



## Nigerian Energy Support Programme (NESP)

# ACCELERATING MINI-GRID DEVELOPMENT IN NIGERIA

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Implemented by

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

# About NESP II

- Technical cooperation programme
- Funded by European Union and Germany
- Implemented by GIZ in collaboration with FMPWH
- Aim: Enabling and fostering investments in RE and EE (incl. solar mini-grids)
- Funding for 2<sup>nd</sup> phase: EUR 33M – EUR 20M (EU) and EUR 13M (Germany)
- 1<sup>st</sup> phase: 2013 – 2017 (Access target: 10k pple)
- 2<sup>nd</sup> phase: 2018 – 2020 (Access target: 100k pple)

# NESP support towards the mini-grid sector

## Phase 1 2013 - 2017

- **Target:** Support piloting - Facilitate access to more than 10,000 rural dwellers through support to deployment of five solar mini-grid projects
- **Geographic scope:** 5 partner states (Cross River, Niger, Ogun, Plateau, Sokoto)
- **Budget:** EUR 1 Million for in-kind grants disbursed by REA + Technical Assistance
- **Status:** Concluded

## Phase 2 2018 - 2020

- **Target:** Support first stage of replication - Facilitate access to more than 100,000 rural dwellers through support to deployment of (~20-40) new off-grid solar mini-grids (incl. KeyMaker Model)
- **Geographic scope:** Nationwide (6 lots – one per geopolitical region)
- **Budget:** EUR 6 Million for in-kind grants disbursed by REA + Technical Assistance
- **Status:** Commenced

# Off-grid solar mini-grids - Market status and potential

- Market still nascent, but maturing fast and with great potential

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	<b>Customers</b>	<b>No mini-grids</b>	<b>Installed cap.</b>	<b>Market value</b>
Status	6k	30*	1MW	EUR 6M
Potential	5M	8k	3.5GW	EUR 5B

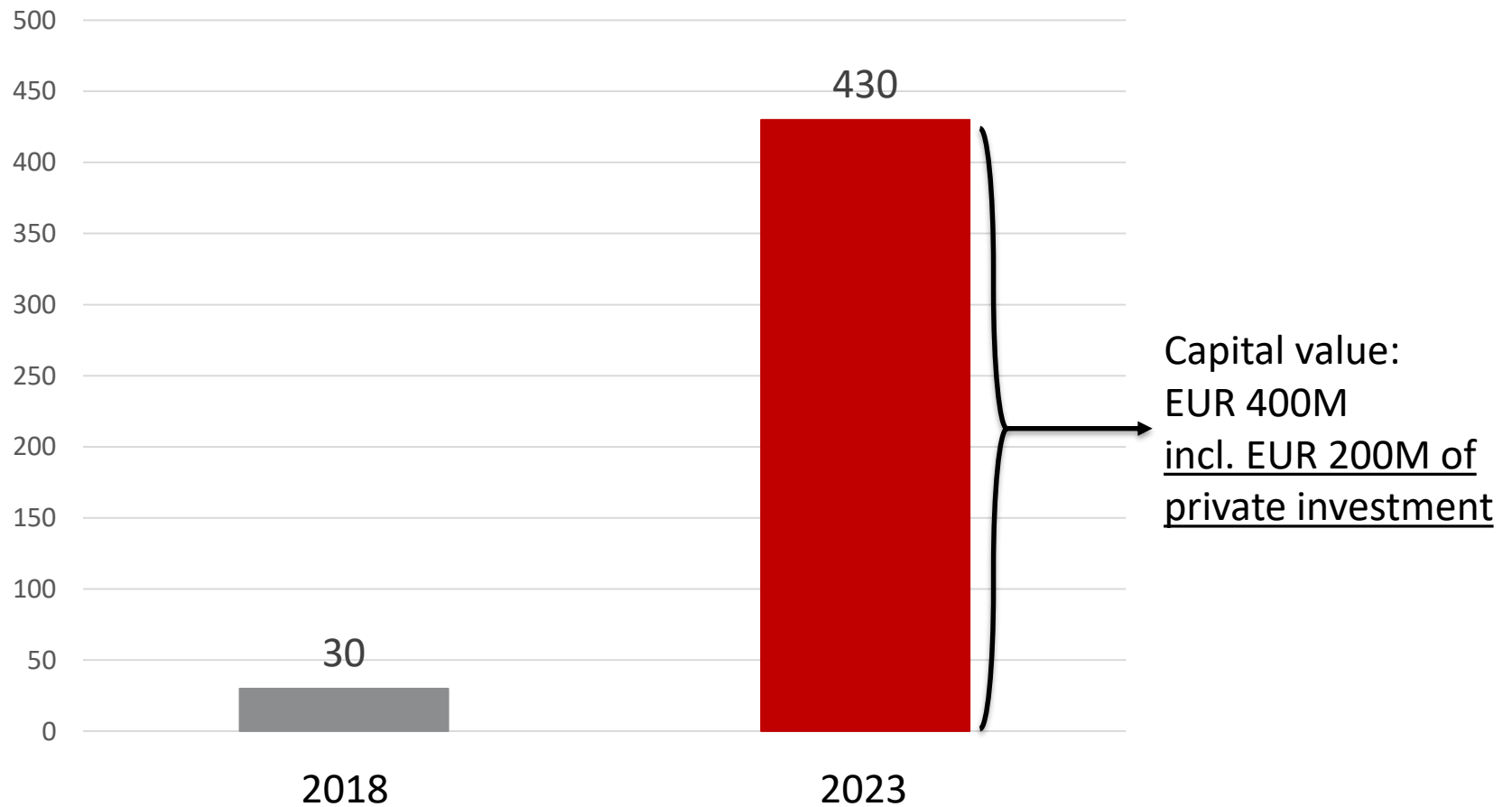
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*\*One mini-grid in Nigeria powered by biomass. All others are solar.*

