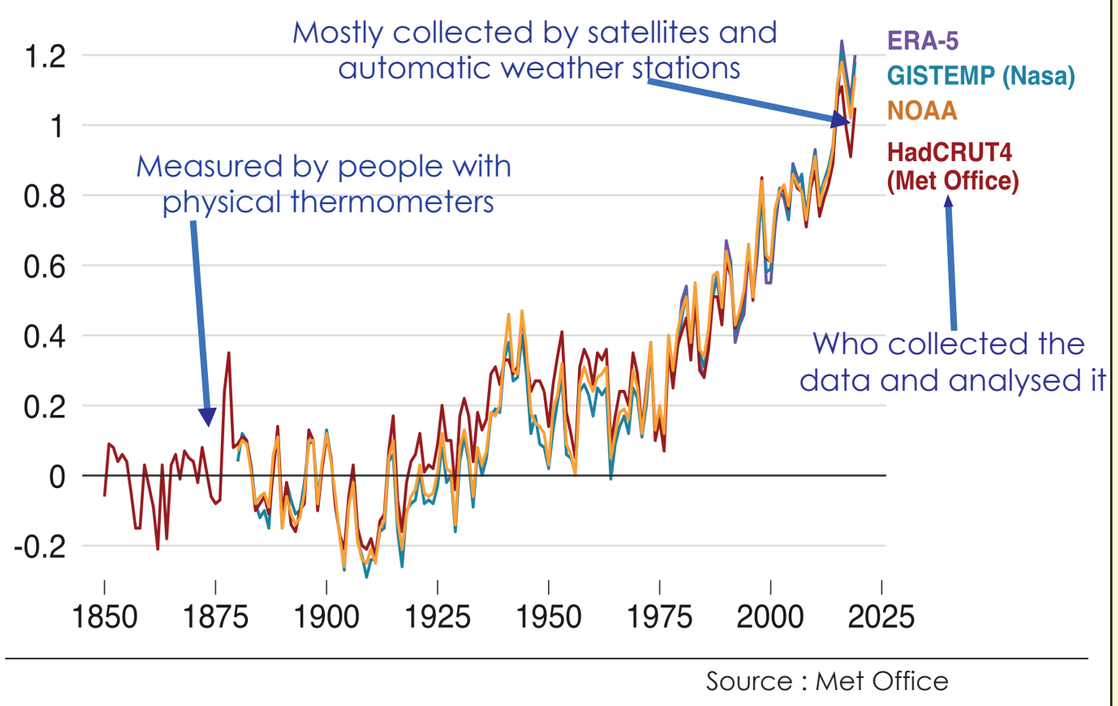
WHAT IS CLIMATE CHANGE?

HOW MUCH HAS THE EARTH'S TEMPERATURE CHANGED?

Temperature rise since 1850

Global mean temperature change from pre-industrial levels, °C



Source : Met Office

WHAT IS CLIMATE CHANGE?

"**Climate change**" is the impact of warming the atmosphere caused by our activities since the industrial revolution in the 1800s.

In that time we have warmed Earth by an extra 1.2 degrees. Does not sound much does it?

Heat is not just temperature – "heat" is the total heat contained within the system and that means that on average :

- every sea is 1.2 degrees warmer

- the entire atmosphere is 1.2 degrees warmer

- the entire land surface and everything on it, is 1.2 degrees warmer

That's an ENORMOUS AMOUNT OF EXTRA HEAT. Imagine trying to do that with a fan heater!

THE NUMBER 1 THING YOU CAN DO TO STOP CLIMATE CHANGE IS TO STOP BURNING FOSSIL FUELS

"The evidence is clear: the main cause of climate change is burning fossil fuels such as oil, gas, and coal. When burnt, fossil fuels release carbon dioxide into the air, causing the planet to heat up."

Source : Met Office

We add around **36 billion tons** every year.

Volcanoes add greenhouse gases naturally. They produce around **200 million tons** of carbon dioxide per yr. Our ecosystem can handle that.

GREENHOUSE GASES

The main gases which cause the planet to warm up are :

- Water – lasts a few days before raining back to earth

- Carbon dioxide – mostly from the extraction and burning of fossil fuels. It lasts up to 200 years in the atmosphere so it can build up

- Nitrous oxide mostly from intensive farming
  It lasts 114 years so can also build up.

- Methane :
  - from fossil fuels
  - intensive farming
  - belching cows and sheep
  - from waste disposal

  It lasts 12 years in the atmosphere

WHY DO THEY CAUSE PROBLEMS?

Light interacts with electrons in the atoms in the greenhouse gas. They absorb energy and leap to another level of energy.

At some random time they fall back, radiating the energy. They act like a blanket, trapping that energy.

Water also forms clouds which act like a physical blanket trapping heat beneath them.

Some heating is necessary as it stops our planet from freezing over.

www.futuregroup.org.uk

www.climateweeknortheast.org

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