Bioenergy Industry Prospects in Africa

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Renewables in Africa (RiA)
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What is Biomass?

• Definition
It is an organic matter derived from living or recently living organisms.
This can be anything from wood, to crops, landfill gas, alcohol and garbage burning
Types of Biomass?

3 categories:
• Energy Crops
• Biogas
• Wastes

Main types for Africa:
- Sugarcane
- Jatropha
- Soybean
Where is Biomass?

• Potential

Theoretical potential: It is the maximum amount of resources available.

Technical potential: It is the theoretical potential minus losses from conversion and/or land availability.

Economical potential: It is proportion of technical potential that is economically viable.
Where is Sugarcane?

<table>
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(IRENA)
Where is Jatropha?

Total land areas without restrictions

Applying restriction maps (e.g. protected areas, forest areas and currently used agricultural land)

Potential map for rain-fed Jatropha cultivation

(IRENA)
Where is Soybean?

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<td>Potential map for rain-fed soybean cultivation</td>
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(IRENA)
Current Status?

Bioenergy capacity:
- 2,631 TWh for potential
- 60% in Central Africa

Status
- 860 MW in 2011 (0.6% of Total Power Capacity)
- 94% is bagasse (for ethanol)
Prospects?

Driving factors

- Population
- Per-capita consumption
- FOOD DEMAND
- Yields
- Area potential

Electricity Generation in SSA

- 2040 total generation: 1 540 TWh
- Coal, 27%
- Gas, 25%
- Hydro, 26%
- Nuclear, 3%
- Oil, 4%
- CSP, 3%
- Solar PV, 4%
- Geothermal, 3%
- Wind, 2%
- Bioenergy, 3%

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Thank You

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