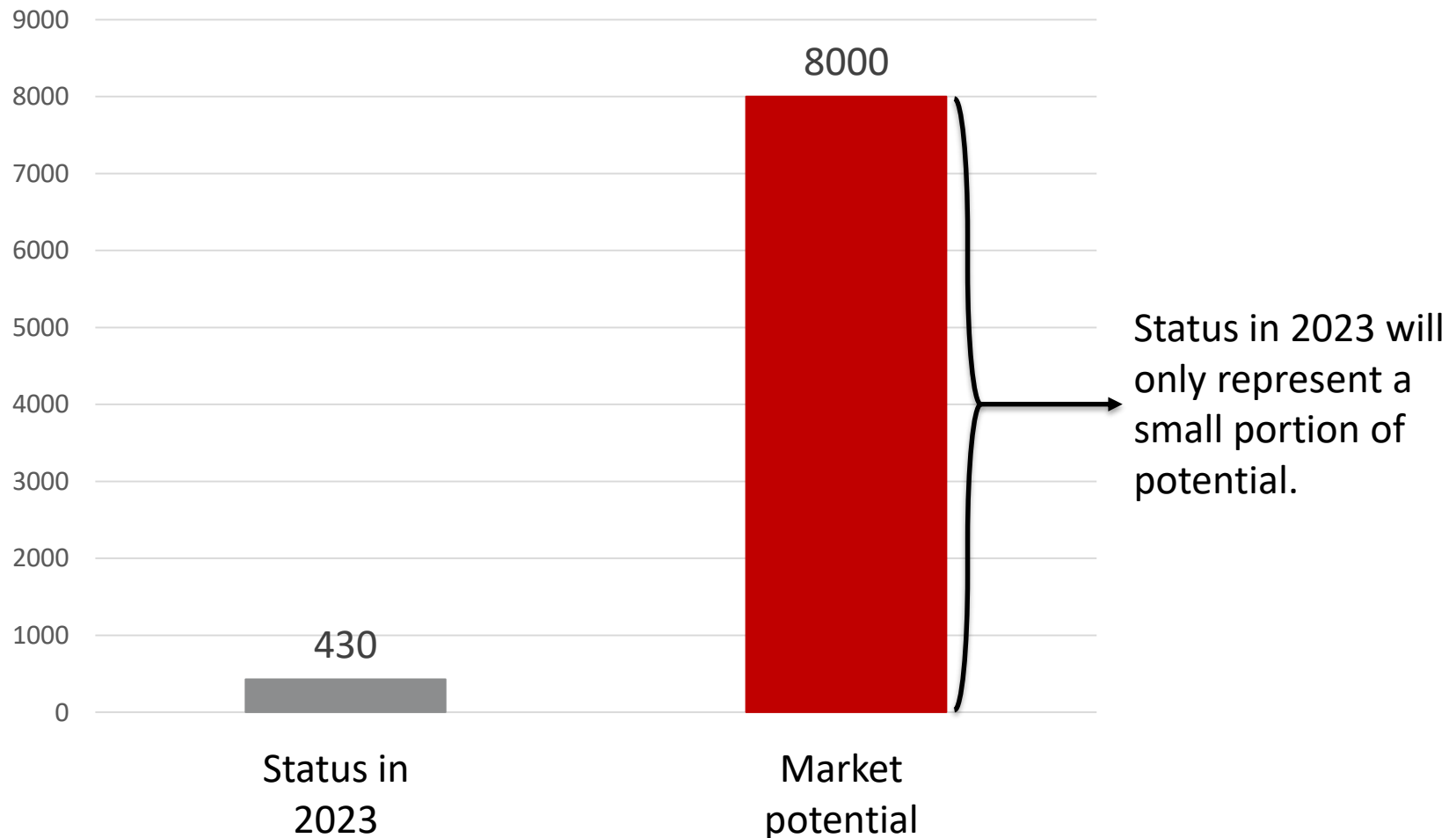
Source: ECREEE/ECOWREX and FMPWH

- Entrepreneurial tissue:
  - ~10 companies operating mini-grids in Nigeria organized under AMDA.
  - Large number of new companies (incl. large corporates) prospecting.

