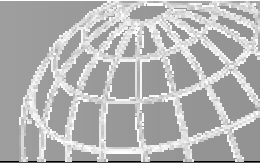


# **What's the Challenge about Financing RE-Systems?**

Some observations of  
GTZ and the Senegal-German Programme PERACOD

Dr. Jörg BAUR  
March 21st, 2007



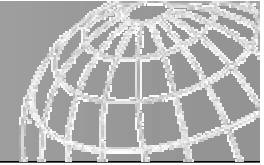
# GTZ is the government-owned consulting company for international cooperation

|                          |                     |
|--------------------------|---------------------|
| <b>Turnover</b>          | <b>€876 million</b> |
| <b>Ongoing projects</b>  | <b>2.754</b>        |
| <b>Partner countries</b> | <b>131</b>          |
| <b>Employees</b>         | <b>ca. 10.000</b>   |

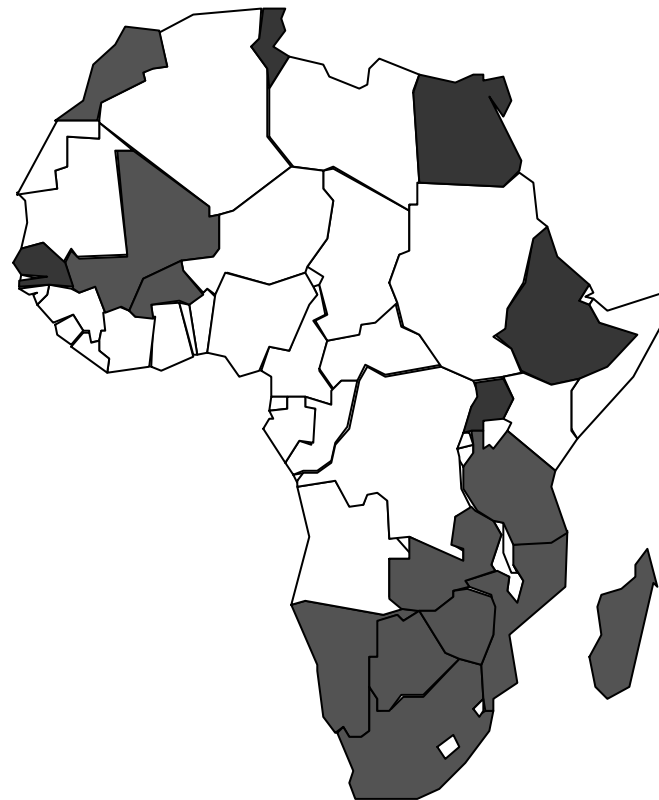
## **Clients:**

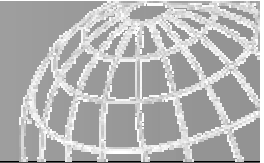
- **Federal Ministry for Economic Cooperation Development (BMZ) > 75%**
- **Other ministries / public institutions**
- **International finance institutions**
- **Private companies**





