

What is Climate Change?

Throughout our Earth's history, the climate has changed many times. But now science is telling us that the current rise in temperatures are due to the **greenhouse gases** we are adding into the atmosphere.

This is causing global temperatures to rise, resulting in long-term changes to weather patterns. This is known as **climate change**.

What is the Greenhouse Effect?

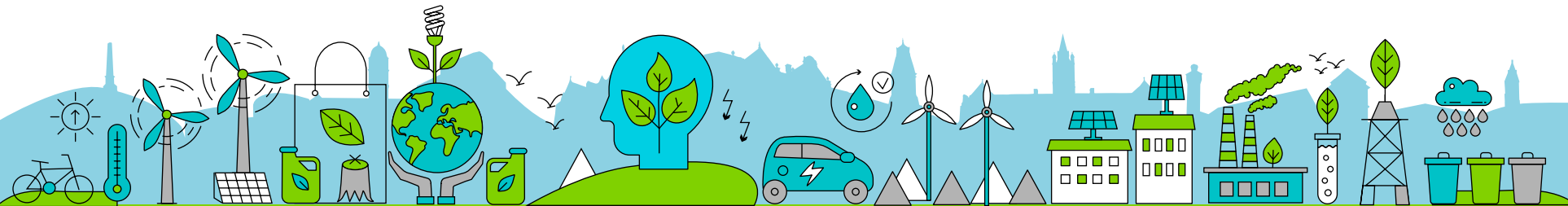
Many natural cycles add and remove **carbon dioxide, methane and nitrous oxide** from the atmosphere but human activity adds an excess of these greenhouse gases into the atmosphere. We need the greenhouse effect in order to survive on Earth. Without it, the planet would be around 30 degrees cooler and uninhabitable for humans.

However...

The burning of **fossil fuels, coal, gas and oil** to power our homes and industry, to drive our cars and to travel overseas produces carbon dioxide and other greenhouse gases as waste products. These gases absorb the heat radiation from the earth's surface and, like a blanket wrapped around the earth; keep the earth's surface warmer than it would be usually.

The more fossil fuels we burn the thicker the 'blanket' becomes. Increasing levels of greenhouse gases in the atmosphere raise the amount of heat retained causing the atmosphere and the earth's surface to heat up. **The more gases that are released the hotter it becomes.**

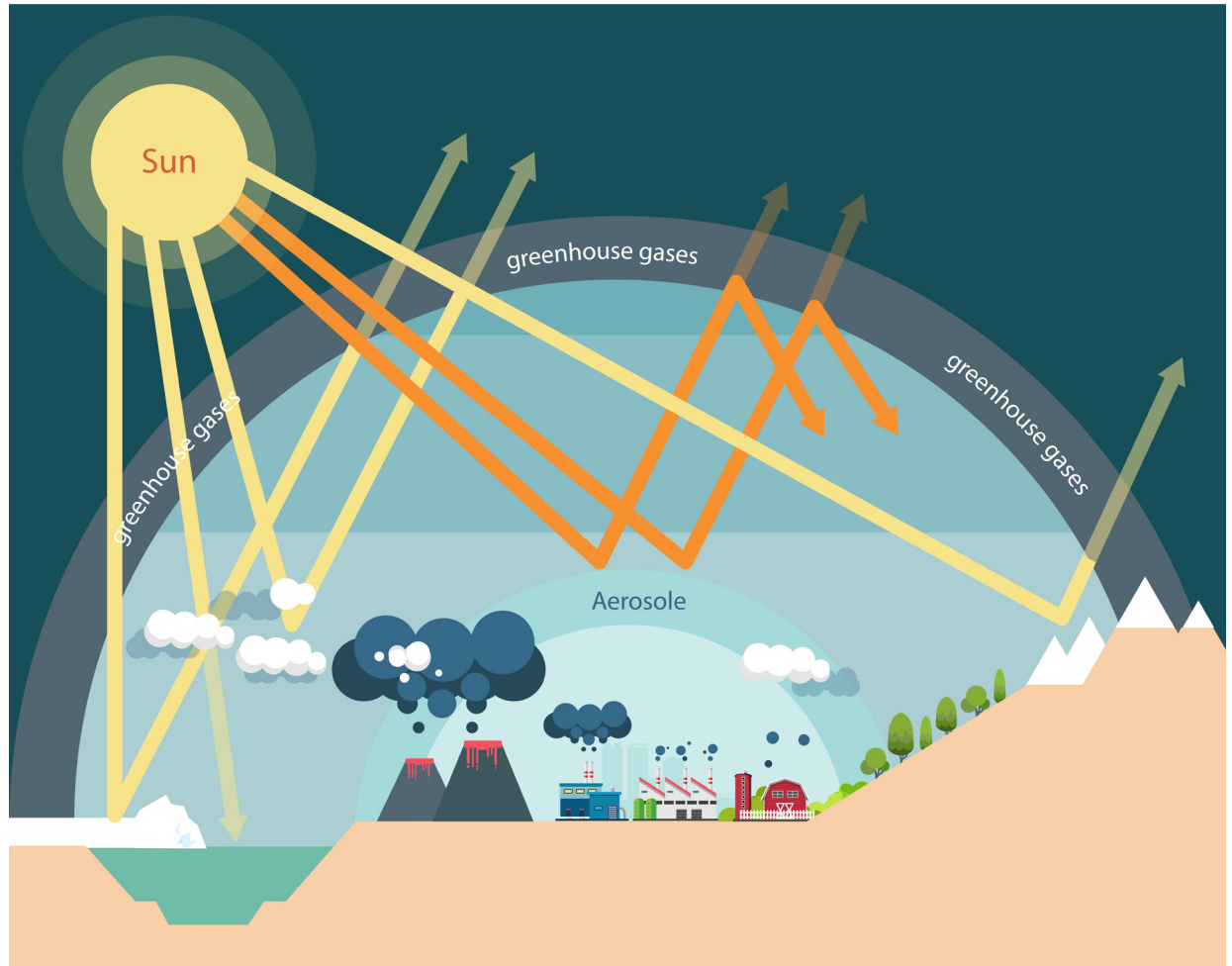
Humans have now pumped so much carbon dioxide and other greenhouse gases into our atmosphere that **our earth is now 1 degree hotter than it was in pre-industrial times.** This warming is enough to bring about the many effects of climate change.



