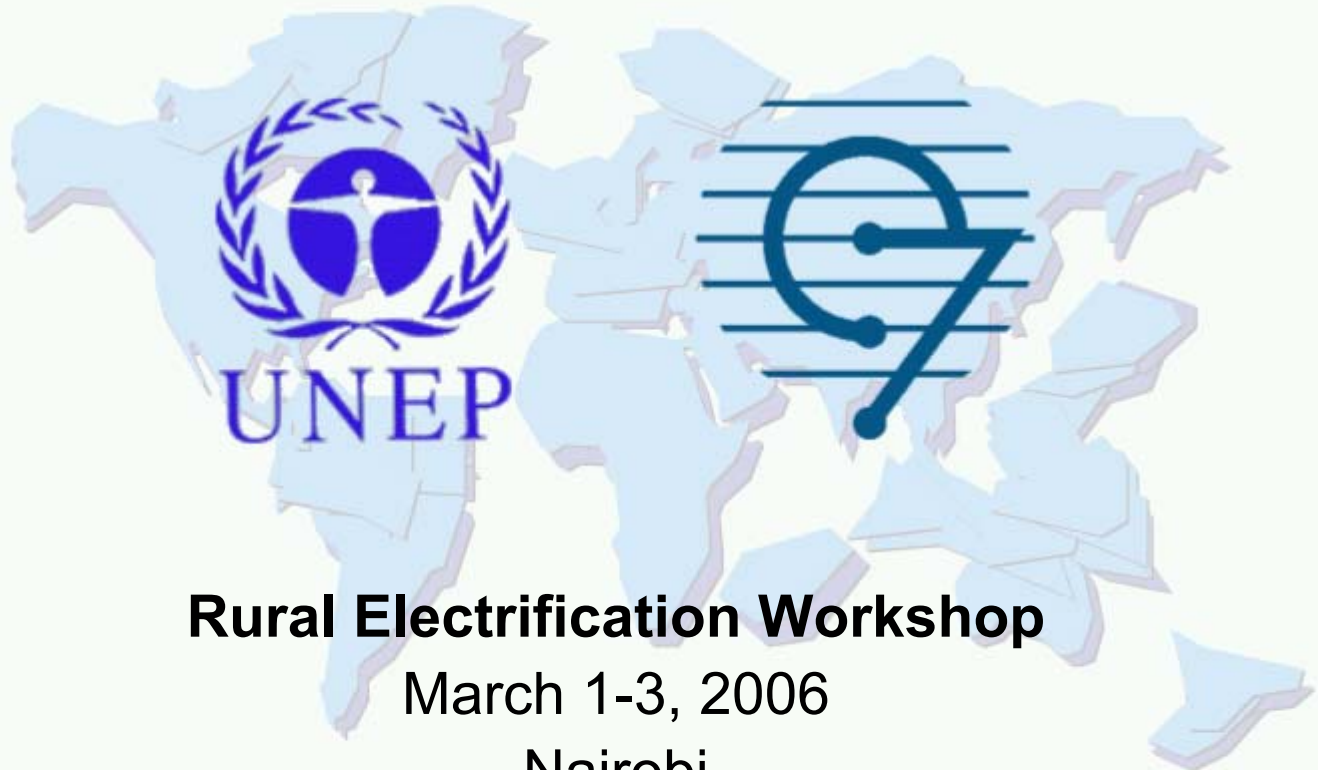


**Session 1.1**

# **Regional Overview**

**Mike Bess, Director**

**Energy for Sustainable Development Ltd**



**Rural Electrification Workshop**

March 1-3, 2006

Nairobi

# Summary



- Historical background for rural electrification (RE)
- RE in North & South
- 21<sup>st</sup> Century paradigm shift
- 21<sup>st</sup> Century changes in Africa
- Drivers for this change in Africa
- Changing focus for RE
- Status of 'new' RE
- Implications for & on RE investment
- Implications on rural development
- What the future holds

# Rural Electrification – Historical Framework



- **First 30 – 40 years electricity, 100% urban**
- **Private companies, municipalities**
- **First major national RE programme in USA – NRECA, TVA, 1930s**
- **Simultaneously Danish Rural Electricity Co-operatives began**
- **Other countries followed (UK, France, Germany, Australia, Canada, Japan)**
- **All grid-based, not decentralised/distributed**

# RE – North-South Historical Framework

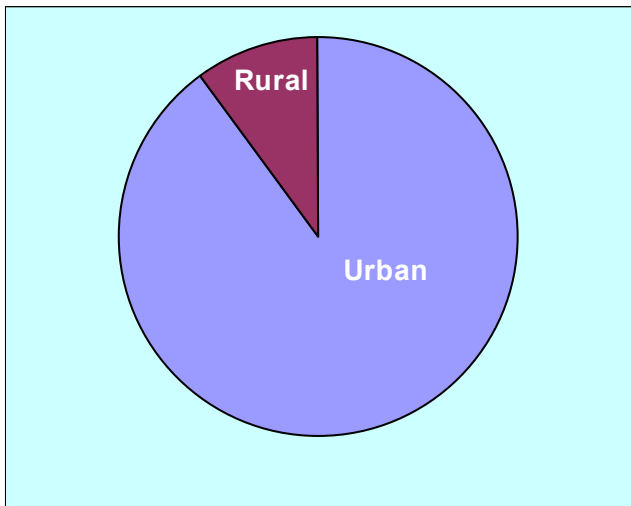
- **In North, urban >85% create surplus to finance electrification of <15% rural**
- **In South, 70-80% of population live rural**
- **Southern urban often poor, at beginning of wealth creation**
- **Southern urban unable to subsidise rural electrification**
- **The 70-80% rural cannot afford traditional, grid extension electrification**
- **In countries like Brazil, India, China, & now, S Africa, have enough wealth & political will to extend grid – not model for most other sub-Saharan African countries**

