Exploring different Financing Mechanisms for Mini-grid Deployment in Africa

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Among the 68 African countries, 46 have access to electricity rate less than 85%. On average 63%.

There’s a need to scale up the deployment of mini-grids to reach the last mile customers who are off-grid.
Background – two financing mechanisms

• Auctions: competitive procurements or minimum subsidy tenders
  • Agreement based, competitive selection, usually have lots or specific sites

• Results-based financing (RBF): output-based aid or performance-based grants
  • Based on output connections made, non-competitive selection

• Hybrid: different in selection and disbursement.
Project overview

• Local governments and international organizations need to have supportive programs to reduce risk for developers and lower connection costs for rural customers.

• Subsidies disbursed via auctions or RBF are important financing support to the nascent mini-grid market in Africa.

• How and When to apply and choose between the different financing mechanisms is an important question to answer.
Methods

• Identified 22 least connected countries in sub-Saharan Africa, exploring their costs, goals, and experiences to finance mini-grids.

• Summarize the key factors as important statistics and ask key questions, analyze the results according to different financing mechanisms (auction/RBF/hybrid)
  • Expected connection
  • Component costs
  • Types of target developers (international/local)
  • Site selection methods (top-down/bottom-up)
  • Funding body
  • Technical assistance
  • etc
Deliverables – stats and graphs
Deliverables – stats and graphs

- Agreements-based
- Output-based
- Competitive
- Non-competitive

- **Auction**: DRC, Sierra Leone, Kenya, Nigeria, Mali PCASER, Mozambique, Burkina Faso, Guinea, Benin, Senegal, Uganda, Ethiopia, Madagascar

- **RBF**: Kenya, Tanzania TEDAP, Tanzania NREP, Rwanda, Nigeria

- **Hybrid**: Zambia, Togo, Niger
Deliverables – stats and graphs

- stats and graphs
Hybrid case summaries

- Overall it’s hard to draw conclusion on whether RBF or Auction is better, since most projects are under early development.
- Project design of hybrid cases can produce useful lessons:
  - Zambia-BGFZ
  - Togo-Rural electrification project
  - Niger - Niger Solar Electricity Access Project
<table>
<thead>
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<th>Country</th>
<th>Program Name</th>
<th>Auction vs R</th>
<th>Competitive</th>
<th>Grant-based vs out</th>
<th>Start D</th>
<th>End D</th>
<th>Funding Body (GR)</th>
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<th>Component</th>
<th>Component Cost</th>
<th>Expected Rewards</th>
<th>Component Cost/Reward</th>
<th>Quoted Subsidy</th>
<th>Why was the approach selected?</th>
<th>Did this program work? Why or why not?</th>
<th>Lessons learned from it</th>
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**Thank you!**