

# **The case for renewable energy to be linked to productive economic activities**

By  
**S Szewczuk**  
**CSIR**



# Electrification programme

- ◆ Target to electrify 2.5 million households by 2000
- ◆ Reduce to 30% households lacking grid electricity
- ◆ Mainly through grid electrification in urban areas
- ◆ Approx 2.1 million households, mainly in rural areas, yet to have access to electricity

# Rural energisation

- ◆ A, simplified, criteria for grid extension: ability for household to pay for service
- ◆ Rural households that are unable to pay for service are unlikely to be connected to the grid
- ◆ Reason: very little, if any, employment opportunities

# Renewable energy for rural electrification in Eastern Cape

- ◆ **Primary objective:**
  - Identify rural electrification opportunities using renewable energy linked to existing and new economic activities
- ◆ **Geographic Information Systems (GIS) to present and interpret results**

# Project parameters

- **DG XVII “Thermie B” project 1997 - 1999**
- **Initiated and conceptualised by CSIR**
- **Wind, hydro, biomass remote area power systems**
- **Rural electrification through RAPS**
  - 93% of rural population without electricity
  - 10 kW to 10 MW capacity
  - focus on former Transkei

# Project team

- **Co-ordinator:**
  - **Garrad Hassan (UK)**
- **Partners:**
  - **CSIR (South Africa)**
  - **ECN (Netherlands)**
- **Principal sub-contractors:**
  - **Border Biofuels / FCA (UK)**
  - **Stephenson & Associates (South Africa)**
  - **University of Natal (South Africa)**
  - **P E Technikon (South Africa)**



# Demand indexed to Gross Regional Product (GRP)

- Data for each Magisterial District
- Forecasts for years 2000, 2005, 2010, 2015, 2020
- Demand forecasts by sector:
  - domestic (95% of total in 2010)
  - agriculture (2% of total in 2010)
  - manufacturing (<3% of total in 2010)
  - commercial (<<1% of total in 2010)

# A, hopefully, unlikely scenario

- ◆ Hence, assuming no intervention measures:
  - *For Transkei, in 2010 only 5% energy demand will be for productive economic activities*
- ◆ Likely that there are also low figures for rest of rural SA
- ◆ This does not bode well for job creation !!!!!

# Demand from new economic activities (NEA)

- **Agriculture**
  - irrigation
- **Forestry processing**
  - sawmills
  - pulp
- **Tourism**
  - Wild Coast

# Stimulating rural job creation

- ◆ The correct and appropriate questions would have to be asked and answered
- ◆ *“What intervention measures, what policies, what strategies would need to be put in place to increase the demand for electricity for productive economic activities from, say, 5% to 10% in 2010 in Transkei”*
- ◆ This Synergy project is hoping to provide some input into this issue

# Important considerations

- ◆ Energy & economic development are linked and hence the application of RE in rural areas should be integrated into local economic planning activities
- ◆ To create awareness that RE is not inferior the implementation of large grid connected RE systems must be done