



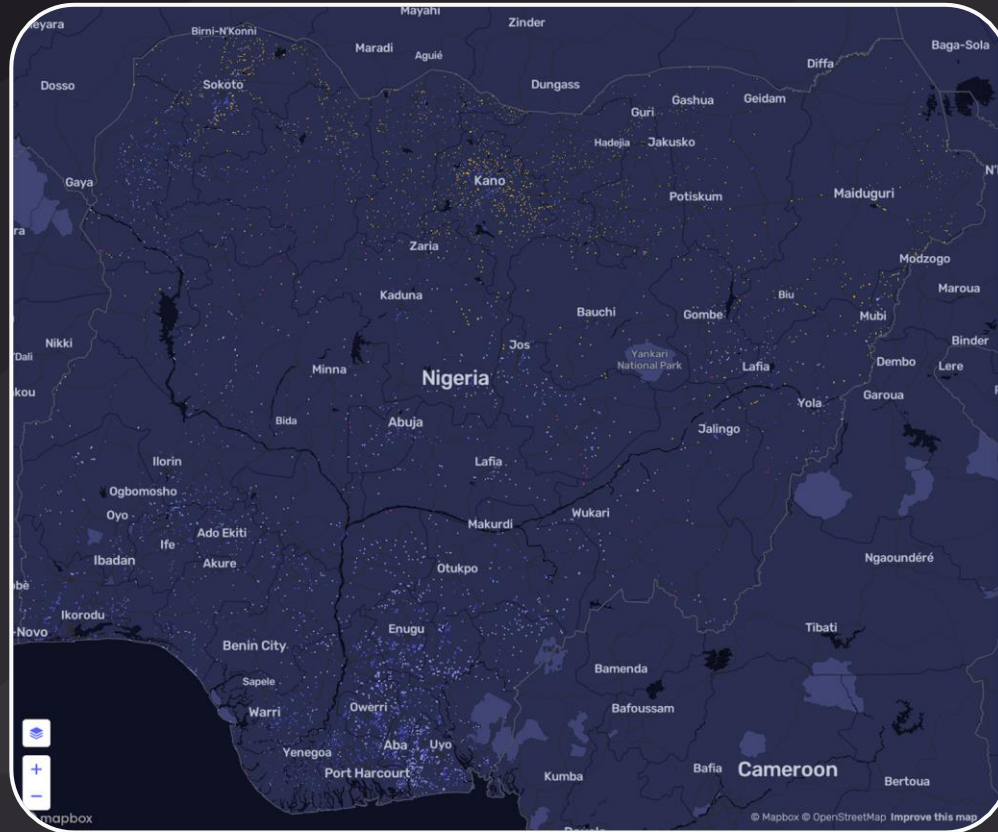
**45M**

People to be connected to off-grid solutions by 2030

**1.58GW**

Potential PV Capacity to Deploy

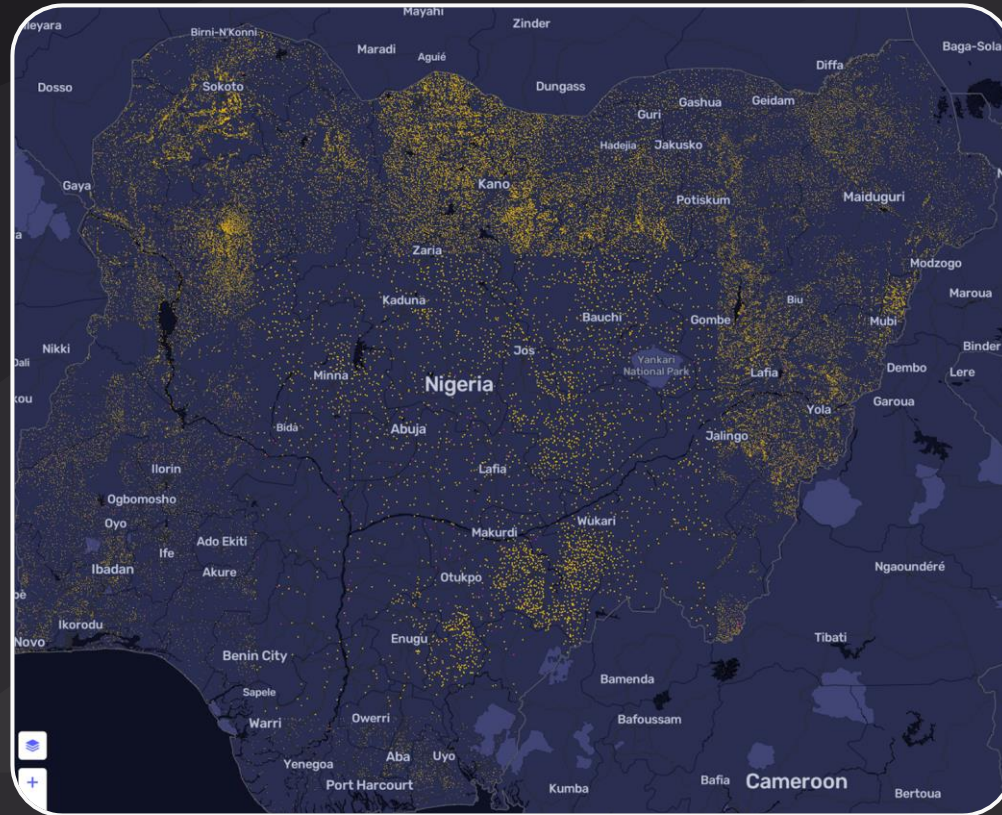
# Number of off-grid sites with **more than 500 households**



## 528MW

Potential PV  
Capacity to  
Deploy

# Number of off-grid sites with **less than 500 households**



## 1.05GW

Potential PV  
Capacity to Deploy

# The off-grid Energy Technology Gap

How do we get productive use energy to low density last-mile areas?

