



**Sustainable Energy Policy and Research 'Knowledge Network'
on cost effective, ecologically sound and healthy energy**

**alternatives for low-income rural households
Sparknet**

**Rural energy in Sub-Sahara Africa:
elements for a debate**

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Key facts

- 1- Importance of biomass to meeting basic domestic needs: mainly charcoal in urban areas and wood in rural areas: 75 % on average which contributes to environmental degradation.
- 2- The access to commercial energy sources is mainly limited to urban areas. The majority of the population in the sub region still relies on primary and secondary biomass sources.
- 3- The installed regional production capacity exceeds 49,000 MW, and its regional peak demand was over 35,000 MW in 2000.
Most of the generating capacity (about 85%) and electricity demand (about 83%) is located in South Africa.



Key facts (ctn)

4- Most of the regional coal reserves (around 58 billion tones located in South Africa.

Other significant reserves in Mozambique, Swaziland, Zimbabwe and Tanzania.

Coal mainly exported, power generation and feedstock in the South African synthetic fuels industry

5- massive hydropower resources: potential of 100,000 MW in Congo (DRC), of which about 50,000 MW at the Inga site. Other countries: Angola, Mozambique, Tanzania and Zambia

6- Natural gas becoming more significant to the SADC Energy Sector: large fields off Mozambique, South Africa and Namibia



Constraints to rural energy development

- Poverty: low purchasing power
- Population: low density
- Infrastructure: energy infrastructure poorly developed: grid, LPG infrastructure



Cost or Renewable energy (US\$ 2001)

	Wind pump	biogas
Botswana	7,114	
Ethiopia		700
Kenya	3,700	
Tanzania		1538
Zambia	4,206	1,653
Zimbabwe	3,387	1,115



Cost or Renewable energy (US\$ 2001)

	50Wp PV system	100 l SWH system
Botswana	833	520
Eritrea	1,125	
Kenya	625	950
Malawi	1,515	550
Mozambique	1,200	650
Namibia	1,000	610
South Africa	984	550
Swaziland	1136	580
Tanzania	1,318	500
Zambia	1200	625
Zimbabwe	826	300



Issues and policy guidelines

- Decentralised energy supply versus centralised approach
- Financial schemes for private energy providers
- Financial schemes for the rural communities: connection and down payment for the up-front capital
- Role of government: facilitation



Priorities

Little impact of rural electrification programmes in the past
→ change in the strategy.

- Prioritising income generating activities in rural areas.
- PV has an important niche but is still too expensive for poor people
Ex National PV credit scheme in Botswana: down-payment of 15% with the rest paid in 4 years at an interest rate equal to the prime rate: still too high for potential customers
- Fossil fuels and rural energy: role of natural gas.
Communities living closer to the gas projects need to be taken into consideration.
- Rural energy is having a marginal place in power sector reforms (PSR)

