



Climate change in Africa and South Africa: **An overview**

Africa's greenhouse gas (GHG) emissions are relatively insignificant compared to other industrialised countries. Europe, for example, emits roughly 50 to 100 times more GHGs per capita than Africa, while America emits 100 to 200 times more.

The African continent is, however, extremely vulnerable to climate change, largely because of its inability to respond and adapt to changing conditions, which is due to a number of factors, including lack of infrastructure, general under-development, the absence of institutional or human capacity and poor disaster management processes.

Climate change is likely to severely compromise water supplies and agricultural production throughout Africa. It is estimated that yields in some countries could drop by as much as 50% by 2020 and some large regions of marginal agriculture are likely to be

forced out of production. Forests, grasslands and other natural ecosystems are already changing, particularly in southern Africa. By the 2080s, the amount of arid and semi-arid land in Africa is likely to increase by 5 to 8%.

The major climate change vulnerabilities in Africa are:

- Desertification
- Sea level rise
- Reduced freshwater availability
- Cyclones
- Deforestation
- Loss of forest quality
- Degradation of woodlands
- Coral bleaching
- Spread of malaria
- Impacts on food security





South Africa and climate change

South Africa signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1998 and the Kyoto Protocol in 2002. The Department of Water and Environmental Affairs (DW&EA) is the designated lead department responsible for the coordination and implementation of this country's UNFCCC commitments and related matters.

A National Committee on Climate Change (NCCC) was established to act as an advisory body to the Minister of DW&EA. This committee is obliged to report on climate change activities every four years via National Communications to the UNFCCC.

National emissions, based on carbon dioxide (CO₂), nitrous oxide (N₂O) and methane (CH₄) gases were estimated at around 347 Mt for 1990 and 380 Mt for 1994. In these years, electricity generation contributed approximately 141 Mt and 152 MT of CO₂ emissions respectively. The DW&EA is in the process of compiling a new national GHG inventory with data from the year 2000. Initial estimations place national emissions at around 440 Mt of CO₂, to which Eskom contributed approximately 220 Mt (50%).

National mitigation actions

The Kyoto Protocol

The Designated National Authority (DNA), which approves the submission of CDM projects nationally before they go to the UNFCCC's CDM Executive Board, resides within the Department of Energy (DoE). As of January 2011, South Africa has 125 CDM projects. Of these, 150 have been registered and four of them have generated Certified Emission Reductions (CERs).

South Africa has the highest number of CDM projects in Africa, which as a whole has 156 CDM projects. By contrast, Latin America hosts 904 CDM projects while Asia and Pacific hosts 4 572. This highlights the minimal participation of African countries under the Kyoto Protocol and the need to rectify this.

South Africa's Long-Term Mitigation Scenario (LTMS)

In 2006, in response to the climate change challenge, the South African government mandated a national LTMS process to:

- Ensure South Africans understand and focus on a range of ambitious but realistic scenarios of future climate action for the country, based on best available information, notably long-term emissions scenarios and their cost implications
- Ensure the South African delegation to the climate change negotiations is well-prepared, with clear a position for post-2012 dialogue
- Inform the South African government so that it is in the position to approve the country's national long-term climate change policy and the position of the South African delegation to the UNFCCC negotiations

South Africa and climate change

A National Climate Change Policy development process was initiated by the DW&EA and South Africa's Second National Communications under the UNFCCC as well as its National Climate Change Response Green Paper were released for comment in December 2010.

The National Climate Change Response White Paper was published in July 2011.