



# NIGERIA ELECTRIFICATION PROJECT

Overview of the NEP -  
Mini grid development opportunities



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## Background

The Nigeria Electrification Project (NEP) is a Federal Government (FG) initiative that is private sector driven and seeks to provide electricity access, through renewable energy sources, to households, micro, small and medium sized enterprises, federal universities and teaching hospitals in unserved and underserved communities across Nigeria.

The NEP is being implemented by the Rural Electrification Agency (REA), is funded by a \$350 Million loan facility provided by the World Bank (The Bank) to the Federal Government of Nigeria and aims to be the largest off-grid electrification project in Nigeria.

The project consists of four components:

- Component 1 - Solar Hybrid Mini Grids for Rural Economic Development
- Component 2 - Standalone Solar Systems for Homes, Farms, and Enterprises
- Component 3 – Energizing Education Programme
- Component 4 – Technical assistance

## COMPONENT 1 – SOLAR HYBRID MINI GRIDS



To support the development of private sector mini grids in unserved areas that have high economic growth potential. The component consists of two funding windows:

1. **Performance Based Grants (PBG)**- aims for the development of mini grids on a rolling basis. The communities are identified, verified as suitable for minigrids and sensitized by mini grid developers, and they may also use this window to support development of pre-planned projects in their portfolios
2. **Minimum Subsidy Tender (MST)** - aims to electrify pre-selected communities that have high economic growth potential through a competitive tender. The communities to be electrified under the MST are identified, verified as suitable for minigrids and sensitized by the REA/NEP.



Total funding available for the component is **US\$150million**

Total of **US\$70million** has been assigned for the MST to electrify 250 communities

Total of **US\$80million** has been assigned for the PBG programme



**300,000**

Households to be electrified



**30,000**

MSME's to be electrified

## COMPONENT 2 – STANDALONE SOLAR HOME SYSTEMS



Significantly increase the market for stand alone solar systems and aims to substitute energy inefficient supply, tools and culture for sustainable practices. The component consists of two funding windows:

1. **Market Scale up Grant (MSCF)** - offers up-front grants to a small number of the strongest and most capable solar providers, paid against robust business plan milestones and co-funding requirements, to accelerate their capacity to reach and serve Nigerian households and small enterprises at scale.
2. **Output Based Funds (OBF)** - This fund will provide fixed incentive grants up to 20% of the retail cost of the system to the grantees, for each eligible system installed and verified. This support will enable the firms to finance the required investment in people, training, advertising and logistics, inclusive of gender workforce integration as informed by the NEP gender program.

Total funding available for the component is **US\$75million**

Total of **US\$15million**  
has been assigned  
for the MSCF

Total of **US\$60million** has been assigned for the OBF  
programme



**300,000**  
Households to be  
electrified



**40,000**  
MSME's to be  
electrified



**1,000,000**  
Solar home systems to  
be deployed



## COMPONENT 3 – ENERGIZING EDUCATION PROGRAMME (EEP)



Provide sustainable and clean power supply to 7 Federal Universities and 2 associated University Teaching Hospitals across Nigeria, including upgrading existing distribution infrastructure, street lighting to improve security within the universities' campuses, as well as the development of a world class training centre on renewable energy for each university.

In addition, 20 female students undertaking Science Technology Engineering and Mathematics (STEM) courses will be selected across the beneficiary institutions to gain hands on practical experience in the construction phase of the project, under the EEP STEM Female Internship Programme.

Total funding available for the component is **US\$105million**



Total amount for the EPC, Streetlights and a World class training centre



**153,239**

Students will have access to uninterrupted power supply and be trained on renewable energy at training centre



**21,166**

Staff will have access to uninterrupted power supply



**5000+**

Medical professionals will have access to uninterrupted power supply



**259**

Generators will be decommissioned

## COMPONENT 4 – TECHNICAL ASSISTANCE



The provision of technical assistance will support project implementation and broad capacity building in the Federal Ministry of Power, Works and Housing and the Rural Electrification Agency. It will also finance project implementation as well as help build a framework for rural electrification.



