



GLOBAL CLIMATE CHANGE

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Through the many programs of USAID and its implementing partners, energy efficiency in South Africa has been increased and resources have been more effectively managed. While this not only assists in achieving the goal of greenhouse gas mitigation, it also stimulates economic growth through improved industrial production and greater capacity for the development of businesses in relevant sectors.

Background. South Africa's urban townships are marked by sprawling slums and squatter settlements, a legacy of apartheid that underscores the need for access to housing and basic urban services for the historically disadvantaged majority. Energy use in the townships has a dramatic impact on environmental sustainability, child and maternal health, and families' efforts to lift themselves from poverty. Although 1.2 million homes have been built for low-income communities, they were constructed without insulation, suspended ceilings, or orientation toward sunlight. To combat the cold, residents typically use coal or kerosene to heat their homes, resulting in poor indoor air quality, increased expenditure on fuel in the winter, and high incidence of accidental fire. It is not uncommon for poor township households to spend 25% of their income on fuels such as low-grade coal or kerosene (paraffin) that create air pollution levels seven times higher than World Health Organization limits. The indoor fires contribute to community air pollution as well as greenhouse gas (GHG) emissions to the atmosphere. To address this situation, USAID is working to promote more eco-friendly homes that meet the country's housing needs as well as environmental challenges.

Sector-Specific Climate Change Activities. South Africa, the 14th largest industrial emitter of carbon dioxide worldwide, is pursuing several programs to improve the well-being of its people through economic development while also reducing the growth in GHG emissions. To help the country meet these goals, USAID is working with the government to:

- Support the design, implementation, and evaluation of programs linked to climate change
- Provide training for decision makers and stakeholders
- Disseminate information for local officials
- Support pilot activities using renewable energy technologies

Emissions Reductions through Increased Energy Efficiency. To mitigate South Africa's emissions at the municipal level, USAID supports the Cities for Climate Protection program implemented by the International Council for Local Environmental Initiatives. This program works with municipalities to better understand their GHG emissions profiles. To date, GHG emissions inventories have been completed for several cities in South Africa, and emission reduction plans have been developed based on those inventories.

Recognizing that energy is one of the major expenditures for poor South African families living in urban townships, USAID also promotes the use

USAID's partners in climate change activities in South Africa include*:

- Construction Education and Training Authority
- Cooperative Housing Foundation
- Department of Environmental Affairs and Tourism (DEAT)
- Energy Development and Research Center (EDRC)
- Forum for Economics and Environment
- International Council for Local Environmental Initiatives (ICLEI)
- International Institute for Energy Conservation (IIEC)
- Municipal Infrastructure Investment Unit (MIIU)
- National Treasury
- Peer Africa
- South African Department of Housing
- Trees for Africa
- Winrock International
- University of Cape Town

* Because partners change as new activities arise, this list of partners is not comprehensive.

For more information on South Africa, visit USAID/South Africa's Mission Web site at:

- <http://www.sn.apc.org/usaidsa/>

of low-cost solar water heating units. Solar water heaters (SWHs) significantly reduce household energy consumption and costs while providing hot water to households that could not otherwise afford it. The goal of this program is to promote the installation of SWH systems by public housing authorities, thus reducing the cost of housing, power, and other municipal services while reducing health risks and improving the quality of life in South African townships. When aggregated across a township, the energy savings of SWHs also result in significant reductions in indoor air pollution and GHG emissions. National interest in solar water heating for low-income households has surged, and as a result, plans are underway to encourage replication of this work by more housing authorities across South Africa.

Consumer analyses indicate that when township residents are aware of the range of available options, they are eager to adopt cleaner money-saving thermal energy systems. Winrock International, with support from USAID, is working with Durban Metro Housing, local lenders, and SWH suppliers to institutionalize the delivery of township SWHs, attract environmentally oriented investment, and explore opportunities for replication in other parts of South Africa. Instituted on a sufficient scale, township SWHs have the potential to dramatically reduce future GHG emissions and local air pollution levels.

Furthermore, in support of South Africa's Sustainable Homes Initiative, USAID has promoted the development of sustainable, energy-efficient, low-income housing, which has influenced the design of over 63,000 housing units.

Capacity Building. USAID also supports numerous capacity-building activities aimed at reducing GHG emissions. For example, it has provided training in improved land use management for agricultural businesses and communities, as well as in demand-side management of electricity to the energy, industry, and urban sectors. In addition to professional training programs, USAID encourages future generations of environmental professionals through activities ranging from sixth-grade global climate change education to support for postgraduate students.

Water Management. In addition to addressing climate change in the energy sector, USAID's programs also support activities that sequester carbon from the atmosphere and help improve water management. Through the Working for Water assessment tool and the development of the African Rural Initiative to Sustain the Environment (ARISE), degraded lands have been converted into carbon sink preservation areas. Through its water management and investment activities, USAID is contributing to South Africa's adaptation to potential impacts of climate change. With better management, water leakage has decreased, preserving this threatened resource.