

CLIMATE CHANGE AND SOUTH AFRICA



environment & tourism

Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

Presentation to Portfolio Committee August 2007

Compiled and presented by the Chief Directorate: Air Quality Management and
Climate Change, Branch: Environmental Quality & Protection



- South African context
- Potential impacts of climate change in South Africa
- Progress in: Economics & Science of climate change
- International negotiations and South Africa's priorities
- Recent international developments & implications:
- How SA is planning for emission reductions (Long Term Mitigation Scenarios)
- What individuals can do

The Greenhouse Effect

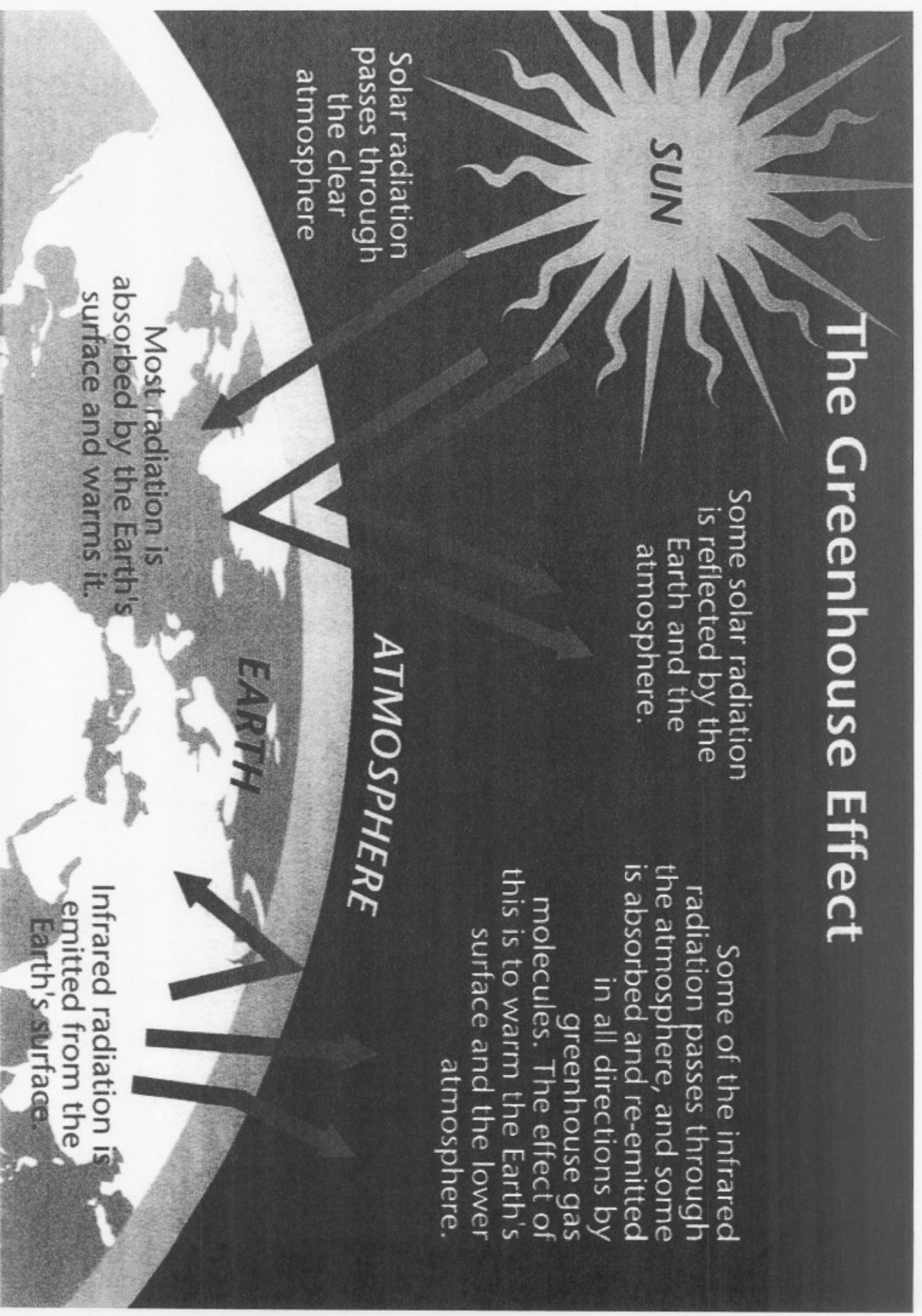
Some solar radiation is reflected by the Earth and the atmosphere.