Total funding available for the component is **US\$20million**



- Institutional support for REA
- Investment pipeline development
- Financing needs assessment
- Regulatory support
- Pre-investment support to mini grid developers
- Ecosystem development for SHS
- Environmental & Social Safeguards
- Local supply chain development support



## KEY ACHIEVEMENTS



Successfully sensitized 160+ communities in 9 states across Nigeria



Deployed solar home systems across all 36 states in Nigeria



Signed Agreements with all 7 Federal Universities and 2 associated teaching hospitals under the EEP



Commissioned 3 Solar hybrid mini grid project in Niger and Bayelsa states



Carried out stakeholder engagement with all 7 Federal Universities and 2 associated teaching hospitals under the EEP

## KEY STATISTICS

Current impact of the NEP across the country from the technical launch of the project in April 2019 till date. An additional connection of 134,000+ expected by Q2 2021, from current project pipeline.







# CONTENT

## ❖ **PERFORMANCE BASED GRANT**

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- Application and Approval Process
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- Site Specific Odyssey Technical Application

## ❖ **MINIMUM SUBSIDY TENDER**

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- Mini grid Business Structure Under Tender
- Application and Approval Process
- Market intelligence on Odyssey



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# PERFORMANCE BASED GRANT (PBG)

01



# Programme Overview

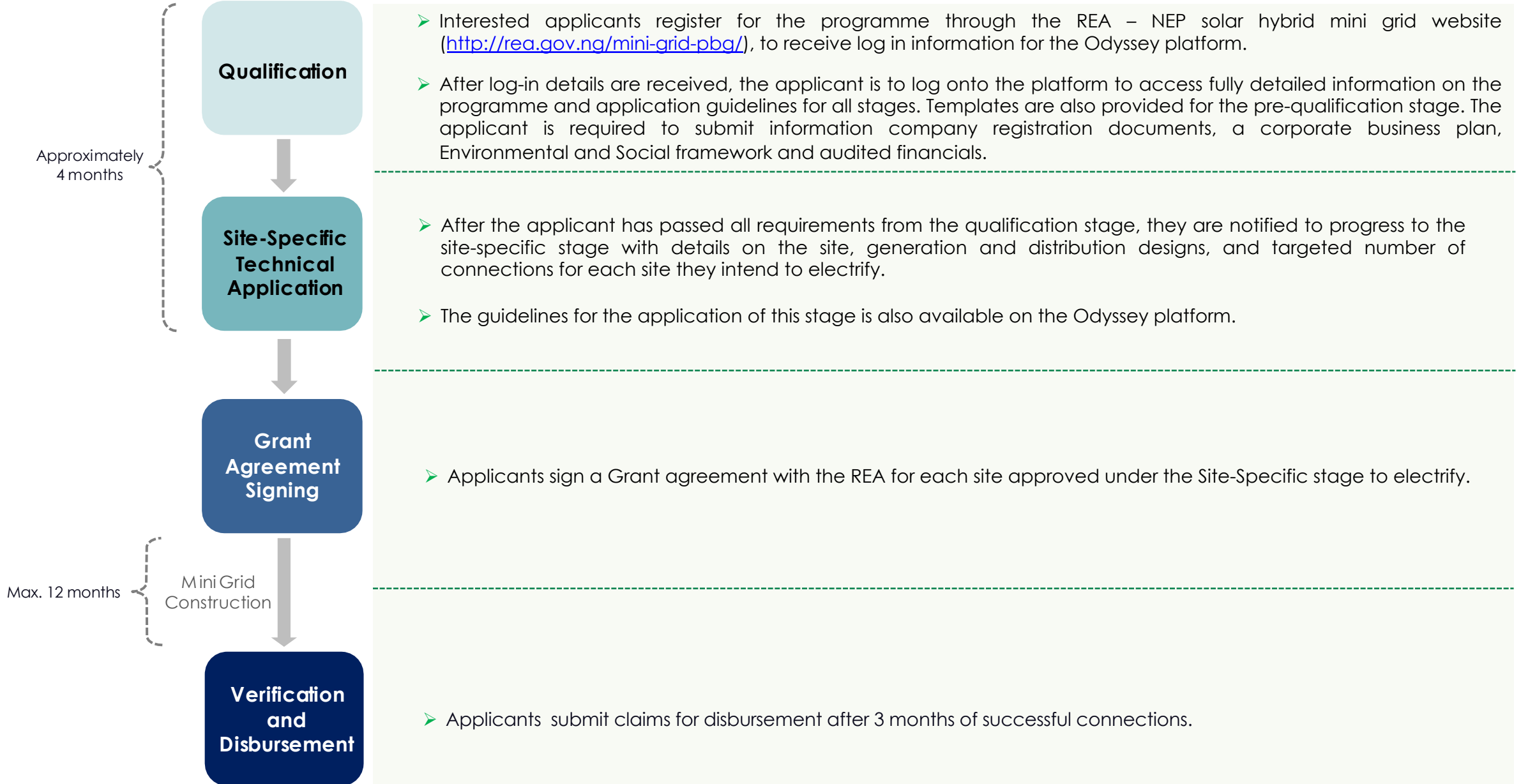
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The PBG Programme aims to close the viability gap for mini grids developed on a spontaneous basis. **Grants of US\$350/connection** are available on a first-come first-served basis, with a minimum total grant request of US\$10,000 per mini grid. Eligible projects are solar hybrid systems in unserved areas.

