

ECOWAS REGIONAL TRAINING WORKSHOP ON IMPROVEMENT OF  
POLICY AND REGULATORY FRAMEWORK FOR CLEAN ENERGY MINI-  
GRIDS AND RENEWABLE ENERGY TARIFF TOOLBOX

ABUJA, 17 – 22 JULY 2017

**DRAFT MINI-GRIDS REGULATIONS IN  
GHANA**



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# Outline



- Regulatory and Policy Framework for Mini-Grids
- Mini-Grid Characteristics and Technical Requirements
- Licence Conditions
- Commercial Arrangements and Accounting
- Interconnection of the Distribution Licensee's Network to an Isolated Mini-Grid
- Way Forward

# Regulatory Framework



## 2 Regulatory Institutions

Financial/Tariff  
Regulation



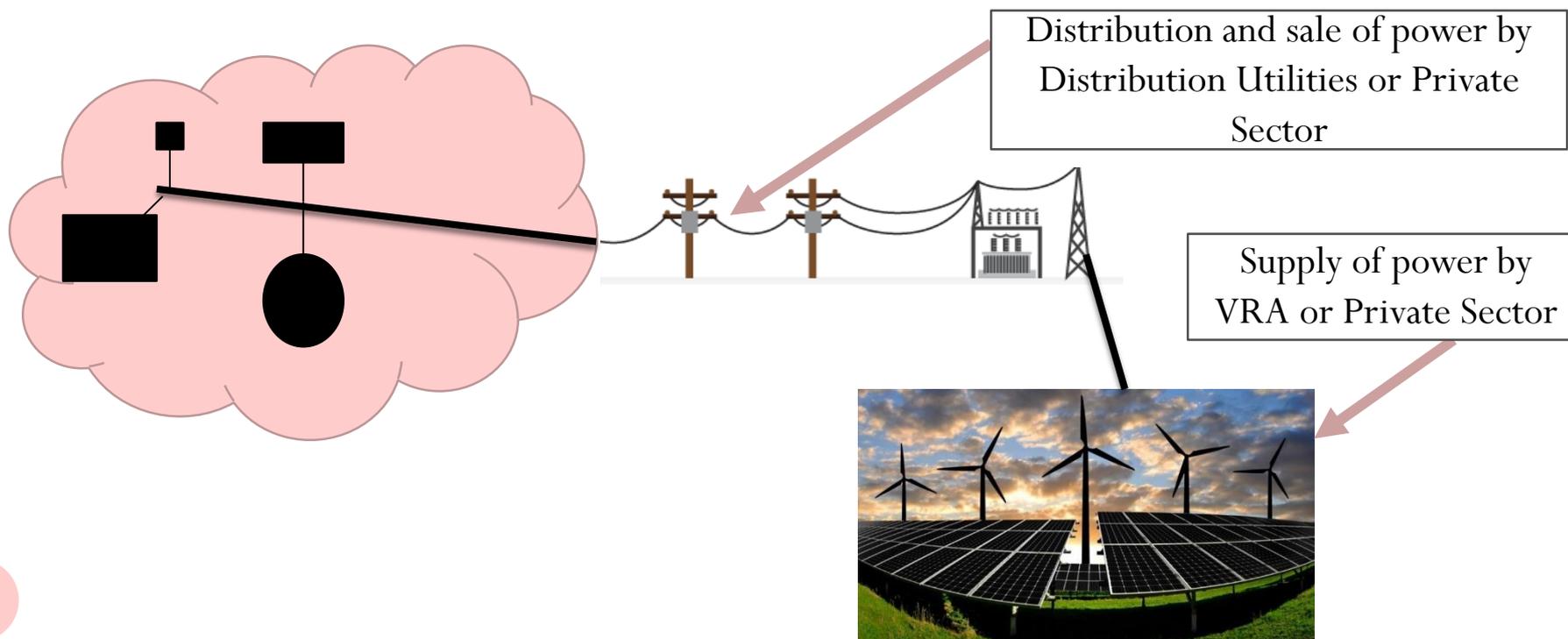
Technical  
Regulation



1. **Regulation** of electricity, natural gas and **renewable energy** industries;
2. **Licensing** for the transmission, wholesale supply, distribution and sale of electricity and natural gas;
3. Development of **indicative national plans**;
4. **Policy recommendations** to the Minister for Energy; and
5. **Promotion** of Renewable Energy Resources