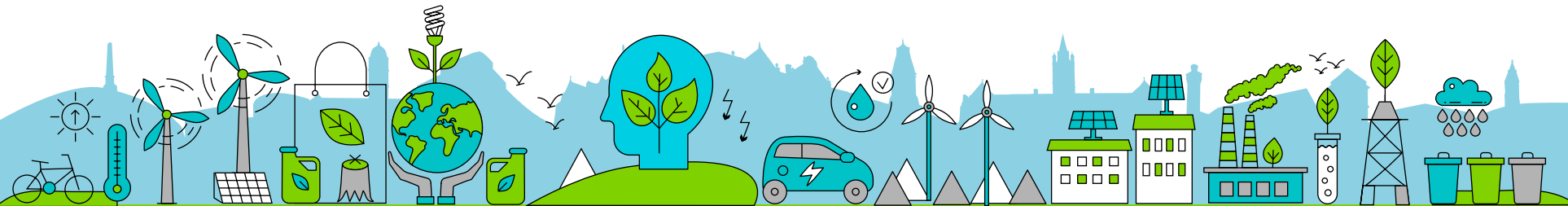
This warming climate due to emissions from human activity, coupled with **rapid biodiversity and ecosystem loss**, is merging to create a mass extinction event. The UK is already experiencing climatic changes such as huge **wildfires** in 2018, record **heatwaves** in 2019 and extensive **flooding** in 2020.

Extreme weather events such as this are becoming **more frequent**, and the consequences more severe.

Without mitigation, the environmental crisis will negatively affect us all. Extreme weather events will **damage property, air pollution** will harm lungs and economic **uncertainty** will lead to job losses. These consequences will disproportionately affect the most vulnerable people and communities in our society.



The Greenhouse Effect



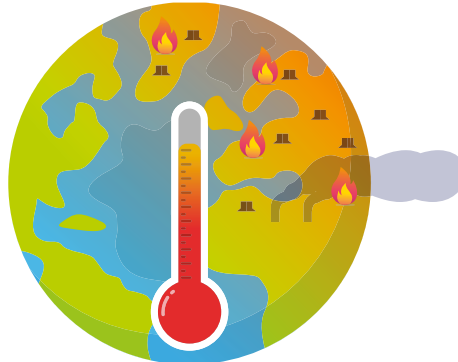
What impact does Climate Change have on our planet?