Applications for performance-based grants will be accepted on a rolling basis, once the program is active and until available funds are exhausted.



# Application and Approval Process



# Qualification Requirements

## Qualification Criteria Categories

- ✓ **Eligibility:** World Bank eligibility and absence of conflicts of interest
- ✓ **E&S compliance:** requirement to show compliance with World Bank and REA safeguards
- ✓ **Technical capacity:** relating to the experience of the Applicant in developing and operating mini grids
- ✓ **Financial capacity:** relating to the Applicant's capacity to secure financing (equity and debt)
- ✓ **Business plan:** Applicants will have to submit a business plan that complies in form and substance with the template.

## Site Specific Criteria Categories

- ✓ Site location and targeted number of connections in 21 months
- ✓ Generation Design
- ✓ Distribution Design
- ✓ Evidence of compliance with minimum technical requirements
- ✓ Evidence of regulatory compliance
- ✓ Proof of compliance with E&S and other program requirements


## Grant Agreement Criteria Categories

- ✓ Standardized and non-negotiable
- ✓ Grant period: **21 months**
- ✓ Grant will terminate after if **12 months** the Grantee has not commissioned the mini grid or has not connected any customers
- ✓ Grant agreement will contain clauses on enforcement of program requirements (service standards, minimum technical specifications, and E&S requirements), and on reporting requirements

# Site specific Technical Application- Site Specifications

Project Overview
Project Files
Site Details

Map
Satellite



Project Name

Sample Project

Executive Summary

B I U [List Icon] [Link Icon] [Image Icon] [Refresh Icon]

This is a sample project

P

24 / 2000 Characters

Project Type

Minigrid

Country

Nigeria

State/Province

Federal Capital Territory

Program

NEP Performance-Based Grant Program

City

Abuja

Tariff Currency

Nigerian Naira

Exchange Rate
[View Rates](#)

360

Commercial Operation Date (COD)

03/25/2019

Status

Site Surveyed

Latitude

9.074

Longitude

7.41

Save
Cancel



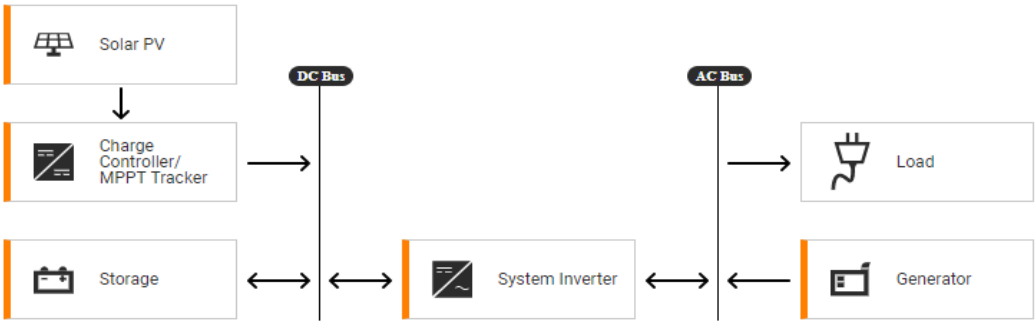
# System Design

## 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@odysseenergy.com](mailto:support@odysseenergy.com) for help. [View Templates](#)

