



Energy Efficiency Skills Development Systems

The Energy Efficiency Skills Development Systems Project aims to support the establishment of a skills development system for municipal officers in charge of approving building plans with regard to energy efficiency. In future, the approval of building plans and the accreditation and qualifications of builders shall be in accordance with the requirements of the Energy Efficiency Building Standards and Regulations. In addition, the project will support the development of accredited e-learning material for plumbers specializing in the installation and maintenance of solar water heaters and hot water heat pumps.



Background and Challenges

One of South Africa's major challenges is the shortage of low cost housing; approximately 300 000 houses are built every year. The massive roll-out of houses and buildings has led to poor quality with little or no consideration of thermal comfort or energy efficiency. The main reasons are a serious lack of construction skills and inadequate levels of inspection of compliance with national and local building rules and regulations. The result is continued poor living conditions for occupants and disproportionately high levels of energy consumption. Fully aware of the high level of energy inefficiency, the government has recently published the Building Regulations on Energy Efficiency; the regulations define building standards for construction (SANS 10400XA) and will now make minimum energy efficiency requirements mandatory. In addition, government is in the process of rolling out 1 million solar water heaters to residential areas by 2014. The skills and capacity required to achieve this target are woefully inadequate.

Objective

The overall project goal is building South African houses and buildings in compliance with best practice and approved national standards for energy efficiency and, in addition, using solar water heaters and heat pumps.

Results to Date

The following process results have been achieved between 2010 and 2011:

- Agreements with PIRB, MBA and SAIAT were signed in August 2010
- SDC extended the PIRB agreement to include training on heat pump installation and maintenance in June 2011
- Approximately 100 plumbers have been trained on solar water heater qualification



- 722 Municipal building officials and building practitioners have been trained
- Course material on Energy Efficiency Building Standards (SANS 10400XA) have been approved by NRCS

Activities and Expected Results

The project aims to equip municipal building control officers and inspectors with the necessary skills to take energy efficiency into consideration when approving building plans. This segment of the project will be implemented by the South African Institute of Architectural Technologists in collaboration with the National Regulator for Compulsory Specifications, a division of the Department of Trade and Industry of South Africa.

The second component of the project aims to ensure that builders acquire the necessary accredited qualifications to build in accordance with the requirements of the new Building Regulations on Energy Efficiency. The KwaZulu Natal Master Builders Association will manage this segment of the project. The third and last part of the project supports the development of e-learning material to equip plumbers - and their trainers - with the necessary accredited qualifications to install and maintain solar water heaters and hot water heat pumps.

Swiss Contribution

CHF 1.2 million (approx. ZAR 8.4 million)

Time Frame

August 2010 to December 2013

Partners and Alliances

The National Regulator for Compulsory Specifications (NRCS)
South African Institute for Architectural Technologists (SAIAT)
KwaZulu Natal Master Builders Association (KZN MBA)
Plumbing Industry Registration Board (PIRB)
Department of Energy (DoE)
South African Local Government Association (SALGA)
Five pilot municipalities: Rustenburg, Mbombela, Sol Plaatje, King Sabata Dalindyebo and Limpopo.

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