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## Private Sector Participation in Clean Energy Development, Management, and Operations in Africa

Activity: Private Sector Participation in Clean Energy Development, Management, and Operations  
Program Area: Energy Sector Governance  
Implementer: CORE International, Inc  
Geographic Focus: Africa  
Country: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, and Zambia  
Duration: September 2000 – June 2004



Site visit to the Kariba North Hydropower Station (control room) during the Zambia Wholesale Market Developing Training Program (July 2001) at the border of Zambia and Zimbabwe

### Project Background

The Private Sector Participation in Clean Energy Development, Management and Operations project, is a worldwide program which assists developing countries in establishing the policy

frameworks and gaining the institutional capacity necessary for the operation of financially viable, competitive energy markets that will mitigate the environmental impact of energy use while increasing access to clean energy services, and promoting economic growth. The types of reforms include legislative and regulatory policies and institutional reforms, which allow for greater private sector participation in energy, opening markets for renewable energy, energy efficiency, and clean-energy technologies.

### Development Objective

The objective of this program is to increase the knowledge and skill base of USAID's local partners to increase access to environmentally sound energy services in USAID client countries with a focus on increased private sector participation in clean energy development, management, and operations



## Approach

Most of the countries in Southern Africa face various barriers in planning and implementing effective and sustainable energy programs to provide clean and efficient energy for both urban and rural sector demand. The economies of the countries in the Southern Africa Development Council (SADC) region are inter-linked in that a successfully operating regional energy market under the management of Southern Africa Power Pool (SAPP) will directly benefit both urban and rural economic development. In an environment where all regional utilities are under pressure to reform, commercialize their operations, and potentially enhance private sector participation, the need to focus on practical and efficient rural energy service delivery models and financing of rural electrification is becoming even more pressing.

USAID is providing assistance to SADC member countries in two major areas – rural energy development and the harmonization of national and regional energy policies for those countries participating in the Southern African Power Pool (SAPP).

USAID is working with several countries, most notably, Zambia and Lesotho, in the transfer of best practices for institutional and financial models for accelerating rural electrification. Key components of this process are: to transform the traditional roles of these governments from that of being owners/managers/operators of rural energy service delivery, to a role that will facilitate private sector led solutions; to

initiate the establishment of transparent financing mechanisms such as national rural electrification funds open to private equity participation and private sector-led management.


With respect to enhancing the capacity of the SAPP, USAID is providing assistance to the SAPP member utilities in market development and power trading tools, in partnership with the SAPP Coordination Centre in Harare, Zimbabwe. The Program provides for targeted and uniquely designed training programs and institutional capacity strengthening activities designed to kick start and hasten the process of energy sector reform, including utility restructuring, commercialization, and enhanced power trading in the region. In order to achieve long term results, USAID is implementing an approach that proactively involves the beneficiaries from the SADC region in all stages, from designing to the implementation of these interventions.

## Project Partners

This project is implemented by CORE International, Inc. Partners of this program include governments, the private sector, energy sector regulators, consumer associations, civil society and other local stakeholders, SADC utilities, power traders, universities, The World Bank, other bilateral donors such as the Sweden International Development Agency (SIDA) of Sweden, and other USAID contractors.

## Project Activities

The focus of the activities have concentrated on Southern Africa and two major issues of reform – (1) rural energy



development, and (2) the harmonization of national and regional energy policies for those countries participating in the Southern African Power Pool (SAPP).


During 2003, USAID contractor CORE International conducted 11 major activities under this project including:

- Course on Advanced Electricity Markets South African Power Pool
- Seminar on the Treatment of Ancillary Services Southern Africa Power Pool, Mozambique
- Workshop on Issues & Options for Rural Electrification (RE) in SAPP Member Countries and Rural Electrification Planning in Lesotho
- Seminar on Facilitation of Discussions on the Global Village Energy Partnership (GVEP) Program in Zambia
- Support on the Preparation of Detailed Rural Electrification Action Plan for the Government of Lesotho
- Training Needs Assessment for Mozambique's Power Sector institutions, Mozambique
- Follow-up Assistance in Rural Electrification Planning to the Government of the Republic of Zambia
- Four-Day Course on Advanced Power Trading at SAPP

