



Renewable energy: opportunities in Africa

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Outline

- Renewable Energy (RE): its potential
- Barriers and opportunities
- Bank's work on Renewable Energy



Renewable Energy: Its Potential

Sources	Potential
Solar	<ul style="list-style-type: none">• Numerous African countries benefit from an annual average period of sunshine of 300 days
Hydro	<ul style="list-style-type: none">• 13 % of the world potential, and largely located in Central Africa (DRC Inga) and also in western Africa• A potential of about 1700 TWh economically exploitable• Only 7 % of this potential is exploited now
Wind	<ul style="list-style-type: none">• Potential in North Africa and in island zone, Cape Verde• 20 % of the estimated resources are situated in Africa
Geothermal	<ul style="list-style-type: none">• Mainly located in the east of Africa• About 9000 MW of unexploited resources• Some production units in Kenya in Ethiopia• Use suited for the rural electrification in Eritrea
Biomass	<ul style="list-style-type: none">• Large potential but in regression:<ul style="list-style-type: none">▣ Fires of bushes▣ Pressures exercised by the population▣ Drought and desertification



Energy Poverty

- ❑ Poor access to modern energy:
 - 40% on average in urban
 - Less than 20% in rural

Yet, energy plays an important role in achieving sustainable development

- ❑ Traditional biomass remain the dominant source of energy with negative impacts on:
 - Health of women and children
 - Education for children
 - Deforestation



Experiences of exploiting RE

- In average, the share of RE in the electricity grid system is low
- 3 key drivers for developing RE in the off grid:
 - Electrification rural program with decentralized RE systems are the most cost-effective
 - The electrification for the community infrastructure (school, health)
 - The provision of energy services to meet the needs of:
 - Irrigation
 - System of pumping for some drinking water
 - Conservation and processing of agricultural products



Barriers of deployment

- ❑ Technologies are expensive
- ❑ Fossil fuel subsidies and the environmental benefits of RE not taken into account
- ❑ Weak institutional and regulatory framework for promoting RE
- ❑ Lack of dynamism of the private sector linked by the lack of access to financing mechanisms
- ❑ Lack of capacity in implementing and maintaining renewable technology



Solutions to overcome these barriers

- ❑ Political will power in putting appropriate policies and regulations to promote RE
- ❑ Financial incentives:
 - Attracting private sector investors,
 - Bank loans and micro-finance,
 - Clean Development Mechanism
- ❑ Regional cooperation is essential to widen the size of the market in Africa
- ❑ Building capacity and raising awareness



Bank's Intervention on RE

- The Bank's vision is to “strive to be the leading development finance institution in Africa, dedicated to providing quality assistance to African Regional Member Countries (RMCs) in their poverty reduction efforts”.
- Access to energy is an essential step towards sustaining the economic growth and social development
- The Bank assists RMCs through:
 - The public and private windows
 - Capacity building and leveraging additional funds



Public and private window

Examples	Characteristics
Thermal Solar	<ul style="list-style-type: none">• Ain Béni Mathar in Marocco• 200 and 250 MW in 2012
Wind	<ul style="list-style-type: none">• Lake Turkana Wind in Kenya• 300 MW in 2012
Hydro	<ul style="list-style-type: none">• Sahanivotry in Madagascar• Installed capacity 15 MW• It will produce 10% of the country's total supply of electricity



Bank's assistance

□ Capacity building

- The Bank provides support to RMCs for building capacity and raising awareness
- The bank provides also assistance to enable policy environment and institutional frameworks to mainstream renewable
 - In the water sector
 - Supporting a pilot project on the utilization of solar and wind energy for rural water supply in Ethiopia
 - In the agriculture sector
 - Supporting rural market place development project in Uganda by putting 'energy packages' with solar for lighting the market

□ Leveraging additional funds

- GEF (Global environment Facility)
 - Since November 2003 the Bank became a GEF executing agency with direct access to GEF full project resources
- CIF (Climate Investment Funds)
 - Joint action of the MDBs, including the African Development Bank (AfDB)
 - CTF (Clean Technology Fund) and SCF (Strategic Climate Fund).
 - Scaling up Renewable Energy Programme (SREP)



Conclusion

- ❑ Willingness: Governments should be encouraged to mainstream renewable energy into their development framework
- ❑ Target: 10% by 2010 or 20% by 2020, what does it mean? Action is needed
- ❑ Additional funds required for:
 - Financial support for research and development;
 - Incentives through tax breaks, subsidies and grants
- ❑ Effective participation in international carbon credit markets and to benefit to technology transfer





Thank You for your attention

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