



**Western Cape  
Government**  
Environmental Affairs and  
Development Planning

**BETTER TOGETHER.**



# Planning for Change

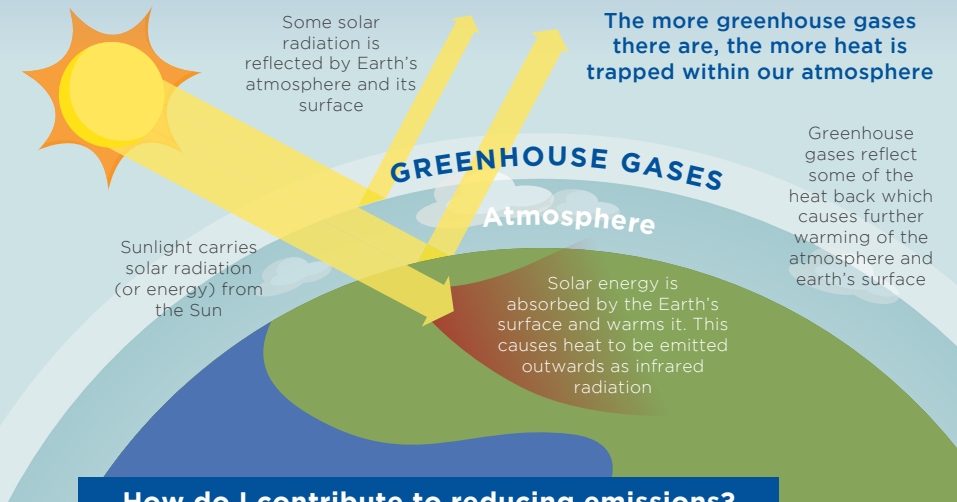
Adapting to Climate Change in the Western Cape

# What is climate change?

The heat of the sun is essential for life on earth. Certain gases in our atmosphere, such as carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), trap energy in a similar way to a greenhouse, and are called "greenhouse gases" (GHG).

As this layer of gases increases, so the amount of energy on earth increases. The Earth's climate naturally fluctuates between warmer and colder periods over long periods of time. But human activities are now causing the climate to change more rapidly than these natural cycles.

The term 'climate change' refers to a shift in weather over time, due to an increase in atmospheric temperatures.



## What Causes Climate Change?

### Every time you need energy,

for example to switch on a light, turn on your TV, use your oven, charge your cell phone or travel by motorised transport, you rely on energy production which releases carbon dioxide (CO<sub>2</sub>).

### When you eat.

Trees and plants absorb CO<sub>2</sub> and release oxygen. Forests and natural systems are being cleared and turned into agricultural fields so that we have food to eat. This results in less fresh oxygen being pumped into the atmosphere, resulting in an increase in CO<sub>2</sub>. In addition some of the fertilisers and animal waste release methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), the other two most significant GHG's.

### When you buy or use any processed product.

Energy has been used to create whatever you are using. When you throw anything away, it ends up in a landfill which releases greenhouse gases. Waste water treatment works release significant greenhouse gases.

## The way you live affects climate change.

## How do I contribute to reducing emissions?

### Energy efficiency

- Install a ceiling and insulate it to keep your home cooler in summer and warmer in winter.
- Use an energy efficient cooking bag to cook your food or keep it warm.
- Close your curtains at night to help keep your home warm in winter.
- Install a solar water heater.
- Replace lights with energy efficient light bulbs.
- Use sustainable transport



### Food security & biodiversity

- Start a food garden, plant a fruit tree.
- Plant local trees and plants for shade, wind protection, and because they provide clean air.



### Waste management & Water efficiency

- Recycle and reuse your waste.
- Compost your organic matter from the kitchen and garden.
- Collect water and use it to water your garden.
- Fix leaking taps or report them to your councilor.



## How will the Western Cape be affected by climate change?

The Western Cape is vulnerable to climate change and impacts are already being increasingly felt in many parts of the province. These projected climate change impacts translate into threats for human lives and health, communities and livelihoods.



Decrease in rainfall



Alien vegetation reduces viability of ecosystems



Increased severity of drought



Increase in coastal impacts



Higher average temperature



Fewer cold and frost days



Increased intensity of extreme events

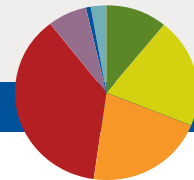


Increased fire risk



Increase in flooding and storm surges

### GHG emissions profile of the Western Cape



- Total **energy** consumption in the Western Cape is 339 117 323 GJ = **13%** of South Africa's total
- Total **emissions** in the Western Cape is 41 MtCO<sub>2</sub>e = **11%** of South Africa's total

Commerce	11%
Industry	20%
Residential	21%
Transport	37%
Solid waste	7%
Agriculture	1%
Municipality operations	2.5%

CO<sub>2</sub>e, or carbon dioxide equivalent, is a way of expressing all the different greenhouse gases as a single number.

Carbon dioxide (CO<sub>2</sub>) is the largest GHG contributor and is produced when fossil fuels, such as coal, oil (which is used to make petrol, diesel, paraffin and other liquid fuels) and natural gas are burnt.

The Western Cape Government acknowledges climate change as one of the biggest threats to its communities, economy, and environment. It is taking action by developing and implementing climate change response policies and programmes which aim to stem greenhouse gas emissions and develop the region into a low-carbon economy by promoting sustainable energy systems, as well as adapting and increasing resilience to projected climate impacts. Businesses, local governments and citizens can also all play their part in taking climate action.

**Better Together.**

For more information and tips visit [www.westerncape.gov.za/eadp](http://www.westerncape.gov.za/eadp)