GUIDELINES FOR THE PROCUREMENT OF RENEWABLE ENERGY CAPACITY

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Consultancy services to implement harmonised regulatory/ technical frameworks and synthesised renewable and energy efficiency strategies in the EA-SA-IO region

This assignment is supporting the Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Intergovernmental Authority on Development (IGAD), Indian Ocean Commission (IOC), and Southern African Development Community (SADC), in their collective efforts to promote the development of a sustainable regional energy market in the Eastern Africa, Southern Africa, and Indian Ocean (EA-SA-IO) Region.

Guidelines

This document provides policy makers with guidelines for procurement of Independent Power Producers (IPPs) in renewable energy; guidance on the approach to, and structure of procurements for different types of utility scale renewable energy projects; and highlights key regulatory aspects to consider when planning and executing renewable energy procurements.

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Opinions and Limitations

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Contact

Questions and comments on these guidelines can be directed to:

Anirudh (Rudy) Gautama
Project Manager
E: agautama@cpcs.ca

Table of contents

Acronyms / Abbreviations

DFI	Development Finance Institution
EA	Eastern Africa
ESMAP	Energy Sector Management Assistance Program
ESREM	Project on Enhancement of a Sustainable Regional Energy Market in the Eastern Africa, Southern Africa and Indian Ocean (EA-SA-IO) Region
IPP	Independent Power Producers
IO	Indian Ocean
kWh	Kilowatt-hour
LCOE	Levelized Cost of Electricity
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
REFiT	Renewable Energy Feed-in Tariff
RfP	Request for Proposal
SA	Southern Africa
SDG	Sustainable Development Goals
USD	United States Dollar

1 THE IMPORANCE OF INCREASING RENEWABLE ENERGY INVESTMENTS

1.1 Objectives of the policy guidelines

These policy guidelines are prepared as part of the European Union-funded Project on Enhancement of a Sustainable Regional Energy Market in the Eastern Africa, Southern Africa and Indian Ocean (EA-SA-IO) Region (ESREM). They build on a working paper submitted in April 2021 (ESREM, 2021).

The objectives of the policy guidelines are to:

- Give a high-level overview of the methods available for procurement of Independent Power Producers (IPPs) in renewable energy (Part I);
- Provide guidance on the approach to, and structure of procurements for different types of utility scale renewable energy projects (Part II); and
- Highlight key regulatory aspects to consider when planning and executing renewable energy procurements (Part III).

1.2 Increasing private investments in renewable energy

Between 2010 and 2020, the world saw a drastic decrease in the average global Levelized Cost of Electricity (LCOE) generated from renewable sources - to the point where renewable energy in most cases is now the least-cost alternative for new electricity generation capacity globally (IRENA, 2020a). Further, Bloomberg finds that the price of multi-hour lithium-ion batteries has fallen to a point where they are competitive with fossil generation capacity, such as natural gas peaking plants when it comes to providing dispatchable power in many markets - even without subsidies (Bloomberg, 2019).

Meanwhile, over the same time period, the installed capacity of renewable energy in the EA-SA-IO region has almost doubled from 21.1 GW to 39.1 GW. Still, only about 23 percent of the installed generation capacity in the region is renewable, and the lion's share of electricity is produced by burning natural gas and coal (IRENA, 2020b). This is despite the fact that the African continent has abundant renewable energy resources, with the theoretical potential estimated to be 1,000 times higher than the total electricity demand in 2040 (IRENA, KfW & GIZ, 2021).

Achieving the goal of universal access to affordable, reliable, and emissions free energy in Africa will require significant investments in the power sector on the Continent, by some sources estimated to be between USD 60 and 90 billion annually until 2030 (IRENA, KfW, & GIZ, 2021). Clearly, many governments in the EA-SA-IO region do not have the resources required to shoulder this cost alone. As such, Public-Private Partnerships (PPPs), at times financed via Development Finance Institutions (DFIs) are widely regarded as an important means of accessing the capital required to expand generation capacity (World Bank, 2020). This paper provides guidance on the procurement of utility scale renewable energy capacity through PPP.

Note: For the purposes of this guideline paper, an IPP is assumed to be a PPP, and a PPP in the electricity generation sector is assumed to be an IPP.

1.3 Renewable energy procurement methods

Governments that wish to increase private-sector participation in their power sectors through procurement of IPPs have several approaches available to them, both solicited and unsolicited. The table below outlines two generic methods often referred to as traditional (NREL, 2011).

