



RURAL ELECTRIFICATION AGENCY

ENERGY ≡ EMPOWERMENT ≡ EFFICIENCY

NIGERIA ELECTRIFICATION PROJECT

MINI GRID TENDER

April 2019

PRESENTATION AGENDA



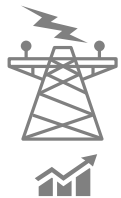
01

NEP Overview

NEP OVERVIEW

Objective: Increase access to electricity services for households, public educational institutions, and micro, small and medium enterprises throughout Nigeria

US\$350 million facility with 4 components



Component 1: Solar Hybrid Mini Grids for Rural Economic Development

- Minimum subsidy tender
- Performance-based grant on rolling-basis



Component 2: Standalone Solar Systems for Homes, Enterprises

- Output Based Grants for SHS installed and verified
- Market scale up challenge fund for rapid market expansion



Component 3: The Energizing Education Programme (EEP)

Support the construction and operation of solar hybrid mini grids for federal universities and adjoining teaching hospitals under Phase II of the Programme.



Component 4: Technical Assistance

Support project implementation, broad-based capacity building, and help develop a framework for scaling up rural electrification.

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02

Tender Design and Process

Programme Design

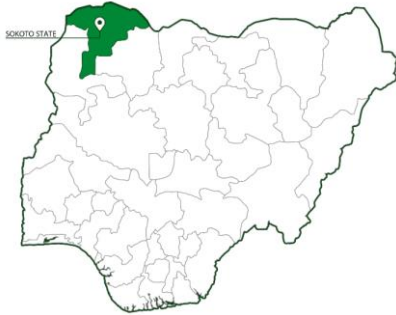
OBJECTIVES

- Develop mini grids on a build-own-operate model and catalyze mini grid deployment at scale to kick-start the market
- **250** sites to be tendered based on geo-referenced data on population clusters and sites, including population density, number and type of productive end-uses, productive loads and estimated load profiles

PROGRAMME DESIGN

- **Phase 1:** Tender for 57 sites across four states: Niger, Sokoto, Ogun, and Cross River states
- **Phase 2:** Scale up to complete 250 sites across these four states