**20% of (non grid ext)**

Densely populated communities, some commercial anchor loads, **suitable for mini-grids**

Distribution costs

PV, Batteries,



High Density -  
500+ households

**80% of (non grid ext)**

Sparsely populated communities **challenging to justify distribution investment**

Distribution costs

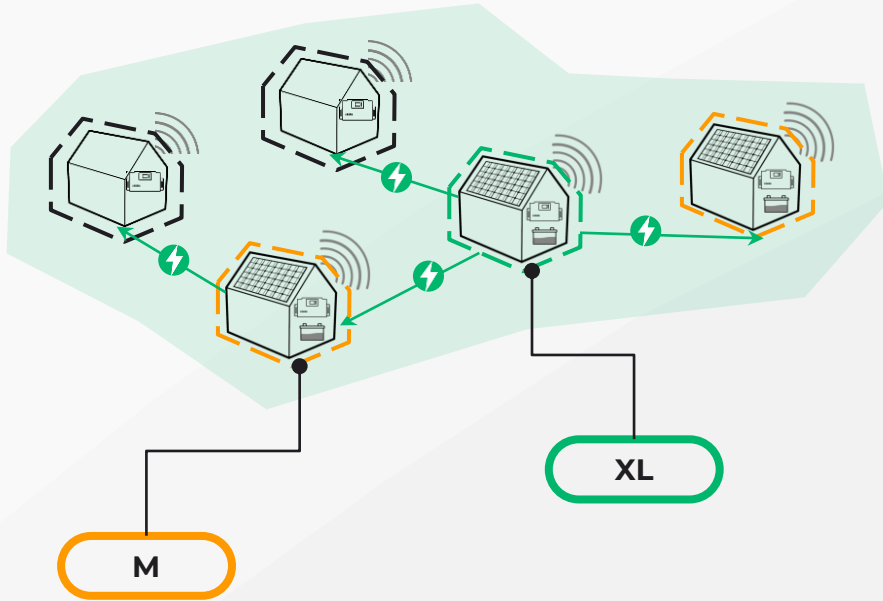
PV, Batteries,



Low Density - Less  
than 500 households




# What are mesh-grids?




**30 - 50%  
reduction in  
per connection  
cost**

Due to reducing  
distribution cost by  
90% vs. traditional  
mini-grids

Mesh-grids 

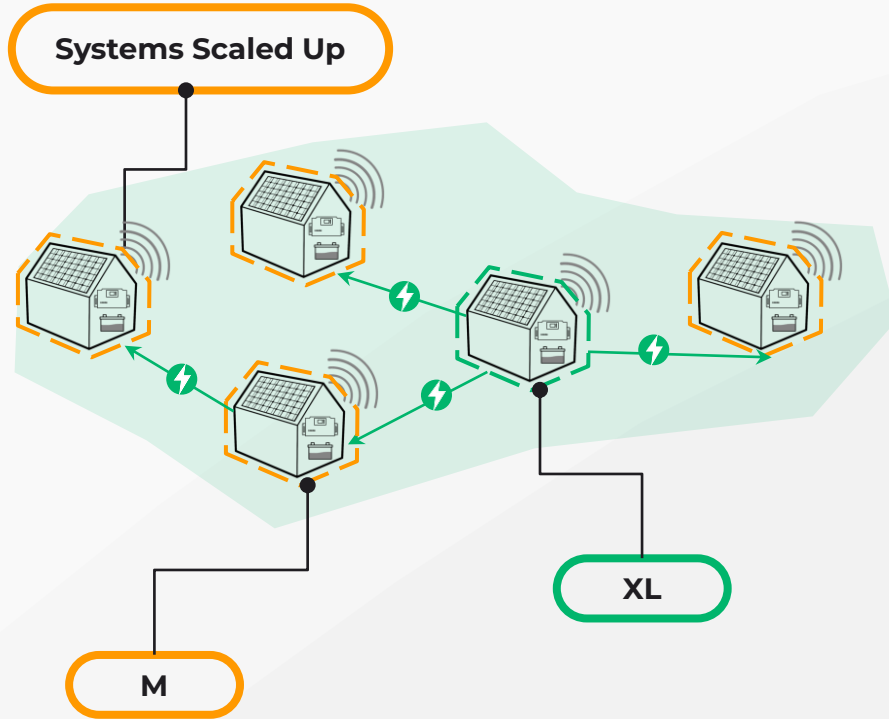
PV, Batteries, 

Mini-grids 

PV, Batteries, 

Distribution costs

# What are mesh-grids?



**Grid built inside  
out based on  
demand**

- ✓ Low Cost
- ✓ Modular
- ✓ IoT automated

