



AVAILABLE GOVERNMENT SUPPORT TO PROJECT DEVELOPERS IN RWANDA

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PRESENTATION OUTLINE

1. General Introduction
2. GoR's support to **clean energy** project developers
 - a) Biomass sector
 - b) Electricity Sector:
 - (i) Geothermal
 - (ii) Hydropower
 - (iii) Solar



GENERAL INTRODUCTION

- Approximately 86% of primary energy in Rwanda comes from biomass i.e. fire wood (57%), charcoal (23%) & smaller amounts of crop residues (6%).
- Of the 14% of non-biomass primary energy, petroleum products account for 11% (used mainly in the transport sector) and electricity for approximately 3%.
- The GoR through EWSA plans to generate 1,000 MW of power generation from different sources by the year 2017 power i.e. **Hydro-340 MW**, **Geothermal-310 MW**, **Methane Gas-300 MW** and **Peat-200 MW**
- GoR is focused to diversify the energy mix to reduce dependence on biomass and increase clean energy sources

BIOMASS (IMPROVED COOKSTOVES (ICS) & BIOGAS)

- **BIOMASS:** Approx. 86% of primary energy in Rwanda comes from biomass i.e.
 - fire wood (57%),
 - charcoal (23%) &
 - crop residues and peat (6%).
- Rwanda has undertaken 2 major programmes to reduce dependence on biomass i.e. Improved Cookstoves programme (ICS) & National Biogas Development Programme (NDBP)

ICS PROGRAMME

- Rwanda is densely populated & 80% of approx. 10m people are in rural areas
- Majority of households cooks on wood-fuels (wood/charcoal), leading to major health issues and deforestation.
- GoR first initiated the **Improved Cook Stove (ICS) program** in the late eighties to combat deforestation. Penetration of 'improved' stoves was over 50% by 2009

GoR's SUPPORT TO ICS

- Trainings on Improved charcoal carbonization techniques
 - Care International (under contract with MININFRA/EWSA) has trained 2281 charcoal makers in various districts
 - CAMCO (contracted by MININFRA) trained 528 in 4 districts

BIOMASS (ICS & BIOGAS)-CONTINUATION



GoR'S SUPPORT TO ICS

- **Rural areas:** 17 trainers trained in Household Energy issues, 338 potters and 45 volunteers trained in stove production, 17 trainers trained in business management, 1 artisan trained in mould production, 2 artisans trained in cladding, 1 artisan trained in stove assembling
- **Urban areas:** 237 local ICS manufacturers trained : 66 artisans trained in cladding, 126 potters trained in kiln and liner production, 29 artisans trained in business management, 16 artisans trained in 2nd generation stove models

BIOMASS (ICS & BIOGAS)-CONTINUATION

BIOGAS

- It is renewable
- It does not emit soot (CO₂) when cooking and it favours cleanliness in the kitchen
- Bio-effluent is a good fertiliser
- Biogas normally lasts for 20 to 30 years
- To promote Biogas, the GoR created the National Biogas Development Programme (NDBP) which promotes biogas and manages Biogas funds implemented by EWASA

GoR'S SUPPORT TO BIOGAS

- 200 masons were trained in construction & maintenance of domestic & 50 masons trained on institutional biogas- in all Districts
- Subsidies to **domestic biogas** plants as follows:

DIGESTER SIZE	TOTAL COST	GoR SUBSIDY
4 m ³	650,000 RwF	300,000 RwF
6 m ³	800,000 RwF	300,000 RwF

ELECTRICITY SECTOR-HYDRO

HYDRO:

