



REGULATIONS ON MINI GRIDS

By:

FREDERICK KEN. APPIAH

Energy Commission, Ghana
appiahfk@energycom.gov.gh
fred.ken.appiah@gmail.com

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Outline



- Introduction
- Regulatory and Policy Framework
- Mini-Grid Regulations
- Licensing Framework for Mini-Grid
- Conclusion

Introduction

- Ghana's electricity access rate is currently $\approx 85\%$
- Policy target is **Universal Access by 2020**
- **Concession/Operational Zones**
 - NEDCo – Northern part of Ghana
 - ECG – Southern part of Ghana
 - Enclave Power – Freezone enclave
 - Dawa Enclave ??
- Selling/Distribution of power is a **regulated activity which requires a Licence** from Energy Commission
- There may be legal issues to deal with in terms of **unbundling/bundling**





Introduction

- A draft Mini Grid Regulations Policy has been developed.
- The purpose of these Regulations is to provide for:
 - the promotion, development and utilisation of mini grid systems in off-grid communities including lakeside and island communities; and
 - a regulatory framework for private sector involvement in the development of mini grids towards the achievement of the universal access to energy.
- Stakeholder Consultative ongoing
- **Outcome of the Technical Section II** will go into finalisation of the draft Mini Grid Regulations

Regulatory Framework



2 Regulatory Institutions



Financial/Tariff
Regulation



Technical
Regulation



MINISTRY OF ENERGY
GHANA

1. **Regulate** the pricing of **electricity**, water & natural gas
2. Monitor and enforce **standards of performance** for utility services
3. Protect the interest of consumers and provides of utility services
4. Address disputes between consumers
5. Ensure the financial health of public utilities

1. **Regulation** of electricity, natural gas and **renewable energy**
(Licensing & Technical SoPs)
2. Development of **indicative national plans**
3. **Policy recommendations** to the Minister for Energy for consideration
4. **Promotion** of Renewable Energy Resources.
5. **Local Content & Participation**

Policy Framework for Mini Grid Development



- Part of the National Electrification Scheme (NES)
- Public Sector led
 - Meaning: generation, operation, maintenance, revenue collection will be in the hands of public utilities
 - Volta River Authority (**VRA**) - **Island Communities on the Volta Lake**
 - Electricity Company of Ghana (**ECG**) - **Lakeside/Main Land Communities in the ECG Concessional Area**
 - Northern Electricity Distribution Company (**NEDCo**) - **Lakeside/Main Land Communities in the NEDCo Concessional Area**
- Zero Connection Fees
- Uniform Tariff Policy

Section 20 of Act 538. Uniform Rates of Tariffs

 - The Commission may fix a uniform rate throughout the country, any region or district for any service provided by a public utility.
- Private sector role will be Engineering Procurement and Construction (EPC)

Draft Regulations for Mini-Grid



Regulation of Mini-Grids is in draft form

The Regulations apply to:

- a. the development and operations of all mini-grids with a generation capacity of up to 1MW;
- b. the owners;
- c. the developers;
- d. the operators;
- e. users; and
- f. stakeholders such as the Distribution Licensees for the supply of electricity to off-grid communities of mini-grids.

Draft Regulations for Mini Grid



- Acquisition of a Mini Grid Licence
 - A person shall not install or operate a mini grid for the supply of electricity to a person in any part of the country unless that person is licensed or holds a permit issued by the **Board of the Energy Commission**.
- **Licence required** - Mini Grids larger than 100 kW of distributed power and up to 1 MW of generation capacity
- **Registration** - Mini Grids up to 100 kW of distributed power
 - The applicant shall apply and obtain a mini grid licence any time the system is expanded beyond 100kW capacity.
- The mini grid shall be inspected and certified by the Commission or a third party appointed by the Commission, before the commencement of commercial operations.

Licensing Framework - Draft



Mini-Grid Operational Licence (for each mini-grid)

- Project Brief (incl. site information, plant and machinery specifications, as-built drawings, etc.)
- Installation and Maintenance Licence of 3rd party installer
- Sales Agreement with Communities
 - Applicant and the head of the community and at least 50% of the members of the Community
- No Objection from concerned Distribution Utility
 - where the proposed operational area of the Applicant is within the expansion plan of the utility and is scheduled to be connected to the national grid within two years from the date of the consent
- Permits, where applicable
 - Environmental Protection Agency – **Environmental issues**
 - Land Use, Planning and Spatial Authority – **Spatial planning**

Site visit will be at the time of Technical Commissioning

Draft Regulations for Mini Grid



Technical Requirements of Mini Grids

- A mini-grid system shall have an electricity generator or generators from one or more renewable energy sources in its network. **(At least 70% in a calendar year)**
- A mini-grid shall be designed, constructed and operated in accordance with same standards as used for rural electrification schemes, the National Distribution Code and the Renewable Energy Sub-Code for Distribution Network such that the system can be connected to the Distribution Network at a later date **without major modifications.**
- Compliance with the provisions of LI 1816, LI 1935 and LI 2008.
- The Applicant shall install and maintain billing meters as per the Metering and Vending Code.

Draft Regulations for Mini Grid



When the Grid Arrives

- Connection of mini grids to main grid:
 - a. Where a distribution licensee extends its network to an isolated Mini Grid operated under a permit the Mini Grid shall be interconnected to the distribution licensee's network;
 - b. The Mini Grid developer may transfer all assets of the isolated mini-grid system the developer may not want to keep to the distribution licensee in return for compensation;
 - c. The Mini Grid operator may enter into a retail agreement with the distribution licensee and operate the mini-grid as a retailer.
 - d. The compensation shall be based on the value of the assets at the time of transfer.
 - e. Where the parties fail to agree to the terms of the compensation, the PURC shall act as an arbiter to determine the compensation to be paid.

Draft Regulations for Mini Grid



Pricing for Mini Grids

- The Mini Grid licence or permit holder shall:
 - at all times charge not more than the uniform tariff approved by PURC for electricity supply in Ghana;
 - prepare quarterly accounts reconciliation to be certified by the PURC;
 - any revenue in excess of guaranteed returns approved by the PURC shall be paid into the Renewable Energy Fund.
- Part of the Ancillary Service Charge may be used to support the capital cost of the Mini Grids through the Renewable Energy Fund in order to achieve uniform tariff.

Conclusion



- Mini Grid deployment is a key strategy to help achieve the universal access target by 2020.
- Regulatory Institutions are ready to support and align the Regulations to any mode of deployment of Mini Grids.
- There are legal/regulatory issues in terms of bundling and unbundling of public utilities which needs attention.



Thank You
for the Audience