

# **Radiative Forcing due to the long lived Green house gases considered for Cape point in South Africa**

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## **Abstract**

The Radiative Forcing due to the long lived Green house gases has been evaluated for South Africa using the data obtained from World Data centre for green house gases. It is found that carbon dioxide (CO<sub>2</sub>) has the highest radiative forcing compared to Methane (CH<sub>4</sub>) and Nitrous Oxide (NO<sub>2</sub>). The forcing by CO<sub>2</sub> is found to be increasing at a rate of 0.027 Wm<sup>-2</sup> per year while CH<sub>4</sub> and NO<sub>2</sub> increases at the rate of 0.0011 Wm<sup>-2</sup> per year and 0.0023 Wm<sup>-2</sup> per year respectively for the fourteen year period of the analysis. The radiative forcing due to these gases is found to be positive indicating warming of the atmosphere. This finding is in agreement with the International Panel on Climate Change (IPCC) Fourth assessment report in Africa which indicates future warming with central Southern Africa being more vulnerable.

**Key words:** Greenhouse gases, Radiative forcing, IPCC, South Africa , Atmosphere