



## Our Climate, Our Future

### COP26

The 26<sup>th</sup> Conference of the Parties (COP26), which will take place in November 2021, will involve people from across the world identifying actions that humans must take in order to slow down climate change.

### What Is Climate Change?

Climate change describes the long-term change to weather patterns across the world. Natural events, such as volcanic eruptions and ocean currents, cause climate change to happen slowly or for a short time. However, since the 1950s, scientists have noticed that climate change has been happening much too quickly. When this happens, living things struggle to adapt fast enough to these changes and they cannot survive in the same place or in the same way that they usually do. Many species can become extinct (no longer exist).

### Who Is Responsible for Climate Change?

Human actions are causing the planet to become too warm too fast. This is known as global warming and is mostly caused by too many greenhouse gases (carbon dioxide, methane, nitrous oxide and other gases) being released into the Earth's atmosphere. These gases trap heat, which is warming the planet and having an impact on living things across the globe.

Human actions causing climate change involve the following areas:

Food and Farming	Oceans	Forests
Energy	Travel and Transport	Health and Happiness

### Who Is Most Affected by Climate Change?

Climate change can affect the health, happiness, livelihoods and existence of every person. However, some are feeling the effects of it more than others:

- farmers and rural communities (people living in small, remote places);
- people in the poorest countries, who are least ready to cope with the effects of climate change;
- people who have done the least to cause climate change but are facing the greatest challenges.





## Food and Farming

### Problems

- Loss of forests, meadows, grasslands and hedgerows in favour of farmland
- Fewer habitats for living things
- Trees cut down to make larger fields so fewer trees taking carbon dioxide from the atmosphere
- Narrow range of crops, which damages soil
- Fertilizers and pesticides (chemicals used by farmers) releasing a greenhouse gas into the air and harming insects
- Food being transported to other countries (emitting greenhouse gases)
- Farmers in poorer countries suffering with fewer crops, poverty and hunger

### Solutions

- Reducing greenhouse gas emissions
- Protecting forests and other land types
- Growing a variety of plants, trees and grasses that take carbon out of the air and return it to the soil
- Using fewer chemicals on farmland
- Reducing food miles (the distance food has to travel from where it is produced to where it is eaten)
- Helping farmers to farm in different ways



### Did You Know...?

- Up to one-third of all greenhouse gas emissions come from farming or food production.
- In some poorer countries, like Malawi in Africa, most people work on small family farms and have done little to cause climate change but are suffering the most because of it.





### Oceans

#### Problems

- Overfishing (so many fish being taken that there are not enough left in the sea to reproduce and the survival of some species is at risk)
- Waste finding its way into oceans, causing harm to living things
- Noise pollution from ships and mining (for oil and natural gas) shocking wildlife
- Increasing sea temperatures, causing glaciers to melt and sea levels to rise



#### Solutions

- Countries agreeing to protect oceans and coastlines from overfishing and mining
- Reducing and recycling waste so none ends up in the oceans
- Slowing global warming in as many ways as we can



#### Did You Know...?

- The oceans capture and hold on to carbon dioxide but too much can cause harm to animals, such as coral (removing or bleaching their colour).
- Over 200 million people worldwide rely on fishing to earn money so fish must be caught sustainably (so there are always enough left in the sea).





### Forests

#### Problems

- Cutting down trees for farming and timber (deforestation)
- Deforestation to clear land for new roads, railways and other groundwork
- Fewer trees to remove carbon dioxide from the atmosphere
- Whole habitats being destroyed that threaten an entire group of animals (species)
- Loss of larger predators from forests that are broken into smaller chunks of land



#### Solutions



- Stopping deforestation to allow forests to recover
- Planting more forests to recover habitats and reduce greenhouse gases
- Teaching farmers to grow crops in forests without chemicals
- Taking timber in ways that keep the forests healthy

#### Did You Know...?

- 300 million people still live in forests around the world.
- A forest area the size of a football pitch is cut down every second.



# COP26



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## Energy

### Problems

- Fossil fuels (coal, oil and natural gas) continue to be burnt to create energy and electricity, which releases carbon dioxide into the atmosphere
- Energy used to power most transport continues to produce greenhouse gases
- Demand for energy in homes and businesses is great and a large proportion of the energy generated is being wasted in homes



### Solutions

- Using cleaner energy and electricity sources, such as solar and wind power
- Making vehicles that emit zero greenhouse gases
- Preparing people for the changes they will need to make

### Did You Know...?

- There is more carbon dioxide in the Earth's air now than for the last 800,000 years.
- Producing electricity, heat and fuel for transport causes more than half of all greenhouse gases the world creates.





