

Unlocking MG for sustainable development

6.2. Procurement

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CONTENTS

1. Session objectives
2. Initial considerations
3. Procurement method
4. Additional resources

1. SESSION OBJECTIVES

SESSION OBJECTIVES



- i) Understand key elements when defining the Procurement strategy of a Project or program
- ii) Understand the best Procurement approaches associated with the typical business models of mini-grids

2. INITIAL CONSIDERATIONS

PROCUREMENT APPROACH. Key Factors

Key factors related to the enabling framework:

	Benefits
Approach to off-grid electrification planning	<ul style="list-style-type: none">• Top-down approach. Projects are identified and prioritized by the Government following a centralized approach. Projects are tendered out for their implementation according to a Master Plan. This approach implies a significant role for the government in determining the timing and location of mini-grid projects. Therefore, it requires a responsible agency adequately staffed, with the capacity and resources to successfully implement the approach.• Bottom-up approach. The government relies on nongovernmental parties to identify and propose potential projects. The government’s role is to develop eligibility requirements and determine, based on these criteria, whether proposed projects move forward. If necessary, the government can arbitrate between parties that end up competing over site development.• Hybrid approach. Combination of the above. The preferred approach can be differentiated on specific criteria, such as project size or viability of the projects.

PROCUREMENT APPROACH. Key Factors

Key factors related to the enabling framework:

	Benefits
Business Model	<p>The delivery model defines the level of involvement of the private sector and includes aspects such as the ownership (state-owned, private, community), and in the case of hybrid approaches (public-private partnerships) defines conditions such as concession terms, duration, etc. It should also indicate preferences in licensing rights, i.e., if exclusive power retail rights are to be granted and under which conditions.</p> <ul style="list-style-type: none">• EPC• IPP• Concession (BOO, BOOT, etc) <p>This will defined the right SPD to use, or even if the SPD requires adjustment</p>

PROCUREMENT APPROACH. Key Factors

Key factors related to the enabling framework:

	Benefits
Scope of services/works	<p>Another aspect to be defined is the scope of services being covered by the delivery model, and especially:</p> <ul style="list-style-type: none">• Whether indoor wiring and/or appliances are contemplated as part of the service provision. This is very relevant in rural remote contexts where access to appliances and/or after-sales services can be challenging.• It is also important to define whether the delivery model covers only mini-grids or if stand-alone systems or solar kiosks can be included as part of an integrated solution. Often the least-cost electrification approach in a community is not based on a single technology but a combination of:<ul style="list-style-type: none">• Mini-grids: for those customers with higher demands, with higher abilities to pay, and which are more clustered;• Stand-alone systems: for those customers with lower demands or that are geographically more isolated; and• Solar Kiosks: for those customers with very low and sporadic energy needs (e.g.: cellphone or lantern charging).

PROCUREMENT APPROACH. Key Factors

Key factors related to the enabling framework:

	Benefits
Subsidies	Off-grid electrification is typically not economically viable, and as such subsidies are required for its implementation. The government shall define the tools in place to provide financial support (grants, subsidies, etc.) to make projects economically viable, and make recommendations on how these may be enhanced. It is to be decided if all the subsidies are to be channeled through a centralized process, or if each donor will give subsidies through their mechanisms. In the case of a centralized mechanism, it shall be defined whether the subsidies will focus on CAPEX, or cover also OPEX costs, or if they would be framed as Results-Based, for instance. This will influence the procurement document. For instance, if capital is expected from private entity, typically this would go associated with IPP or Concession models, and therefore exclude the EPC SPDs.

PROCUREMENT APPROACH. Procurement framework

- **Applicable procurement procedures and regulation:** The World Bank has Standard Procurement Documents (SPD). Other Development Banks follow same procedures.
 - Procurement Framework and Regulations: WB Website with all the templates available in different languages.

<https://projects.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework>

- Example: For mini-grids, under EPC approach, top-down, we often use for mini-grids:
Plant > Request for Bids (without prequalification)
- **Procurement plan.** World Bank projects, and typically also UN projects, include, as part of their documents required for approval process, a **Procurement Plan**. It typically describes, for each procurement process at least: the budget, the timeline for implementation and procurement method, in addition to which process require non-objection from the donor during key steps.

2. PROCUREMENT METHOD

PROCUREMENT APPROACH. EPC vs CONCESSION

The delivery model is obviously a determining factor when deciding the most appropriate procurement process.