Table 1-1: Traditional procurement approaches

Competitive solicitations "Traditional RfP"	A competitive solicitation is a formal process under which the procurement agent (often the utility) issues a request for proposal (RfP), collects and evaluates qualifying bids, and executes contracts with winning bidders. The approach typically involves contract negotiations either with the highest-ranking bidder or with a short list of bidders. Weight is given to both price and non-price criteria, and regulators are typically involved in creating evaluation metrics and ultimately approving contracts (Tierney and Schatzki 2008).
Direct negotiations	Under direct negotiations (bilateral contract approach), contracts for new renewable capacity are signed between the two entities without resorting to an official competitive solicitation (van der Linden et al., 2005). Bilateral contracts are private, two-party transactions used in both regulated and competitive markets. Either the developer (in which case the procurement type would qualify as unsolicited) or the utility can initiate bilateral contract negotiations. As with contracts resulting from requests for proposals, bilateral contracts are generally subject to approval by state utility regulators.

In recent years, new procurement strategies have been successfully applied in procuring renewable energy IPPs, chiefly the ones outlined in the table below.

Table 1-2: Modern procurement approaches

Renewable Energy Feed-in Tariff (REFiT)	A renewable energy feed-in-tariff is a policy mechanism designed to accelerate investments in (utility-scale) renewable energy technologies by offering long-term contracts to renewable energy producers. The goal is to offer cost-based compensation with transparent and certain pricing that allows potential project developers to secure financing more easily (Cory et al., 2010; Couture & Gagnon, 2010). REFiT projects can be initiated by developers or solicited by public entities via a procurement program.
Auctions	Under a formal auction framework, IPPs bid into the auction expressing a willingness to sell a given product at a given price, soliciting from others their willingness to buy at that price. Renewable energy auctions are similar to request for proposal processes; the difference being that auctions generally rely on the price criterion only after bidders are qualified. Most electricity market auctions are conducted as sealed-bid auctions, meaning that no contract negotiation is permitted. Eliminating all non-price bid factors, procurement agents obtain a pared-down competitive process, which may take significantly less time to administer.

2 HOW TO STRUCTURE PROCUREMENT OF DIFFERENT TYPES OF RENEWABLE ENERGY PROJECTS

This section outlines four key elements that governments wishing to increase renewable energy investments through procurement of IPPs should consider:

1) Determine renewable energy capacity needs and requirements
2) Weight the procurement objectives and select a procurement method
3) Plan and execute a predictable and professional process
4) Ensure that agreements are followed and enforced

2.1 First key element – Determine renewable energy capacity needs and requirements

Depending on their specific circumstances, countries across the EA-SA-IO can have different policy motivations for increasing electricity generation from renewable sources, including:

- Emissions reductions
- Affordability
- Security of supply
- Access to electricity
- Economic development
- Technology development

The objective(s) that policy makers pursue may have implications for the type of project that ought be procured, including technology, size, and type of site. For example: a government aiming to address affordability may tender for the cheapest projects irrespective of technology, while another may wish to limit the procurement to a given technology to prove its viability in country. Another example could be governments targeting increased generation in a given geographic region to address electricity deficits or spur economic growth.

It is critical for the success of any renewable energy procurement that the design of the projects are driven by the needs, including those of the economy and the power system. How much is specified pre-tender by the procuring entity and their advisors - e.g. in terms of location and technical specifications, and how much is left for the market to propose/decide based on their expertise will differ depending on the specific circumstances. It is, however, important that the requirements are sufficiently detailed to ensure that the objectives of the procuring entity are met.

Authorities should:

a) Ensure that national generation expansion plans are updated and that projects to be procured are anchored in these.
b) Establish what type (e.g. technology and size) of renewable energy investments will meet the identified need.
c) Identify possible bottlenecks in the grid and the marginal losses resulting from increased generation, to establish whether the project needs to be located in a specific geography.
d) Put in place technical requirements to ensure that the new generation capacity contributes positively to the power system.

2.2 Second key element – Weight the procurement objectives and select an appropriate procurement method

Having defined the renewable energy capacity to be procured, policymakers and the procuring entity need to select a procurement method. This choice should mainly be driven by i) the type of project to be procured and state of the electricity market, and ii) the weighing of different procurement objectives.

The project and market-specific considerations typically include:

- **Project size.** The project size determines the magnitude of impact that the Power Purchase Agreement (PPA) price has on the system LCOE and the influence the project has on the power system. As such, higher absolute transaction costs may be acceptable for large projects, compared to smaller ones that may require more standardized and streamlined approaches such as a REFiT (where one is in place).
- **Project complexity.** Challenging sites and deployment of immature technologies typically drive complexity. In such cases, technical criteria may play a more pronounced role, which could point towards more tailored procurement methods such as auctions.
- **Market maturity.** A mature market usually means that there is a healthy, competitive landscape, and a more advanced regulatory framework. In such cases, procurement methods that leverage competition may be more suitable than in markets with a single off-taker and a high degree of off-taker risk. It should be noted, however, that auctions generally allow more room for filling gaps in the regulatory framework by means of contract than most other procurement methods.