## Travel and Transport

### Problems

- Greenhouse gases emitted by transport, especially cars and delivery vehicles, contributing to climate change
- Too many cars used by people for private journeys impacting on the environment and their health
- Air pollution (invisible gases) caused by transport being harmful to the health of people and animals



### Solutions

- Making vehicles that emit zero greenhouse gases, such as electric vehicles
- Making walking, cycling and public transport more attractive to people than driving to encourage people to be more active and reduce climate change
- Creating more green spaces to help remove pollution from the air



### Did You Know...?

- Transport is the largest emitter of greenhouse gas emissions in the UK.
- The UK government has set a target that all new cars and vans will emit zero emissions from 2035.





### Health and Happiness

#### Problems

- Extreme weather and natural disasters happening more often
- Air pollution from burning fossil fuels and driving petrol or diesel cars
- Water pollution from plastic and carbon dioxide
- Poorest people living in poverty
- Natural, green areas being taken away or changed



#### Solutions



- Preparing every global citizen with ways to adapt or cope with climate change
- Reducing greenhouse gases and other pollution in air and water
- Planting more trees and plants across the world, especially near to people's homes, to help them stay healthy and happy
- Helping farmers to grow crops that can be eaten locally

#### Do You Think...?

- Will the planet be better in ten years' time thanks to COP26?





## Our Climate, Our Future

### COP26

The 26<sup>th</sup> Conference of the Parties (COP26), taking place in November 2021, will involve a range of different people from the 197 parties. They will identify actions to reduce the impact on the planet's climate in light of climate change.

### What Is Climate Change?

Climate change refers to long-term changes to weather patterns across the world. Natural events such as volcanic eruptions, changes to the Earth's orbit and ocean currents, can cause climate change to happen gradually or for a short time. However, since the middle of the 20<sup>th</sup> century, scientists have noticed that climate change has been happening much too quickly. When this happens, living things struggle to adapt fast enough to the changes to their environment (e.g. extreme weather, wildfires and loss of habitats) and they cannot survive in the same environment or with the same behaviour they are used to. This can mean many species become endangered or even extinct.

### Who Is Responsible for Climate Change?

Human activities are causing the planet to become too warm too fast. This is known as global warming and is mostly caused by excessive greenhouse gases (carbon dioxide, methane, nitrous oxide and fluorinated gases) being released into the Earth's atmosphere. These gases trap heat, which can then cause an increase in water vapour, another greenhouse gas, increasing the likelihood of clouds and rain forming.

Human activity causing climate change involves the following areas:

Food and Farming	Oceans	Forests
Energy	Travel and Transport	Health and Happiness

### Who Is Most Affected by the Climate Emergency?

Climate change is an issue that can affect the health, happiness, livelihood and existence of every global citizen. However, some are feeling the effects more than others:

- farmers and rural communities;
- people in the poorest countries, who are least prepared to cope with the challenges of climate change;
- people who have done the least to cause climate change but are facing the greatest problems.







## Food and Farming

### Problems

- Clearing of forests, meadows, grasslands and hedgerows in favour of farmland
- Fewer habitats, causing problems for wildlife
- Tree felling to make larger fields so there are fewer trees to capture carbon from the atmosphere
- Narrow range of crop growth, which damages soil and releases more carbon into the atmosphere
- Fertilizers (chemicals to nourish soil) releasing nitrous oxide into the atmosphere
- Pesticides (chemicals to get rid of pests) harming pollinating insects
- Food being imported and exported using transport that emits greenhouse gases
- Poorer countries and their people relying on farming but suffering most from climate change (fewer crops, more poverty and greater hunger due to changing weather patterns)

### Solutions

- Protecting natural habitats
- Planting a variety of plants, trees and grasses on land that take carbon out of the air and put it back into the soil
- Growing a wider range of crops to maintain healthy soil, suit the climate and provide income for farmers from different sources
- Using zero chemicals on farmland
- Reducing food miles (the distance food travels between production and eating)
- Helping farmers to change the way they farm and earn a fair living



### Did You Know...?

- Up to one-third of all greenhouse gas emissions come from farming or food production.
- UK soils hold an estimated 9.8 billion tonnes of carbon; that's equivalent to the global carbon emissions made by humans in one year! We must look after our soil!