[Upload Excel](#) [Download Template](#)

Distribution Network <a href="#">What should I add here?</a>						\$195/connection	\$17,750
<input type="checkbox"/> Type	Details	Quantity	Unit Cost	Unit	Total Cost		
<b>Distribution Design</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
<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		
						<a href="#">Delete</a>	<a href="#">Add</a>



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# MINIMUM SUBSIDY TENDER (MST)

02

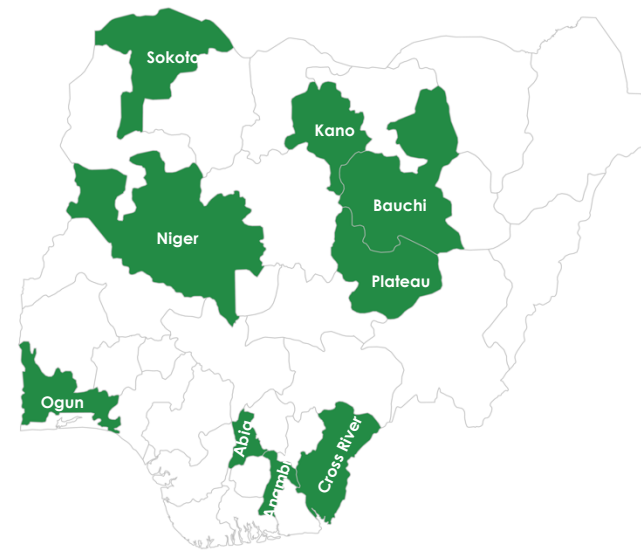


# Programme Overview

The MST Programme aims to kick-start the Nigerian mini grid market and catalyze deployment at scale. Mini grid developers will compete on the basis of quality (technical proposal) and price (minimum subsidy requirement) to build, own, and operate solar hybrid mini grids. The REA will provide the minimum subsidies required to the successful proposers.