Some of the infrared radiation passes through the atmosphere, and some is absorbed and re-emitted in all directions by greenhouse gas molecules. The effect of this is to warm the Earth's surface and the lower atmosphere.

Solar radiation passes through the clear atmosphere

Most radiation is absorbed by the Earth's surface and warms it.

Infrared radiation is emitted from the Earth's surface.



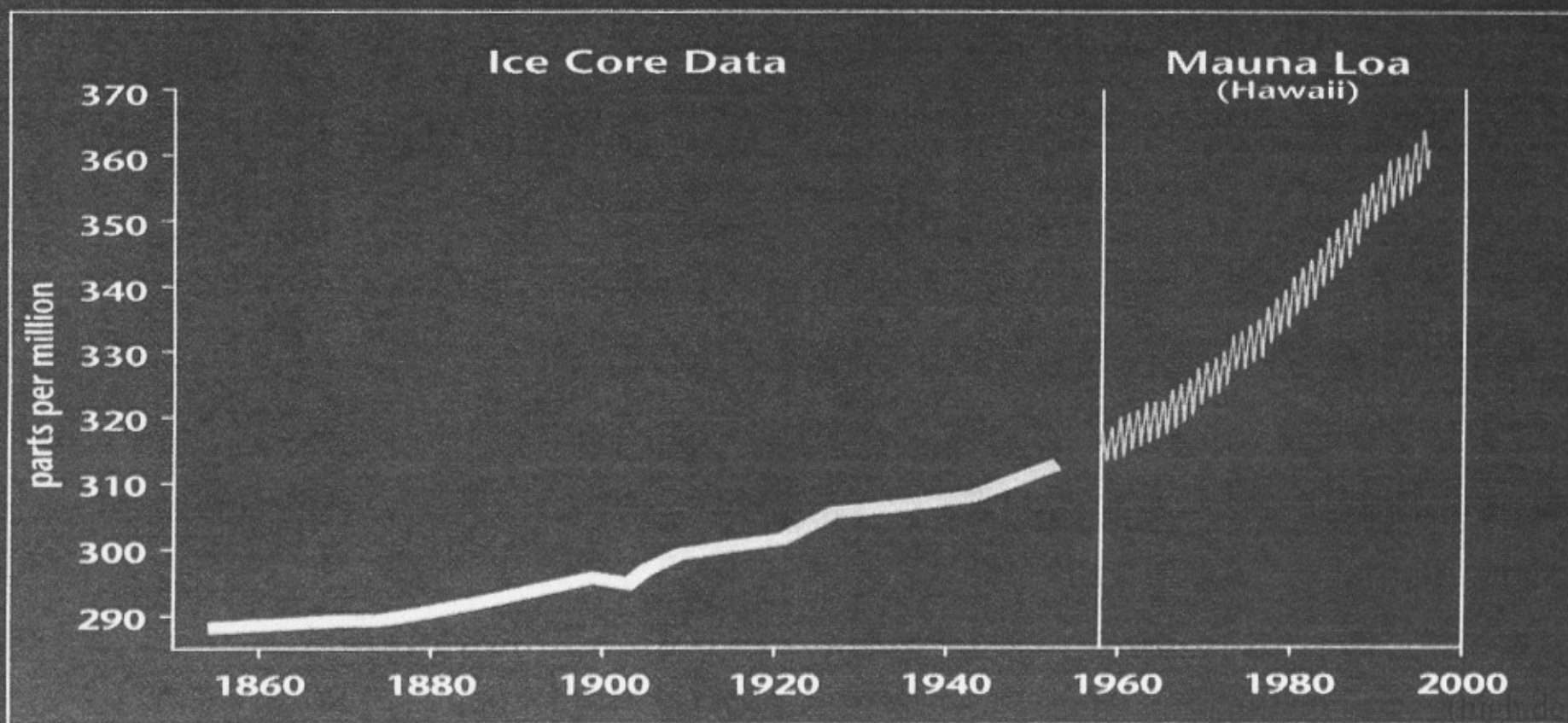


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Enhanced Greenhouse Effect
Fossil fuel burning and land use change
(deforestation) add CO₂ (and other greenhouse
gases) to the atmosphere