## Oceans

### Problems

- Overfishing of coastal waters, preventing fish populations from recovering what is taken out
- Waste pollution endangering wildlife and being carried through food chains (the chains created between plants and animals that rely on each other for food)
- Noise pollution from ship propellers and mining drills (for oil and natural gas) disrupting wildlife
- Increasing sea temperatures, causing glaciers to melt and sea levels to rise
- Increasing carbon dioxide, causing acidification (too much acid) that damages sea dwellers, such as coral and shellfish

### Solutions



- Protecting oceans and coastlines from overfishing, mining and shipping with international agreements
- Making it illegal to fish in ways that are harmful to the oceans and its living things
- Reducing waste and recycling it responsibly so zero waste makes its way to the oceans
- Slowing global warming in as many ways as we can

### Did You Know...?

- The oceans capture and hold on to carbon dioxide; in fact, they have absorbed almost one-third of all carbon dioxide ever produced by humans!
- Some destructive fishing practices, such as dragging heavy nets along the seabed, can release one gigaton of carbon dioxide into the water every year!





### Forests

#### Problems

- Felling of trees (deforestation) due to farming and timber production
- New infrastructure (roads, railways, pipework, cables) fragmenting (breaking up) habitats and endangering wildlife, particularly large predators
- Whole species that exist in one area becoming lost or endangered
- Delicate ecosystems (living things that rely on each other in their environment) becoming at risk



#### Solutions



- Stopping deforestation to allow forests to recover given time and space
- Planting more forests to protect living things
- Teaching farmers to grow pesticide-free crops in forests, beneath the canopy
- Logging sustainably for timber in ways that keep the forests healthy

#### Did You Know...?

- Around 17% of the Amazon rainforest has already been destroyed and potentially, destroying only 5% more could change the rainforest as we know it, forever.
- In the Amazon basin, an area around the size of 3 football pitches is being destroyed by humans every minute.





## Energy

### Problems

- Burning fossil fuels (coal, oil and natural gas) to create energy and electricity, which releases carbon dioxide into the atmosphere
- Energy wasted in homes due to poor insulation
- Transport powered by fuels that emit greenhouse gases



### Solutions



- Seeking out cleaner, renewable sources of energy, such as solar and wind power
- Ensuring all vehicles emit zero emissions
- Building and adapting homes to waste less energy with better insulation and smart heating systems
- Preparing and supporting people for the necessary changes in energy use

### Did You Know...?

- There is more carbon dioxide in the Earth's atmosphere now than for the last 800,000 years.
- Producing electricity, heat and fuel for transport causes more than half of all greenhouse gas emissions.





## Travel and Transport

### Problems

- Greenhouse gases emitted by transport, especially cars and delivery vehicles, contributing to climate change
- Too many cars used by people for private journeys impacting on the environment and their health
- Air pollution (invisible gases) caused by transport being harmful to the health of people and animals



### Solutions

- Making sustainable transport that emits zero greenhouse gases
  - Walking, cycling and public transport being made more attractive to people than driving to encourage people to be more active and reduce climate change
  - Creating more green spaces to leave less pollution in the air
- Implementing car-free areas, such as cities, streets and school spaces



### Did You Know...?

- Transport is the largest emitter of greenhouse gas emissions in the UK.
- The UK government has set a target that all new cars and vans will emit zero emissions from 2035.



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## Health and Happiness

### Problems

- Extreme weather and disasters becoming more frequent or severe
- Air pollution from burning fossil fuels and transport powered by petrol or diesel
- Water pollution from waste and carbon dioxide
- Social injustice: the poorest people living in poverty because of climate change despite having done the least to cause it
- Unfair global trading systems and few opportunities for people to escape poverty
- Natural, green surroundings being removed or changed



### Solutions



- Preparing every global citizen with ways to adapt to or cope with the effects of climate change
- Reducing greenhouse gas emissions and waste pollution as well as planting more trees and plants to provide cleaner air and water
- Tackling poverty and ensuring fair incomes for all
- Providing natural areas full of trees, birdsong and wildlife near to people's homes to help them stay healthy and happy

### Do You Think...?

- Will the planet be better in ten years' time thanks to COP26?





