Transparency of the evaluation process was ensured by using clear, quantified evaluation criteria; having the actual bid opening and evaluation process take place in a secure environment; recording the entire evaluation process on CCTV; having evaluations conducted by independent entities, and having multiple layers of independent review of the evaluation results at each level.

Affordability was one of the key drivers that prompted the country to switch from a FiT scheme to a competitive tendering programme, as the associated price reductions would minimise the impact on consumer electricity tariffs.

Economic development was another key objective of the REIPPPP, with local content, local ownership, enterprise development, job creation, and local community ownership and investment considerations functioning as key bidder qualification and evaluation criteria.

How long will the process take?

The final milestones and the time frames will change depending upon the choice of procurement approach. A consideration in preparing the project timelines is to have a clear understanding of the impact on the resources of the procuring agency and to commence with preparing a project budget.

Who is responsible for interconnection?

The government and procuring entity will need to decide whether the developer, the transmission company or the government, will be

responsible for procuring the rights of way and other land rights required for the transmission line and the costs associated with the construction of the transmission line and associated facilities.

If the government or the transmission company takes the responsibility for the development and construction of the transmission line and associated facilities, this will expose the offtaker to the risk of delays arising from the construction and commissioning of the transmission line. Usually in a PPA, if there are delays in building the transmission line, but the power project is ready, the offtaker will still have to pay.

To avoid this risk, the project company is often granted responsibility for the development, design, construction, and commissioning of the transmission line, with any costs passed through to the offtaker. In some cases, the transmission line may be shared between multiple projects. In this case, the cost of the transmission line may be shared with all the project companies. Care must be taken to ensure that this arrangement is supported by the appropriate legal and regulatory framework in the country.

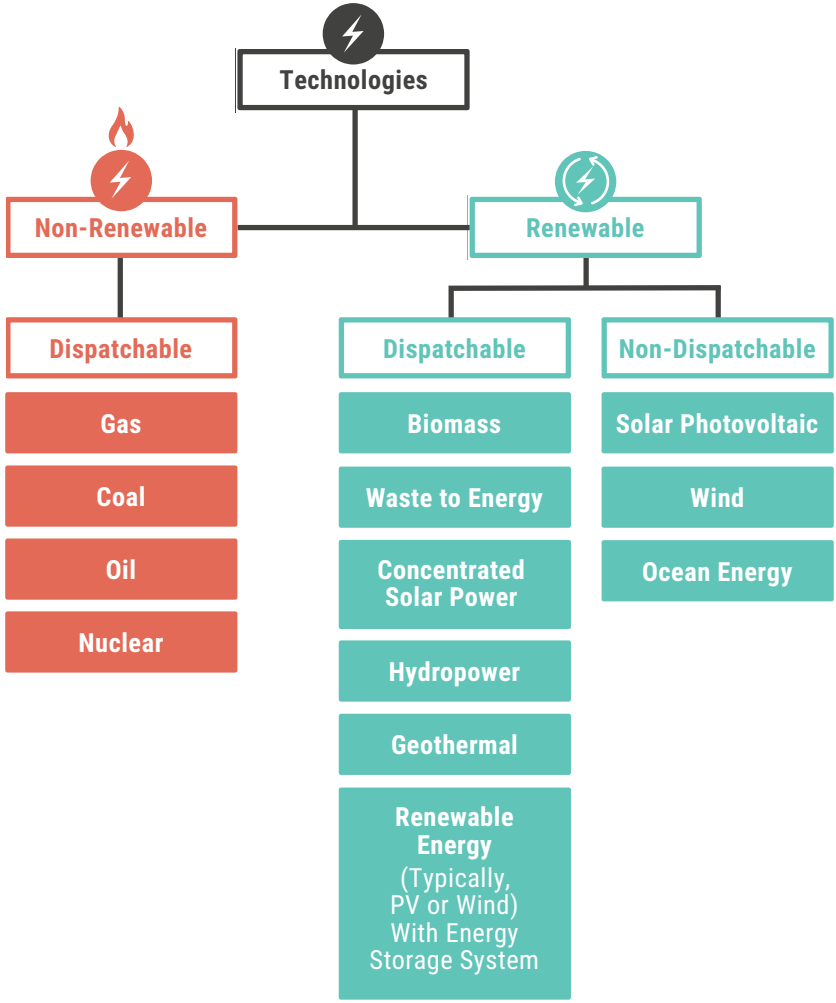
By planning for interconnection, you can minimise the impact of interconnection on the procurement process.

Technology and Resource Considerations

A procuring entity should consider the country's existing natural resource endowment and the technologies available to leverage those resources when considering the type of power that it wishes to procure. For example, a country with gas supplies may find the procurement of thermal power generation attractive, while a country that is endowed with high solar irradiation may consider procuring solar power.

The figure below depicts the range of technologies considered within the scope of this handbook. Dispatchable technologies are those that may be scheduled for operation upon instruction by the system operator. Non-dispatchable technologies are those where the system operator must take (and pay) for the energy produced by the technologies when it is produced.

The following technology and resource-specific considerations should be taken into account.


Technologies
Non-Renewable
Dispatchable
Gas
Coal
Oil
Nuclear
Renewable
Dispatchable
Biomass
Waste to Energy
Concentrated Solar Power
Hydropower
Geothermal
Renewable Energy (Typically, PV or Wind) With Energy Storage System
Non-Dispatchable
Solar Photovoltaic
Wind
Ocean Energy

Resource Assessment

Investigating the domestic sources for power generation is far more complex than simply determining what volumes of a particular resource are available. Questions of quantity must be considered alongside quality, availability, cost and other critically important questions. The following is a summary of source-specific considerations when conducting a resource assessment:

Renewable Energy (Photovoltaic Solar, Concentrated Solar Power and Wind)

Given the intermittency and site-sensitivity of the solar and wind resources (both seasonal and daily variations), a careful assessment of the renewable resource is required. To assess the energy potential within an area, there are numerous data sources, both free (US National Solar Radiation Database, Danish Technical University Wind Atlases) and commercial (Meteonorm for solar irradiation, AWS Truepower for wind resources). To have a high degree of confidence in resource modelling, at least 12 months of site-specific resource data should be collected, often using specialised measurement equipment collecting high-frequency information.

Ocean Energy

Ocean or sea energy includes tidal, wave, and ocean thermal energy. Similar to the other renewable energy technology, careful assessment of the resource is required over an extended period of time. Given the nascent state of these technologies, the data collection is site-specific.

Hydropower

Hydropower resources are site-specific and directly proportional to the height of the fall (head), and the flow of water through the turbines, although in some cases the water resources of a river basin can be supplemented through inter-basin transfers (at significant cost). For reservoirs or rivers with highly variable water flow, resource assessment may focus on monthly distribution of flows. In either case, resource assessment is essentially a desktop exercise of statistical analysis, using historical flow data from reliable sources. Ideally, a precise assessment would require at least 35 years of daily or monthly flow information. In the absence of good data, assessment can be based on desktop mathematical simulations that use rainfall from nearby river basins or, as a last-resort, meteorological models. Because the assessment of hydropower resource relies entirely on data collected and supplied by government sources, it is not unusual for the offtaker and the developer to share hydrological risk. Due to the long service life of hydropower plants (in some cases, more than a century), long-term impacts of climate change and reservoir sedimentation should also be considered in the hydropower resource assessment.

Geothermal

Geothermal resources are assessed on the temperature and the heat flux of steam produced by deep wells. Due to the high cost of drilling, the "proving" of the geothermal resource can amount to over half the capital costs of a project and entails significant risks. For example, drilling the extraction and injection wells for a 5MW geothermal plant can cost up to US$10m if the drilling plan is successful and considerably more if there are a series of "dry" wells before a successful discovery. There are unique financing arrangements resulting from the high upfront costs of drilling.

Biomass

Biomass energy plants produce energy by burning wood and other organic matter, which are burned directly or converted to other forms of biofuel. The resource assessment needs to cover the quantity, cost and type of biomass available, seasonal variations in organic matter growth, and the ability to sustain biomass sources through replanting.

Waste to Energy

Urban waste can be a significant source of energy. Landfill gas plants can be fuelled by the methane produced from landfill sites that are appropriately equipped to collect the gas produced by the controlled degradation of organic matter. Waste incineration plants burn urban waste as a direct source of fuel. An assessment of the resource requires a measurement of waste collected and disposed of, and an assessment of its calorific content. Anticipating shifts in consumption (and waste generation) patterns and government policies to incentivise waste recycling and separation are critical to the successful sizing of a waste-to-energy project; actual production of methane gas in many cases has not been able to meet the design expectations, leading to a reduced generation of energy.

Natural Gas

Assessment of natural gas resources is driven largely by the sources of gas available in the market. In markets where domestic sources are present, a comparison of the quality, quantity and cost of producing gas will serve as the primary inquiry and may be further refined by distinguishing between onshore, offshore, and unconventional resources. In markets where domestic gas resources are undeveloped or not present, the focus of the gas resource assessment will be on the import options, which may include pipelines, liquefied natural gas or even containerised gas shipments.

Regardless of the source, resource planning around gas must take into account the potential volatility in pricing and supply that is common with natural gas. In the domestic context, supply must be mapped along a long time-horizon that accounts for the eventual decline in field-level production, and pricing may be impacted by competition amongst gas customers (power, industrial, transportation, residential, etc). For imported gas, the challenge with supply is less about volume and more about sourcing, since gas imports must often be contracted for on a long-term basis (5, 10, 15 years) to ensure the stability of supply. Pricing may also be impacted by the sourcing of imported gas, with greater volatility in pricing of short-term contracts and reduced pricing flexibility in long-term contracts.

PRACTICE TIP: The past decade has seen a surge of gas-fired power projects. Traditional gas-fired IPPs, are now being asked to procure gas on the wholesale market rather than rely on state-sponsored gas supply agreements. New domestic sources of gas, such as deepwater offshore and unconventional fields, are driving the development of gas-to-power projects in emerging markets. Even markets which lack domestic gas supply are building gas market infrastructure around LNG-to-power projects that source gas from a growing global market driven by exports from the US and Australia.

Despite this growth, gas-to-power projects remain complex due to the need to simultaneously develop the long-term gas supply agreement, processing/transportation infrastructure and the gas-fired plant. The linkage creates unique risks, such as the need for force majeure protection on the power side in the case of disruption on the supply side. Costs outside the power project may also be a risk, such as payment for easements over private land for the construction of gas pipelines. To mitigate these risks, governments should take care to procure gas-fired power in a coordinated manner that accounts for risks both within and outside of the power project.

Oil

Similar to that of natural gas, the assessment of liquid resources (including diesel, heavy fuel oil, and light crude oil) is driven largely by the supply and sources of appropriate liquid fuels available in the

market. As with other commodities, the resource planning must consider the price volatility and availability of supply.

Coal

Identification and assessment of coal resources are complicated both by the variations in the quality of the resource and by the challenges inherent in any mining operation. As a threshold issue, the procuring entity should decide whether it will establish a dedicated coal mine or contract for the supply / import of coal. As coal is a traded commodity, the procuring entity will need to anticipate the potential for supply constraints, particularly if there are competing coal consumers in the market. Rather than procuring coal directly, the procuring entity may decide that the private sector is better placed to develop a coal supply. In either case, a study of the thermal quality of the coal, the potential for economic recovery (if a new mine is to be developed), and the costs associated with processing and delivery of the coal, will be necessary. Coal production also requires significant amounts of land, and land acquisition costs should be carefully considered alongside the resource assessment.

Technological Considerations

Where the objective is to develop a specific technology, policymakers may want to seek to design a procurement process, either competitive tender or direct negotiation, which focuses on procuring a specific technology such as solar, wind or nuclear technology. If, however, the objective is to procure power at the most economic rate, then the procurement planning may be technology-neutral, in which case, there could be a competition involving bidders proposing to deploy different technologies. However, if the government intends to utilise credit enhancement instruments, such as the partial risk guarantee provided

by some multilateral and bilateral development institutions, there is a need to consider that these institutions may have some technology-related considerations; for instance, some of them may not support coal technology due to environmental considerations.

In some instances, the policy objective of government may accord higher priority to equipment durability, especially where the government is considering a build-own-operate-transfer (BOOT) type of arrangement under which the generation plant reverts to government ownership at the end of the PPA term. In this context, technological / equipment specifications could be included, such as requiring certification and compliance to stipulated international standards.

The choice of coal technology has a bearing on the environmental considerations. Given the global shift towards lower carbon power generation technologies, new cleaner coal technologies have been developed to adapt to the changing landscape. The choice of coal technology will then direct the environmental assessment as well as the environmental impact of the coal power plant.

Grid Capacity

The capacity of the grid to accept, transmit, and distribute, additional power without associated expensive systems upgrades is an important but often overlooked aspect of procurement planning. The government should consider the extent to which the systems may require upgrades and how such upgrades will be funded, plus the impact that all this would have on the volume and price of the power to be purchased. The absorption capacity of the grid is even more important when it comes to the introduction of intermittent renewable energy into the energy mix. Integration of intermittent power on the grid above a certain limit

will affect the stability of the system. Grid absorption study for intermittent power is crucial to establish that limit the current grid infrastructure can take. To integrate intermittent power beyond this limit, investment in grid-stabilising technology, such as battery storage, should be undertaken. However, depending on the grid-stabilising technology, it could be a very expensive upgrade.