# Forecasting mini-grid market growth 2018-2023



# Mini-grid market status in 2023 vs. market potential



# Mini-grid framework, as the enabler for investments

- Strong Federal and State Government support to mini-grid sector.
- Well established mini-grid framework.

Electric Power Sector Reform Act (EPSRA)

FMPWH - National RE and EE Policy (NREEEP)

REA – Rural Electrification Fund

NERC – Mini-grid Regulations

# Creating an enabling env. for mini-grid investment

- Govt strongly committed to promoting off-grid REs (incl. mini-grids).
- Problem: Not enough human/fin. capacity in Govt to install 8k mini-grids.
- Private sector is anyways better placed to do this job.
- Role of Govt is to:
  - facilitate investment by establishing an enabling framework,
  - while protecting its citizens and the env.
- Regulation translates into time and costs for private sector.
- Thus, Govt needs to find right balance between incentives and regulation.
- Establish a proportionate regulation in line with existing law is key.



# Importance of simplified Regulations for enabling env.

- Mini-grids are infrastructure projects requiring a lot of regulatory approvals.
- Some uncertainty as to the regulatory approvals needed and time/fees required.
- NESP I experience: It takes up to 6 months to acquire all regulatory approvals.
- Transparency in the regulatory process and approvals is key:
  - Regulation one of key parameters investors assess prior to entering a market.
  - Complex regulation scares away investors from onset.
  - Uncertainty, as to regulatory framework also scares away investors.
- Meanwhile, simplified regulations in line with existing law attracts investment:
- Best option – Publishing regulations and guidelines online with clear processes.

# NESP support on regulations for solar mini-grids

- GIZ experience in Nigeria is very positive with capable and committed regulators.
- Collaborations with State Govts:
  - NESP I: Development of legal framework for land acquisition.
  - NESP II: To be continued.
- Collaborations with NERC:
  - NESP I: Development of the Mini-Grid Regulations.
  - NESP II: Enforcing the Mini-Grid Regulations and monitoring mini-grid projects.
- Collaborations with FME:
  - NESP I: Agreement on simplified ESIA to pilot solar mini-grids.
  - NESP II: Collaboration to dev. guidelines for simplified ESIA for solar mini-grids.
- Collaborations with NEMSA:
  - NESP I: Training on mini-grid design.
  - NESP II: Collaboration to dev. guidelines for tech inspection of solar mini-grids.

# Access to finance as the next challenge

- Companies behind the projects are SMEs which are not considered creditworthy.
- Mini-grid projects have not proven fully commercial viability yet.
- Mini-grid projects very risky by nature.
- Financiers do not have experience with such projects (lots of perceived risks).
- No risk mitigation mechanisms that address the needs of the financiers.
- Consequently, no financial products that address needs of mini-grid projects.
- As a result, mini-grids rely partly on public sector support (which is limited).
- Paradoxically, secret to profitability of mini-grid business is scale.
- But, without access to finance mini-grid projects will never be viable.

# What has NESP done regarding access to finance so far?

- NESP I – Facilitated access to crowdfunding – ideal for piloting (1 project)
  - bettervest loans for 4 mini-grid projects for a value of EUR ~1M.
  - Terms: 10% interest rate, 7 years, 6 months grace period
  - Strengths: Fast due diligence, Impact investment, No collateral requirements
  - Weaknesses: Limited ticket sizes, Euro-denominated loans
- NESP II – Targeting access to local finance – good for first replication (5-10 projects)
  - In discussions with local commercial banks regarding terms
  - Terms: 15-20%, 5-7 yrs + grace period
  - Strengths: Naira-denominated loans, Access to large amounts of finance
  - Weaknesses: Duration of due diligence?, Risk mitigation needs?
- NESP II also looking into int. concessionary fin., climate fin. and capital investments



# Thank you!

Nigerian Energy Support Programme (NESP)  
GIZ Nigeria

Temitope Udo-Affia ([temitope.udo-affia@giz.de](mailto:temitope.udo-affia@giz.de))  
Carlos Miro ([luis-carlos.miro@giz.de](mailto:luis-carlos.miro@giz.de))  
Sustainable Energy Access Unit (Off-grid)