- Is the bidder only going to build the infrastructure or also to operate it?
- Is the bidder supposed to provide capital contribution?
- Who will own the assets?

This defines the Public-Private Partnership model: Design-Build, Build-operate-transfer, build-own-operate-transfer, etc. Our experience tells us that often the donors jump into the EPC approach as it is the "easiest". However, not having clarity on who will own, operate, maintain the assets is a very serious risk for the sustainability of the future project. And this is often neglected, unfortunately.

PROCUREMENT APPROACH. RFP vs RFB

- Request for Bids. The technical solution is more defined in detail in the bidding documents, so there is less space for bidders to adjust it. This is typically used for projects that do not include a high level of innovation, so bidders are familiar with what is being requested. In these type of processes, the technical component of the evaluation is directly pass/fail and then for the compliant bidders the cheapest price is selected.
 - This tends to be the case when we are pursuing an EPC approach, where the technical decision needs to be well defined so that bidders do not cut costs on important aspects, for instance.
- Request for Proposals. In this case, the tender gives more space to bidders to contribute defining the solution. This is typically used for solutions that are not that much off-the-shelf, so bidders are expected to add value through their experience. In this case therefore, the evaluation puts more focus on assessing the solution proposed by bidders and their differential elements.

This might be the case when we are pursuing a concession approach, where there is no so much need to define the technical detail, as the selected bidder will be eventually operating the assets, so it is in its interest to do it well, and it is important that the bidder is comfortable with the final technical solution adopted.

PROCUREMENT APPROACH. Lots

- If there are multiple mini-grids, a key decision is whether to tender them all together or in lots. Breaking the tender into lots means that different bidders might be awarded (one per lot).
- In countries with where private sector is in a very immature stage, breaking the tender into lots, might not lead to the lowest cost, but it is a good way to promote the development of the sector as not all the projects will be awarded to a single bidder (which would lead to building the capacity of only one bidder).

PROCUREMENT APPROACH. Pre-qualification

- In complex projects, it might be worth exploring the option of including a pre-qualification. The tender is then done in two stages.
- Only shortlisted firms are invited to prepare the final proposal.
- This ensures that only qualified bidders participate on it.
- This is a more complex and lengthy process.

PROCUREMENT APPROACH. Evaluation and Qualification Criteria

- **QUALIFICATION CRITERIA.** It is very important that the qualification criteria is well defined.
 - If it is too restrictive, that might hinder participation.
 - On the contrary, light criteria might lead to low quality.
 - When thinking it, it is critical to understand the maturity of the sector, and whether we anticipate partnerships of international + local firms or just local or just international firms.
- **EVALUATION CRITERIA.** Same as above. In RFB processes including evaluation criteria other than the cost might be a bit difficult. But it is an option.

PROCUREMENT METHOD. Bottom up programs

Mini-grid developers may identify sites outside the areas designated for any top-down process, approach the [regulator] directly and conduct feasibility studies.

Submission of
Project Concept

3. EPC CONTRACTORS IN THE PACIFIC

EPC Contractors. Some firms Working in the Pacific region

Below is a non-exhaustive list of firms we have seen in the last years working in mini-grid projects the region:

FIRM	WEBSITE	COUNTRY
Clay Energy	https://clayenergy.com.fj/	Fiji
JGH	https://jgh-group.com/	Denmark
CBS Power Solutions	https://www.cbspowersolutions.com/	Fiji
Gamma Solutions	http://www.gammasg.com/en/home-en/	Spain
Mitsubishi Electric Asia Pte Ltd	https://www.mitsubishielectric.com.sg/	Japan / Singapore
Balance Utility Solutions	https://www.balanceservicesgroup.com.au/	Australia
Vergnet SA	https://www.vergnet.com/?lang=fr	France
Sino Soar Hybrid	http://www.sinosoarhybrid.com/	China

5. ADDITIONAL RESOURCES

PROCUREMENT APPROACH. Evaluation and Qualification Criteria

- Public-Private Partnerships (PPPs) – Tools website.
<https://www.worldbank.org/en/topic/publicprivatepartnerships/brief/ppp-tools>
- FIDIC International Federation of Consulting Engineers website. <https://fidic.org/bookshop>
- IFC Scaling mini grid website.
https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/infrastructure/priorities/power/scaling+mini-grid

Vinaka!

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