As part of the bidding process, a developer would need to undertake an assessment of the grid capacity to determine the price and the correct allocation of risk. This would require (before submitting the bid) interface with the transmission system provider and systems operator. However, it is recommended that grid capacity studies are carried out either by the procuring entity, offtaker, or the government as part of its planning considerations. Given the dynamic nature of the electricity systems, these studies should be carried out from time to time.

Related Infrastructure

Besides the grid, the government should also consider other aspects of infrastructure that could impact on power procurement, such as the fuel supply and the transportation network in the country.

Natural Gas

One of the most challenging aspects of gas-fired generation is the significant amount of related infrastructure that must be developed to produce, process and deliver gas to the generation facility. For domestic gas, the initial investment in drilling and production will lead to additional investments in gas processing and gas pipelines. For imported gas, the infrastructure challenges are equally significant, with the need to build hundreds of kilometres of pipelines or large maritime import facilities. In either case, governments procuring gas-fired generation should approach the project as two simultaneous

procurements, one for complex and costly infrastructure and a second for the generation facility that will utilise that infrastructure.

Additionally, potential problems such as vandalism of the gas transportation network should be considered and adequate mitigating measures adopted.

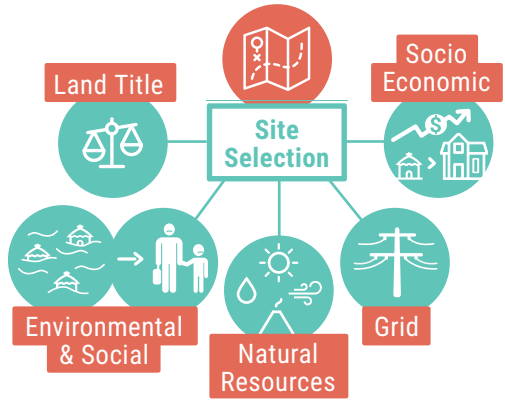
Oil

Power generation requires large volumes of fuel. The logistics supply chain of the liquid fuels to the power plant is a critical consideration.

Coal

Much like natural gas, the related infrastructure for coal-fired generation can be complex and require significant investment. In addition to the initial coal mine development costs, there will be a necessary investment in coal processing, transportation and storage. Transportation can be particularly challenging since the volume of coal needed for a generation facility may be considerable and could require the development of a dedicated rail line or port system. The costs of this associated infrastructure could be prohibitive.

Site Selection



In selecting a power project site, there are numerous criteria to determine the optimal location. Such criteria may be particular for each technology type. For example, in solar energy deployment, a key consideration is whether the intended sites have sufficient solar irradiation. Site selection also involves environmental and social considerations, such as whether the project would impact local ecosystems or require resettlement of local populations. Other factors include grid interconnection, fuel availability, and interfacing with local and national governmental agencies and project-affected people in relation to the site acquisition.

The project developer, especially in location-neutral procurement processes, could have the responsibility for evaluating candidate sites and selecting the most suitable site. To increase the chance of being successful in a competitive bid, they would also have the incentive to find the highest performing sites. Although attractive in principle, this type of mechanism may concentrate the development of projects in resource-rich locations.

Site selection constraints may be introduced to control the geographical distribution of energy deployment, and infrastructure access requirements (for example, access to the grid and gas infrastructure) can be enforced to ensure feasibility of integrating particular types of generation into the system (such as renewables) and ensuring socioeconomic development or regeneration of a particular region or regions.

> *Example of Site Selection Policy:*
>
> In the German solar PV auction in April 2015, location requirements were introduced in order to avoid competition in the land usage between energy and food production.
>
> Bidders for the Ugandan GET FiT facility were able to choose their sites, but the pre-qualification stage included the provision that projects could not be located more than 3km from the grid. An additional requirement included in the RfP documentation was the inclusion of priority zones close to load centres and sufficient grid capacity.

There are several instances in which the government assumes the site selection responsibility. In this regard, considerations may include access to shared infrastructure and targeting of economic development opportunities. For thermal projects, access to a suitable fuel supply is essential as the cost of the fuel supply infrastructure may serve multiple end-users, including those of power generation projects. Liquefied natural gas importation infrastructure is an example of shared infrastructure.

The quest for targeted economic development in the country may also see the government playing an active role in site selection for power generation projects.

One important upside of the government selecting the site and conducting the site-related studies is that it can drastically reduce the costs for bidders as they do not need to invest in identifying and securing the land, carrying out resource assessments, studying grid connection, and assessing fuel supply options for each potential site. This may also facilitate the licensing procedure itself which can be critical in bringing the projects online and in time. The potential weakness of the government assuming responsibility for the site selection, however, is that the government may not necessarily select the most optimal sites, which may require some level of expertise and resources (importantly, financial resources) that may not be available to the government.

The Role of External Advisors

The preparation and procurement of power projects are some of the more complex and expensive undertakings that governments will embark upon. Procuring entities that have not developed or structured power project procurements of this nature in the past may not have the internal capacity and / or expertise to properly address the intricacies involved in these procurements. As such, they could experience delays in the procurement process or even fail to procure the project, which can be an expensive lesson to learn. To try and avoid this, the procuring entity or the host government may opt to acquire the services of external advisors who have specific expertise in this area.

The competencies required to design and implement power project procurement processes are at the same time specific and diverse; the knowledge of what constitutes standard market practice and what is considered bankable by investors and lenders is continuously evolving with time and may be region-specific. Legal, commercial, engineering, environmental, social, and financial competencies are required, and such knowledge needs to be complemented by actual transaction experience.

Having assessed the requirements for the relevant power project procurement and assessed any existing gaps in the capacity and capabilities of institutional personnel, the procuring entity should be in a good position to prepare terms of reference for the appointment of external advisors.

The services relevant for a power project transaction, are listed below.

- Legal: law firms specialised in emerging market infrastructure, corporate and project financings.

- Financial: investment banks, accounting and auditing consultants, or financial boutiques specialising in IPPs, PPPs and project finance.
- Engineering: provided by either large, international consulting firms with multi-sectoral practices, capable of drawing on a range of experts from a variety of sectors, or smaller organisations specialised only in one particular sub-sector (i.e. solar, wind, hydropower, etc.).
- Environmental and socioeconomic: consulting firms with knowledge of the performance frameworks adopted by the major international lenders (such as the Equator Principles).

These services can be provided by private advisory firms acting independently, in consortia, or under the umbrella of a transaction advisor with a very broad advisory mandate. Many multilateral development banks offer transaction advisory services and can offer a complete package to the procuring entity, leading and coordinating the work of other advisors under their direction and guidance. With their global presence, bilateral and multilateral institutions can be a source of invaluable experience to draw upon. Many provide transaction advisory services directly; others provide funding that can be used to hire private sector advisors. Multilateral and bilateral organisations can also provide capacity building support to the procuring entity (and the government) to develop in-house expertise.

How to Select External Advisors

Some PPP frameworks include specific provisions for the engagement of transaction advisors. There may also be national procurement laws which must be adhered to, stipulating the procedure for the engagement of transaction advisors and consultants by the government.

In addition, when selecting advisors, procurement entities should be mindful of several factors:

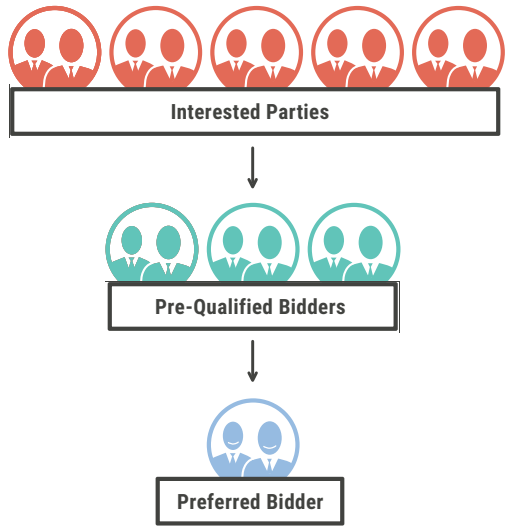
- Commitment: given the tendency of the timelines of procurement processes to be subject to slippage, the contract should provide an incentive to the advisor to remain committed to the transaction in the long-term, weathering any delays.
- Costs: there should be a clearly set out methodology for dealing with costs, including cost estimates.
- Competence and experience: the reputation, trust and competencies of the team leader and its team members matter as much as those of the firm.
- Conflict of interest: advisors may have a close working relationship with potential investors. This is partly inevitable: the best advisors will have a portfolio of contracts with multiple clients. This may not necessarily be detrimental to the project. By working with a multitude of investors, the advisor will have a better understanding of the market. However, this may create the perception that the advisor will not necessarily act in the best interests of the procuring entity. The impact of the conflicts may be mitigated in the contract by requiring full disclosure of actual or potential conflicts in the bidding documents for procuring transaction advisers, restricting the disclosure of confidential information, or requiring separation of teams.

Introducing Procurement Types

Established Procurement Models

Procuring entities have used a variety of procurement processes to select power projects. These processes are sometimes referred to by different names in different countries. Although it can be difficult to fit the wide variety of practices into neat categories, this handbook will use the categories described below as a framework for discussing the different processes. These processes will be described in more detail in subsequent sections.

Competitive Tenders



A competitive tender (sometimes also called an auction or competitive bidding process) is a process initiated by a procuring entity to select the sponsors that will develop a power project through a competitive process. It is designed to harness the power of competition to achieve

the objectives of the procuring entity. These objectives usually include a lower overall cost of electricity from the power project, but may also include other objectives such as local content or the development of projects in particular regions. Bids are therefore evaluated primarily on price, but may also include additional evaluation criteria.

Competitive tenders can be open tenders or restricted tenders. Open competitive tenders are initiated by publishing the opportunity. Any interested party that meets the pre-qualification criteria and is named as a pre-qualified bidder or shortlisted bidder may participate in the tender by submitting a proposal. These tenders are also referred to as international competitive bidding. An open competitive tender may be structured to procure a single or multiple projects (also using multiple rounds of bidding).

When establishing multiple projects, procuring entities can select to procure a specific amount of installed generating capacity (usually expressed in MW), or a specific amount of generated electricity (expressed in MWh); the majority of open tenders are capacity-based.

Restricted tenders are competitive tenders that are restricted to a group of bidders identified by the procuring entity. Only companies invited to participate in the tender by the procuring entity may participate in a restricted tender.

Direct Negotiations

As the name suggests, a procuring entity can procure a power project through direct negotiations with a sponsor or group of sponsors. The direct negotiations may be initiated by the procuring entity or by the sponsors. In either case, the procuring entity must be careful to ensure that it is permitted to procure the power projects through direct negotiations under applicable law.

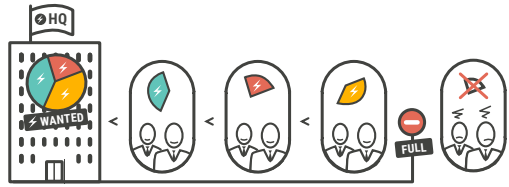
> **PRACTICE TIP:** Power procurement has been mostly through direct negotiations in sub-Saharan Africa, in the course of gradually opening up the electricity market to private generation investment. Having tested the waters and developed some track record, the region is in the process of gradual transition to competitive procurement. Lessons learned through direct negotiations often help with the structuring of competitive procurement tenders.

If the negotiations are initiated by the sponsors, then the procuring entity is said to be reacting to an unsolicited proposal. Direct negotiations are not, however, the only way a procuring entity may react to an unsolicited proposal. The procuring entities options are

driven by each country's legal framework. These options are explored in Chapter 5-8.

Expansion of power projects is another opportunity for direct negotiations. An existing power project may have access to spare fuel-handling capacity, spare transmission capacity, and other associated facilities, the capacity of which can be increased at little or no cost. In these circumstances, an offtaker's best option may be to increase the capacity of an existing power project. The procuring entity should evaluate whether an expansion can be procured competitively.

Feed-in Tariffs



A feed-in tariff is a mechanism designed to encourage investment in particular types of power projects, usually by establishing an administratively-set price. Feed-in tariffs have, for example, been used to encourage investment in renewable energy projects that use certain technologies or small or medium size power projects. Feed-in tariffs have also been used to incentivise investment in challenging market segments by, for example, establishing a tariff for projects that develop mini-grids in rural areas. FiT programs are usually not limited to a single project, but rather set a specific amount of capacity (MW) to procure, or alternatively establish a timeframe within which eligible projects can be developed and contracted. While bidders, therefore, do not compete on a price basis under a FiT program, they do compete on

a number of other, policy-driven criteria such as, for example, speed, quality and socio-economic development benefits. From a project developer's perspective, a FiT programme potentially lowers the risk of an unsuccessful bid.

Competitive Procurement

Overview of Competitive Procurement

Expressions of Interest

Request for Qualifications

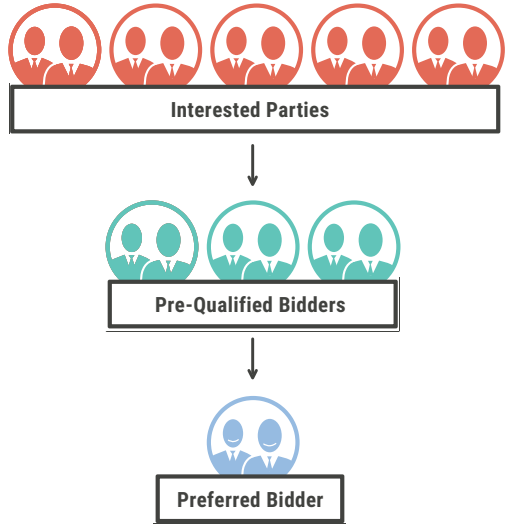
Request for Proposals

Evaluation & Award

Overview of Competitive Procurement

Competitive tenders are an increasingly popular choice for the procurement of power projects. This procurement structure requires investors to compete directly against each other, on the same terms, for the opportunity to develop a project (or projects). The competition is typically based on price but may be focused on the quality of the technology, speed of development or other factors that reflect the government's priorities. Variations in competitive tenders will differ by jurisdiction due to differences in regulatory environment and overall procurement objectives.

