OVERVIEW OF PRIVATE SECTOR ENGAGEMENT FOR DEVELOPMENT OF RENEWABLE ENERGY IN TANZANIA

DISCUSSION ON CHALLENGES OPPORTUNITIES AND RECOMMENDATIONS

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Presented at the workshop on Business Environment for development of renewable energy in Tanzania, New Africa Hotel, Dar es salaam, 09th March 2016

Outline

- The reason for advocating renewable energy in Tanzania
- Resource availability (the opportunity)
- Sector overview
- Private sector engagement
- Viable framework
- Challenges & opportunities
- Suggestions and recommendations

Rationale for renewable energy development in Tanzania

FUNDAMENTAL PROBLEMS

Growing energy demand (annual growth between 10-15%)

The number of people without access to electricity (only 24% connections).

Ensuring the supply of energy sources to remote areas (only around 10% connections)

Volatile oil price (dropping but no guarantee)

Rising carbon dioxide emissions growth (environmental concerns)

Energy Security

RENEWABLE ENERGY

Reliable and affordable energy services (increasing the ratio of energy mix)

Viable option at most places through on/off grid (grid extension costs is prohibitive)

Enhance productivity and competitiveness

Alternative to fossil fuels

Sustainable and clean energy

Decreasing the carbon dioxide emissions

Available renewable energy resources in Tanzania

Resource	Characteristics	Potential	Exploited
Biomass	Includes woodfuels, agricultural residues and animal wastes	500-650MW Woody biomass - estimated at 4.39mil m3 with annual increment of 140mil m3 per annum Crop residues – 15mil tons/annum Animal wastes - generated from an estimated 14 million cattle and 11 million shots Forest residues around 1.1 m3 with sustained yield of 24.3 mil m3 per annum	35MW from bagasse.
Solar	Good sunshine throughout a year, with average of 2800-3500 hours of peak sun hour per annum	4 - 7kWh/m2/day	5.3MWp
Small scale hydropower	Mostly found in highlands, mainly southern highlands of the country. No reliable long term hydrology data	500 MW	Approx 50MW
Geothermal	Mainly around East Africa Rift Valley system	650MW	none
Wind	Found along the coastline and rift valley corridors	Speed of around 8m/sec	none

Overview of renewable energy sector in Tanzania

- Relatively new agenda in the country as power sector has been dominated by government for many years focusing on meeting "urban" energy demand

- Private participation has been a top agenda recently

- Policy environment (NEP 2003 under revision draft 2015)
- Regulatory environment (EWURA, New Electricity Act 2008)
- Financing options (REA, donors, private joint venture)
- Technology potential (solar 200Wp/m2, small hydro 400MW, geothermal 650MW, wind 7m/s, tidal, biomass 650MW, Municipal wastes)
- Many projects which are of relatively small scale (50 – 500kW)

Regulatory environment

EWURA Act, 2001	(i)	Establishment of EWURA, as regulatory for electricity, petroleum, natural gas and water sectors
	(ii)	EWURA coordinates, finalizes tariff structure and provides licenses for generation, transmission and distribution
Rural Energy Act, 2005	(i)	Establishment of Rural Energy Board, REA and REF
	(ii)	Separates non-commercial electrification from TANESCO's mandate; commercial (mainly peri-urban) expansion remains under TANESCO
Electricity Act, 2008	(i)	The requirement to serve villages along transmission lines
	(ii)	The requirement for generator licenses (unless exempted by EWURA)
	(iii)	Requirement of the Minister to prepare and publish a policy for reorganization of the electricity market
	(iv)	Requirement of the Minister to prepare a rural electrification master plan and database
	(v)	Requirement to prepare SPPAs to attract investors in the power sub-sector

Private sector engagement

- Private sector engagement in developing renewable energy resources is KEY

BUT…
A BiG Question !

Who is that "private sector" being referred to …..