# Rural Electrification – Historical Framework

## Northern Countries

> 90% **urban** population

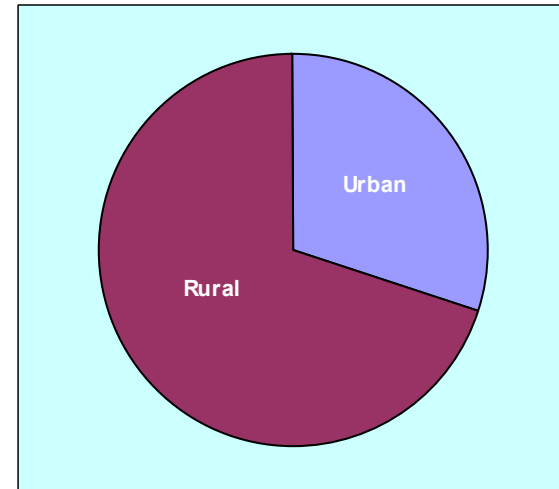
Urban surplus finances the  
< 10% rural population



## Southern Countries

70-80% **rural** population

Urban 20-30% cannot  
provide sufficient surplus



# RE – North-South Historical Framework (cont)



- **Also, throughout the world, post 1930s led to major concentration of electricity into monopolies (Europe, Asia, N America)**
- **In much of Europe, these monopolies were take over by the state**
- **By and large, Africa inherited this monopoly state-owned electricity utility model**
- **But, with lack of wealth, lack of large urban population to finance, AND lack of voice to most rural people, RE hardly takes place**

# Electricity 21<sup>st</sup> Century – Paradigm shift



- **Electricity sector begins major transformation in Europe in 1990s**
- **Liberalisation**
- **De-monopolisation**
- **Some privatisation**
- **New entry, new players allowed in market**
- **Markets begin to be regulated**
- **Investors & customers have new rights, relationships**
- **Decentralisation, in political, economic & technological production terms accelerates**

# 21<sup>st</sup> Century – new changes for sub-Saharan Africa



- **By 1990s, it is clear that RE is not working for most of sub-Saharan Africa**
  - **Most countries <20% rural population served by RE – most it is even less than 10%**
  - **Clearly, traditional monopoly model is not working**
  - **Decentralisation in government is rapidly growing**
  - **Market liberalisation, opening up, taking place in most sectors**
  - **Renewed interest in attracting private investment**
  - **Renewed interest in changing the terms of trade between rural & urban Africa**
- => New approaches to RE – focus on rural ‘access’ to electricity for productive uses & services**

# RE Status in Sub-Saharan Africa



	Rural pop' %	Rural access to electricity %	Liberalisation	Private sector investment in grid RE	Rural Electrification Agency/Fund
Ethiopia	~90%	< 5%	Low	Low	Yes
Kenya	~80%	< 10%	Medium	Low	No
Lesotho	>90%	< 20%	High	Low-Medium	No
Madagascar	~80%	< 10%	Low	Low	No
Mozambique	~85%	< 5%	Medium	Medium	Yes
Namibia	>80%	< 20%	Medium	Medium-High	Yes
Rwanda	>90%	< 5%	Medium	Low	No
South Africa	<50%	> 50%	Low	Low	No
Tanzania	~80%	< 10%	Medium	Low	Yes
Uganda	~80%	< 10%	High	Medium	Yes
Zambia	~50%	< 10%	Medium	Low	Yes

# Drivers for transformation

- **The traditional, national utility monopoly electricity model will not work for most rural Southerners**
- **Electricity is essential for ‘rural transformation’ – giving rural people electrical, economic & political power to transform**
- **Rural transformation involves:**
  - ❖ **Livelihood transformation & improvements**
  - ❖ **Economic revolution by increasing rural value added**
  - ❖ **Environmental sustainability**
  - ❖ **Social equity**
  - ❖ **Increased access by ALL to social services**
- **To accomplish this, requires major rethink**

# Changing Focus in RE

- **RE is no longer ‘light in every household’ but..**
- **Two main pillars to support rural transformation**
  - **Productive use**
  - **Provision of essential services (available to all) – increased access**
- **Combined with**
  - **Decentralisation of local government**
  - **Liberalisation and privatisation of energy sector**
  - **Advent of Public-Private-Partnerships (PPPs)**

# Status of new RE

- Change in paradigm still early days
- Uganda probably furthest ahead in new RE framework
- Institutional change is taking place
- New 'party line' is there, some places stronger, more harmonised, others less so
- Donors are supportive (particularly Swedes, Norwegians, World Bank)
- But....

# Implications for & on RE investment

- Private sector slow in responding
- Commercial banks only now beginning to be interested
- Considerable perceived 'risk' to investors/bankers
- Role of key players, particularly national government, regulators, national electricity companies still not entirely clear
- Must be much more concerted effort to support private investment

- **Without major RE, rural sector will not develop**
- **Impossible to improve the value of rural production without RE – must happen fast**
- **Impossible to improve services (health, education, etc.) without RE**
- **Impossible to improve the terms-of-trade between African urban & rural, & between North & Africa without major RE**
- **Major poverty alleviation & improvement in rural livelihoods impossible without significantly increased RE penetration**

## What the future holds....

- **Will paradigm shift continue?**
- **Will private sector continue to be encouraged in RE?**
- **Will liberalisation of power sector & energy markets continue?**
- **Big questions**
- **Already signs that World Bank is returning to old 'top down', 'big is beautiful' in power sector & infrastructure**
- **But...**
- **Africans are voting with their pockets – whether or not governments, donors do it, RE will continue & accelerate...**
- **But, at what economic & social cost?**