



# **POLICIES FOR THE DEPLOYMENT OF RENEWABLE ENERGIES IN AFRICA**

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# Presentation Outline

- Introduction
- Policies for Promotion of Renewable Energy in Uganda
- Status of Renewable Energy Development in Uganda
- Challenges affecting investment in Renewable Energy in Uganda
- Concluding Remarks

# 1 Introduction

- Renewable energy plays a significant role in any country's strategy to reduce carbon dioxide emissions as well as enhancing energy security.
- Countries use different policies to promote RE technologies.
- Uganda has over the years adopted different policies aimed at promoting RE
- Renewable energy promoting policies should be able to mitigate or reduce investment risks in order to attract significant private capital.

## **2 Policies for Promotion of Renewable Energy in Uganda**

- Uganda Renewable Energy Policy 2007
- Uganda National Development Plan 2010/11 – 2014/15
- Electricity Act 1999 Cap.145
- Renewable Energy Feed-in-Tariff policy (2011-12)

## 2a) UGANDA RENEWABLE ENERGY POLICY 2007

- Uganda's RE Policy was enacted to promote RE development.
- The policy goal is to increase the use of modern renewable energy, from the current 4% to 61% of the total energy consumption by the year 2017.
- Provided for a standardized power purchase agreement and a feed-in tariff (2007-2010).

## 2b) UGANDA NATIONAL DEVELOPMENT PLAN – 2010/11 – 2014/15

- The vision of Uganda's NDP for the period 2010/11 – 2014/15 is "A transformed Ugandan Society from a peasant to a modern and prosperous country within 30 years".
- The NDP highlights the need to develop approximately 2,580MW from RE resources

## 2c) The Electricity Act 1999 Cap. 145

- Uganda's Electricity Act mandates ERA to regulate, among others, renewable energy generation.
- Provides for the Disputes Tribunal.
- Also provides for non-discriminatory access to the grid (unrestricted third party access).
- Provides for a single buyer model. Long-term stability of income by signing long-term PPA's

## 2d) Renewable Energy Feed-In-Tariffs

- Renewable Energy Feed-In Tariff is a mechanism to promote the deployment of renewable energy that places an obligation on specific entities to purchase the output from qualifying renewable energy generators at pre-determined prices.
- The overall aim of the REFIT is to encourage and support greater private sector participation in power generation from renewable energy technologies, through the establishment of an appropriate regulatory framework.
- The REFIT was revised in January 2010 to include other technologies; Now covers wind, biomass, small hydros, geothermal, biogas and social & municipal waste.
- Revision was necessitated by increased costs of generation & existence of better prices in other markets.
- The REFIT policy provides for revision of the tariffs after three years.



# REFIT 2011-12

Technology	Tariff (UScents/kWh)
Hydro (9-20 MW)	0.073
Hydro (1-9MW)	0.091
Hydro (0.5 -1MW)	0.109
Bagasse	0.081
Biomass	0.103
Biogass	0.115
Landfill Gas	0.089
Geothermal	0.077
Solar PV	0.362
Wind	0.124

# REFIT Policy

- REFIT policy mitigates the off-take risk. The RE generator signs a 20-year PPA.
- No price risk and currency risk to the RE generator. These are taken by the system operator in the long-term PPA.
- The FITs are not adjusted downwards when a RE qualifies for Certified Emission Reduction (CERs) or CDM revenues. Provides additional incentives to project sponsors.
- Capacity limits for each technology
- Escalation for inflation

# 3 STATUS OF RENEWABLE ENERGY DEVELOPMENT IN UGANDA

- Hydro
  - Large hydro
    - 380MW – In operation
    - 250MW – Under construction
    - 700MW – At feasibility stage
    - Over 2000MW – Unexploited potential
  - Small hydro
    - 52MW – In operation
    - 9MW – Under construction
    - 50MW – At feasibility stage
    - Over 200MW – Unexploited potential
- Co-generation
  - 30MW – In operation

### 3) STATUS OF RE DEVELOPMENT IN UGANDA...

- Solar
  - Over 200MW – Unexploited potential
- Biomass
  - 1,650MW - Unexploited potential
- Geothermal
  - 450MW – At pre-feasibility/exploratory stage

# 4 RISKS AND BARRIERS AFFECTING INVESTMENT IN RE IN UGANDA

## 1. Financing

- Limited availability of debt financing (domestic and foreign).
- Unfavorable debt terms (shorter maturity period 7 yrs and high interest rates)
- Debt to equity ratios 60:40.
- Takes long to close financing
- Limited information by lenders about the risk profile associated with the various technologies

## 2. High upfront costs

## 3. Inability by the project developers to raise sufficient equity (bankability of the projects)

## 5. Design risks and subsequent cost over runs

## 6. Inadequate skilled manpower – lack of specific expertise in dealing with renewable energies

# RISKS AND BARRIERS Cont..d

- Unstable grid infrastructure that a renewable energy project can connect to. Sometimes the grid does not have the capacity to absorb power from new generation. Who should invest in strengthening the grid network?
- Need to develop transparent and standard rules related to wheeling of power and interconnection standards.
- Institutional set-up and coordination. Lack of coordination between different authorities and long lead times in obtaining authorizations .
- Local lenders are unfamiliar with some RE technologies and policy.
- Hydrology constraints and low plant factor (<50%)

Thank You for Listening