

# FACT SHEET: CLIMATE CHANGE

***Our planet is rapidly getting hotter causing long-term changes to our weather. This is climate change.***

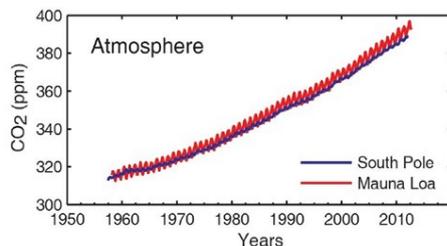
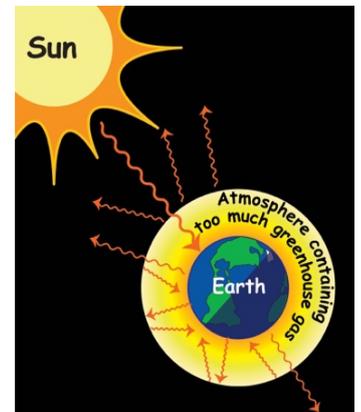


## ***Why is the planet getting hotter?***

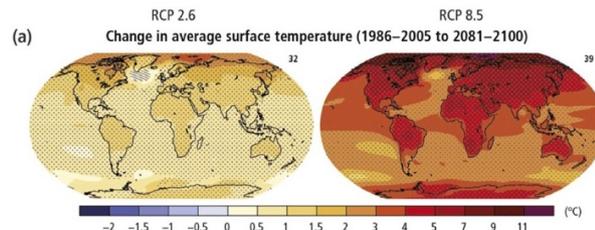
- Because of the rate and intensity of human activities, such as the burning of fossil fuels (coal, oil and gas) widespread deforestation and agriculture.
- Such activities emit primarily carbon dioxide into the atmosphere. A lot of agriculture's emissions are methane. These gases, along with water vapour, ozone, nitrous oxide and chlorofluorocarbons, are known as the greenhouse gases. They are all heat-trapping gases.

## ***What is the Greenhouse Effect?***

- The Earth warms the planet naturally through a process known as the greenhouse effect. The greenhouse gases in the atmosphere act like a glass roof. They trap the sun's heat thereby maintaining a comfortable global average temperature of about 15°C. Without the greenhouse effect, Earth would be too cold for life to exist.
- Human activities, however, have been emitting unprecedented amounts of mainly carbon dioxide into the atmosphere since the 19<sup>th</sup> century. This has increased the carbon dioxide concentrations already in the atmosphere, much like putting extra blankets around the planet which it does not need, making it hotter and hotter. Most of the Earth's warming has occurred in the past 35 years. See the graphs below from the Intergovernmental Panel on Climate Change.
- An increase in global temperature leads to global climate change and impacts such as Arctic melt, sea-level rise, extreme weather events (erratic rainfall, storms, floods, droughts, wildfires), species/habitat loss, changing ecosystems and food/water shortages, to name a few.



20th century average surface temperature changes



Left: Increase in Carbon Dioxide concentrations in the Atmosphere

Right: projections for increase in average temperatures in 2081– 2100,

## ***What can we do to tackle climate change? LOTS!***

- Calculate your carbon footprint.
- Move away from oil/gas heating to electric heating.
- Drive less / Encourage the use of electric vehicles.
- Travel by public transport or carpool to meetings.
- Reduce flying.
- Install energy-efficient lighting.
- Switch to renewable energy.
- Cut heat loss through draught-proofing and insulation.
- Stop eating beef and lamb and move to a more vegetarian diet, sourcing local/in-season food.
- Plant trees.

More information can be found in the book by Mark Maslin, *Climate Change: A very short introduction*.