In this handbook, two different types of competitive tenders are considered: i) open tenders, and ii) restricted tenders. Although each process has advantages and disadvantages, either type of competitive tender will require a carefully planned procurement process that features objective and transparent bidding criteria.



How many stages in a competitive procurement?

There are generally between one and three stages in a competitive procurement. The three stages described further in this handbook are:

1. Expression of Interest (EoI)
2. Request for Qualification (RfQ)
3. Request for Proposal (RfP)

The terms EoI and RfQ are sometimes used interchangeably depending on the country. The number of stages also vary based on the procurement rules for a particular country. The use of EoIs and RfQs are optional stages based on a number of factors explored below.

PRACTICE TIP: Two-stage tenders are a common approach to competitive procurement. This is a process that includes a two-stage open tender which is expanded from the normal RfP stage to also include an RfQ stage. The RfQ stage allows the procuring entity to shortlist qualified bidders following the open call for proposals, through a defined bid evaluation process. The procuring entity then proceeds to the RfP stage and selects a preferred bidder in the same manner as the open tender.

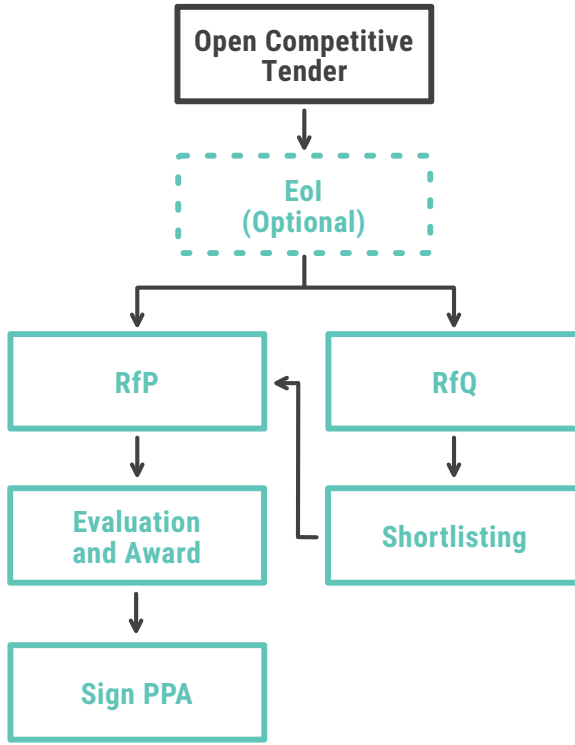
Open Tenders

An open tender is a competitive tender process that is accessible to all interested parties. Open tendering is also known as international competitive bidding, open competitive bidding, open competition, or open solicitation. Under an open tender, the procuring entity publishes the opportunity in a publicly available forum and invites interested parties to submit a proposal for consideration. The published call for tenders can take many forms but is often identified as an invitation to tender, an invitation to bid, or an RfP. To further develop the procurement process, the publication of the tender may be preceded by an EoI stage, which is discussed in chapter Expressions of Interest (see page 83).

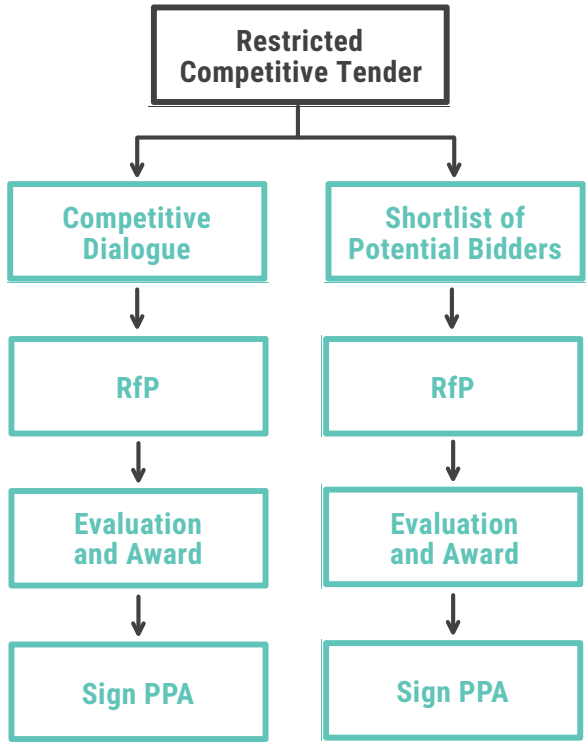
The objective of open tendering is to create a platform that maximises competition while preserving the integrity of the procurement process through detailed technical specifications in the RfP and robust bid evaluation mechanisms.

The key elements of open tendering are:

- bid open to anyone
- standardised and non-negotiable procurement documents
- defined qualification criteria
- clear bid scoring methodology
- award to a preferred bidder based on the highest score.


Open Competitive Tender
EoI (Optional)
RfP
RfQ
Evaluation and Award
Shortlisting
Sign PPA

Restricted Tenders



While a restricted tender (also known as closed tendering or selective tendering) is based on a competitive process, it is distinguished from an open tender in that the opportunity to bid is limited to a select group of identified parties.

The restricted tender begins with the exercise, at the procuring entity's discretion, to identify a limited group of potential bidders. Many factors may influence the procuring entity's decision to restrict the number of parties invited to bid, for example: the level of specialised skills or knowledge required to construct a power project, expediency

in the completion of the power project, acceleration of the procurement process, and market appetite. The procuring entity may identify the group of qualified parties through engagement with stakeholders. The identified parties are given the opportunity to submit an RfP which goes through a bid evaluation process administered by the procuring entity. The elements of the open tendering process then apply to the evaluation and adjudication of the preferred bidder.

There are instances when post-award negotiations between the procuring entity and preferred bidder are unable to produce a final agreement. Rather than reopening the tender process, for the sake of expediency and efficiency the procuring entity may instead begin negotiating with a reserve bidder. If negotiations again fail to produce a final agreement with the reserve bidder, the procurement procedures may allow the procuring entity to proceed with direct negotiations with other qualified bidders.

Competitive Dialogue

For complex transactions or project structures, to further refine the project specifications the procuring entity may require input from pre-identified bidders before issuance of the RfP. Before the issuance of the RfP, the procuring entity may invite select identified bidders to engage in a dialogue on the project specifications. The project specifications dialogue could include identification of the best technical solutions, adjustment of the commercial structure and re-allocation of risk amongst project stakeholders. The procuring entity may then publish the refined RfP to all pre-identified bidders. The elements of the open tendering process then apply to the evaluation and adjudication of the preferred bidder.

Key Points

- Competitive procurement can be undertaken by open tendering or restricted tendering.
- The objective of open tendering is to maximise competition and transparency.
- The key elements of open tendering are defined qualification criteria and robust bid evaluation mechanisms.
- A restricted tender is a competitive tender open only to a smaller group of select parties.
- For complex projects, bidders may enter into a competitive dialogue process with the procuring entity.

Expressions of Interest

As a potential first step to launch a procurement process, the procuring entity may benefit from direct consultation with the market through a formal information-seeking exercise. This form of market-sounding can provide critically important insight into a successful project. It forces the procuring entity to focus its vision for the project and test underlying assumptions through the feedback from potential bidders. This information sharing exercise is termed an EoI or Request for Information.

To ensure that the EoI garners as broad a response as possible, the procuring entity can advertise the invitation widely, for example, in national newspapers, describing the proposed project in general terms and inviting potential investors to express their interest in the opportunity, provide views on project design/project structure and raise other matters for the procuring entity's consideration. The procuring entity can use this opportunity to seek feedback from bidders about their preference and reasoning for site selection, project size and generation tariff expectations.

> **PRACTICE TIP:** If a procuring entity elects to take advantage of the EoI process, it is important that those who are invited to comment are provided sufficient time to prepare thoroughly reasoned and considerate remarks.

At the conclusion of the EoI stage, the procuring entity will ideally have a sense of market appetite for the potential project based on the number of respondents and will have received relevant feedback to inform the optimal design of the procurement approach and RfP specification.

Considerations for Issuing an Expression of Interest

In deciding whether to issue an EoI, the procuring entity should consider whether the benefits are relevant to the current procurement process. An EoI can be especially beneficial when a procuring entity is undertaking the establishment of a new programme or deployment of untested technology since the EoI responses can offer insight into the market's response to this new undertaking. Feedback can also be helpful when a new procurement process is adopted by the procuring entity since the EoI process would sensitise the market to the reforms and deepen stakeholder engagement.

The EoI process is not without risks, however. The procuring entity may be swayed by EoI responses that do not reflect a market consensus but rather reflect a narrow or incomplete view. It is important for the procuring entity to filter the information it receives from the EoI process and balance it with its own experience and the counsel it receives from advisors.

> **PRACTICE TIP:** For the EoI process to be efficient and practical, it is important that the procuring entity can use and apply the information it receives without facing confidentiality restrictions from EoI respondents. This can be achieved by a clear disclaimer in the published EoI that the procuring entity will not treat information received as confidential.

Key Points

Early market engagement and sounding can have some advantages. The EoI process can serve to:

- raise public awareness about the potential project or programme;
- test market and stakeholder appetite to the procurement approach;
- understand the availability of funding for the power project;
- understand the makeup of developers interested in bidding (international or local companies, track record, reputation, etc);
- test site preferences to inform pre-feasibility and feasibility studies and ancillary infrastructure requirements;
- assess potential land conflict issues;
- stress test assumptions establishing procurement thresholds (tariff cap levels or qualification criteria thresholds).

Request for Qualifications

During the RfQ stage, the procuring entity shortlists interested parties which respond to the RfQ and which meet established pre-qualification criteria. In the next stage, the procuring entity shares the RfP only with RfQ-qualified bidders who will subsequently be evaluated during the selection process to identify a preferred bidder.

Though a multi-stage process may compromise the objective of expediency, it can help achieve the dual objectives of efficiency and value for money. For the procuring entity, the RfQ qualification stage can ensure that RfP bidders have the necessary qualifications and experience to develop the project. This streamlines the RfP review and evaluation process a procuring entity must undertake to select a preferred bidder. In certain jurisdictions, procuring entities will publish the names of pre-qualified bidders, providing transparency to the procurement process.

It is important that the appropriate threshold of qualification is set during the RfQ stage. Once a developer has been pre-qualified, it will be able to participate in the tender process through to conclusion. For this reason, the pre-qualification process is the procuring entity's first and (with limited exception) only opportunity to decline to do business with a particular potential bidder on the basis that they do not have the technical or financial capability to develop the project. Otherwise, the procuring entity risks qualifying too many bidders and this would reduce its ability to streamline the evaluation and adjudication process.

From the procuring entity's perspective, a multi-step tender is necessary because it ensures that it only needs to invest time in consultations with serious bidders which are qualified to deliver the project. From a bidder’s perspective, a multi-step tender allows the

bidders to see who they are competing against. This gives them some assurance that they will not need to compete against bidders which are not qualified to deliver the project and which may engage, intentionally or unintentionally, in unscrupulous practices such as submitting a proposal they cannot honour. It also gives them a view of the number of bidders against which they will be competing – the number should be large enough to ensure that there is competitive tension, but not so large that bidders are unwilling to invest time or funds in the development of a competitive proposal.

The pre-qualification criteria should require interested parties to demonstrate that they have the technical and legal capability and financial strength to develop the project.

> **PRACTICE TIP:** If a procuring entity only has the capacity or desire to consider a few submissions, then they should design the RfQ stage with a stricter standard. Procuring entities should be conscious of ending up with only one or two bidders as this may be in conflict with national procurement frameworks requiring competition. If a procuring entity makes the RfQ compliance too expensive or burdensome, a government may eliminate potential bidders by creating higher barriers to entry.

Financial Criteria

An important factor of the RfQ is whether the bidder has the financial capacity and capability to develop the project. The RfQ considers the current financial and market standing of the bidders, their ability to arrange the capital to fund the project, and their ability to provide security to carry out the project.

In general terms, prospective bidders are usually required to submit financial statements for a number of fiscal years. These financial statements must demonstrate either:

- the ability to contribute equity from short-term assets on the balance sheet or from retained earnings; or
- the ability to raise the funds that will be contributed as equity by borrowing from lenders or the capital markets.

Commonly used financial metrics such as financial indebtedness to earnings before interest taxation, depreciation, and amortisation (EBITDA) can be used as a proxy for the proposers's ability to raise capital that could be contributed to a special purpose vehicle as equity. Tests that are stated in terms of the net assets of a company or the annual revenues of a company are also commonly seen. These tests should be carefully stated to apply (or not apply) to parents and other affiliates of an entity that is part of a consortium.

The procuring entity needs to consider whether it also wants evidence of the creditworthiness of the equity participants as this is a factor taken into account by financiers in assessing the funding terms for equity sponsors, and in this instance, either results in better funding terms or onerous funding terms for the project. This will ultimately filter through to the tariff.