## Our Climate, Our Future

### COP26

The 26<sup>th</sup> United Nations Conference of the Parties (COP26), being hosted in Glasgow in November 2021, will bring together world leaders, delegates, negotiators and groups of observers from the 197 parties. It promises to be an historic occasion that will determine the course of action to address climate change around the globe to shape a fair, healthy and sustainable future for all.

### What Is Climate Change?

Climate change refers to long-term changes and unpredictability of global weather patterns, such as temperatures, rainfall and humidity that can be tracked over many years or even decades. Natural events that happen as part of the Earth's natural evolution, such as volcanic eruptions, changes to its orbit and ocean currents, can cause climate change to happen gradually or short-term. However, since the middle of the 20<sup>th</sup> century, scientists have identified climate change as happening at a much faster rate than any previous period.



The rapid rate of climate change means many living things struggle to adapt fast enough to the changes to their environment, including extreme weather, wildfires and loss of habitats and specifically in some regions or localities more than others. Many living things cannot survive in the same environment in which they have evolved or with the same behaviour; however, most cannot migrate fast enough to keep up with the climatic changes. This may mean many species will risk endangerment or even extinction.

### Who Is Responsible for Climate Change?

Human activities are causing too rapid an increase in the planet's temperature. This is known as global warming and is mostly caused by excessive greenhouse gases (carbon dioxide, methane, nitrous oxide and fluorinated gases) being released into the Earth's atmosphere. These gases trap heat, which can then cause an increase in water vapour, another greenhouse gas, increasing the likelihood of clouds and rain forming.





### Our Climate, Our Future

Causes and effects of climate change can be explored in the following areas:

Food and Farming	Oceans	Forests
Energy	Travel and Transport	Health and Happiness

#### Who Is Most Affected by the Climate Emergency?

Besides the effects of climate change on plants and animals, the climate emergency is likely to touch the health, happiness, livelihood or existence of every global citizen.

However, the cost of climate injustice is huge and demonstrates the gap between the wealthy, whose policies and lifestyles have contributed most to climate change, and the poor, who have done very little to contribute to climate change but who are feeling the greatest effects.

For these people, living below the poverty line, they also have the least resources to cope with both these effects and the adaptations they will be required to make in order to survive and thrive:

- farming communities relying on the land and weather patterns to feed their families and grow crops to make a living
- workers in the poorest countries not earning enough to meet even their basic needs due to an unfair global trading system
- people who have done the least to cause climate change so need support with the necessary resources to overcome the climate crisis







## Food and Farming

### Problems

- Clearing of forests, meadows, grasslands and hedgerows in favour of larger fields that can be farmed with big, modern machines
- Fewer habitats to support wildlife
- Tree felling leaving fewer trees to capture carbon from the atmosphere
- Narrow range of crop growth causing soil degradation, which releases more carbon into the atmosphere and leads to unhealthy crops
- Fertilizers (chemicals to nourish soil and crops) releasing nitrous oxide (one of the most potent greenhouse gases) into the atmosphere
- Pesticides (chemicals to prevent pest damage) harming pollinating insects and causing their decline
- Intensive farming (animals bred indoors and fed grain that requires cleared land to grow)
- Food being imported and exported using transport that emits greenhouse gases
- Poorer countries and their people relying on farming but suffering most from climate change (fewer crops, more poverty and greater hunger due to changing weather patterns)



### Solutions

- Agroecology (nature-friendly farming) that is good for the climate, wildlife, soil and human food needs
- Planting a variety of plants, trees and grasses on land that take carbon out of the air and put it back into the soil
- Growing a wider range of crops to maintain healthy soil, suit the local climate and provide income for farmers from different sources





## Food and Farming

### Solutions

- Grazing animals outdoors to reduce the need for excessive animal feed and promote more natural manure fertilizers
- Nurturing healthy soil, which grows healthier crops, reduces greenhouse gas emissions and protects natural habitats
- Using zero artificial chemicals on farmland
- Reducing food miles (the distance food travels between production and eating)
- Helping farmers to adapt their farming techniques to suit their local area and earn a fair living



### Did You Know...?

- UK soils hold an estimated 9.8 billion tonnes of carbon; that's equivalent to the global carbon emissions made by humans in one year! We must look after our soil!