The findings of the above analyses should feed into a weighing of the four procurement objectives, to arrive at a preferred procurement method:

- **Price discovery.** Renewable energy generation plants are expensive infrastructure, effectively paid for by the end-users through electricity tariffs. Given its focus on price competition, auctions are generally considered to score best on this objective, while direct negotiations tend to score poorly because of the often considerable information asymmetries between the procuring entity and their private sector counterparts. It is worth noting that because the subsidy component in a REFiT is flat for all projects, it may end up subsidizing projects that otherwise would have been profitable (no additionality).
- **Transparency.** Perceptions of non-transparency or inconsistent application of regulations can compromise confidence in the process, resulting in allegations of corruption and public disapproval, as well as a lack of interest from the private sector. When implemented correctly, the two modern procurement approaches, REFiTs and auctions perform well on this objective. This is because they allow governments to unilaterally set the terms (which need to be fair and balanced in order to attract interest from the private sector), and minimize or eliminate the need for direct negotiations between the parties.
- **Expediency.** Expediency is often a central concern when procuring electricity generation capacity, particularly in countries that suffer from supply shortages and load shedding. Once a REFiT framework is in place, it will generally reduce the procurement lead-time for eligible projects, because the relevant documentation already is in place. Expediency has traditionally been the key argument in favour of direct negotiations, but it is worth noting that poorly structured agreements may lead to delays later in the process.
- **Low transaction cost.** Procurement is associated with transaction costs for both procuring entities and potential project developers. Transaction costs stem, for example, from preparing documentation, technical and legal services, bid preparation, guarantees, and communication. It is in the interest of both sides to keep transaction costs low. As

with expediency above, a REFiT framework – once established – will generally reduce transaction costs. On the other hand, auctions tend to require substantial input from hired advisors and typically have higher transaction costs. These costs will have to be balanced against the potential gains from price discovery.

Both REFiTs and auctions have gained considerable popularity in the last decade, not least because they are predictable and transparent, both of which tend to bring down the cost to end-users and reduce the risk of corruption.

Authorities should:

a) Weight the four procurement objectives based on i) the design of the project or projects to be procured, ii) the existing regulatory framework, and iii) the preference of policymakers.
b) Select the procurement method that best addresses the weighted objectives (see Annex 1).
c) Consider relevant risk-mitigation options that may be included in the procurement, including guarantees to address off-taker risk (see ESREM (2021) for detailed discussion).
d) Establish a formal framework for unsolicited proposals (proposals initiated by the private sector) to spur growth of the renewable energy project pipeline.Ensure transparency, consult all stakeholders, and communicate with policy makers

2.3 Third key element – Plan and execute a predictable and professional process

While experienced investors typically bring broad legal, technical, and financial competence into the process, many governments will not have the same expertise in-house. In order to level the playing field and ensure an equitable outcome, it is therefore imperative that external legal, financial, and technical advisors are brought in to support the government side. While such advisors certainly add to the transaction costs, the cost of information asymmetries during negotiations may be far higher.

As mentioned above, predictability is favoured by the market and tends to reduce the cost to end-consumers. It follows that irrespective of the procurement method chosen, the procuring authority should share as much information as possible with the market and the public. In addition to openness throughout the process, all final documents should be made subject to public scrutiny. A number of corruption scandals resulting from direct behind-closed-doors negotiations between governments and the private sector underline the importance of this.

Authorities should:

a) Ensure that the regulatory and legal framework is transparent and predictable for potential renewable energy developers.
b) Contract sufficient technical assistance to ensure that the government's side is not operating at an informational disadvantage relative to the private sector's side.
c) Ensure that any documents underpinning the procurement, including grid connection agreements and PPAs are designed based on a full understanding of the strengths and weaknesses of the regulatory environment.
d) Ensure clear plans for timely power evacuation to avoid stranded electricity and costly deemed energy claims.
e) Strive to share as much information as possible with the market and the general public both before, during, and after procurement.

2.4 Fourth key element – Ensure that agreements are followed and enforced

Once the procurement is completed, it is vital for the credibility of the market that all agreements are adhered to. Exceptions should only be made in case of fraud or corruption. Among the most common breaches of IPP agreements in the region is non-payment for electricity sold, typically to the single-buyer utility. Such non-payments are damaging for the trust of the market and may drive up the cost of future IPPs, or even scare off investors completely. Depending on the framework in each country, the regulatory authority is typically charged with this oversight and needs to have sufficient independence and sanctions to fulfil this role in a balanced manner.

Authorities should:

a) Ensure that both the public and private sector adhere to their obligations under the signed agreements.
b) Establish mechanisms that incentivize compliance with agreements, rules, and regulations.
c) Issue proportionate sanctions in case of non-compliance.

