Raquel Solomon, GS 2013

1994 marked the end of the Apartheid era in South Africa. Since then, the government has attempted to correct the many inequalities that left a large part of the population without access to basic services such as electricity and water.

In 2000 the South African government undertook a massive electrification program that has seen almost 3.5-million homes electrified. The government aims to achieve universal access to electricity by 2012. However, consumption and demand for electricity is expected to increase by 6% per year. This is a doubling of total demand, which will require an additional 40 GW of power by 2025.

Energy contributes about 15% of South Africa's GDP. The energy mix is dominated by coal (88%). South Africa's economy is structured around large-scale, energy-intensive mining and primary minerals beneficiation industries, pushing its "energy intensity" to above average, with only 10 other countries having higher commercial primary energy intensities. While the cost of electricity in South Africa is among the world's lowest, the country's strong economic growth, mass industrialization and electrification program, increased demand caused massive power shortages that crippled the country's mining industry in 2008.

South Africa is the 6th largest producer of coal in the world. Coal reserves estimated 34 million tons at the end of 2007, representing 95% of coal reserves in Africa. South Africa's energy economy has been historically coal-based. This is wrought with major social, political and environmental challenges within a post-apartheid context. Many still live in areas near distance to coal plants, which exacerbates issues of public health and social inequality. The building of new coal plants indicates that coal will continue to be used for some time, inciting pressure from civil society groups for continued use of fossil fuels.

Fuel wood and coal are still principal sources of energy for 80% of rural households in poor areas such as Limpopo, KwaZulu Natal as well as urban "townships". This creates ongoing health risks such as respiratory disease, carbon monoxide poisoning, and burns caused by the fires.

In November 2011, South Africa hosted the last round of climate change negotiations, COP 17. The country faced the challenge of justifying its own competing national priorities and interests alongside its proposed climate change objectives of 34% emission reduction below 'business as usual' by 2020 and 42% by 2025. South Africa pushed for a comprehensive, fair and legally binding agreement with equal prioritization of mitigation, particularly by promoting renewable energy and energy efficiency as sustainable solutions to climate change and adaptation. The expected impacts of climate change in the region on water resources and importantly, finance and technology transfer (seeking to understand and promote the most suitable finance and technology solutions for the region) were key points highlighted at the conference.

Renewable sources of energy from solar, wind and water have the potential to substitute for a significant proportion of the conventional fossil fuels used in South Africa's electricity generation. The South African government has set out the installation of one million solar water heaters across South Africa by 2014.

Climate Smart Cape Town is a campaign to educate residents about climate change and how they can take action, as well as initiatives being taken by the City of Cape Town and other leading public and private sector organizations to mitigate and adapt to climate change.

Greenpeace and other environmental activists from across the world protested in the conference centre, outside the plenary room of the International Convention Center in Durban where COP 17 was taking place.

"We are here to stand with the most vulnerable countries whose basic survival needs have not been met by the men and women in that conference hall. We are here to call upon government ministers to listen to the people and not the polluters." South Africa's case illustrates the complex challenge of energy and sustainable development.