Given the proliferation of private equity firms seeking to invest in the power sector, special attention should be paid to the unique financial and legal structures of private equity funds. Many of these funds are structured so that their investors only invest in the fund when the fund calls on them to do so. These investors will have committed to invest under written agreements, but will not actually contribute money to the fund until the fund can deploy the capital. For this reason, a fund may not be able to meet a financial statement test in spite of having ready access to capital. This also impacts technical qualifications, and both should be addressed in the RFQ.

Technical Criteria

The technical criteria are usually stated in terms of the track record of the bidder in developing and/or operating power projects that are similar in size and technology to the project to be developed. The required technical strength varies greatly by technology and site. The developer of a photovoltaic solar project could, for example, readily contract out virtually every aspect of the construction, operation, and management of such a project. In contrast, the developer of a large hydroelectric dam or thermal power plant would need significantly more involvement in order to negotiate and manage both the Engineering Procurement and Construction (EPC) and the Operation and Maintenance (O&M) contracts. Even so, care should be taken not to require experience that only a few firms worldwide can demonstrate. Or, if such experience is truly necessary, then the decision to require it should be made in the knowledge that the requirements could limit competition.

These criteria can also consider the composition and structure of the respondents, along with the skills and experience of key subcontractors, including their expertise in the procurement of key equipment, construction, operations, project management, risk management, quality assurance, and ability to meet the declared timetable. It is also important for projects to demonstrate their understanding of the key project demands or complexities.

Legal Criteria

The legal requirements at the stage of the RfQ include information on the bidding entity, or, where a consortium or joint venture company is responding to the bid, the details of the members of the consortium and a confirmation of their commitment to the consortium.

Restrictions are normally placed on a change in the bidding entity without the consent of the procuring entity. These criteria may also include representations and warranties or an affidavit attesting to the good standing of the bidder (such as the absence of any civil or criminal penalty) in its jurisdiction of incorporation and all other relevant jurisdictions.

The aim is to demonstrate that it would be prudent and palatable to do business with a particular bidder or consortium of bidders. If additional information is required for a particular procuring entity to make this determination, then the RfQ should request it.

> **PRACTICE TIP:** Many procuring entities come under tremendous time pressure to promote private power projects, for various reasons. The RfQ is the first project-specific document that is developed in the course of conducting a tender. As a result, the development of the RfQ is often rushed and/or undertaken without the advice of advisors in an effort to fast-track the promotion of the project. Many people mistakenly believe that the RfQ will be replaced by the RfP, and therefore is of little importance. As we will see, the RfQ will set the stage for the entire procurement process and will continue to govern some aspects of the tender all the way through to the award of the contract(s). Mistakes in the development of the RfQ have therefore proven to be some of the most difficult mistakes to correct after they occur.

Key Points

- The procuring entity can conduct a multi-stage competitive tender. An EoI or an RfQ may be the first stage in a multi-stage process.
- During the RfQ stage, bidders are required to meet established pre-qualification criteria to demonstrate their technical capability and financial strength to develop the power project.

- The RfQ process culminates in a list of short-listed bidders who qualify to proceed to the next stage of procurement, being the RfP stage.

Request for Proposals

The next stage in a tender process is the release by the procuring entity of the RfP. Where a one-stage process is adopted, the RfP initiates the tender. The RfP leads to the selection of a preferred bidder, based on the responses to the RfP.

The principal objectives of an RfP are to describe in some detail the opportunity for which bidders will be bidding and the process from the issuance of the RfP through to the award of the contract(s), including consultative processes with the procuring entity. The tender documentation will include the project agreements to be executed at the conclusion of the tender.

Describing the Opportunity

The RFP should summarise the opportunity for which the procuring entity is seeking proposals. Detailed information can be included in a data room, but the RFP should, at a minimum, describe the project, the site(s) (if selected by the offtaker), the nature of the diligence already performed, the list of studies and raw information that are available, and instructions on how to conduct the due diligence, including how to perform site visits.

> **PRACTICE TIP:** It is now common practice for the procuring entity to make a data room (virtual and/or physical) available to bidders.

Describing the Process

The RfP is a tender document that is used in both an open and restricted tender process. Regardless of which of these procedures the procuring entity intends to use, the RfP should describe the process in detail. Before bidders submit their proposals, the procuring entity will usually host at least one and perhaps multiple bidders' conferences. These bidders' conferences will include general question and answer sessions, networking opportunities, and opportunities for guided site visits.

One or more of the bidders' conferences may include an opportunity for pre-qualified bidders to meet in a one-on-one session with the procuring entity and its advisors. However, the one-on-one sessions need to be aligned with the objectives of transparency and fairness, and should not be an opportunity for direct negotiations.

Bidders also have an opportunity to ask for clarifications in writing. These questions and the answers generally are shared in writing with all bidders. It is customary to include a firm deadline for the submission of requests for clarification.

Setting the Evaluation Criteria

Two Step Evaluation Approach

Under the two-step evaluation approach, the tender evaluation committee established by the procuring entity reviews and scores the technical proposal first. In scoring the technical proposals, the tender evaluation committee should use clearly defined criteria set out in the RfP and known to the bidders in advance.

The tender evaluation committee will only open financial proposals submitted by bidders whose technical proposal achieves a minimum score specified in the RfP. The tender evaluation committee then evaluates the financial proposals according to the financial evaluation criteria and declares the preferred bidder to be the bidder that submitted the financial proposal that results in the highest evaluation score.

Combined Score Approach

Under the combined score approach, the tender evaluation committee reviews and scores the technical proposals first, using a set of criteria specified in the RfP. As with the two-step approach, the tender evaluation committee opens financial proposals only after the technical proposals have been scored, and only those financial proposals submitted by bidders whose technical proposal achieves a minimum score specified in the RfP.

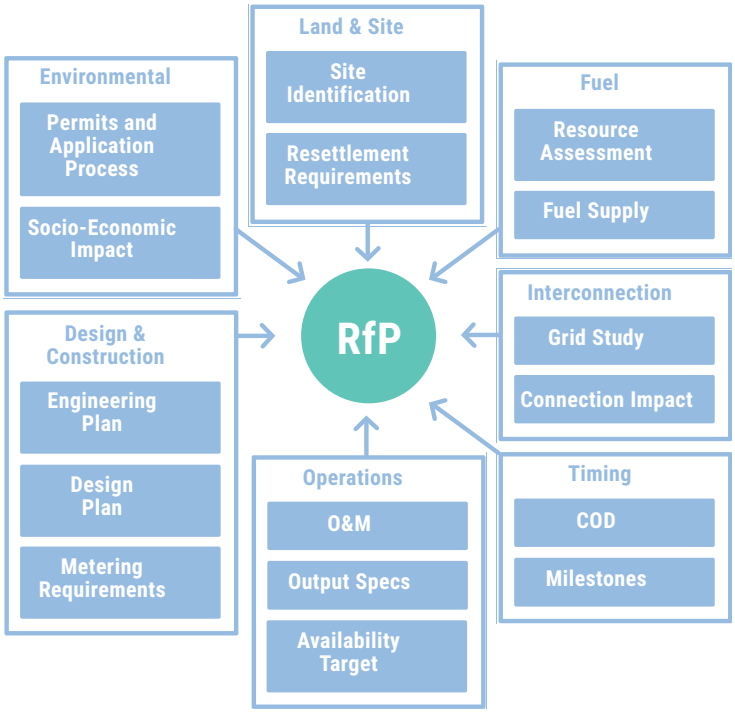
Following the evaluation of the technical proposals, the financial proposals are evaluated to determine a financial score. The financial score and the technical score are then combined to result in an overall score. The highest scoring proposal wins.

The advantage of this approach is that it allows the procuring entity to explicitly consider the technical approach proposed by the bidders. In unusually complex projects in which bidders are given wide discretion in how they approach a technical problem, such as in a large hydroelectric project, this can be valuable. This approach can also be valuable where the procuring entity wishes to explicitly consider factors other than price and is affirmatively willing to pay a higher price for electricity in order to achieve a range of given outcomes.

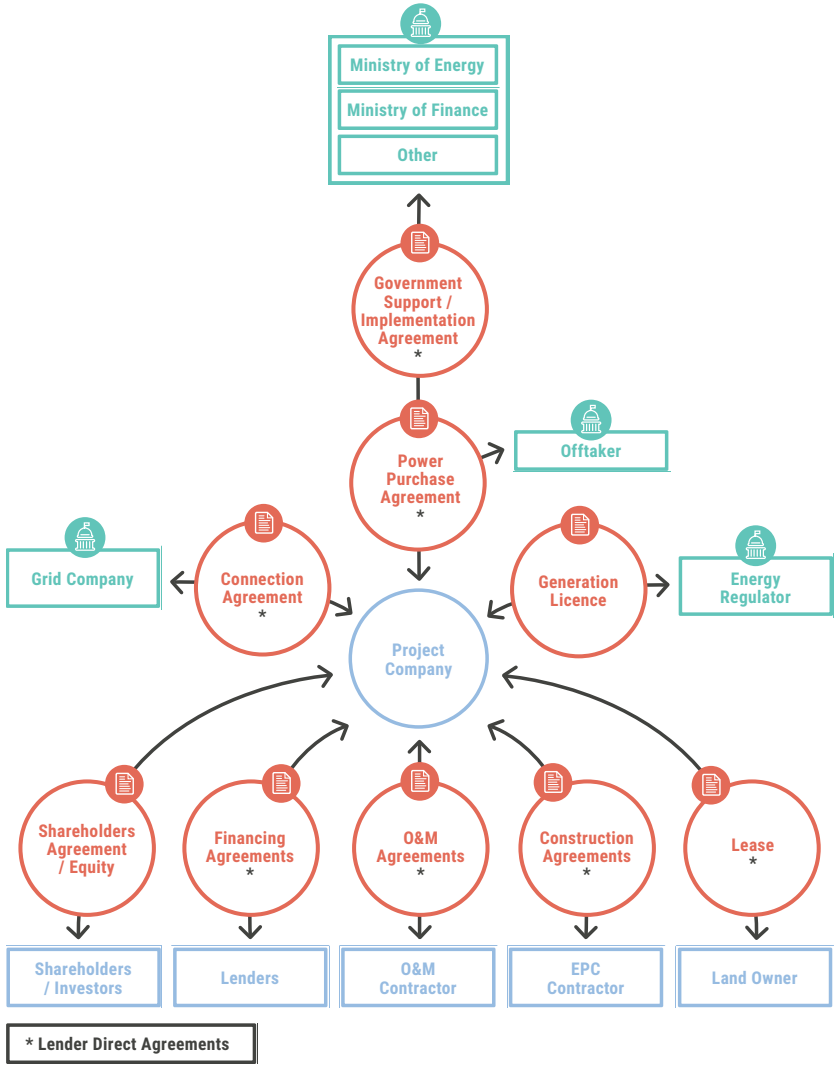
PRACTICE TIP: Unless the tender and the project documents are carefully structured, the Combined Score approach may reduce transparency by attaching significant weight to the technical score, which may be subjective due to potentially different views on the interpretation and strength of the technical proposal.

Defining Project Document Strategy

Depending on the objectives, factors considered, and planning stage, an open tender could typically include the non-exhaustive lists of components indicated in the diagram below.



Project Documents Included in the RFP Package



Where a power project is funded on a project finance basis, there is a matrix of project documentation entered into by the different role players in the power project.

In a typical power project procurement, the key documents that should be included in the RfP include:

- a power purchase agreement
- an implementation agreement /concession agreement/ government support package.

Ancillary documents that may be included in the RfP include:

- a grid connection agreement
- various permits and licences
- any land or site documentation.

There has been a trend in recent years, especially in the renewable energy technology space, for procuring entities to issue standardised project agreements with little room for the bidder to raise exceptions. The risk allocation is, therefore, "fixed" by the procuring entity; the bidder in its bid response would have to price-in that specific risk allocation in order to arrive at its bid price. This approach is favoured by those bidders who prefer certainty in understanding the complete terms and conditions of their bid. It also gives such bidders comfort in the knowledge that they are measured on a like-for-like basis with their competitors (unlike the case where exceptions are allowed or where competing bidders provide different price assumptions). This approach requires very detailed analysis by the procuring entity and its advisors to ensure that the non-negotiable suite of documents presented to bidders are bankable.

Example of Bidding Program Using Standardised Documentation:

Scaling Solar is an approach by the World Bank Group that aims to rapidly develop grid-connected, privately owned utility-scale solar PV projects at significant scale in Sub-Saharan Africa. It uses a range of World Bank resources in a "one-stop shop" package, including advisory services, standardised (bankable) contracts (PPA, Government Support Agreement) and documentation, and offers of stapled financing, guarantees and insurance (which bidders are free to apply for).

As part of the bid response, procuring entities often require that the bidder include the O&M and EPC term sheets for the bidder to demonstrate that they have secured EPC and O&M subcontractors.

Below is a diagrammatic representation of a typical project-financed power plant structure. This shows both the complexity of the documentation that will be executed and the large number of parties (including several governmental parties; for more detail see stakeholders section) that will enter into agreements in connection with the project, and whose participation must be coordinated and managed.

In a typical IPP procurement, the key documents the offtaker and the government will be required to enter into include the power purchase agreement and an implementation agreement, concession agreement, or other government support agreement. Ancillary documents will include a grid connection agreement, various permits and licences, and any land or site documentation.

Bid Bonds

A bid bond (or proposal security) aims to ensure that bidders remain committed to the process, do not withdraw without due cause prior to

the execution of the project agreements, and do not attempt to introduce changes to the terms of the project agreements. Bid bonds are typically required to take the form of a letter of credit or bank guarantee.