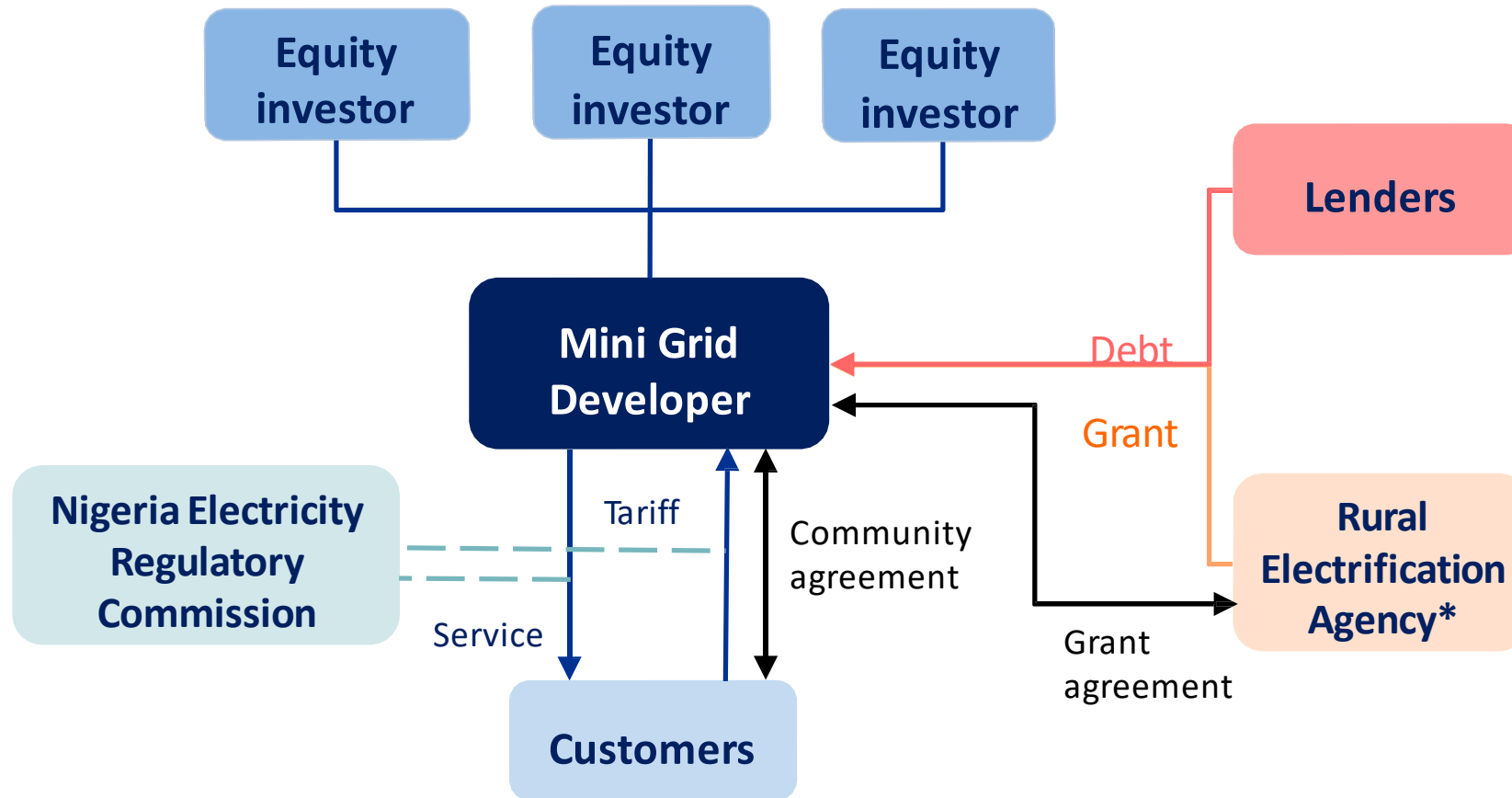
The REA has prioritized **250 sites** to be tendered, spread across **9 states**. The MST subcomponent will be implemented in two phases. The REA/NEP has prioritized 100+ sites to be tendered in the first phase, spread across the mapped states. These sites will be packaged into lots, by state, to encourage economies of scale in procurement and efficiency in operations and management. The remaining sites will be tendered in the second phase.

The grant amount will be determined competitively through the tender. Phase 1 of the project is currently closed.