Sokoto State



Ogun State



Niger State



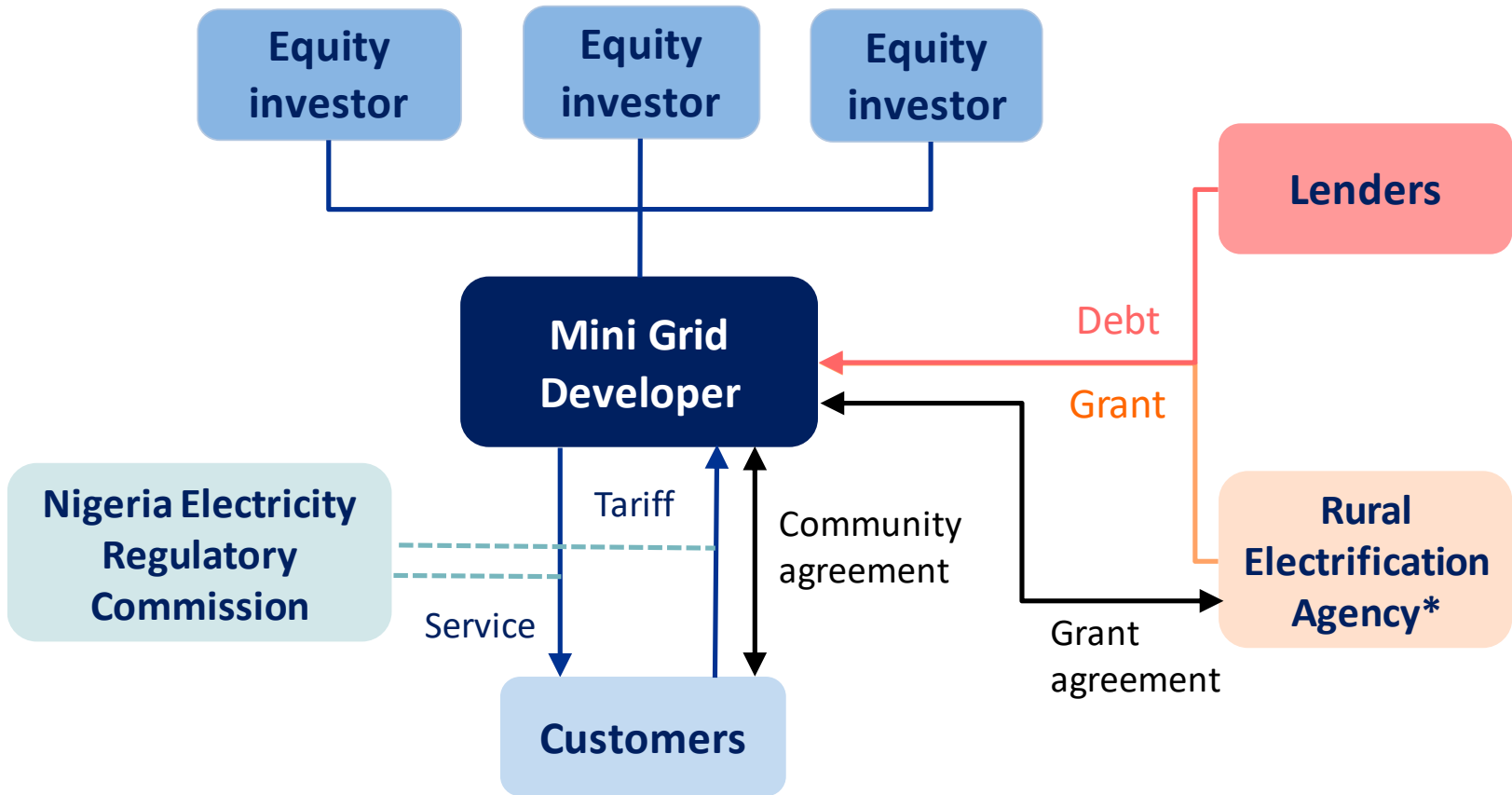
Cross-River State



Phase 1 tender expected to bring clean energy to:

