

Undergrid minigrid in Mokoloki Community Ogun State, Nigeria Commissioned February 2020

This project demonstrates the technical feasibility and commercial viability of grid-connected “undergrid” minigrids. The model is scalable across thousands of communities in Nigeria alone.



**MOKOLOKI MINIGRID, OGUN
STATE, NIGERIA
(UNDER CONSTRUCTION)**

THE SITUATION

- A community of 1,000 people, nominally grid-connected
- Community development was limited by poor voltage quality and an average of four hours of electricity service per day
- Many people resorted to expensive diesel generators for back-up power
- The distribution company faced aggregate technical and commercial losses of 70%

THE SOLUTION

A tripartite agreement between the community, the distribution company, and a minigrid developer, to build and operate an undergrid minigrid.



→ [GO TO VIDEO](#)

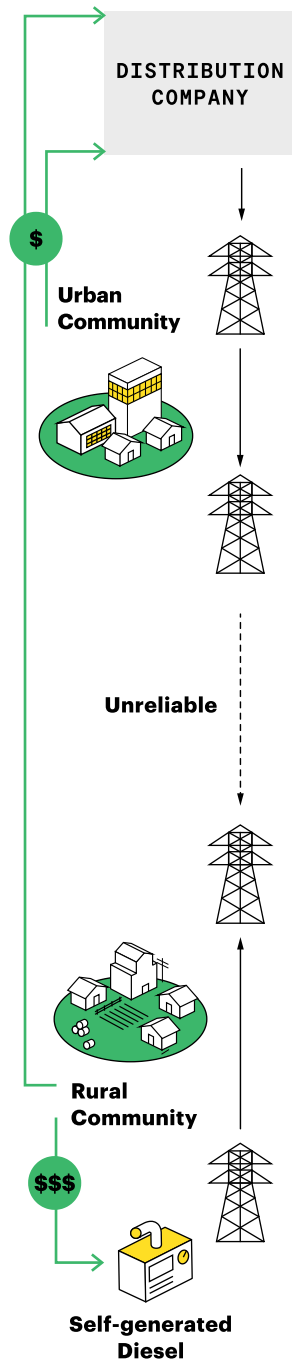
THE IMPACTS

- Customer electricity costs reduced by ₦20/kWh (US\$0.06/kWh)
- Cost-savings for the utility, which can replicate the model elsewhere
- New revenue stream and minigrid market segment for the developer
- 15,000 kg of CO₂ emissions avoided in the first three months of operation

CBEA process: Using project finance to invest in minigrid as infrastructure

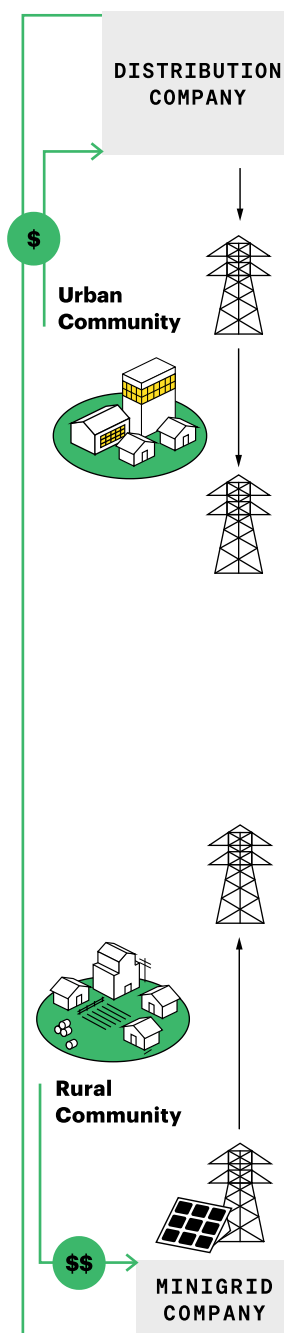
TODAY

Rural users pay up to 10x grid cost for power



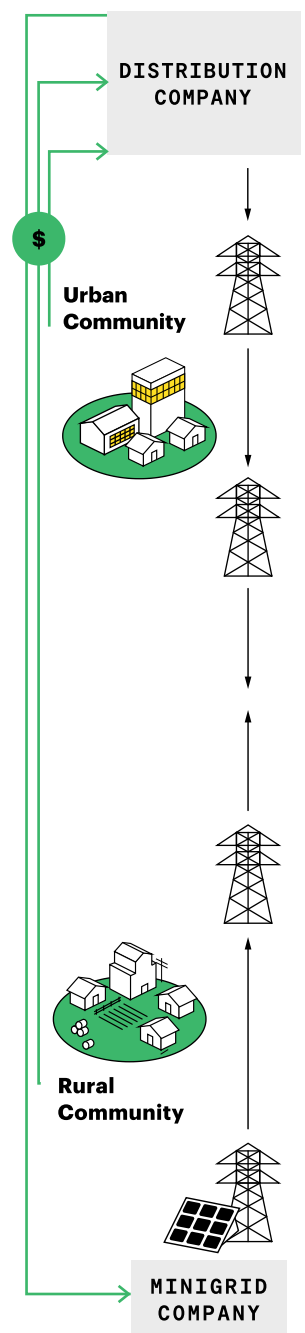
PROPOSED

**Rural community saves money
Consistent reliable power**



LONG TERM

**Additional cost savings
Minigrad becomes distributed resource supporting grid**





“

We have many places where this initiative can be replicated... Electricity is the engine room for progress, so [where] minigrids are sited, there would be an economic boost.

Engineer John Ayodele
Chief Operating Officer,
IBEDC

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FULL CASE STUDY

www.rmi.org/mokoloki

FURTHER READING

- **UNDER THE GRID: IMPROVING THE ECONOMICS AND RELIABILITY OF RURAL ELECTRICITY SERVICE WITH UNDERGRID MINIGRIDS**
RMI 2018

- **ELECTRIFYING THE UNDERSERVED: COLLABORATIVE BUSINESS MODELS FOR DEVELOPING MINIGRIDS UNDER THE GRID**
RMI 2019



ELECTRIFYING ECONOMIES

The Electrifying Economies project

demonstrates the role distributed energy will play in ending energy poverty and catalyzing a green and equitable recovery from the Covid-19 crisis. It draws on the latest data and research from around the world to show how distributed renewables can provide sustainable, affordable, and reliable power for all. The project provides information to support policy makers and investors in taking action today, to realize this potential.



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