### Oceans

#### Problems

- Overfishing of coastal waters, preventing fish populations from recovering what is taken out
- Waste pollution endangering wildlife and being carried through food chains
- Noise pollution from ships' propellers and mining drills (for oil and natural gas) disrupting wildlife
- Lack of ownership of high seas (parts of the ocean not overseen by countries) where overfishing, mining and shipping is not monitored
- Increasing sea temperatures, causing glaciers to melt and sea levels to rise
- Increasing carbon dioxide causing acidification (too much acid), which can bleach coral and damage shellfish

#### Solutions

- Protecting oceans and coastal waters from overfishing, mining and shipping with international agreements
- Making it illegal to fish in ways that are destructive to the oceans and its living things
- Reducing waste and recycling it responsibly so zero waste makes its way to the oceans
- Slowing global warming in as many ways as we can



#### Did You Know...?

- The oceans capture and hold on to carbon dioxide; in fact, they have absorbed almost one-third of all carbon dioxide ever produced by humans!
- Some destructive fishing practices, such as dragging heavy nets along the seabed, can release one gigaton of carbon dioxide into the water every year!





### Forests

#### Problems

- Deforestation (felling of trees to clear entire sections of forest) to clear land for farming and timber production
- New infrastructure (roads, railways, pipework, cables) causing habitat fragmentation (breaking habitats up into smaller sections), which separates wildlife groups, particularly large predators
- Whole species that exist in one area becoming lost or endangered due to deforestation
- Delicate ecosystems (living things that rely on each other in their environment) becoming at risk



#### Solutions



- Stopping deforestation to allow forests to recover given time and space
- Planting more forests to protect living things
- Practising agroforestry: teaching farmers to grow pesticide-free crops in forests, beneath the canopy
- Sustainably extracting timber to keep forests healthy

#### Did You Know...?

- Around 17% of the Amazon rainforest has already been destroyed and potentially, destroying only 5% more could change the rainforest as we know it, forever.
- In the Amazon basin, an area around the size of 3 football pitches is being destroyed by humans every minute.





## Energy

### Problems

- Burning fossil fuels (coal, oil and natural gas) to generate energy, electricity and fuels, which releases carbon dioxide into the atmosphere
- Energy wasted in homes due to poor insulation and lack of efficiency
- Transport powered by fuels that emit greenhouse gases



### Solutions



- Seeking out cleaner, renewable sources of energy, such as solar and wind power
- Ensuring all vehicles emit zero emissions
- Building and adapting homes to waste less energy with better insulation and smart heating systems
- Transporting people locally and globally in more environmentally friendly ways
- Preparing and supporting people for the necessary changes in energy use

### Did You Know...?

- There is more carbon dioxide in the Earth's atmosphere now than for the last 800,000 years.
- Producing electricity, heat and fuel for transport causes more than half of all greenhouse gas emissions.





## Travel and Transport

### Problems

- Greenhouse gases emitted by transport, especially cars and delivery vehicles, contributing to climate change
- Too many cars used by people for private journeys impacting on the environment and their health
- Air pollution (invisible gases) caused by transport being harmful to the health of people and animals



### Solutions



- Making sustainable transport that emits zero greenhouse gases and the infrastructure to support it, such as accessible charging points
- Investing in sustainable modes of transport to make public transport more attractive and cost effective to people to reduce private vehicle use
- Encouraging people to be more active by promoting walking, cycling and scooting to reduce private vehicle use
- Creating more green spaces to remove pollutants from the air
- Implementing car-free areas, such as cities, streets and school spaces
- Reducing unnecessary travel via planes

### Did You Know...?

- Transport is the largest emitter of greenhouse gas emissions in the UK.
- The UK government has set a target that all new cars and vans will emit zero emissions from 2035.



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## Health and Happiness

### Problems

- Extreme weather and natural disasters becoming more frequent or severe
- Air pollution from burning fossil fuels and transport powered by petrol or diesel
- Water pollution from waste and carbon dioxide
- Social injustice: the poorest people living in poverty because of climate change despite having done the least to cause it
- Unfair global trading systems and few opportunities for people to escape poverty
- Natural, green surroundings being removed or changed



### Solutions



- Preparing every global citizen with ways to adapt to or cope with the effects of climate change
- Reducing greenhouse gas emissions and waste pollution as well as planting more trees and plants to provide cleaner air and water
- Tackling poverty and ensuring fair incomes for all
- Providing natural areas full of trees, birdsong and wildlife near to people's homes to help them stay healthy and happy

### Do You Think...?

- Will the planet be better in ten years' time thanks to COP26?