Appropriate framework for private sector engagement

- Government
  - Policy
  - financing mechanisms – financing guarantees,
  - capacity building
  - regulatory issues

- Development partners
  - Capacity building
  - projects financing
  - creation of business models
  - R&D – data base

Challenges related to private sector engagement

- Projects development requirement: Tedious and unclear projects development procedures (the case of ESIA, etc)

- Project financing: sometimes the financing windows available are accompanied with difficult procedures for the projects developer. A need for Dedicated financing schemes to support private sector investments

- Energy pricing and payments issues (REFIT, payments by the off-taker, etc)
- Management capacities: private sector is still infant, don't have the capacity to take through the projects through the entire project cycle

Challenges related to private sector engagement

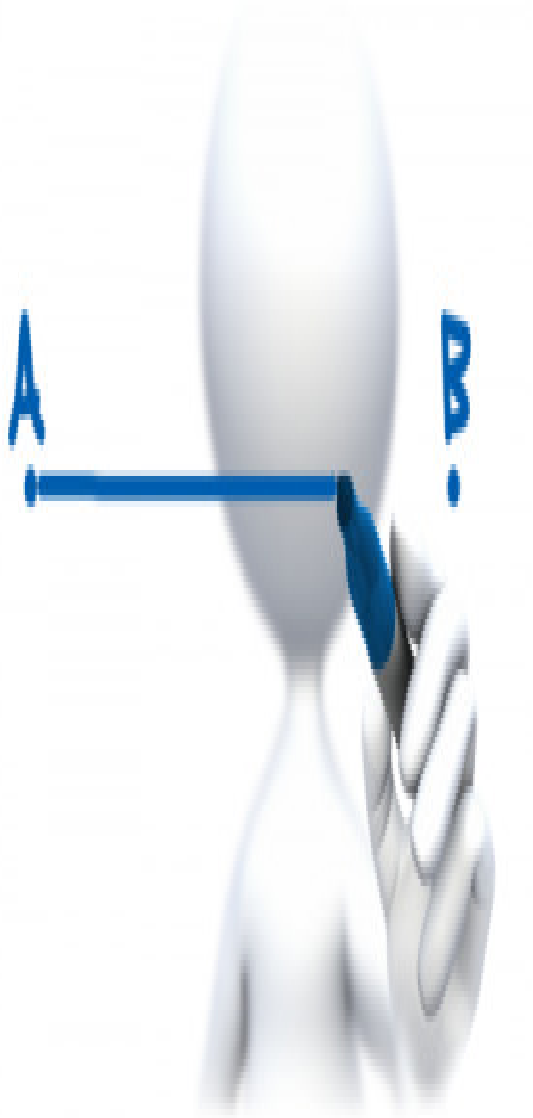
- Information barriers: information on various issues related to projects development are not available (data, legal requirements, etc)
- Push without scrutiny: Lack of entrepreneurial attitude (possibilities for JV, etc)
- Projects scales: Many investors would like to engage into large scale projects which are not many – the question of Private sector interest and investments
- Planning: Unsustainable energy infrastructure development plan (when will the grid come to my site?)

Opportunities for RE in Tanzania

- Untapped Resource: different resources are available and are largely untapped (solar, wind, hydro, geothermal, etc)
- Financing windows: there are many financing windows targeting RE sector – regional and national
- Technology transfer potential
- Joint Venture
- Public-private-partnership