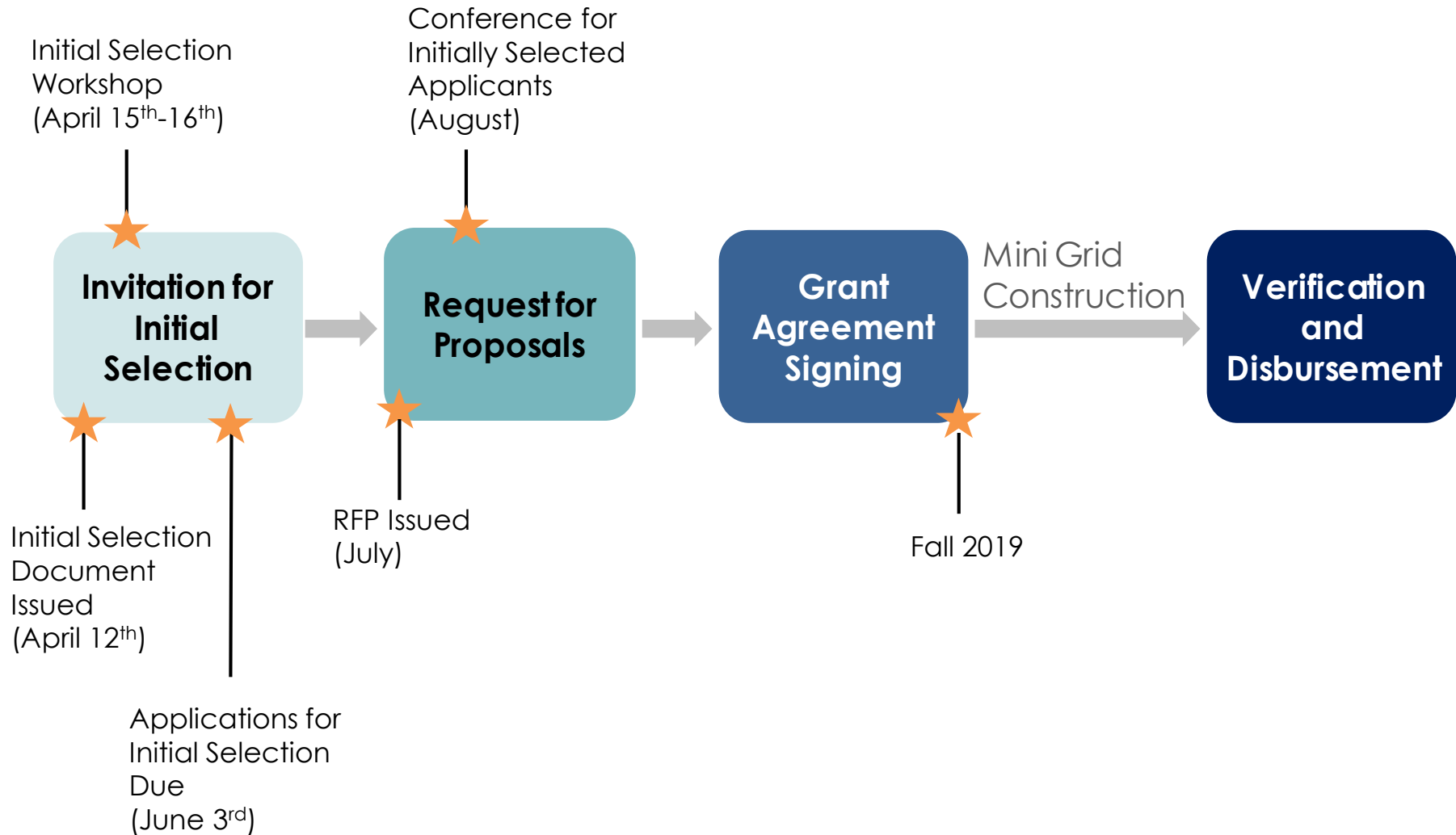
- 20,000 households
- 1,000 small and medium businesses and public institutions

Mini Grid Business Structure Under Tender



* Technical compliance involves coordination with the Nigeria Electricity Management Services Agency (NEMSA)

Tender Implementation Process



03

Initial Selection Overview

Initial Selection Process

- Initial Selection Document is available at: <http://rea.gov.ng/mini-grid-tender>
- Initial Selection Document is also available for free at REA's office, and can be couriered for a fee (to cover delivery costs)
- Applications should be submitted in hardcopy. Applicants should provide: 1 original, 2 copies, and 1 soft copy (flash drive, memory card and CD)
- Applications for Initial Selection are due on **June 3rd**
- Requests for clarifications will be accepted until **May 20th**
- Requests for clarifications should be made in writing to: nep@rea.gov.ng
- Applications should include:
 - Completed forms
 - Evidence required to show that the Applicant is eligible and qualified

