



RURAL ELECTRIFICATION AGENCY

ENERGY • EMPLOYMENT • EFFICIENCY



THE WORLD BANK



Nigeria Electrification Project

ENERGY EFFICIENT PRODUCTIVE USE APPLIANCES AND EQUIPMENT

CONTEXT: MINI GRIDS – PERFORMANCE OVERVIEW

A NEED FOR MINI GRIDS




1 UNIVERSAL ACCESS TO ENERGY BY 2030

2 MIX OF OFF-GRID AND ON GRID

3 LEAST COST APPROACH TO ENERGY ACCESS

4 MAJOR INVESTMENT INTO ACCELERATION OF DEPLOYMENT

B REALITY OF MINI GRIDS



1 LOW-CAPACITY UTILIZATION

2 LOW CONNECTION RATES

3 POOR RETURN ON INVESTMENT

C CHALLENGES




1 POOR SITE SELECTION

2 POOR DEMAND SURVEYS

3 OVERSIZED SYSTEMS

4 HOUSEHOLDS PRIORITIZED OVER BUSINESSES

D APPROACH



DEMAND STIMULATION THROUGH COMPONENT 2

COMPONENT 2 OVERVIEW

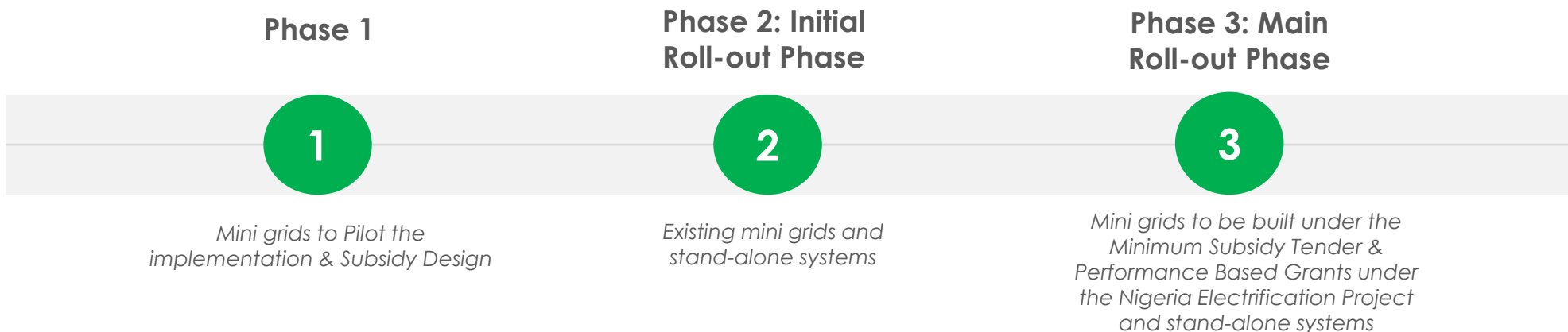
Objectives

- **INCREASE** productive use of energy by facilitating access to efficient, electric productive equipment
- **ENCOURAGE** productive use in Developer's Strategy
- **ACTIVATE** Appliance Market