Carbon Dioxide Concentrations

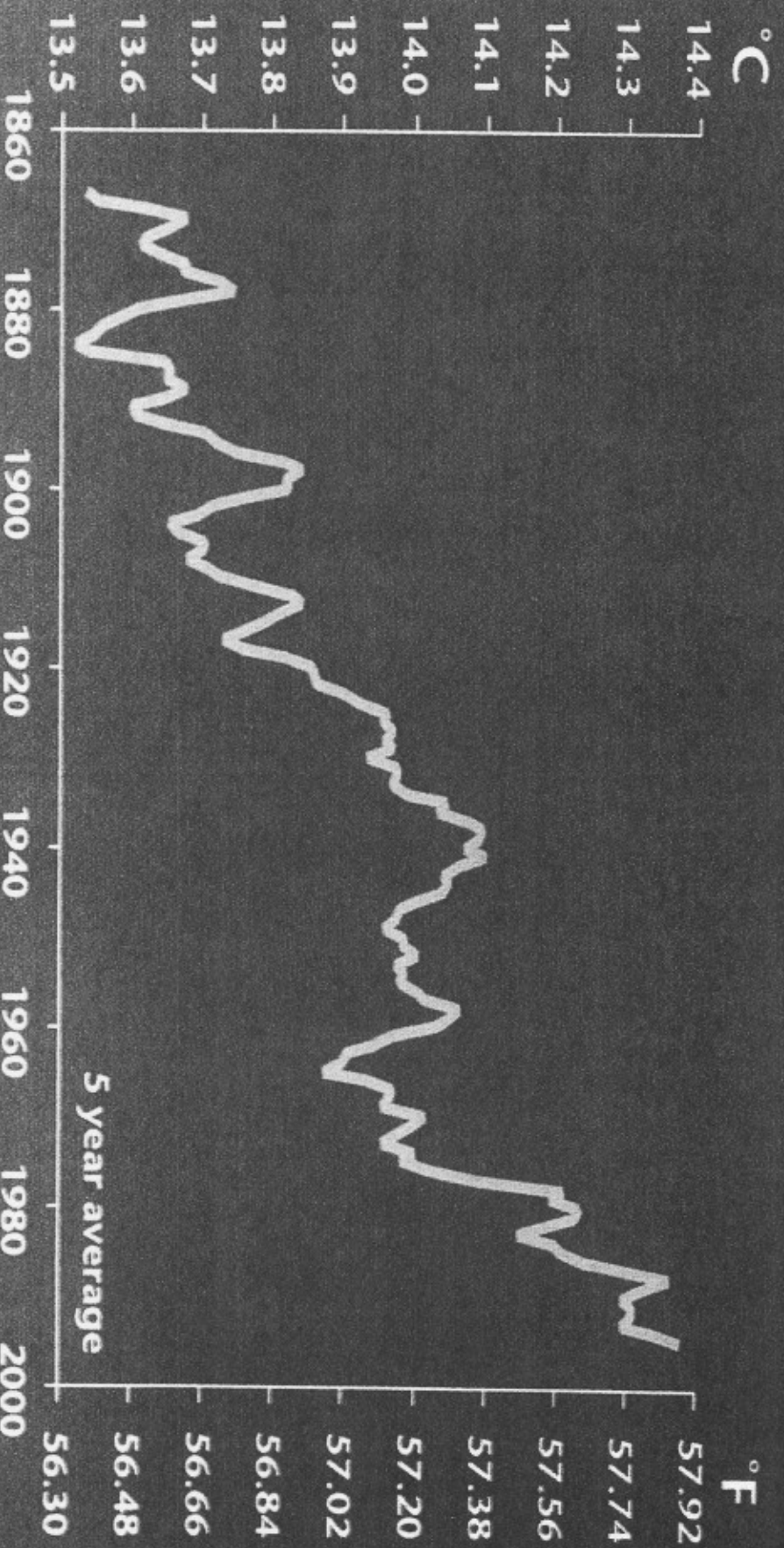




This has increased global surface
temperatures

(by roughly 0.6°C during 1900's)

Global Average Temperature



5 year average



- South Africa ~2% of global emissions:
 - Heavy reliance on coal to meet energy needs – 75% of total energy consumption in 2004 from coal;
 - 11th highest emitter after China and India in the developing world;
 - Largest contributor to GHG emissions in Africa;
 - Sasol's Secunda plant is often sited as being the largest single source of GHG emissions in the world.