# Policy Framework

- Uniform pricing policy
- Mini-grids to count as part of Distribution Utility's REPO
- VRA & ECG/NEDCo to handle generation & distribution respectively
- Private Sector Participation



# Characteristics of Mini-Grids



- Isolated Systems
- Generation Capacities of up to 1MW
  - Up to 100kW
  - 100kW – 1MW
- Supply of electricity to Off-grid or unserved communities
- Connection of distributed generation to facilities of Distribution Licensees



# Technical Requirements of Mini-Grids

- A Mini-Grid shall have an electricity generator or generators in its network which may be operated by the Mini-Grid Operator or a third party;
- At least seventy percent of electricity supplied over a mini-grid in a calendar year shall be from renewable energy source;
- A mini-grid shall be designed, constructed and operated in accordance with same standards as used for rural electrification schemes and the Distribution Code such that the system can be connected to the Distribution System at a later date without major modifications;
- The Developer shall install approved meters.



# Licence Conditions for Isolated Mini-grids larger than 100 kW of Distributed Power and up to 1 MW of Generation Capacity

- An accurate description of the proposed distribution and generation system, including technical specifications and characteristics
- prior written consent of the Commission written in consultation with the Distribution Licensee of the intended area, where the proposed operational area of the Mini-Grid Developer 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
- submission of copies of agreements executed between the members of the Community and Mini-Grid Developer



# Licence Conditions for Isolated Mini-Grids of less than and up to 100 kW of Distributed

- A Developer may apply for a Licence as described above or
- May register as a Mini-grid operator
- The developer shall apply and obtain a full mini-grid licence any time the system is expanded beyond 100kW capacity
- The Mini grid system shall be inspected and certified by the Commission or a third party appointed by the Commission, before the commencement of Commercial operations

# Obligations of the Mini-Grid Licence or Permit Holder



- The Mini-Grid Licence or Permit Holder shall construct, operate and/or maintain its Distribution Network in accordance with the relevant rules, regulations, codes and Standards.
- The Mini-Grid Licence or Permit Holder shall comply with the Act, terms and conditions of the Licence or Permit, the Agreement with the Community, Customer Contract, the rules and regulations, as well as the decisions, orders and directions of the Commission.
- The Mini-Grid Licence or Permit Holder shall grant the Commission and its duly authorized representatives access to any information that is relevant to fulfill the tasks assigned to the Commission under the Act and these regulations.



# Commercial Arrangement/Accounting

- The Mini-Grid Licence or Permit Holder shall-
  - at all times charge the tariff approved by PURC for electricity supply in Ghana;
  - accounts reconciliation shall be performed quarterly and certified by the PURC;
  - any revenue in excess of guaranteed returns approved by the PURC shall be paid into the Renewable Energy Fund;
  - prepare from quarterly records, accounting statements for each financial year comprising a profit and loss account and a balance sheet

# Interconnection of the Distribution Licensee's Network to an Isolated Mini-Grid

- Each Mini-Grid Licence or Permit Holder shall operate in the geographical area specified in its Permit.
- Where a Distribution Licensee extends its network to an Isolated Mini-Grid, the Mini-grid shall be interconnected to the Distribution Licensee's system.
- The mini-grid developer may transfer all assets of the Isolated Mini-Grid system he may not want to keep to the Distribution Licensee in return for compensation.
- Unless the generation and storage systems are valued and compensation paid to the mini-grid developer, the generation and storage system shall be integrated and treated as an embedded generation system.



# Interconnection of the Distribution Licensee's Network to an Isolated Mini-Grid - Cont'

- The Mini-grid operator may enter into a Retail agreement with the distribution licensee and operate the mini-grid as a Retailer.
- The compensation shall be based on the value of the assets at the time of transfer.
- 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.



# Way Forward

- Review of Draft Mini-Grids Regulations
- Approval of the Regulations by the Energy Commission's Board
- Development and Approval of Licence Manual for Mini-Grids
- Implementation of the Regulations



Thank You