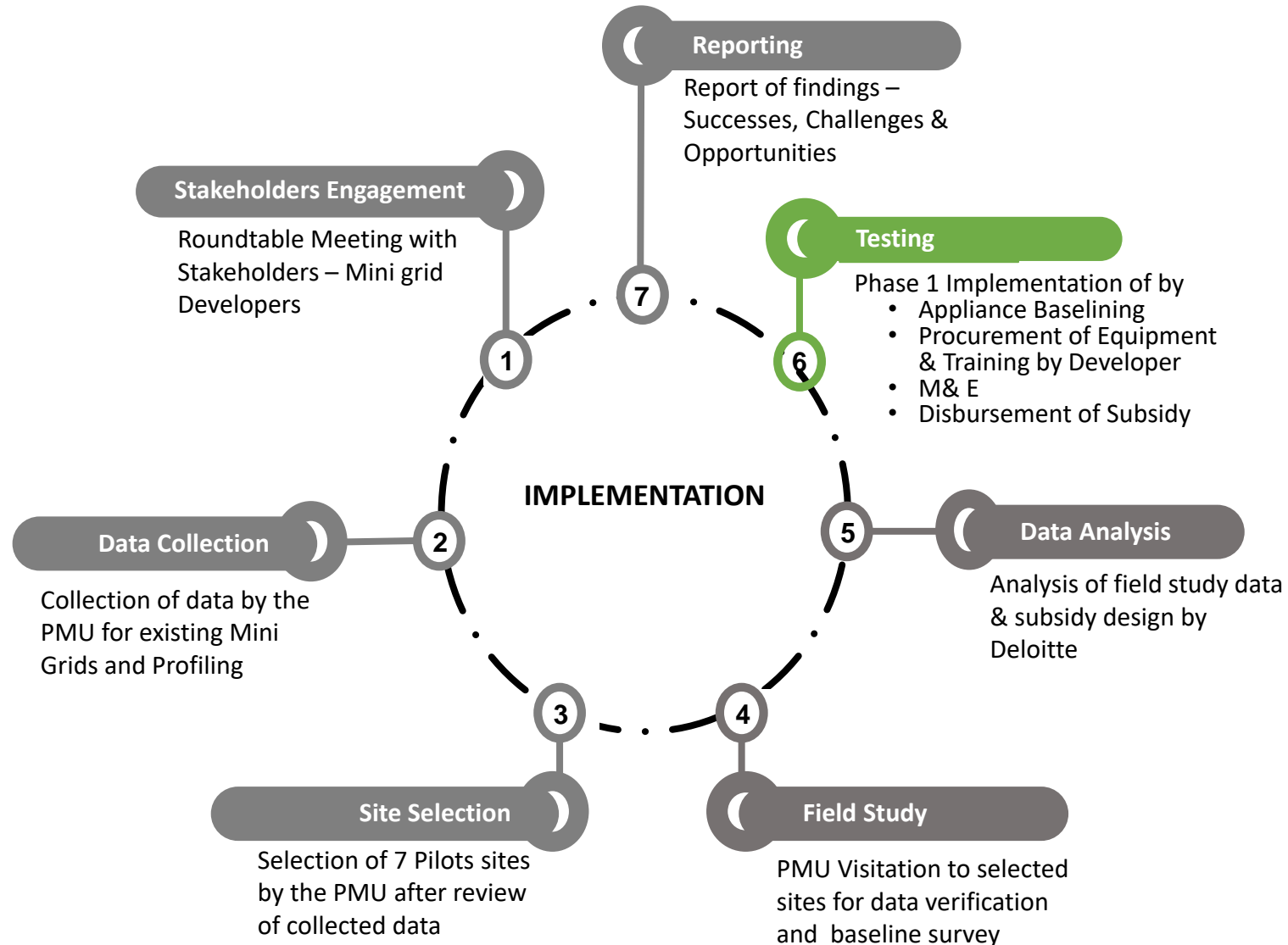
Subsidy Approach

- Result's Based Financing to energy access companies for energy-efficient appliances in rural communities
- RBF available for sites identified by energy access companies with sustainable business plans
- Subsidies to be provided to energy access companies on the basis of new appliance installation and training of end-users
- **\$20 million dollars**