3 ENABLING A GOOD PROCESS FOR RENEWABLE ENERGY PROCUREMENT

3.1 Ensure transparency, hear all stakeholders, and align with national policy

As in all regulatory decision making, it is important to ensure that procurement processes are conducted in a transparent manner with the appropriate stakeholder consultation. Further, it is important that authorities work closely with policymakers to ensure:

- that the procurement objectives are well understood by the procuring entity and reflected in project design and procurement execution, and;
- that policymakers understand the need for a balanced and fair agreement that proves sustainable over time.

3.2 Embedded in robust and transparent regulatory and legal frameworks

Uncertainty related to the regulatory and legal frameworks can reduce private sector interest and ultimately threaten the procurement processes. There are a number of examples from the Continent where regulatory uncertainty (e.g. open discussion on lowering REFiTs, or enforcement of new generation tariffs) have inhibited successful procurement and private sector interest (Eberhard & Kåberger, 2016). A robust and transparent regulatory and legal framework needs to be in place that can withstand abrupt changes in the politics of power markets.

3.3 Collect and analyze relevant data to support compliance and transparency

The ability of regulators to monitor the compliance of IPPs and those (typically public utilities) who buy the electricity depends on their ability to collect timely and reliable data. Once private sector investments in renewable energy generation capacity are introduced, it is therefore critically important that the responsible authorities (typically the regulator) have their own, independent systems for data collection. Though the data will typically originate from the market actors, authorities should have sufficient in-house competence and resources to quality assure and utilize the data for analysis.

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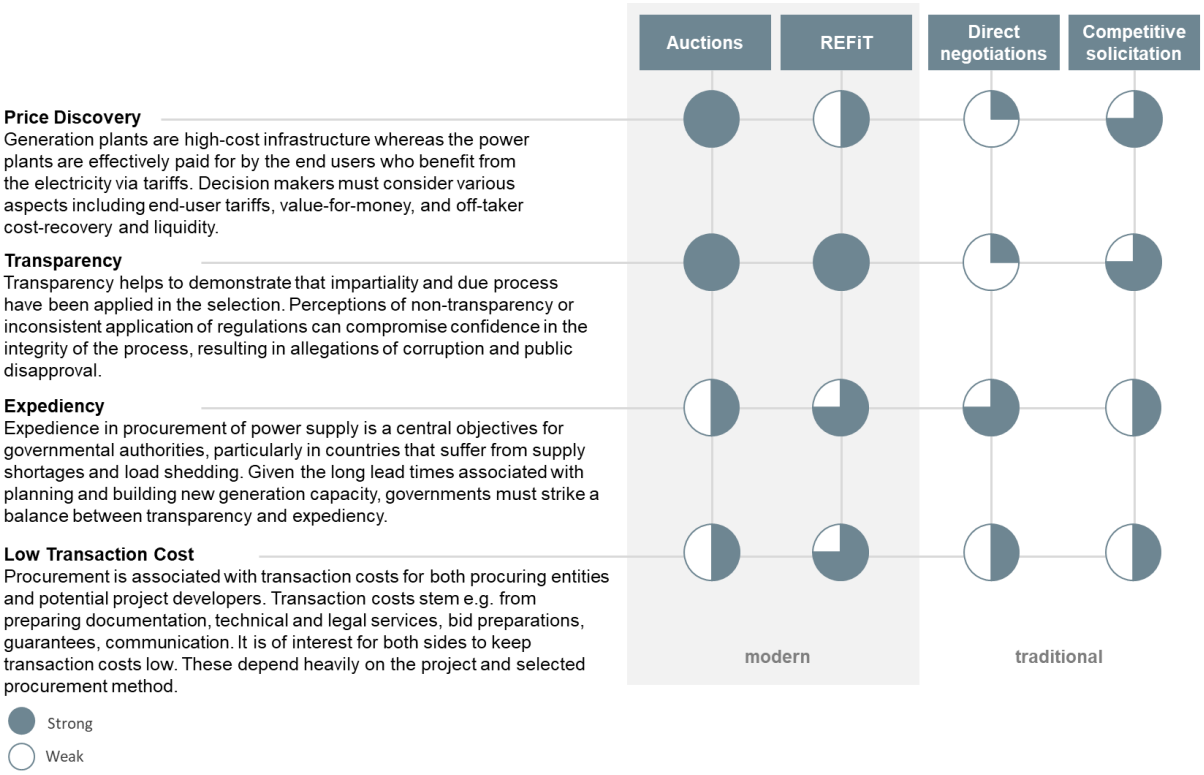
Appendix B Comparison Of Procurement Methods By Procurement Objectives



CONTACT INFORMATION:

Suite 201
First Floor Warrens Court
48 Warrens Industrial Park
Warrens
St. Michael, Barbados

T: +1-246-622-1783

hello@cpcs.ca
www.cpcs.ca