> **PRACTICE TIP:** National Procurement Acts may set out guidance for officials in managing bid bonds. A procuring entity should balance a number of competing objectives in setting requirements for bid bonds. For example, the credit rating of the issuing bank should be high enough to ensure payment on demand, but, potentially, low enough to allow for the participation of local banks. The maximum amount available to be drawn under the proposal security should be large enough to ensure the commitment of bidders to the procurement process. Requirements to post sizeable bid bonds may prevent smaller project developers from competing for a project, thereby reducing competition.

The RfP should clearly specify the circumstances under which a procuring entity may draw on the proposal security. Typically, these circumstances include:

- the bidder's untimely withdrawal of its proposal during the bid validity period;
- the failure of the preferred bidder to execute the project agreements;
- an attempt by the bidder to reopen negotiations on contract terms to which it did not expressly take exception when it submitted its bid;
- the inclusion of false or misleading statements by the bidder in its proposal documents;
- any form of anti-competitive behaviour by the bidder during the procurement process;
- any form of bribery or corruption by the bidder during the procurement process.

Key Points

- The RfP is either the second stage in a two-stage tender process or the tender documents used in a one-stage procurement process.
- The RfP is used in both open and restricted tender processes.
- The technical proposals and financial proposals can be evaluated either in a two-step evaluation approach or a combined-score approach.
- The two-step evaluation approach is where the technical proposals are scored first and only those bidders who achieve a minimum technical score qualify to have their financial proposals evaluated.
- In the combined-score approach, the scores on the financial and technical proposals are combined to obtain an overall score.
- The RfP leads to the appointment of a preferred bidder.
- One of the important considerations in the design of the RfP is whether to allow the bidders to raise exceptions. The extent to which exceptions may be raised by the bidder should be clearly set out in the RfP. The difficulty with extensive exceptions for the procuring entity is the manner in which to score the technical proposal based on the exceptions raised.
- Where a power project is funded on a project finance basis, there is a matrix of project documentation to be concluded by the parties. The risk allocation in these agreements are key for the bidder to determine the price of its bid.
- A bid bond is a form of security required from each pre-qualified bidder as security for its obligations under the RfP. The purpose of the bid bond is to ensure that bidders remain committed to the bid process and are not able to withdraw from the procurement process without due course.

Evaluation and Award

Technical Evaluation

The purpose of the technical evaluation is primarily to ensure that (i) the technical solution proposed by the bidder meets the requirements of the RfP, and (ii) that the bidder has proposed a credible plan to raise the debt financing required for the project.

In the case of a two-step evaluation, there is both a ranking component and a pass / fail component to the technical evaluation. The principal objective is to rank the quality of the technical solution and the credibility of the financing plan between proposals. In other words, the intention is to choose the best technical proposal and to rank the remainder of the technical proposals in order of their quality. Only those technical proposals that meet a minimum threshold will pass the pass/fail test. In these tenders, the consequence of failing the pass/fail component of the technical evaluation is that the tender evaluation committee will not open the financial proposal that accompanied the failed technical proposal.

The usual approach is to set out a number of elements of the technical proposal that will be evaluated and to state that the effectiveness of that part of the technical proposal at achieving the desired outcome will be measured and scored objectively. The weighting factor of each element (the maximum number of points that can be awarded in respect of each element) should also be specified.

PRACTICE TIP: Developing a more detailed evaluation guide that will instruct the work of the tender evaluation committee that will not be made available to bidders should be avoided because it reduces transparency and could be challenged under the laws of many countries. The technical evaluation criteria should be described in the RfP. In order to achieve a transparent process, the technical evaluation criteria is the only set of criteria the tender evaluation committee should apply in evaluating technical proposals.

A procuring entity should carefully consider how detailed the technical evaluation criteria should be. An overly vague set of technical evaluation criteria may result in widely varying proposals and challenges by bidders claiming that the technical scoring process was too subjective. In contrast, an overly detailed set of technical evaluation criteria can prevent bidders from proposing innovative ideas.

Financial Evaluation

Financial bids for power projects are generally compared on the levelised cost of electricity. The levelised cost of electricity refers to the net present value of the unit-cost of electricity over the lifetime of a power project.

Although the lowest levelised cost of electricity is usually the underlying objective, the bid evaluation criteria used in a particular tender for a power project will be tailored to the structure of the tariff that will be payable under the PPA. In general terms, tariffs are usually structured as energy-only tariffs or as capacity-based tariffs.

An energy-only tariff is a tariff under which the offtaker pays the project company a price per unit of energy actually generated by the project. They are commonly used for projects that are not dispatchable

by the offtaker, in other words, self-dispatchable by the power projects. These projects include wind farms, photovoltaic solar plants, and other projects that rely on an intermittent renewable primary energy resource. For energy-only tariffs, the lowest price per unit of energy that is bid will result in the lowest levelised cost of energy.

A capacity-based tariff is one under which the offtaker pays the project company a charge for making the capacity of the project available to the offtaker, regardless of whether the offtaker dispatches the project. That charge is known as the capacity charge. Depending on the technology and other factors, the offtaker may also pay a charge for each unit of energy generated. This charge is known as the energy charge, and it covers variable costs. For projects that use capacity-based tariffs, the bid which may result in the lowest levelised cost of electricity may not be immediately apparent because the net financial obligations of the offtaker will be impacted by the amount of the capacity charge, the amount of the energy charge, and the projected capacity utilisation factor for the project over the term of the PPA.

> **PRACTICE TIP:** For these projects, it is usually necessary for the procuring entity to construct a financial model that will be used to evaluate the financial proposals. The financial model will make appropriate assumptions as to the availability and the capacity utilisation factor that will be achieved over the term of the PPA. These assumptions will be the same for all bidders, and should be specified in the RfP, the data room, or the financial model itself.

Naming the Preferred Bidder

After the tender evaluation committee has evaluated the technical and financial proposals submitted by the bidders, the procuring entity names the pre-qualified bidder that obtained the highest aggregate

technical and financial score (in the case of a combined-score approach) as the preferred bidder. The awarding of preferred bidder status is a conditional award, subject to agreement on any exceptions or conditions of the bid. In the event that there are no exceptions or conditions, the awarding of the bid is final.

The bid bonds delivered by the other bidders are cancelled and returned, with the possible exception of the second ranked bidder, whose bond may be retained until the project agreements are executed.

If the terms of the RfP did not permit bidders to take exceptions to the draft project agreements, then the preferred bidder will be expected to organise the project company, cause the project company to execute the project agreements to which it will be a party, and execute any project agreements to which the sponsors will be party, all within a reasonable period of time after the procuring entity notifies the preferred bidder of its appointment.

If the terms of the RfP did permit the bidder to make exceptions to the terms of the draft project agreements, then the procuring entity and the sponsors will first negotiate the exceptions, then the agreements will be executed. The concept of exceptions and the negotiation of exceptions are discussed in the next chapter.

Negotiation of Exceptions

A mechanism to address the potential for exceptions to the scope of the RfP may be required.

The RfP should require bidders to clearly and specifically identify each exception they wish to make to the form of the evaluation of their technical proposal. Exceptions should be noted by marking up the

project agreements and these should be explained by the bidder in an explanatory note which often takes the form of a table of exceptions.

The procuring entity may, in its discretion, reject a technical proposal on the basis of the nature or by the number of exceptions taken by a pre-qualified bidder. A decision by the procuring entity to open and evaluate a financial proposal accompanying a technical proposal containing exceptions does not constitute an acceptance of the exceptions. Instead, it is an indication that the procuring entity is willing to discuss them.

After the award of preferred bidder status, the procuring entity may negotiate any the exceptions in the technical proposal submitted by the preferred bidder. Negotiations regarding the exceptions should conclude, and the project agreements should be executed, prior to the expiration of a period established in the RfP for the negotiation of exceptions.

The procuring entity should only entertain comments on the project agreements that are contained in the exceptions set out in the proposal submitted. If the procuring entity determines that it will not be feasible to agree on the exceptions within the negotiation period, then the procuring entity may name the second ranked bidder as the new preferred bidder.

Execute the Project Agreements

Once any exceptions have been agreed upon and reflected in the project agreements (to the extent agreed), the procuring entity will proceed to prepare the execution version of the project agreements and arrange for the signature of the project agreements. It is important for the procuring entity to ensure that it all of the regulatory approvals it

is required to obtain before it executes the agreements have been obtained. The same is true of the corporate or governmental authorisations that must be obtained in order to duly authorise the execution, delivery, and performance of the agreements.

Furthermore, lenders typically also require a legal opinion regarding the due authorisation, execution, and delivery of the project agreements, and their enforceability under applicable law. This opinion (or opinions) would usually be given by an independent legal advisor engaged by the procuring entity. In some countries, these opinions would be given by the Attorney General.

> **PRACTICE TIP:** Where the legal system requires the Attorney General to either approve the transaction documents or issue a legal opinion on the transaction, it would be prudent for the procuring entity to engage early enough with the Attorney General's office to ensure that they are familiar with the transaction and seek clarity on any aspects that are unclear to them.

After the project agreements have been executed, the parties to them begin to fulfil any conditions precedent to the obligations of the parties, including by achieving financial close.

Key Points

- In a one-step technical evaluation, the purpose of the technical evaluation is primarily to ensure that (i) the technical solution proposed by the bidder meets the requirements of the RfP, and (ii) that the bidder has proposed a credible plan to raise the debt financing required for the project.

- In a two-step technical evaluation, there is both a ranking component and a pass / fail component to the technical evaluation.
- The usual function of the financial evaluation is to select the project that will result in the lowest levelised cost of electricity.
- Procuring entities may need the flexibility to negotiate exceptions to the terms of the project agreements that are taken by bidders.

Direct Negotiations

Overview of Direct Negotiations

Process of Direct Negotiation

Overview of Direct Negotiations

Introduction

Negotiating a project with single or multiple developers without inviting other interested parties to engage in a procurement process is referred to as either a negotiated deal, a direct negotiation, or a sole-sourced power procurement. Procuring from a single entity can also be classified as solicited or unsolicited, depending on whether it is the procuring entity or the developer who initiates discussion and subsequent procurement. In most countries, the initial privately-financed power project is directly negotiated. This allows the procuring entity to gain practical experience and insight on how to work with a private partner to negotiate and implement a power project. Sole-sourced power projects comprise more than two-thirds of the IPPs contracted in sub-Saharan Africa (excluding South Africa) up to 2014.

Direct negotiation can also be a preferred method of procuring emergency power when a country is facing power shortages. Ideally, as a procuring entity gains a better understanding of what makes a project bankable and has started to sytematically plan the development of its power sector, it can transition to a competitive tender process to procure new power projects.

Rationale for Direct Negotiation

Direct negotiation (as opposed to initiating a competitive tender) is often utilised in early stages of market development in a country where there is a desire to procure power in response to development

objectives. This is often utilised in situations where the framework for competitive procurement is still being developed. It may also be used in unique situations, such as post-conflict environments, where there is a requirement for immediate power.

A procuring entity may also justify directly entering into negotiation with a developer who is uniquely positioned to provide power, either resulting in more affordable power, value for money or shorter development timelines. For example, the developer may have i) access to land well positioned to connect to nearby transmission and fuel supply infrastructure, ii) an innovative or unique technical or financial solution, iii) an existing operating project which can be expanded.

In the last case, the expansion of the initial project is often contemplated in the original PPA, requiring minimal amendments to existing project documentation to proceed with new construction. Expansion could involve:

- converting a simple cycle gas plant into a combined cycle plant;
- converting a liquid-fueled plant to a gas-fired plant;
- adding additional capacity with additional turbines, gensets or panels;
- adding storage or a applying a different technology to the same site.

> **PRACTICE TIP:** Expansion of existing projects can be faster than procuring new projects, given that the existing land and permitting is in place or only requires minor amendment, the grid connection already exists, and the contracts only require amendment rather than fresh negotiation.

Example of Direct Negotiation for Addressing Emergency Power Shortages

Due to the project's emergency nature, the Kribi 216MW gas-fired power project in Cameroon was sole-sourced to AES Corporation as majority shareholder, and the Republic of Cameroon as the minority shareholder. AES Corporation was chosen as it also had the concession (same equity shareholding) for the Cameroonian utility AES SONEL, which included 1000MW of captive generation. The government used an open-book pricing method with an agreed equity return.

Example of Direct Negotiation for Expanding Existing Plant Capacity

Olkaria III geothermal power plant in Kenya has undergone several expansions. The plant started with an installed capacity of 13 MW in 2000, and after four expansions this has increased to 129 MW. The latest expansion was agreed in 2016 and is in the process of being implemented.

Considerations

Generally, public bodies are tasked to make decisions in a fair and equitable manner. Amongst the procurement types, direct negotiation may help the procuring entity achieve objectives of efficiency and expediency but may be perceived as less transparent because power has not been procured through an open competitive process. This may also raise concerns about the affordability of the power procured and whether value for money has been achieved.

Direct negotiations may be permitted only in exceptional circumstances by both national procurement law (the general procurement act, the PPP law, or sector-specific legislation). Additional approvals or waivers may be required from the government if direct negotiations are only allowed in exceptional circumstances. The validity of how these approvals have been obtained and

documented is critical to ensure enforceability of the project agreements and avoid future legal challenges.

Key Points

A procuring entity should consider the following when choosing between competitive tender and direction negotiation:

- experience in partnering with the private sector to implement power projects;
- capacity to negotiate with the private sector to structure bankable projects;
- capacity to implement a competitive tender;
- the rationale and how to avoid having procurement awards legally challenged.