Implementation

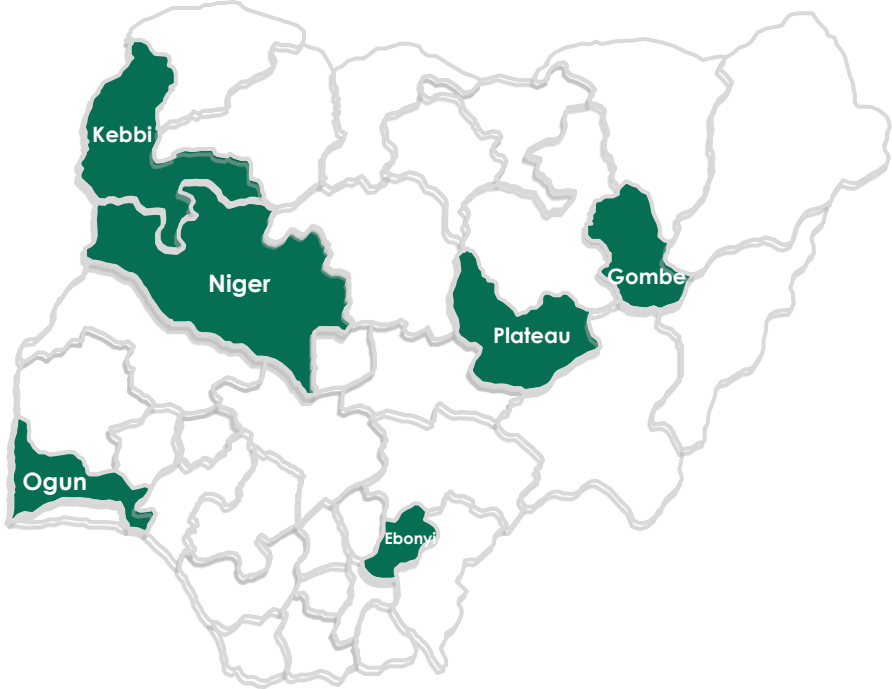


PHASE 1 IMPLEMENTATION PLAN





PHASE 1 MINI GRID INTELLIGENCE



19

Applications

10

Mini Grid's pre-qualified

6

Mini Grid selected following data analysis and final submissions (Business Plans, PUE Rosters)

> 25

Various types of economic activities

No.	MINI GRID LOCATION (state)	Local Government Area (LGA)	Community Name
1	Ogun	Obafemi Owode LGA	Mokoloki Community
2	Gombe	Akko LGAA	Dakiti Village
3	Kebbi	Arewa LGA	Kare, Tsulayi and Dadin Kowa communities
4	Niger	Edati LGA	Rokota Community
5	Plateau	Shendam LGA	Shimankar Community
6	Ebonyi	Onicha LGA	Obeagu Isu Community

PRODUCTIVE USE EQUIPMENT DATA

Below, is the data requested from each developer on plans for productive use equipment purchases to be considered under the subsidy program. Each developer must provide this information completely and accurately to move on to the next stage of the productive use program.

Budget	Your total PUE equipment budget for the site
Business Plan	Information on your business plan for the purchase of PUE under the program (provided separately)
PUE Roster	The specific PUE you intend to purchase with this subsidy (separate row in roster for each equipment type) and technical specifications [Warranty (years), Power type (AC or DC), Power rating (kW, VA), Brand.]
Economic Activities Supported	List all economic activities this equipment will support, electricity, and/or enable
Quantity (Units)	Total number of PUE equipment type to be purchased
Cost Per Unit	Cost for each unit of PUE (should only include equipment (capital) cost; excludes costs related to transportation, installation/commissioning, training, O&M, marketing, etc.)
Other costs	Other costs, all costs not included in Capex costs
Total Cost	Cost per unit x Quantity + Other costs
# of customers	Total number of customers who will pay you to use this equipment type
Customer type	[Agro Processor] OR [MSME]
# of women led MSMEs	Number of direct customers which are MSMEs owned and/or headed by women
# of women-owned cooperatives	Number of direct customers which are women cooperatives
# of beneficiaries	Estimate of the total beneficiaries of this equipment beyond direct customers

PHASE 1 TARGETS & INDICATORS

During phase 1, the PMU will be testing the following assumptions surrounding the impact of productive use of energy & energy-efficient productive use appliances on mini grids:



- Increased income/expenditure for enterprises

- No. of meters installed in community
- No. of enterprises with retrofitted appliances
- No. of enterprises with mechanised processes

- No. of financiers willing to participate in component
- Capacity utilization of mini grid
- Increased revenue/profit for mini grid developer

- No. of individuals trained on productive use of energy & modern technology, disaggregated by age and gender
- No. of new businesses started



Old Vs New

- ✓ Cleaner Energy Source
- ✓ Increased Productivity & Efficiency
- ✓ Improved income generation Potential
 - ✓ Improved Economy
 - ✓ Reduced Health Hazard