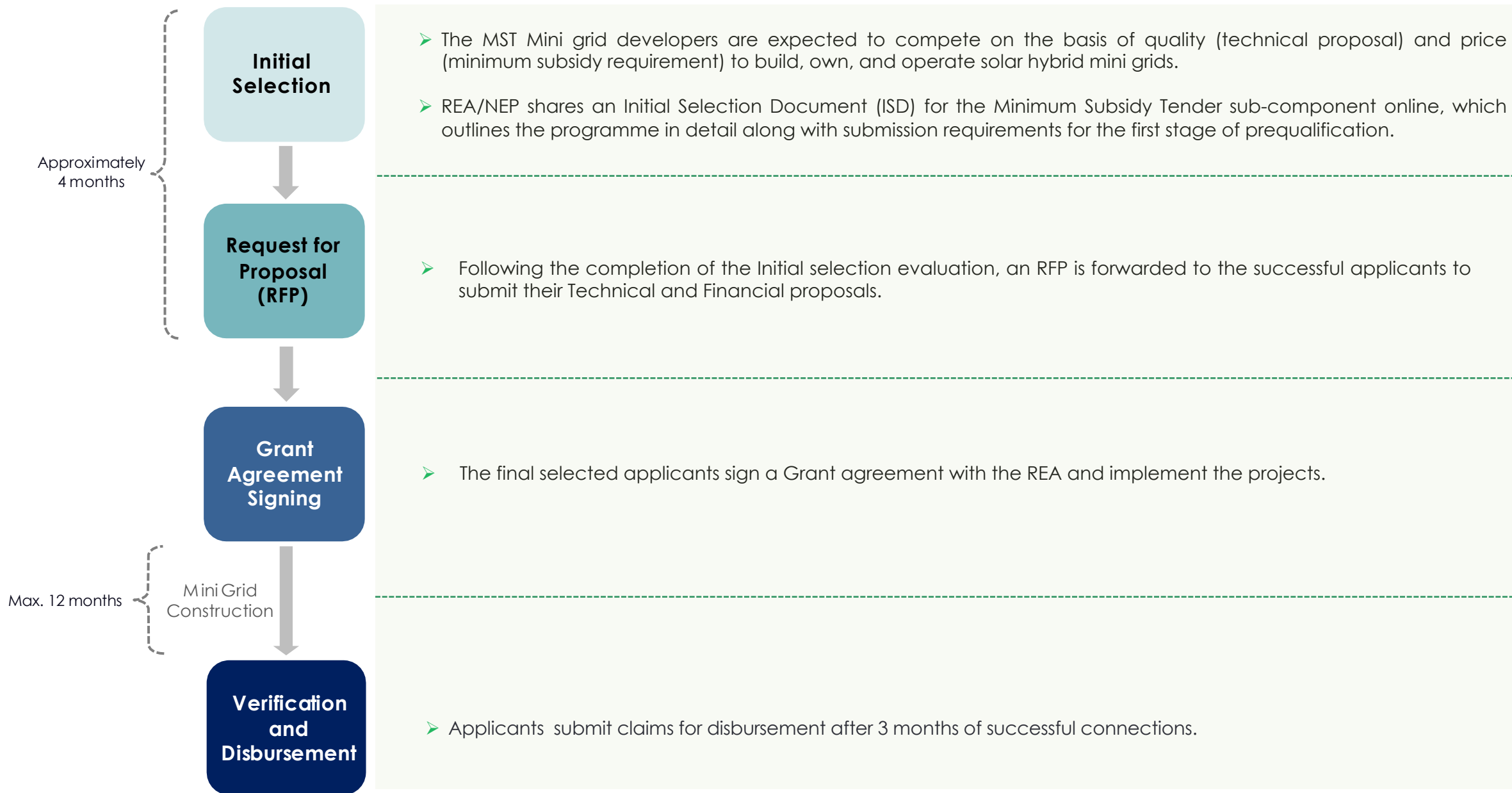


## Mini Grid Business Structure Under Tender



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

# Application and Approval Process



## Market Intelligence on Odyssey - Site Geolocation

### Site Specifications

**Project Overview**

Project Files

Site Details

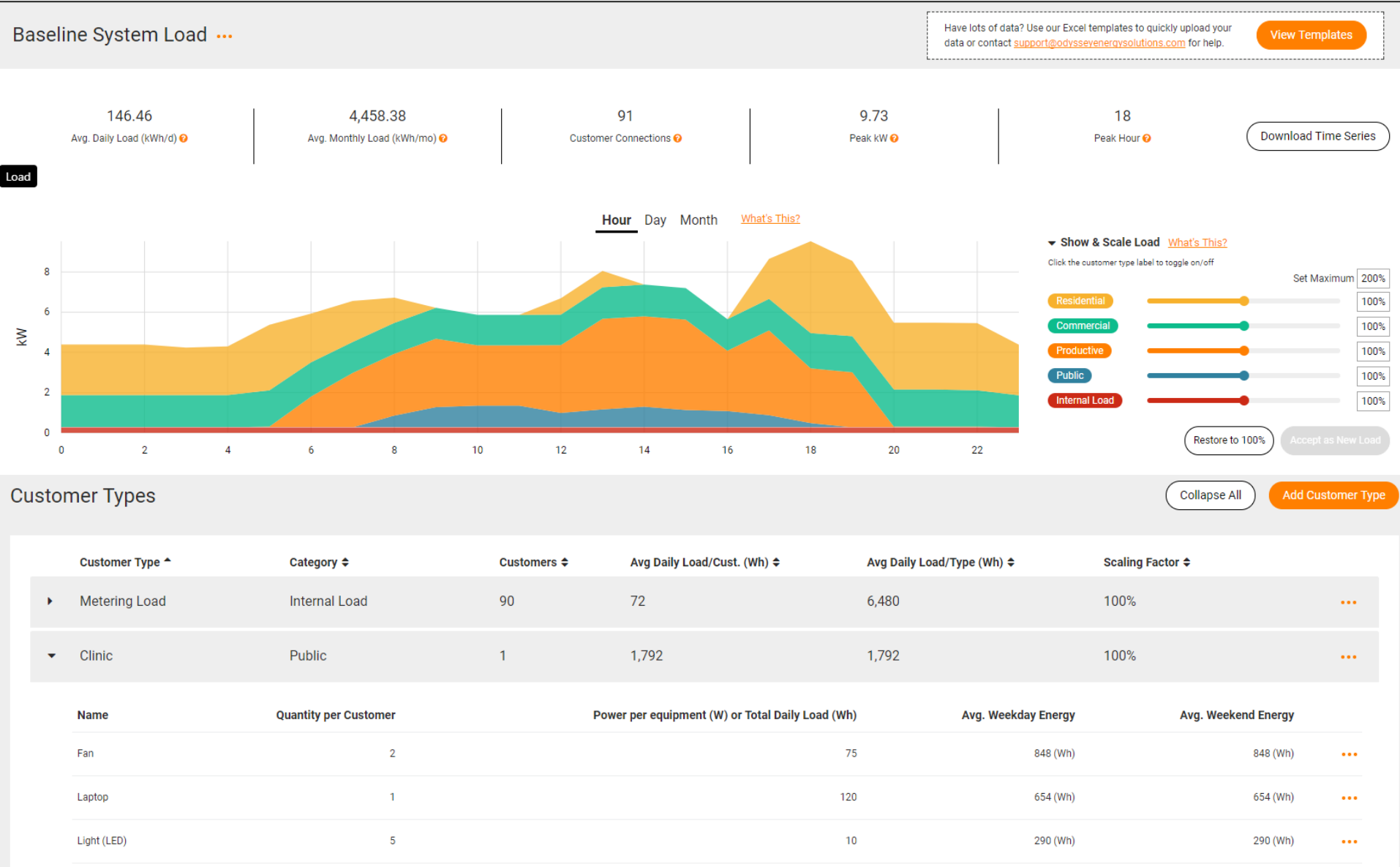
Site







# Market Intelligence on Odyssey – Load Data



## Market Intelligence on Odyssey – System Design

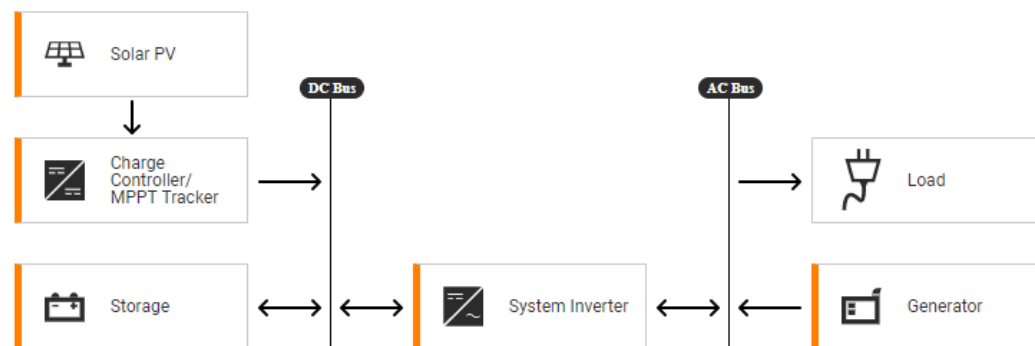
## Sample Generation System

### AC-Coupled System

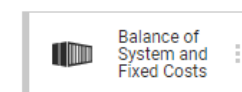
### DC-Coupled System

## DC-Coupled System Components

Drag and Drop components into your custom generation design.



## Other Components



## Distribution Design

Have lots of data? Use our Excel templates to quickly upload your data or contact [support@odysseenergyvsolutions.com](mailto:support@odysseenergyvsolutions.com) for help.

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Upload Excel

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Distribution Network <a href="#">What should I add here?</a>					\$195/connection	\$17,750
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