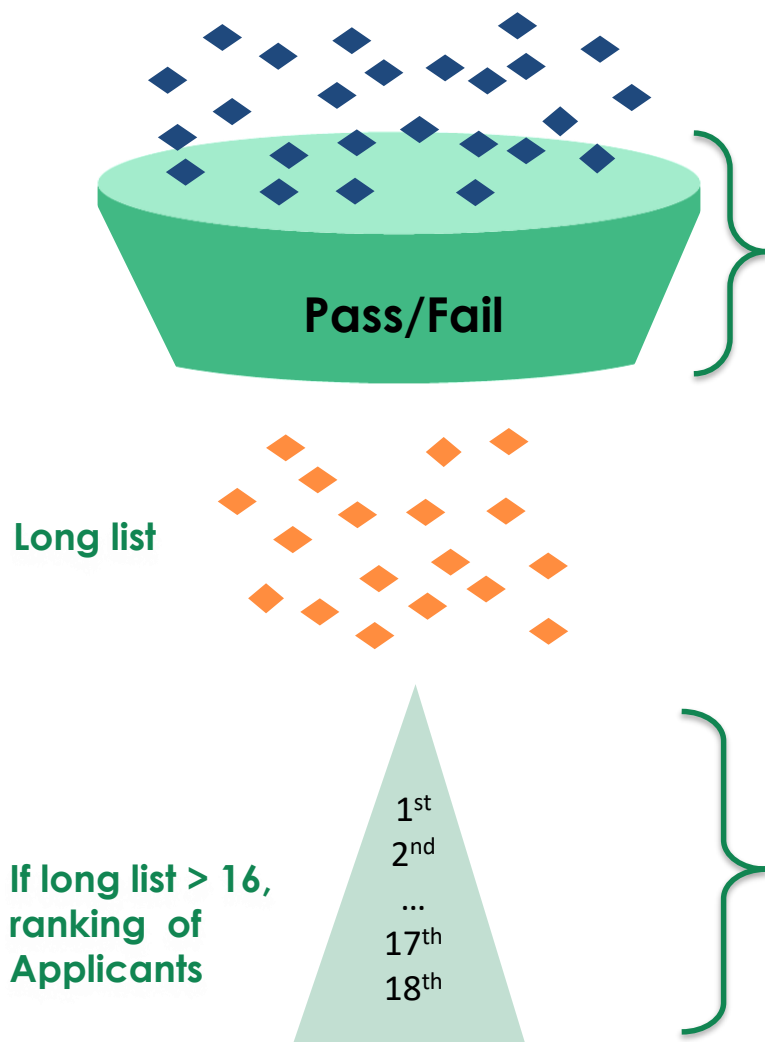
Initial Selection Criteria

Initial Selection Criteria Categories

1. **Eligibility:** world bank eligibility, absence of conflicts of interest
2. **Historical contracts and litigation:** pertaining to history of non-performance and litigation of the Applicant
3. **E&S compliance:** requirement to show compliance with World Bank and REA safeguards
4. **Technical capacity:** relating to the experience of the Applicant in developing and operating mini grids
5. **Financial capacity:** relating to the Applicant's capacity to secure financing (equity and debt)



Initial Selection – Maximum 20 Initially Selected Applicants



If long list > 16,
ranking of
Applicants

Max. 20 Initially selected Applicants

Pass/fail Criteria

Technical (met by 1 JV member)	Financial (met by JV)	Other (met by each JV member)
<ul style="list-style-type: none"> ✓ Developed ≥ 2 mini grids of more than 10kW since 2014 ✓ Operated ≥ 2 mini grids of more than 10kW since 2014 	<ul style="list-style-type: none"> ✓ Good financial position ✓ At least USD 1 million in liquid assets (or NGN equiv.) ✓ Having raised ≥ USD5 million (or NGN equiv.) in debt for ≥ 2 infrastructure projects since 2014 	<ul style="list-style-type: none"> ✓ Eligibility ✓ Historical contracts and litigation ✓ E&S compliance

Scoring Criteria

Technical	Financial
<ul style="list-style-type: none"> ✓ Number of mini grid projects developed ≥ 2 ✓ Number of mini grid projects operated ≥ 2 	<ul style="list-style-type: none"> ✓ Liquid assets ≥ USD 1 million (or NGN equiv.) ✓ Number of projects where ≥ USD5 million (or NGN equiv.) in debt has been raised ≥ 2

Initial Selection

Initial Selection for 1 lot only

- At the Initial Selection stage, **Applicants are selected to submit a proposal for any one lot only**
- At the RFP stage, any Initially Selected Applicant wishing to submit a proposal for more than one lot will be required to prove that it meets **the aggregate financial capacity requirements** for the combination of lots that it submits a Proposal for

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RFP Overview

RFP Requirements

Main Tender Design

- Proposals evaluated on the basis of **quality** (technical proposal) and **price** (minimum subsidy required) to build, own and operate a mini grids
- One proposal per lot to serve all the sites in each lot
- Pre-defined number of connections
- Proposals should include a system design that best fits the demand profile
- 4 mini grid system architectures:
 - REA will match each site to one or more suitable system architectures, according to its load profile
 - Initially Selected Applicant may confirm a system architecture suggested by the REA for justify another system architecture

Conference for Initially Selected Applicants

The full details of the tender will be presented to Initially Selected Applicants during the conference for Initially Selected Applicants. This will include:

- Market intelligence collected
- Lot allocation
- Requirements of the technical proposal
- Minimum technical requirements
- Evaluation criteria

Market Intelligence on Odyssey - Site Geolocation

Site Specifications

Project Overview

Project Files

Site Details

Site



Market Intelligence on Odyssey - Load Data

Baseline System Load ...