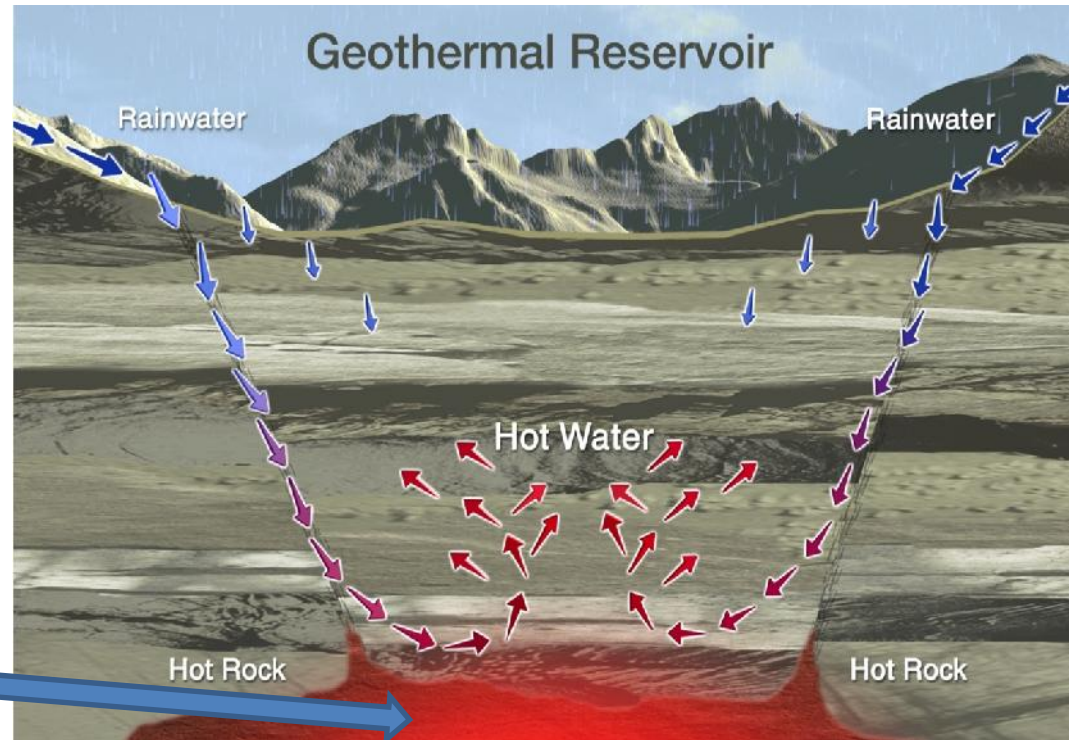
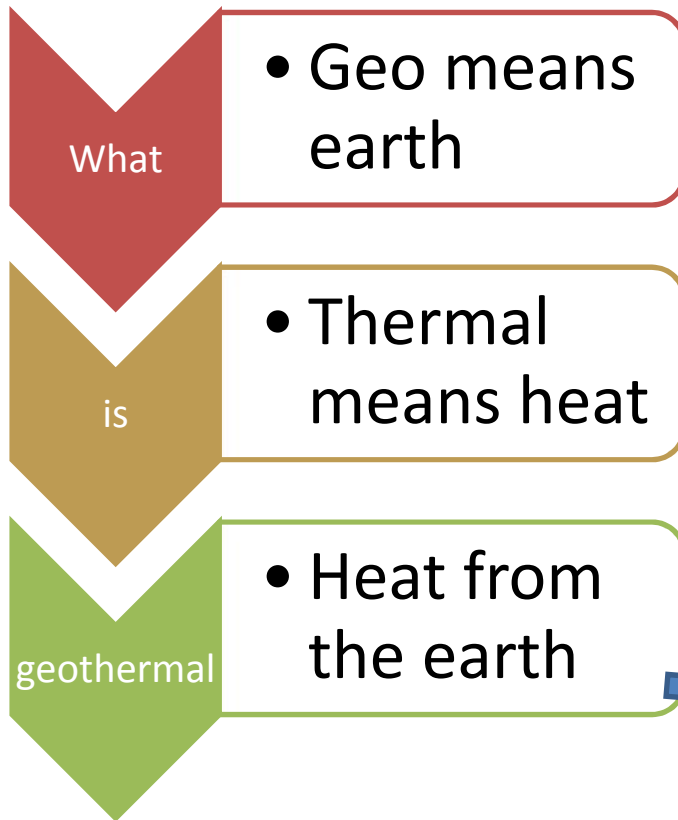
- Hydro remains a major source of power in Rwanda and contributes greatly to the energy mix
- More than 50% of electricity in Rwanda is generated from Hydropower sources
- Different plants with a total installed capacity more than of 40 MW are under construction at different stages
- 333 μ -hydropower sites with 96 MW potential were identified through the hydropower atlas (some are under development)
- 150 MW from border rivers (with DRC, TZ and Burundi)
- Rwanda expects to generate 340 MW more from different local and regional projects by 2017

GoR'S SUPPORT TO HYDRO DEVELOPMENT

- In some cases GoR funds preliminary studies used by potential investors
- The construction of the access roads to potential hydro power sites
- Investment incentives related to business facilitations depending on the nature of the site/plant , technology- RDB
- Non Fiscal incentives such as: visas, work permits- RDB
- Construction of the transmission line
- Affordable feed in tariff



GEOHERMAL



GEOHERMAL DEVELOPMENT

ELECTRICITY SECTOR-GEOTHERMAL (CONTINUATION)

GEOTHERMAL:

- Geothermal exploration in Rwanda is still at its initial stages
- Geothermal exploration requires high initial investments & is highly risky
- 3 prospective sites identified i.e. Karisimbi, Gisenyi & Bugarama
- Geo-scientific studies for Karisimbi site were completed
- Drilling activities are expected to start in mid-April 2013
- The supply of water and drilling materials on site is ongoing

GoR'S SUPPORT TO GEOTHERMAL DEVELOPMENT

- Preliminary studies & exploratory drilling
- Construction of the access roads
- Water supply infrastructure
- Exemption of equipment and machineries
- Construction of the transmission line from the site to the national grid etc

ELECTRICITY SECTOR-SOLAR

SOLAR:

- Potential solar sites identified in Kayonza & Bugesera districts
- Currently, the GoR is receiving a considerable number of private investors in solar power plants

GoR'S SUPPORT TO SOAR DEVELOPMENT

- Land/site for the power plant
- The incentives such as Tax exemptions and other facilities
- Facilitation to obtain Power Purchase Agreements (PPAs)
- In case of foreign investors, government facilitates them to obtain VISAs and other necessary official papers



THANK YOU