# Mesh-grids in the field





# Data from Deployed Pilots in Nigeria



KONEXA

Kano State



Kwara & Ondo State



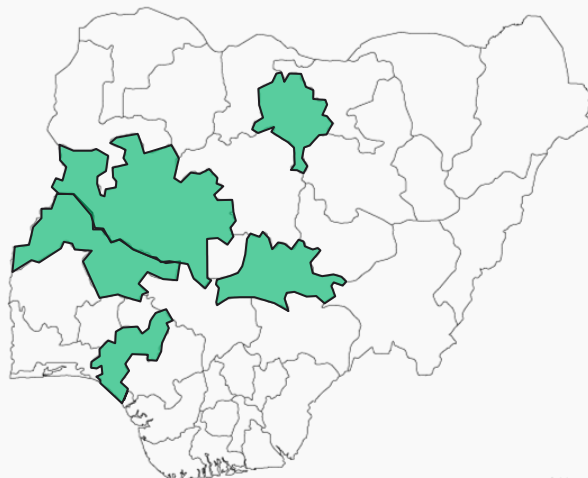
Ondo State



Ondo State



Niger State



**333Wh**

**/day**

Average Daily Load

**4.4kWh**

**/day**

Highest Average Daily Load

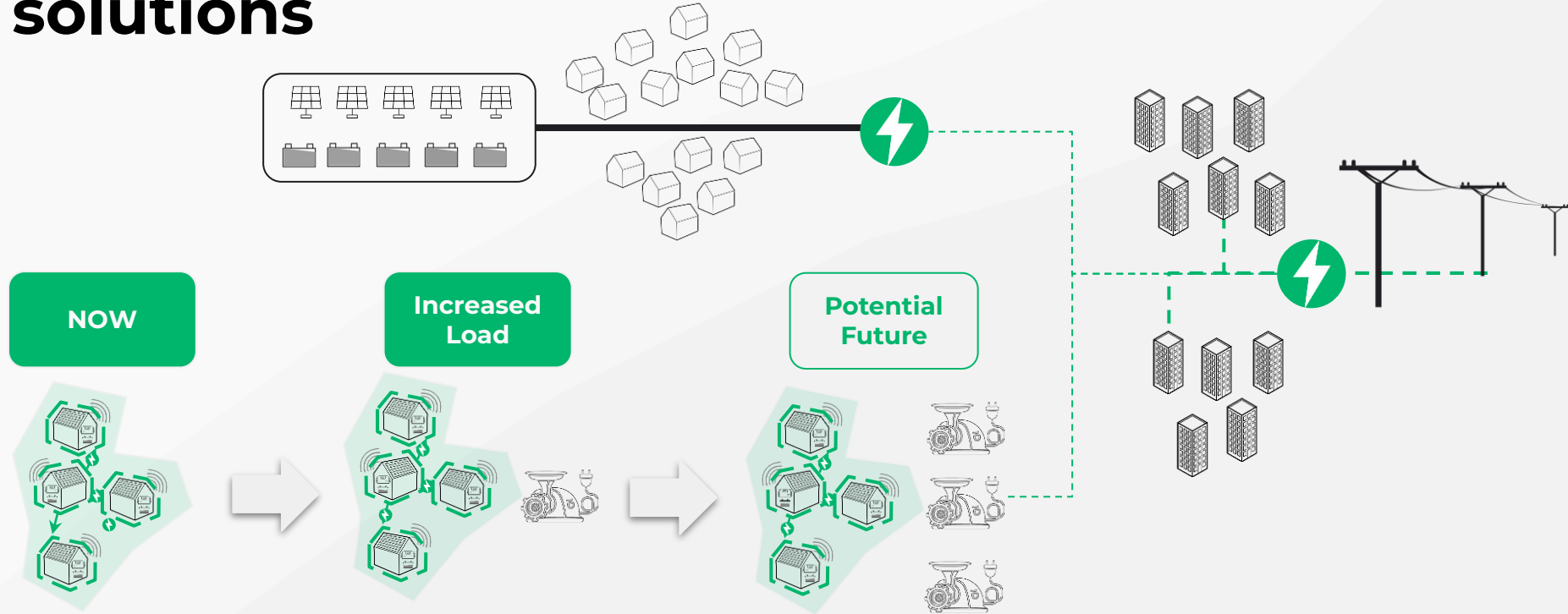
**₦3,300**

ARPU per customer

**8 Years**

Payback (No Subsidy)

# The decentralised harmony of energy solutions



# Recommendations for advancing mesh-grids

⚡ Provide 80% of mini-grids subsidy to mesh-grids

- i Ensure this provides same capacity as mini-grids
- More connections for less subsidy
- Enable hardest to reach communities to be energised with productive power

⚡ Enable SELV under 100 kW to be deployed without any approval process

- Speed up deployment