Have lots of data? Use our Excel templates to quickly upload your data or contact support@odysseyenergyqsolutions.com for help. [View Templates](#)

146.46
Avg. Daily Load (kWh/d)

4,458.38
Avg. Monthly Load (kWh/mo)

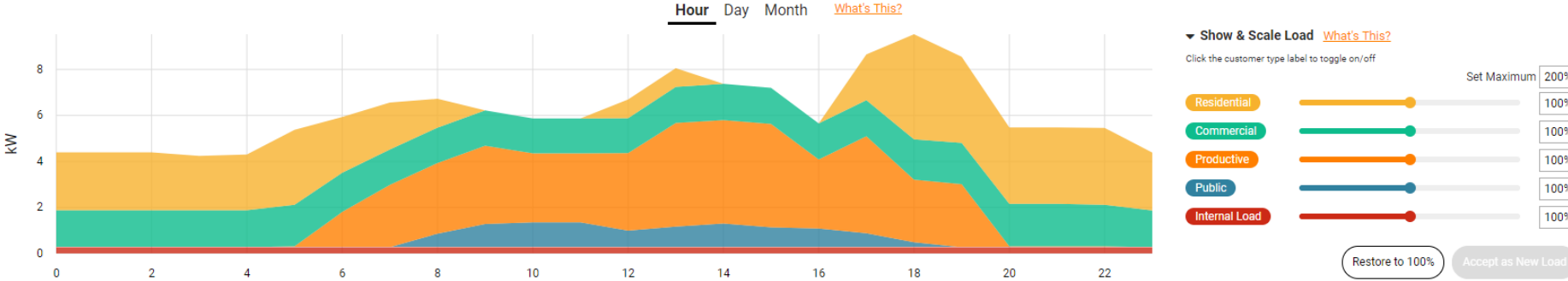
91
Customer Connections

9.73
Peak kW

18
Peak Hour

[Download Time Series](#)

Load



Customer Types

[Collapse All](#) [Add Customer Type](#)

Customer Type ^	Category ^	Customers ^	Avg Daily Load/Cust. (Wh) ^	Avg Daily Load/Type (Wh) ^	Scaling Factor ^	
▶ Metering Load	Internal Load	90	72	6,480	100%	...
▼ Clinic	Public	1	1,792	1,792	100%	...

Name	Quantity per Customer	Power per equipment (W) or Total Daily Load (Wh)	Avg. Weekday Energy	Avg. Weekend Energy	
Fan	2	75	848 (Wh)	848 (Wh)	...
Laptop	1	120	654 (Wh)	654 (Wh)	...
Light (LED)	5	10	290 (Wh)	290 (Wh)	...

Market Intelligence on Odyssey - System Design

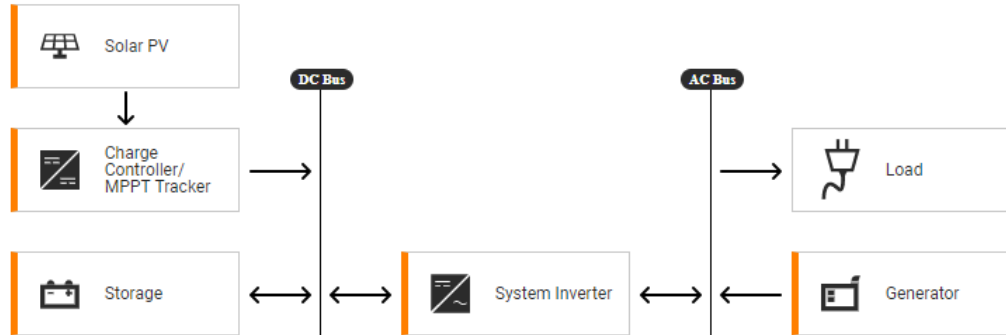
Sample Generation System

AC-Coupled System

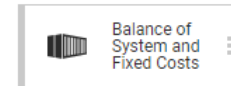
DC-Coupled System

DC-Coupled System Components

Drag and Drop components into your custom generation design.