Process of Direct Negotiations

Though a developer typically initiates a direct negotiation process with an unsolicited project, the procuring entity can still ensure that the negotiated deal is market competitive and still achieves the objective of value for money, and ultimately affordability. This is usually achieved by introducing competition into some other aspect of the project negotiation, which can also improve transparency but may reduce expediency. To achieve a market-competitive deal, it is critical that the procuring entity has the capacity and experience required to negotiate with the developer. Technical and financial advisors can play an important role advising procuring entities about the advantages and disadvantages associated with the different methods of introducing competition discussed below.

Typical Process of Direct Negotiation

A power developer approaches the procuring entity after identifying an opportunity to produce power in a market. The developer may invest development capital in feasibility studies to demonstrate the opportunity's technical and commercial viability or simply identify a market opportunity based on a high-level resource assessment or government priority. The developer socialises the project with the government to garner some level of political and technical support for the deal, including efforts to obtain a Memorandum of Understanding (MoU) or another form of comfort from the procuring entity. The MoU is intended to demonstrate to both the procuring entity and the developer that there is a level of commitment from both sides to develop the unsolicited opportunity.

As previously discussed, the procuring entity must ensure that it has the legal ability to directly negotiate an unsolicited deal.

Introducing Competition

By its very nature, an unsolicited proposal which becomes a negotiated deal is the result of a non-competitive process. In addition to requiring the developer to competitively bid for the EPC contract, the procuring entity can consider the following options to achieve a competitively negotiated power project:

- **Benchmarking**: the procuring entity can engage independent technical advisors to advise them on whether the costs and resultant power price are market competitive, given other deals that have been done in similar jurisdictions.
- **Open book pricing**: the procuring entity and the sponsors agree how to calculate total project costs (including agreement on a financial model and key variables) and negotiate an equity return rate suitable for the market. The procuring entity has full access to the key project contracts, including the EPC contract and finance documents, in order to verify the financial model inputs. The procuring entity can use the benchmarking approach described above to double check the outcome of the open book pricing approach.
- **Swiss challenge / Bonus systems**: the procuring entity commences a competitive tender with respect to a project that has been proposed on an unsolicited basis by a developer. Bidders may match or provide better pricing than the unsolicited bid. This is known as a "Swiss challenge." In some Swiss challenges, the original bidder has the right to match a better offer submitted by another bidder. In other cases, a bonus system allows for the original proponent to receive a bonus in the evaluation of the competitive bids to reward them for initiating the project. Some countries allow reimbursement to the original project proponent for its project concept or development costs. The downside of both approaches is that the

market generally knows the structure of the deal and would unlikely spend significant time and resources preparing a bid for a project that they expect the original bidder to retain.

Considerations

Before deciding to proceed with direct negotiations, the procuring entity should consider whether the proposed project is a priority within the national energy sector strategy or planning document.

The procuring entity must decide on the form of project documentation to be used. If a market precedent exists, there is a tendency to begin negotiations from a previously negotiated PPA. Tailoring a thermal PPA for a renewable power project, however, brings a number of challenges. It may be more advisable to utilise a technologically similar PPA from another similarly-situated market and to tailor the document for local purposes. For more detailed information on the contents of a PPA, please see *Understanding Power Purchase Agreements*.

For projects requiring sovereign credit enhancements, the procuring entity should work closely and early with the Ministry of Finance. For more information on sovereign credit enhancements, please see *Understanding Power Project Financing*. The procuring entity should bear in mind that the power project's lenders may have substantive comments on the PPA and any sovereign credit enhancement.

Depending on the quality of the documentation templates used, the sophistication of the counterparties, and the prior experience of the procuring entity, documentation negotiation can last for years. All sides are well served by having experienced advisors to assist with the documentation process.

Example of Direct Negotiation for Ensuring a Deal is Market Competitive

The Lake Turkana 310MW wind plant project in Kenya was directly negotiated. The series of EPC contracts and supply agreements contained a competitive element that allowed it to meet the requirements of Kenyan law and of the relevant financing parties including DFIs.

In direct negotiations, the procuring entity may also require the project company to provide a bid bond, in the form of a letter of credit or bank guarantee, which gives assurance that it will satisfy relevant conditions precedent to reaching financial close.

Example of Direct Negotiation Timeline

Power procurement in Nigeria has been through direct negotiations between the offtaker, Nigerian Bulk Electricity Trading PLC (NBET) and IPPs using different energy sources, including renewables. The IPPs must have passed the licensing requirements of the power sector regulator, the Nigerian Electricity Regulatory Commission (NERC). As a precondition for PPA negotiations, they must have also satisfied NBET's minimum due diligence requirements, namely confirmation of land title, grid transmission evacuation approval, environmental and social impact assessment, confirmation of fuel supply and transportation, and where applicable, feasibility study/energy yield report (especially for renewables). The PPA and tariff are eventually approved by NERC following the conclusion of negotiations with NBET. The country is in the process of transitioning to a competitive procurement framework.

If a procuring entity moves a project from direct negotiations to a competitive bidding or FIT procurement process, developers may have projects that are partially developed. These developers began their projects with an expectation (sometimes confirmed by a MoU or other non-binding means) that a direct negotiation would occur once certain milestones have been met. A procuring entity should consider the impact that transitioning to competitive tenders may have on the

development costs already invested as they plan to transition from direct negotiations to competitive tenders.

Key Points

- Under a direct negotiation project, the developer typically initiates the process with an unsolicited project.
- The procuring entity can still ensure that the power project is market-competitive by introducing competition into some other aspect of the project negotiation.
- For example, competition can be introduced through a competitively bid EPC contract, benchmarking on the costs and tariff, open book pricing and introducing bonus systems.
- Early attention should be given to the requirement of sovereign credit enhancements.
- Suitable project documentation should be used for negotiations, which is tailored for local purposes and is technology-specific.

Feed-in Tariffs

Overview of Feed-in Tariffs

FiT Programme Processes

Overview of Feed-in Tariffs

In addition to competitive tendering and direct negotiation, a procuring entity can also procure power on a programmatic basis. In recent years feed-in tariff (FiT) programmes have featured predominantly in the global renewable energy market, in both developed and developing countries. Procuring entities can tailor FiT programmes to rapidly procure and implement energy projects, based on their geographic renewable energy resources. FiT programmes are usually technology specific.

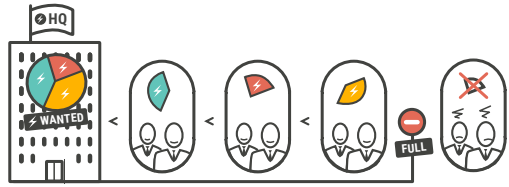
The defining feature of a FiT programme is a feed-in tariff price. A feed-in tariff is a fixed purchase price for electricity that is set in advance of the procurement process by the government, usually through the Regulator or Ministry of Energy, and announced to the public.

Tariffs can be based broadly on either the avoided cost of the purchasing utility or the cost of an efficient generator using the state-of-the-art technology for a given technology. The avoided cost is the cost a utility avoids by purchasing electricity from another power project instead of building a new power project. The cost of an efficient generator using a given technology is based on studies that benchmark the cost of a certain technology within a specific size range. This is the dominant methodology used in most FiT programmes.

Procuring entities also have two further options in terms of the role the set tariff plays. In some systems, the tariff functions as a cap. In other words, it is the maximum price that the offtaker is willing to pay for energy, and the actual tariff is negotiated on a case-by-case basis. In most systems, however, the tariff established under the FiT program is the tariff that will be paid to the project. In other words, there is no

price negotiation on the tariff. This provides potential sponsors with price certainty. It is the approach taken in most FiT schemes around the world and is more effective in incentivising investment.

The setting of a tariff is a core area of contention for most feed-in tariff schemes, in large part due to the uncertainty regarding the actual cost of generation for many renewable energy technologies.



Considerations

The government will need to consider its policy objectives and sector plan when considering an appropriate technology-specific feed-in tariff to attract serious and qualified developers. Policy objectives to be considered when developing a feed-in tariff include:

- incentivising the development of smaller projects;
- value for money;
- rapid development of projects;
- the development of projects in under-developed regions;
- development of underutilised resources.

In recent years, adoption of FiT programmes has increased globally. Many of these programs have benefited from concessionary financial support from bilateral or multilateral finance institutions to subsidise the feed-in tariff the procuring entity is willing to pay for power. In particular, this has been achieved by either i) a "top-up" premium

which supplements the feed-in tariff, or ii) helping to reduce the cost of funding to achieve a lower generation tariff.

Example of Feed-in Tariffs in Power Procurement:

The GET FiT programme in Uganda, implemented by the German development bank Kreditanstalt für Wiederaufbau (KfW), is a recent example of a Feed in Tariff program that has successfully attracted private investment.

The main driver of GET FiT is a top-up tariff (the premium payment), paid for by grant money from KfW, to close the gap between the tariff the offtaker pays to renewable projects and the cost of production of an efficient generator based on the relevant technology. The premium payment was administratively set for the first three technologies to participate in the program. The procurement under Uganda's GET FiT programme is an example of competitive tendering.

The performance-based premium payment mechanism is effectively a results-based grant designed to enhance the financial viability of the selected projects. The performance-based premiums are paid per kWh on top of the existing renewable energy feed-in tariffs determined by the regulator on an avoided cost basis. Half of the premium is paid upon the commercial operations date. The balance is paid against energy delivered over a five-year period. More than 12 projects to date have been completed in the hydro, biomass, and solar sectors.

Key Points

- The key elements of a FiT are i) standardised project agreements, notably a long-term power purchase agreement with the offtaker, ii) an administratively-set tariff that reflects the cost of production or the avoided cost, and iii) a guaranteed grid connection.
- By reducing transaction costs, FiTs can make small projects viable.
- FiTs are uniquely suited to the promotion of a large number of smaller projects.

FiT Programme Processes

A FiT programme features standardisation to increase expediency. Standardised project documentation is intended to reduce transaction costs by minimising the need for negotiation, enabling the procuring entity to efficiently procure any amount of specified renewable energy it requires from developers. Reducing transaction costs also facilitates the development of smaller projects that would not have otherwise been economical.

A FiT programme typically features a standardised PPA, an administratively set purchase price, and a guaranteed grid connection.

Typically, the procurement process for a feed-in tariff programme occurs in the following broad stages:

- the governments publishes a notice setting out the feed-in tariffs;
- the procuring entity releases regulations or an RfQ or RfP;
- the applicants bid;
- the procuring entity responds to these proposals by assessing them on the basis of the published criteria before notifying successful applicants that they have qualified for participation in the FiT;
- successful applicants form project companies, which then execute project agreements.

Example of Feed in Tariff Procedures:

Egypt has a number of separate categories of feed-in tariff procedures depending on the capacity of the project. Below is a brief summary of the FiT programme for large-scale solar (20MW and above) projects in Egypt.

- The developer requests an evaluation application from the procuring entity for the relevant project(s).
- In the application, the developer is asked to submit a set of documents including:
  - a summary of the relevant bidder / bidding consortium's business;
  - a description, methodology and approach of the proposed project;
  - their previous experience in development, finance and construction;
  - the proposed technical solution;
  - the developer's financial capability.

- The procuring authority responds one month from the date of receipt to the application with an approval or rejection.
- If approved, the developer establishes a project company and begins technical and financial feasibility studies for the project.
- The developer then addresses the relevant procuring entity to facilitate land acquisition for the project. The authority that provides the land signs a land agreement with the project company.
- The project company acquires a temporary generation license. The power plant has to be built within 18 months from the award of the temporary generation licence.
- During this time, the project company needs to:
  - negotiate with its lenders,
  - raise capital, and
  - complete the relevant measurements, technical studies and required permitting.

- Once completed, the project company signs the relevant government contracts, including government support documents, land documents, grid connection documents and the PPA. Once signed, an application can be made for a permanent generation licence.
- During construction, the developer must keep the relevant authorities updated on the project's progress.
- Connection has to take place six months before the final date of commissioning to ensure that the plant is ready to produce power on that date. Connection to the relevant substation is the responsibility of the project company SPV.

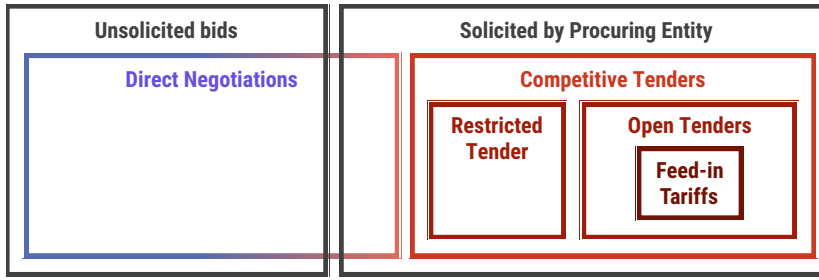
Selecting a Procurement Process

Inherent Advantages & Disadvantages

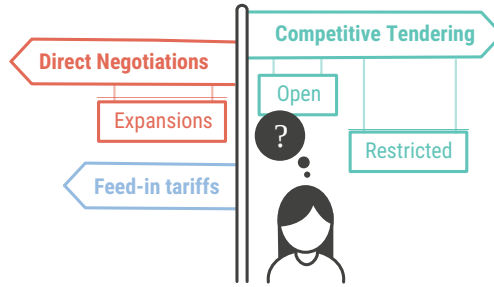
Additional Considerations

Complaints and Complaint Mechanisms

Inherent Advantages & Disadvantages



Choosing a procurement process and developing the associated documentation requires careful consideration of a number of factors. There is no one-size-fits-all approach to procuring a power project. A procuring entity should keep overall procurement objectives in mind while also accounting for the specifics of the power project.