## Project Results

(Cross-referenced to the Project Activities above)

- Course on Advanced Electricity Markets South African Power Pool: The course demonstrated gains and benefits, as well as the potential costs and pitfalls, of electricity trading for national electricity power systems in the SAPP. It enhanced the participants' knowledge about modern methods of trading and internationally accepted principles based on best practices of other power pools such as NordPool, regional pools in the U.S., and the U.K. Pool.
- Seminar on the Treatment of Ancillary Services Southern Africa Power Pool, Mozambique: The seminar provided more awareness among the SAPP members on the need for further system-wide transactional transparency, allocation of costs of ancillary services, and efficiency improvements in order to make better use of their electricity system resources.
- Workshop on Issues & Options for Rural Electrification (RE) in SAPP Member Countries and Rural Electrification Planning in Lesotho: The workshop was designed based on a preliminary desk study, and identified different stages of RE process, stressed the importance of establishing appropriate institutional arrangements for RE in the area, and provided training on RE planning process for the Lesotho stakeholders.

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- Seminar on Facilitation of Discussions on the Global Village Energy Partnership (GVEP) Program in Zambia: As a result of the seminar, a GVEP working group is established that is assigned to be the counterpart of the GVEP Technical Secretariat.
  - Training Needs Assessment for Mozambique's Power Sector institutions, Mozambique: The Training Needs Assessment resulted in the identification of short- and mid-term needs for capacity building for the Mozambique's power sector institutions.
  - Follow-up Assistance in Rural Electrification Planning to the Government of the Republic of Zambia: A detailed RE action plan, and a paper on the establishment of an RE Authority in Zambia were developed and presented to the Zambian authorities.
  - Four-Day Course on Advanced Power Trading at SAPP: This course for electricity traders focused on demonstrating the potential gains and benefits of moving beyond short-term electricity trading in SAPP. As a result, course participants provided several recommendations on enhancing SAPP operations by the to the SAPP Coordination Centre. The Centre submitted these recommendations at the semiannual meeting of the SAPP Operations Sub-Committee, which approved all of them with immediate effect.

## Development Impact

Following the in-country consultations on the Global Village Energy Partnership (GVEP), facilitated by USAID in May 2003, Zambia's action-driven efforts to increase rural energy supply have resulted in the country becoming a role model for others. With USAID assistance, Zambia is taking an integrated approach to rural electrification, marrying rural energy supply with achieving sustainable rural development, and addressing poverty alleviation. This is made possible by institutionalizing an all-stakeholder-inclusive process for the planning and development of rural electrification. Zambia is seeking to adopt the best practices from other countries and regions, and to create an integrated market-based approach towards providing energy to all of Zambia. The success of the Zambia GVEP model has resulted in USAID planning to replicate these efforts in Brazil, Mexico and Sri Lanka.

The SAPP system is a dynamic and evolving one. While the current trading arrangements still largely occur outside the formal SAPP mechanisms, an increasing volume of power trade is continuously being brought into the formal trading process of the SAPP Control Centre. Therefore, we see a continued need for enhancing trading capacities among SAPP traders and members. The following is one of the examples showing that development steps are underway in SAPP. Based on knowledge gained in activities conducted by USAID, the SAPP





Co-ordination Center has put forward recommendations to the SAPP Operating Sub-Committee (OSC) on how best to improve the Short Term Electricity Market (STEM) at SAPP operations, both physical and financial operations. All recommendations relating to the financial operations of the STEM were approved and adopted by the OSC with immediate effect.

### Lessons Learned

The following represent major lessons for USAID's work in the SADC region:

- In the area of rural energy development, all local stakeholders are eager to

participate throughout the process of rural energy provision and take on the various rural energy service delivery functions, while being supported by their governments to the extent that appropriate institutional, financial, and regulatory frameworks and attractive environment for the private sector are established.

- The SAPP member utilities are beginning to integrate more modern methods for utility management, cost recovery, commercial accounting principles, and modern power trading principles into their respective operations.

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