APPLIANCES



Grain Mill

Water Pumping System

Rice Huller

Rice Polisher

Oil Press

Cassava Grater



APPLIANCES



Mobile Phone Charging Station

(Deep) Freezer

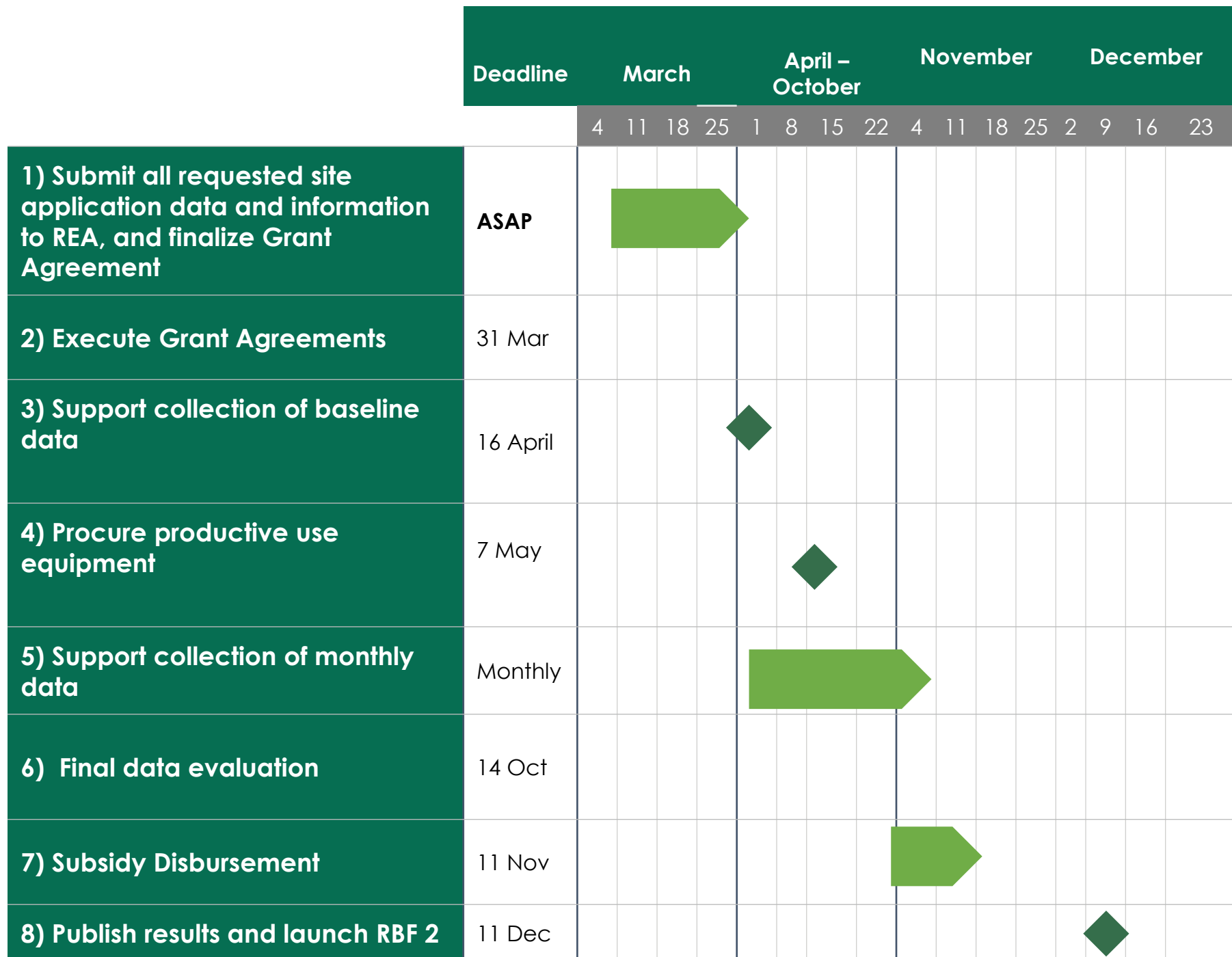
Sewing Machines

Barbing Kit

Hair Dryer



STATUS



PRODUCTIVE USE IMPACT BY 2023

24,500

Energy-efficient
productive use
appliances

20%

....of businesses
headed by women

1,050,000

Number of people
with improved access
to energy services
from productive use
systems

\$20,000,000

Total Value of results-based
financing channeled to private
sector providers of Productive Use
Appliances and Equipment



RURAL ELECTRIFICATION AGENCY

ENERGY = EMPOWERMENT = EFFICIENCY

Website: www.rea.gov.ng

Email: info@rea.gov.ng

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