Each of the three procurement processes described in the preceding sections has inherent advantages and disadvantages. Some of them may not apply to a particular project or circumstance, and even when the appropriate procurement process is identified, it is best applied through careful planning and tailoring to the project or projects the procuring entity seeks to procure. To aid this investigation and

balancing exercise, this section provides an overview of the relative advantages and disadvantages of procurement processes.

Competitive Tenders

Competitive tenders generally are associated with the following **advantages**:

- empirically proven to maximise competition and reduce costs;
- increasing transparency and improving public confidence;
- committing the procuring entity to a defined procurement timeline.

> **PRACTICE TIP:** Due to the ability to produce positive outcomes through transparent procedures, procurement by competitive tender is the preferred process for most development finance institutions and multilateral development banks. The requirement for defined, balanced and published procurement criteria under a competitive tender is in line with the strict due diligence requirements of these institutions and positions a project to attract financing if the procurement is successful.

Competitive tenders generally are associated with the following **disadvantages**:

- require procuring entity to commit time to engage with and understand the market;
- need investment by the procuring entity to develop the project specifications;
- limit the procurement entity's discretion and ability to control outcomes.

PRACTICE TIP: The need to invest the procuring entity's own funds can be a significant impediment under competitive tenders. The procuring entity will need to initially commission feasibility studies and later pay for the development of a bankable package of project agreements. Grant funding may be available to support these activities. Although the procuring entity may be able to recover these costs at the end of the procurement process, these costs still require a commitment of funds up front and may never be recovered if the procurement is unsuccessful.

Direct Negotiations

Direct negotiations generally are associated with the following **advantages**:

- the potential for greater speed if the procuring entity is motivated and capable;
- flexibility to adapt project requirements as the negotiation proceeds;
- well suited to large, complex projects where the number of potential developers is limited.

PRACTICE TIP: The speediness of direct negotiations is an opportunity, not a guarantee. To realise the potential for speed, a procuring entity should invest human and financial capital at the outset of the project to establish objectives, and to then stay invested over the course of the negotiations, adjusting objectives as all sides seek agreement. Without this commitment and investment by the procuring entity, direct negotiations may stall for months or even years and result in a procurement process that is as long as competitive procurement but without the benefits of that competition.

Direct negotiations generally are associated with the following **disadvantages**:

- it is difficult to ensure that project costs are market-based due to lack of price-on-price competition;
- there is potential for imbalance between an inexperienced procuring entity and an experienced developer;
- legal challenges may be raised if procurement law requires competition for infrastructure projects;
- the procuring entity is required to actively engage the public and private sectors to build confidence in the transparency of an opaque negotiation process.

PRACTICE TIP: The lack of market-based competition under direct negotiations can be mitigated by procuring entities through a number of strategies. The procuring entity can investigate and benchmark the proposed project against similar projects in the market or develop a financial model to estimate project costs. The procuring entity can also seek to introduce some competition by requiring that significant sources of project costs, such as the EPC contract or debt financing, be competitively tendered. These efforts to introduce market pressure may also help to satisfy requirements for competition under a country's public procurement laws and the availability of DFI finance.

Feed-in Tariffs

Feed-in tariffs generally are associated with the following **advantages**:

- reduction in the complexity of the procurement process through fixed pricing and document standardisation;
- a shortened procurement timeline through reduced or simplified negotiations;
- there is potential for the procuring entity and developer to deliver multiple projects;
- there may be ncreased investor appetite based on the predictability of the procurement process.

PRACTICE TIP: Feed-in tariffs have been largely deployed in circumstances where a new technology (i.e. renewable energy) is being deployed in a market, often through the construction of multiple small / medium scale projects.

Feed-in tariffs generally are associated with the following **disadvantages**:

- lack of market competition across projects or technologies;
- the Regulator must actively monitor the market to adjust tariffs due to a fall in capital costs;
- as with competitive tenders, ther is a need for significant time and money to develop project documents;
- a lack of negotiation may raise concerns about transparency and accountability with the public.

PRACTICE TIP: The standardised and simplified nature of feed-in tariff based procurement may lead to unintended consequences. In some cases, the procurement results in a race that rewards investors who can secure administrative approvals in the shortest period. The procurement entity should be conscious of the fact that the feed-in tariff process is not meant to distinguish projects based on costs, efficiency or any other form of merit.

Additional Considerations

This chapter provides a non-exhaustive list of additional considerations for procuring entities to take into account as they determine the ideal procurement process for a project or set of projects.

Expediency

A key consideration for governments is often the speed at which a power project can be developed. Many developing countries face critical electricity generation deficits that lead to public pressure to quickly commission additional generation capacity. In the face of such pressure, governments may be faced with difficult decisions, such as the need to procure "emergency power" electricity from relatively expensive and inefficient high-speed diesel generators. In order to respond to public pressure and avoid the need for emergency measures, the government can invest in the planning and forecasting capacity of the procuring entity, both to ensure that it effectively anticipates the evolution of power demand in the market and to develop a procurement strategy that incorporates that demand forecast.

Local Content

The natural desire for developing markets is to reach a level of economic growth that allows local investors to develop projects, local banks and institutional investors to provide financing, and the local economy to produce the sophisticated labour and equipment needed for power project development. In support of this economic

development goal, many countries require large infrastructure projects (including power projects) to meet local content requirements as part of their project development and operation plan.

When setting local content requirements, governments should bear in mind that such provisions can delay the implementation of a project, significantly increase its complexity, and ultimately result in a higher tariff. In some cases, the additional costs may be worth the long-term gains that local content requirements may foster. In other cases, other objectives may be more important. In either case, the government should establish a clear connection between local content requirements and economic development goals, and be able to account for the cost of local content provisions within their overall assessment of project value.

Complexity and Scale

The complexity of a power project may favour one procurement process over another. For large projects, the complexity of the project may dictate whether competitive tenders or direct negotiations are preferred. If the large project is based on a widely-adopted technology (i.e. solar PV, gas-fired), the cost of developing a competitive tender may be recouped in the significant impact that large projects have in reducing the levelised cost of electricity. At the same time, for a large project that is particularly complex (i.e. LNG-to-power, geothermal), the cost of developing a competitive tender may be unjustified since there is a limited pool of developers who are capable of taking on the project. As a result, large and complex projects may be better suited to a direct negotiation or restricted competitive process that allows the project design to evolve as new insights form.

A government may also decide to avoid the challenges involved with procuring a large project altogether, and instead pursue a set of smaller projects, or a series of procurements, that will provide significant new generation capacity in the aggregate. When pursuing multiple small projects, the procurement development costs are still significant since the procuring entity must still establish procurement objectives, documents and procedures and then apply those requirements over multiple project proposals. As a result of the significant investment involved in conducting small projects tenders, many governments have chosen to use competitive tenders so that the procurement development costs can be recouped in the form of reduced energy costs.

PRACTICE TIP: South Africa provides an example of a programme achieving scale by conducting multiple project procurements over successive rounds of competitive tenders. In 2011, South Africa launched the renewable energy IPP procurement programme (REIPPP programme), which featured standardised and non-negotiable procurement documentation and an opportunity for bidders to choose which renewable technology they wished to develop. The REIPPP programme also included localisation requirements and a cap on the tariff that the bidder was allowed to offer. Over three rounds of competitive tenders, the REIPPP programme completed 64 projects across a variety renewable energy technologies (solar, wind, biomass, small hydro, biogas and landfill gas).

Allocation of Risk

Although the topics of risk allocation with the legal and financial structuring of a project have already been discussed in-depth in the previous handbooks in this series, it is worth noting in a procurement context that the allocation risk is a consideration for the procuring entity that can have a significant impact on the procurement process

selected for a project. For example, when developing the procurement of a coal-fired power plant, the procuring entity must determine how to allocate the coal supply risk for the project. If the procuring entity decides to source the coal itself, then it may choose to tender the generation portion of the project under a competitive tender since the requirements of the project can be well-defined. If, instead, the procuring entity decides that the coal supply obligation is to be bundled with the generation project, then the procuring entity may instead elect to pursue a direct negotiation strategy given the need to reconcile both the sourcing challenges (mine location, transportation and storage) and the generation facility design (scaling to coal availability and quality).

The general principle with risk allocation is that developers are attracted to projects with favourable risk-reward ratios: the lower the risk, the more interest the procurement can attract. Procuring entities can reduce risks through a number of strategies, such as investing in project preparation prior to the procurement, allocation of risk away from the investor to the procuring entity and increasing the tariff to reward investors who assume a greater share of risk.

PRACTICE TIP: Project preparation risk is particularly significant for hydropower and geothermal projects. Although both sources of power have the potential to deliver the lowest marginal cost of power over the long-term, many projects experience cost-overruns in excess of 30%. As a result, an initial investment by the procuring entity in resource assessment and project design can result in significant savings by avoiding development challenges down the road. This focus in project preparation may require a significant investment of funds and dedication of time to a project. For example, in the Republic of Georgia, the government invested almost two years in the preparation of a detailed feasibility study of the 280MW Nenskra hydropower project, for which it contracted a reputable international hydropower consulting firm. As a result of the investment, the government was able to competitively tender the EPC contract for the project and reduce the allocation of construction risk to the government.

Sources of Finance

The higher risk-profile of developing markets often results in DFIs and Export Credit Agencies (ECAs) playing a major role in the financing of power projects. If a procuring entity anticipates the needs to attract financing from DFIs and ECAs, they would be wise to pay particular attention to the aspects of the procurement process that most concern these institutions. In the case of DFIs, there is often a heavy emphasis placed on transparency and value in the procurement process, with many DFIs requiring projects to comply with strict environmental, social and fiscal standards in order to qualify for financing. For ECAs, the requirement that goods or services be procured from the ECA's home country may require the procuring entity to ensure that evaluation criteria do not exclude foreign sources as a result of local content requirements.

Complaints and Complaint Mechanisms

Although a majority of planning for a procurement should focus on the factors that lead to success, a procuring entity should also consider the potential for negative outcomes from the procurement process and be prepared to addresses such situations. This section will discuss the types of complaints that are likely to arise at the various stages of a competitive tender and the options that are available to address them. The processes a procuring entity may use to address complaints are very likely to be constrained by whatever law governs public procurement generally, the procurement of PPPs, or administrative procedure generally.

> **PRACTICE TIP:** Direct negotiations are not addressed in this chapter since there is an assumption that disputes under that process will be resolved by the parties themselves. Under direct negotiations, the parties would generally seek to resolve the dispute amicably through consultation and mediation, potentially under the guidance of the national energy regulatory authority. If the dispute persists, the parties may proceed to adjudicate the dispute.

Complaints During the Procurement Process

Bidders may raise complaints during the following phases of a competitive tender: the pre-award phase, the award phase, and the post-award phase. The types of complaints that tend to arise during these phases are discussed below.

Pre-award Phase - bidders may lodge a complaint about the RfQ, the RfP, and related bid documents. These complaints may include complaints that the pre-qualification criteria are too restrictive, that

the output specifications specified in the RfP are unnecessarily burdensome, or that the output specifications unnecessarily favour a particular equipment supplier or group of equipment suppliers.

Award Phase - After a preferred bidder has been named, the unsuccessful bidders may complain about the selection process. For example, a bidder may insist that the award was made improperly because the award is inconsistent with the published award criteria in the bid documents.

Post-award Phase - After the contract has been awarded and the project agreements have been executed, disputes may arise under those project agreements. How the parties resolve these disputes will be governed by the terms of the agreements themselves (which will, in the case of power plants that are intended to be bankable by international lenders, almost always provide for the resolution of disputes by binding arbitration in a neutral forum).

Resolution of Complaints

In some jurisdictions, the law governing the procurement process allows aggrieved parties to complain to a procurement authority or other tribunal. Where this is the case, the complaint will need to be resolved pursuant to that body of law. Note that the same body of law may limit the procuring entity's ability to proceed with the procurement until the complaints have been resolved, or until a determination that the complaint is not likely to succeed on the merits.

Where the law governing the procurement process does not provide for the referral of complaints to an independent authority or tribunal, the procuring entity may establish a procedure in the RfQ and RfP governing how aggrieved parties may file complaints. In notifying

bidders how to file complaints, a procuring entity should also consider whether it will commit – in advance, in the RfQ and the RfP – to respond to complaints within a period of time set forth in the RfQ or RfP, and whether it will commit not to take key decisions (such as a decision to pre-qualify the pre-qualified bidders or to name a preferred bidder) until it has responded to outstanding complaints. This forward-looking approach to resolution of complaints will be viewed by investors as an indicator of transparency and may help a procuring entity build a reputation for treating investors fairly. A procuring entity that has established such a reputation should expect to benefit from it in future tenders by attracting an increased level of interest from investors.

Appendices

Glossary

Acronyms

Resources

Glossary

Affordability/Affordable – in relation to the price of electricity, the price which does not impose an unreasonable financial burden on the offtaker, the host government, or the end consumer.

African Development Bank (AfDB) – a multilateral development finance institution established to contribute to the economic development and social progress of African countries. The AfDB was founded in 1964 and comprises three entities: the African Development Bank, the African Development Fund (ADF) and the Nigeria Trust Fund (NTF). The ADF is the concessional window of the AfDB Group. The NTF, established by the Nigerian government is a self-sustaining revolving fund.