Other Components



Balance of System and Fixed Costs

Distribution Design

Have lots of data? Use our Excel templates to quickly upload your data or contact support@odysseyenergysolutions.com for help.

[View Templates](#)

[Upload Excel](#)

[Download Template](#)

Distribution Network [What should I add here?](#)

\$195/connection

\$17,750

<input type="checkbox"/>	Type	Details	Quantity	Unit Cost	Unit	Total Cost
<input type="checkbox"/>	Cabling	Cabling & Poles: 50 kVA	1500	\$10.00	meter	\$15000.00
<input type="checkbox"/>	Cabling	Cabling & Poles: 100 kVA	100	\$15.00	meter	\$1500.00
<input type="checkbox"/>	Cabling	Cabling & Poles: 150 kVA	50	\$25.00	meter	\$1250.00

Delete

Add

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05

Overview of E&S Requirements

E&S WORKFLOW

Site Selection

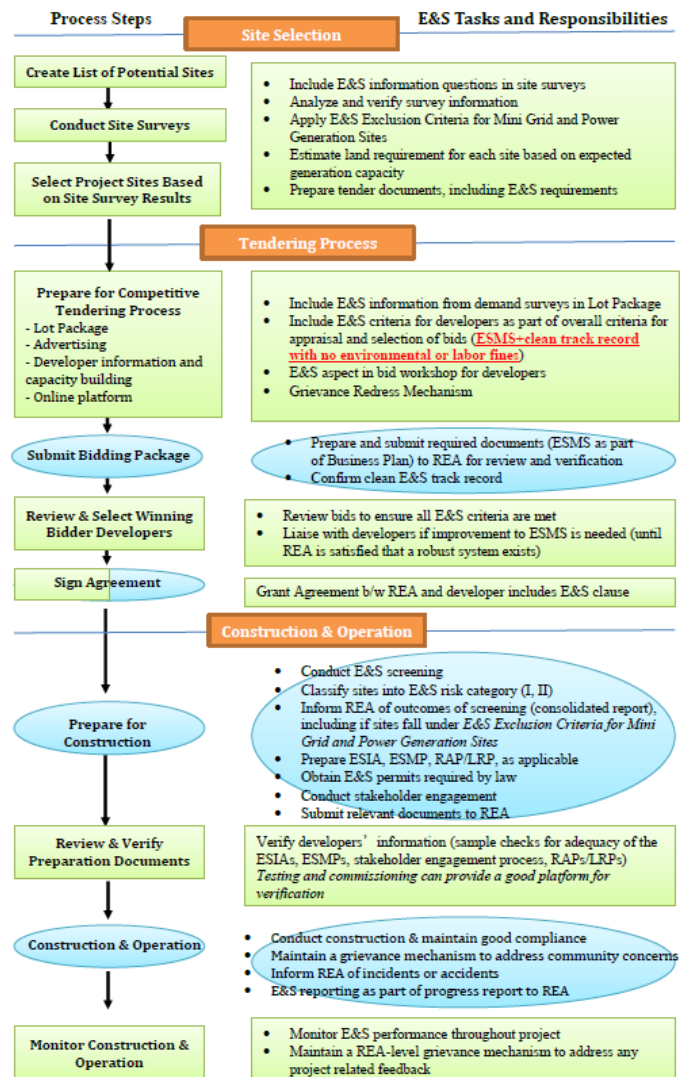
- REA applies E&S exclusion criteria when selecting sites for the mini grid tender

Tendering Process

- As part of the bidding package, developer submits ESMS
- REA reviews ESMS and ensures that all E&S criteria are met

Construction & Operation

- After bid award, developer conducts E&S screening, prepares ESMP or ESIA, as applicable, and obtains required E&S permits
- Verification of developer's E&S information by REA and monitoring for continued compliance





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