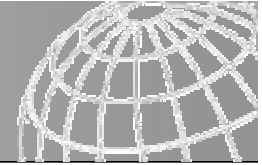
# GTZ Energy Projects in Africa



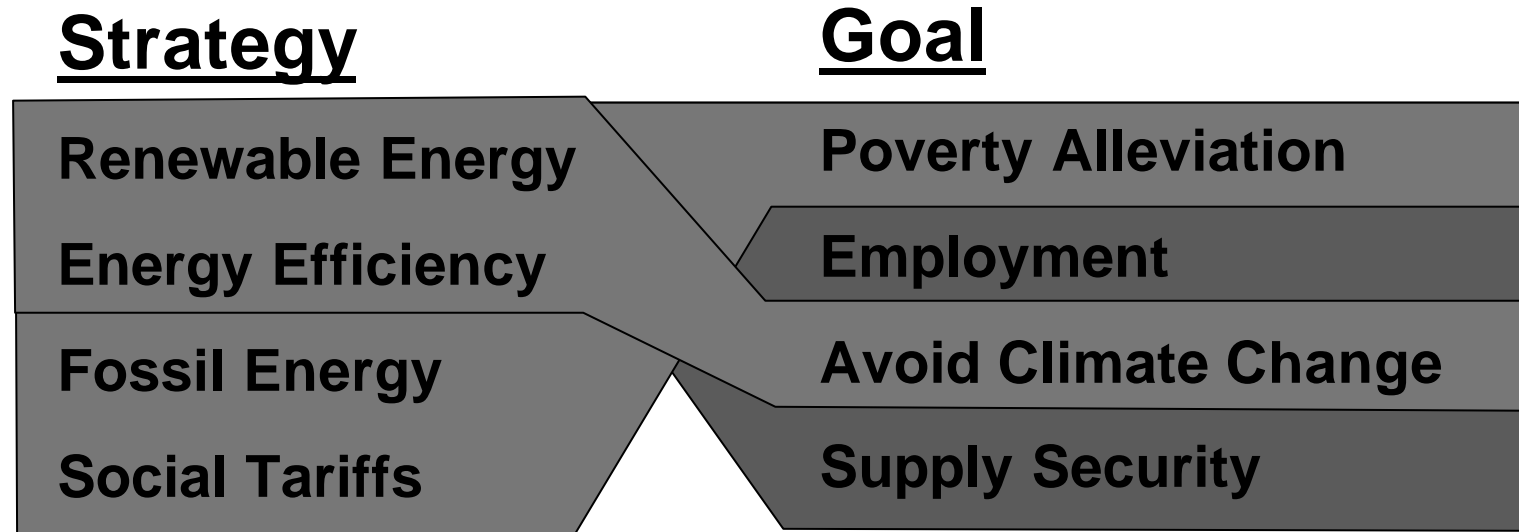


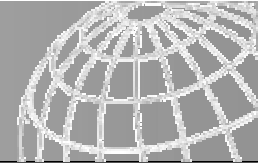
## GTZ Rural Energy Projects in Africa

|   | Improved Stoves | Rural electrification |
|---|-----------------|-----------------------|
| SADC: Lesotho, Malawi,, Namibia, South Africa, Zimbabwe, Zambia | X               |                       |
| Ethiopia  | X               | PV                    |
| Madagascar  | X               |                       |
| Senegal   | X               | PV                    |
| Uganda  | X               | PV                    |
| Tanzania  | X               | PV                    |
| Ruanda  |                 | Mini-Hydro            |
| Benin   | X               | Grid ext.             |
| Ghana   |                 | Grid ext.             |
| Mozambique  | X               | Mini hydro            |



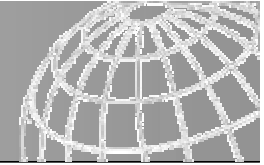
# Goals and Strategies in the Energy Sector





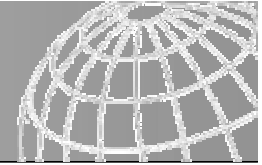
## Why is it difficult to finance Renewable Energy Systems?

- ✍ RE Systems have most costs up-front (high investment – low running costs)
- ✍ It is difficult to predict yield (and hence economical viability)
- ✍ Experience and adequate framework is lacking
- ✍ Capital is fixed for a long time (>20 yrs for PV)



## Why is it easy to finance RE-Systems

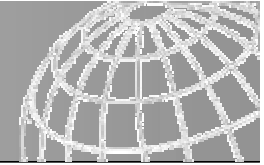
- ✍ RE- Systems have low running costs – any kWh produced is a return on investment
- ✍ It is even more difficult to predict oil prices (than RE- system's yield)
- ✍ Experience with RE-systems grow rapidly
- ✍ Many donors favor RE
- ✍ Reduction of dependency on oil prices



# Financing of Rural Electrification

- ✍ Concession Scheme in Senegal
  - ✍ Subsidy of large part of up-front investments attributed to winner of concession – running costs covered by tariffs (financed by KfW, WB, AfDB..)
- ✍ Electrification via local initiative
  - ✍ Investment-Subsidy goes to community (financed by worldbank, pilot by BMZ/DGIS)

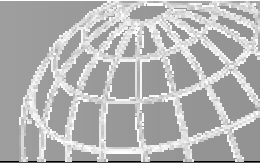




## Grid connected wind parks (TERNA)

GTZ offers technical assistance on

- ✍ Checking legal framework (feed-in law, land property laws etc.)
- ✍ Wind measurements
- ✍ Feasibility studies
- ✍ Bidding procedures
  
- ✍ TERNA: Senegal, Mali, Morocco, Ethiopia, Tunisia..
- ✍ KfW-Financing: Morocco, Egypt..



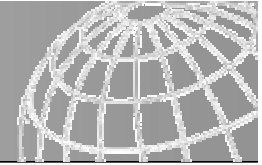
# Cooking Energy

Strategy: reducing the deficit between offer and demand

- ✍ Participatory forest management
- ✍ Dissemination of efficient stoves
- ✍ Introduction of alternative fuels

## Principles

- ✍ Enhance stove market, but avoid subsidies
- ✍ Subsidies for forest protection during regeneration period
- ✍ main financing requirements for transaction costs



# Resume

- Use renewable energy where they are (almost) economical
- Renewable energies are more often economical as we think - but sometimes they are not at all
- Renewable energies can contribute to poverty alleviation but there is no garanty
- Financing Renewable Energy Systems in not much more difficult than any other Energy Systems
- Required are good feasibility studies and transparent procedures and an inviting political framework