Bankability/Bankable - a project or contract is said to be "bankable" if it comprises a level of risk and commercial terms that would be generally acceptable to lenders.

Benchmarking (or benchmark) – the comparison of the price and characteristics of a power plant to others with similar size and technology.

Bidder – a person or entity submitting a proposal in response to a solicitation issued in a tender process.

Bilateral Financial Institution – a financial institution established by an individual country to finance development projects in developing economies.

Bonus System – the process of giving a scoring advantage to the proponent of an unsolicited proposal over other bidders in a competitive process.

Clean Technology Fund (CTF) – an investment fund established by the World Bank to provide new large-scale financial resources to invest in clean technology projects in developing countries, which contribute to the demonstration, deployment, and transfer of low-carbon technologies with a significant potential for long-term greenhouse gas emissions savings.

Concentrated Solar Power (CSP) – a solar technology that uses mirrors to concentrate (focus) the sun's light energy and convert it into heat to create steam to drive a turbine that generates electrical power.

Danish International Development Agency (DANIDA) – is Denmark's official development cooperation under the Ministry of Foreign Affairs.

Developer - see sponsor.

Development Finance Institution (DFI) – financial institutions with a mandate to finance projects that achieve specified development outcomes.

Dispatch – an instruction by the grid system operator to the power plant to deliver electricity.

Dispatchable Plant – a power plant capable of responding to instructions to vary its output on short notice. Plants that fall within this category include coal-fired plants, gas-fired plants, and renewable plants with a relatively constant or storable source of energy such as a hydro plant with a reservoir and/or a biomass plant.

Distributed Energy Solutions – small-scale power generation technologies (typically in the range of 3 to 10,000 kilowatts) that provide an alternative to, or an enhancement of, the traditional electric

power system, and **distributed generation** shall be construed accordingly.

Economic Development – a government policy to promote the economic and social well-being of the country where the power plant is located. In relation to power project procurement, such policy may include the objectives of job creation, ownership, manufacturing and socio-economic initiatives.

Environmental Impact Assessment – a process of evaluating the environmental impacts of a proposed project.

European Investment Bank (EIB) – the European Union's (EU) bank which is a part of the EIB Group. The EIB provides finance and expertise for sustainable investment projects that contribute to EU policy objectives.

Exceptions – the process in which a bidder seeks to reject or amend certain provisions in the project agreements provided with the RfP.

Export Credit Agency (ECA) – government-sponsored entities that provide government-backed loans, guarantees and insurance to companies from their home country that seek to do business overseas.

Expression of Interest (EoI) – an expression of interest is part of a multi-staged procurement process to solicit information from potential bidders prior to the issuance of a solicitation.

Feed-in Tariff (FiT) – a renewable energy policy that offers a fixed price for energy under a take-or-pay arrangement to eligible producers.

GET FiT – referred here as the GET FiT Uganda Program. A program launched in 2013, designed to mobilise private investment into grid-connected, renewable energy generation FiT projects in Uganda.

Greenfield – new infrastructure project requiring the construction of new facilities. In the energy sector, it most commonly refers to a new energy/power generation facility.

Grid – a transmission and distribution network by which electrical power is transmitted and distributed.

Grid Code – a technical and legal specification to which a generation facility connected to an electric network needs to comply.

Heat Rate – a measurement of the efficiency of a power plant in converting a unit of fuel into a unit of electrical energy.

Host Government – the government of the country in which the power plant is located.

Independent Power Producer (IPP) – a special purpose company established for the sole purpose of developing, financing, constructing, owning, operating and maintaining a power plant.

Institutional Lender – a regulated financial institution engaged in lending.

Interconnection – the linkage of transmission or distribution lines between the offtaker (utility) and the power plant, enabling evacuation of the energy generated.

Interconnection Point - the point at which the transmission or distribution system and the power plant interconnect.

International Energy Agency – is an international organisation that works to ensure reliable, affordable and clean energy.

International Financial Corporation (IFC) – the private sector financing arm of the World Bank Group.

Investor – see sponsor

Kilowatt Hour – a measurement of energy which is equal to 1,000 watts of electricity being generated or consumed continuously for a period of one hour.

Kreditanstalt für Wiederaufbau (KfW) – a German government-owned development bank that finances and supports programmes and projects in developing countries.

Lenders – the providers of loan financing.

Levelised Cost of Electricity (LCOE) – the net present value of the unit cost of electricity over the lifetime of a generating plant.

Local Content – a measure of expenditure, in relation to the development of the power plant project, which can be demonstrated to be incurred on goods and services sourced from the host country.

Megawatt – a measurement of power meaning 1,000,000 watts.

Memorandum of Understanding (MoU) – an agreement with the host country or procuring entity that is commonly used as the first step in the project development cycle and is typically not legally binding.

Mini/Micro-grid Systems – a set of electricity generators and possibly energy storage systems interconnected to a distribution network that supplies electricity to a localised group of consumers. A mini-grid / micro-grid can operate autonomously without being connected to the centralised national grid but in case it is, can disconnect if power quality needs to be maintained, for example, in case of a central grid failure. Alternatively, a mini-grid may be designed to operate autonomously in a remote location with the option to connect to a central grid when grid expansion occurs.

Multilateral Financial Institution – an international financial institution (IFI) that has been established by more than one country.

Non-dispatchable Plant - a power plant that is not capable of responding to instructions from a grid system operator to increase its output. For example, a photovoltaic solar plant.

Off-grid Systems – stand-alone power systems not connected to the transmission or distribution system.

Offtaker – the entity who purchases the electricity generated by the power plant, subject to the terms and conditions of the PPA. Also referred to as the Buyer.

Paris Climate Accord – the United Nations Framework Convention on Climate Change signed in 2016. Also referred to as the Paris Agreement.

Permitting – the administrative process of securing the legal instruments as may be necessary to develop a power project.

Power Project – a project with the primary objective of providing electrical capacity and generating energy. Also referred to as a **power generation project**.

Power Project Procurement – the process of soliciting proposals for the supply of capacity and energy (or in the case of non-dispatchable renewables, just energy) to an offtaker.

Power Purchase Agreement (PPA) – a medium-to-long-term contract which governs the production, sale and purchase of electrical capacity and energy. Also referred to as an "offtake" agreement.

Preferred Bidder – either a bidder or a pre-qualified bidder that has been selected by the procuring entity to develop the power project, pursuant to a power project procurement.

Prequalification Criteria – the minimum standards that the procuring entity sets for bidders to participate in a competitive tender process.

Prequalified Bidder – a bidder that meets the prequalification criteria specified in an RfQ.

Procurement Authority – the authority mandated to oversee and guide the procurement process. Sometimes referred to as Procurement Agency

Procuring Entity / Entities – the entity that is undertaking the procurement. The procuring entity may be the offtaker, the Ministry or government department that is responsible for energy, the sector regulator, or another government agency or authority conducting the procurement, depending on the law of the host country.

Project Agreements – the suite of contracts required for the construction, operation and maintenance of a power plant.

Project Company – the entity, established by the investor, for the sole purpose of developing the power project pursuant to the project agreements. Also referred to as the seller, power producer or generator.

Project Development – the process for establishing a power plant from project conceptualisation to realisation.

Public-Private Partnership (PPP) – a contractual arrangement between public and private entities for the delivery of infrastructure assets or services, with clear agreement on the allocation of associated risks and responsibilities.

PPP Unit – a government unit overseeing the establishment of PPPs.

Regulator – the competent authority of the host government having the statutory right to regulate agencies and entities participating in the electricity sector.

Renewable Energy IPP Procurement Programme (REIPPP programme) – the procurement programme launched in 2011 by the South African Department of Energy for the procurement of photovoltaic solar, wind, concentrated solar power, biomass, biogas, landfill gas and small hydropower technologies.

Renewable Portfolio Standards (RPS) – a host government's mandate to increase production of energy from renewable sources.

Request for Expression of Interest (RfEoI) – a solicited invitation from the procuring entity to potential bidders to express interest in developing a power plant project.

Request for Proposal (RfP) – a solicited invitation from the procuring entity to potential bidders to submit a proposal to develop a power project.

Request for Qualification (RfQ) – a solicited invitation from the procuring entity to invite potential bidders to provide qualification credentials for the development of a power plant.

Reserve Bidder – the next ranked bidder after the preferred bidder(s) in a competitive tender process.

Scaling Solar – a World Bank Group power procurement programme implemented under the International Finance Corporation, designed to make it easier for governments to procure solar power quickly and at a low cost through competitive tendering and pre-set financing, insurance products, and risk products.

Small Power Projects Programme – a programme in Tanzania aimed at increasing the number of small power projects using renewable energy sources, waste heat, or cogeneration of heat and electricity, with an export capacity of up to ten (10) MW.

Sponsor – a commercial entity active in developing and investing in power projects. Typically, it is a shareholder of the project company. Also known as the investor or developer.

Solar Irradiation – the average amount of radiation, both direct and diffuse, received in a given location.

Swiss Challenge – a competitive tender process, in which the original proponent of an unsolicited proposal, typically, has the right to match the highest scoring proposal.

Transaction Advisor – the lead advisor of a multi-disciplinary team acting, typically, for the procuring entity.

Utility-Scale Renewable Energy – a renewable energy power plant, typically exceeding 1MW, which generates and feeds energy into the grid.

Value for Money – for the purpose of this handbook, a price that is market efficient taking into account various factors, including tariff, risk allocation, economic development considerations.

Variable Renewable Energy (VRE) – renewable energy sources that are non-dispatchable due to their intermittent nature.

World Bank – a multilateral development finance institution.

Acronyms

AfDB – African Development Bank

BEE – Black Economic Empowerment

BOOT – Build-Own-Operate-Transfer

CSR – Corporate Social Responsibilities

DANIDA – Danish International Development Agency

DFI – Development Finance Institution

EBITDA – Earnings before interest, tax, depreciation and amortisation

ECA – Export Credit Agency

EIB – European Investment Bank

EoI – Expression of Interest

EPC – Engineering, Procurement, and Construction

FiT – Feed-in Tariff

GET FiT – The global energy transfer feed-in tariff, a KfW initiative and programme

GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit

GmbH – German Agency for International Cooperation

GW – Gigawatt

IFC – International Finance Corporation

IPP – Independent Power Producer

IRR – Internal Rate of Return

KfW – The German Development Bank

kW – Kilowatt

LNG – Liquefied Natural Gas

MoU – Memorandum of Understanding

MW – Megawatt

MWh – Megawatt-hour

ODA – Official Development Assistance

O&M – Operations and Maintenance

PPA – Power Purchase Agreement

PPP- Public Private Partnership

PRG – Partial Risk Guarantee

PV – Photovoltaic

REIPPP – Renewable Energy IPP Procurement programme

RE – Renewable Energy

RETs – Renewable Energy Technologies – technologies produce sustainable, clean energy from sources such as the sun, the wind, biomass, water.

RfI – Request for Information

RfQ – Request for Qualifications

RfP – Request for Proposals

RPS – Renewable Portfolio Standards

SPV – A Special Purpose company, partnership or other business entity

SSA – Sub-Saharan Africa

UETCL – Uganda Electricity Transmission Company Limited

VRE – Variable Renewable Energy

Resources

African Legal Support Facility.
http://alsf.afdb.org

United States Department of Commerce Commercial Law Development Program
http://cldp.doc.gov

Recommendations for the design of successful renewable energy auctions or competitive tenders in Africa: Lessons from South Africa.
http://www.gsb.uct.ac.za/files/EberhardNaude_REIPPPPLessonsRecommendations1.pdf

The South African Renewable Energy IPP Procurement Programme: Review, lessons learned and proposals to reduce transaction costs.
http://www.gsb.uct.ac.za/files/EberhardNaude_REIPPPPReview_2017_1

Independent power projects in sub-Saharan Africa: Lessons from five key countries. https://openknowledge.worldbank.org/handle/10986/23970

Guidelines for the development of a policy for managing unsolicited proposals in infrastructure projects.
https://consultations.worldbank.org/Data/hub/files/consultation-template/guidelines-development-policy-managing-unsolicited-proposals-infrastructure/materials/guidelinesforthedevelopmentofausppolicy.pdf

Scaling Solar
http://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/scaling-solar
https://www.scalingsolar.org

Renewable energy auctions: a guide to design. http://www.irena.org/menu/index.aspx?mnu=Subcat&PriMenuID=36&CatID=141&SubcatID=603

Unsolicited proposals: an exception to public initiation of infrastructure PPPs. https://ppp.worldbank.org/public-private-partnership/library/unsolicited-proposals-%E2%80%93-exception-public-initiation-infrastructure-ppps

The full text of each of the AFDB, EIB and IFC procurement rules is available on the respective institution's websites:

- http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-related-Procurement/Rules%20and%20Procedures%20for%20Procurement%20of%20Goods%20and%20Works%20%28May%202008%20Edition%20Revised%20July%202012%29.pdf
- http://www.eib.org/attachments/thematic/procurement_en.pdf
- http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/FP_Home/Environment/Environment_Procurement/

Understanding Power Purchase Agreements (http://go.usa.gov/FBzH)

Understanding Power Project Financing (http://go.usa.gov/c7tBx)

Understanding Natural Gas and LNG Options (https://energy.gov/sites/prod/files/2017/11/f46/Understanding%20Natural%20Gas%20and%20Lng%20Options%20October%2011%202017_1.pdf)