Suggestions and recommendations

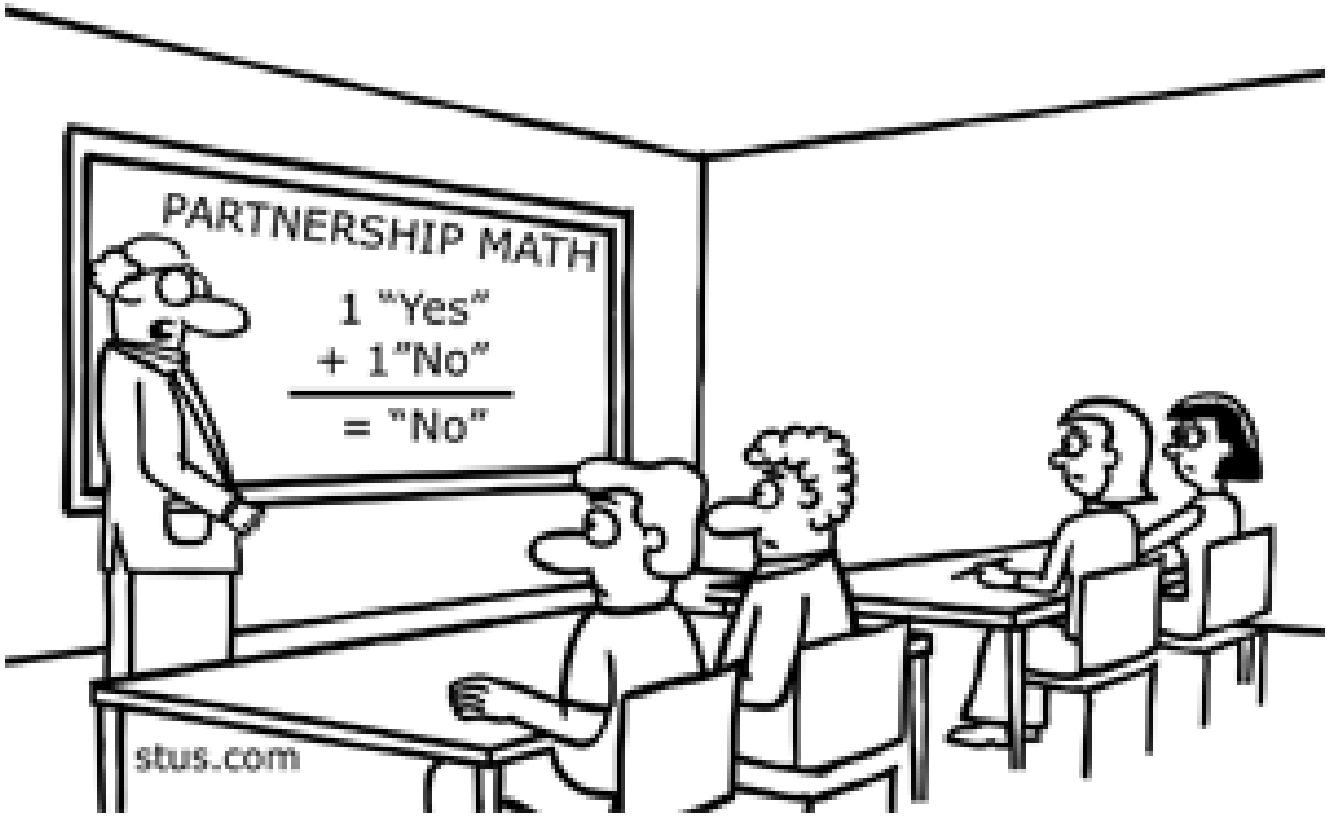
- Renewable energy agenda: RE development as a developmental agenda, not entirely commercial, the need for government involvement
- Stakeholders: Government and donor community engagement, guidelines for foreign investors to collaborate with local private sector stakeholders
- Means for financing: Direct projects financing rather than through government machinery
- Regulations: There is a need to simplify and easy regulatory procedures so as to encourage more investors in the sector



Key pillars for renewable energy development

- Knowledge & Information on potential resources and existing projects and best practices
- Public awareness and participation
- Technology knowledge and skills
- Business skills for development and implementation of RE projects
- Strong institutional support
- Dedicated financing schemes for supporting renewable energy deployement

True and sustainable private sector engagement in development of Renewable energy needs dedicated attention !



Thank You