Heavier rainfall means that rising sea levels causes more flooding, destroying homes & crops.

Oceans are becoming more acidic due to rising atmospheric CO₂, melting the shells of some marine organisms, threatening our marine life and food sources.

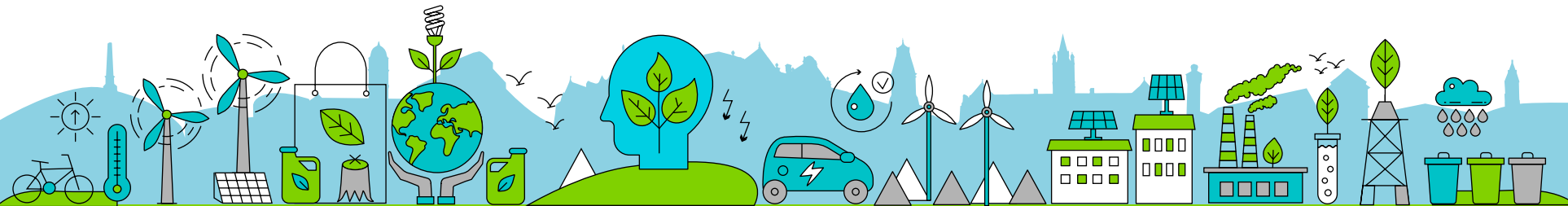
We could lose almost 50% of species from the world's most important natural areas.

Shrinking ice and glacier loss is physical evidence of climate change and has been seen around the world including the Alps, Himalayas and Rockies.



Heatwaves will increase droughts causing a decline in crops and food shortages, low yields also cause an increase in food prices.

There will be a rise in the number of health conditions such as respiratory diseases, it's also projected that heat related deaths will triple by 2050.



How have we seen the effects of Climate Change in the North West?

Since the 1960s, there has been a 35% increase in winter rainfall in North West England and it is predicted to increase a further 10% by 2030, causing more frequent and severe flooding.

During The Boxing Day floods in 2015, **2,250** homes and **500** businesses were flooded with over **31,000** homes losing power. Damage to infrastructure totalled **£11.5 million**.

Air pollution in Greater Manchester contributes to at least **1,200 early deaths** in our region each year.

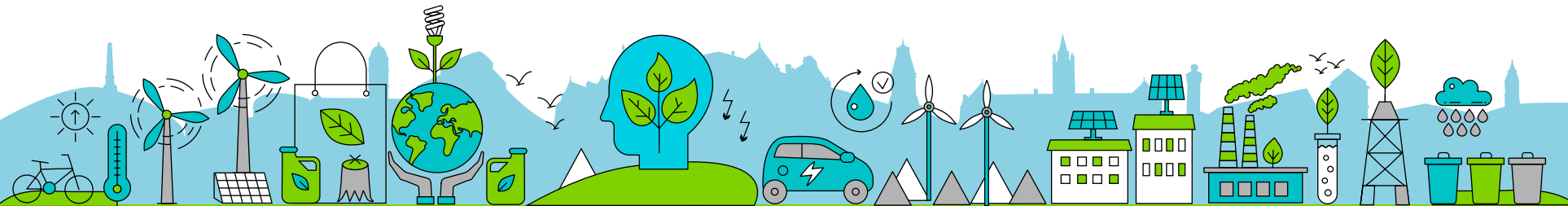
A 2°C increase in summer temperatures results in a **34-56% increase** in the number of outdoor secondary fires. If we do nothing, by **2070** we could see five Peak District moorland fires a week.

In the September 2016 floods over **63,000** properties are at risk from river flooding in our city-region and almost **163,000** properties at risk from surface water flooding.

The 2018 Saddleworth Moor fire cost the UK economy over **£21 million pounds** and **damaged the health** of millions of people.

There has been an increase in **structural collapses, landslides and sinkholes**, including the sinkhole which appeared on Mancunian way in 2016.

High winds in November 2015 caused a 50-foot tree to fall in Salford, and the roof was blown off a row of shops in Denton.



We know what

we must do...



The actions we make over the next few years will affect our future and that of our planet for many thousands of years to come. **We need to act urgently.** We are running out of time but there is still hope that with positive action now we can make a difference...

Visit www.tameside.gov.uk/thinkgreen to find out what you can do and what we are doing to combat climate change.

