

## Climate Change – the big ideas

What should young people know about Climate Change by the time they leave school?

### 1. What it is.

Today's climate change is a long-term, large-scale rise in Earth's global average temperature, causing shifts in weather patterns. Some models predict rises in global temperature of 4 degrees Celsius by the end of the 21<sup>st</sup> Century, which could make advanced civilisation unsustainable, lead to a major reduction in the human population, and cause extinction for many other species. The UN aims to keep temperature rise to between 1.5 – 2 °C.

***"The Earth's climate is changing at a rate that has exceeded most scientific forecasts"*** UNHCR 2018.

*"Our greatest threat in thousands of years – climate change"*

Sir David Attenborough, UN Climate Change Conference, Dec 2018

### 2. Human Role.

97% Climate scientists agree that humans are the main cause of the climate change we see today. Earth's climate is always changing and a handful of climate scientists still think what we are seeing is natural. However, temperature rises are accelerating far beyond anything in history.<sup>1</sup>

***The "collapse of our civilisations and the extinction of much of the natural world is on the horizons."***

Sir David Attenborough, UN Climate Change Conference, Dec 2018

### 3. How it works.

Greenhouse gases in the atmosphere (like CO<sub>2</sub>) soak up the sun's radiation and trap it as heat. **Human consumption** relies on a lot on energy from burning fossil fuels for energy (agriculture, factories, cooking, construction, heating, computer data-storage/streaming, cars, planes and other transport).

**4.** Most of the greenhouse gases humans have added to the atmosphere come from supplying energy and goods to wealthy **Minority World 'industrial economies'**. This activity is the result of a global economic system that encourages consumption. Most of the people in the world consume little and use very little energy.

**5. The impact on the natural environment** of climate change can be seen in global temperatures, warming oceans, rise in sea-levels and extreme weather events. "Global sea levels rose about 8 inches in the last century. The rate in the last two decades, however, is nearly double that of the last century" – NASA, 2018. **Impact on people, animals and plants.** These changes could have extreme consequences for humanity and other life-forms. The greatest initial impact is currently on millions of people especially in hotter **majority world** countries, coastal communities, low-lying countries, and wildlife (especially in the artic); but Climate Change will increasingly affect us all. Millions of poor farmers in the majority world, who were not responsible for creating the problem, are trying to **adapt** to challenges like hotter climate and different rainfall patterns. As crops fail, many people are already forced to migrate, creating a new phenomenon of **Climate Refugees**. There has been "an average of 22.5 million people displaced by climate- or weather-related events since 2008" UNHCR 2018. **The United Nations** is addressing Gender Inequality in its **Sustainable Development Goals**. SDG 5 aims to "Achieve gender equality and empower all women and

<sup>1</sup> <https://www.ucsusa.org/global-warming/science-and-impacts/science/temperature-is-rising>

These are the big Ideas for Climate Change written by Leeds DEC



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girls, through promoting *women's rights, economic empowerment and reducing poverty*".<sup>2</sup> UN Women is the UN organisation dedicated to support this.<sup>3</sup>

#### 6. Discussion about Futures.

Climate change is accelerating. The global consensus is that we are just seeing the initial phase of Climate Change, with relatively small effects. Most scientific models predict more drastic changes. We can expect to see some of these in all our life-times. Addressing the problem of Climate Change has stimulated discussion of how to address the underlying cause – **human consumption**. The relationship between the prevalent model of economic growth and consumption is now being examined. Some experts say a 'Zero Carbon future' is the only way to slow Climate Change sufficiently.

**"A matter of life and death...(the world is) nowhere near where it needs to be (in the transition to a low-carbon economy)."**<sup>2</sup>

Antonio Guterres, UN Secretary-General, Dec 2018

#### 7. Addressing Climate Change.

Because of the potentially catastrophic consequences of climate change, scientists have encouraged world leaders to adopt a 'precautionary principle' to avoid **tipping points** and address the main causes – over-consumption and use of fossil fuels - before it's too late. This means changing our behaviour. Climate Change is being addressed at different levels: by **individuals**, by **people acting together** (collectively) and by **governments**. Governments are acting both individually, and, collectively as the United Nations. To avoid the worst scenarios predicted by scientific models, **multiple solutions** will have to be put into action. Governments are being forced to consider laws that help stop the worst scenarios materialising. One solution is **lifestyle change**; this may mean addressing the **contradiction between people's awareness** about the issue and individual **people changing how they act**.

#### 8. Capturing CO2 and reducing emissions.

As the evidence points to burning fossil fuels as a cause of climate change, countries have moved towards renewable energy and protecting / renewing natural **carbon sinks** (e.g. plants, soil, oceans) which take carbon out of the atmosphere. Renewable energy derives from natural resources (e.g. water, wind and sun) which do not run out. Wind turbines and solar panels produce energy which can power entire communities or your own home. Reducing consumption is also important in reducing the production of CO2.

#### 9. Action.

195 Governments worldwide have come together to combat "our greatest threat in thousands of years"<sup>4</sup> - climate change - signing the 2015 **Paris Climate Agreement**. This aims to strengthen the ability of countries to deal with the impacts of climate change and emphasises the need for collective action to limit overall temperature rises.

The 2018 UN Intergovernmental Panel on Climate Change<sup>4</sup> report states that global CO2 emissions need to **decline 45% by 2030** to keep the temperature rise to 1.5°C<sup>5</sup>.

<sup>2</sup> <https://www.bbc.co.uk/news/science-environment-46398057>

<sup>3</sup> <https://nypost.com/2018/12/03/un-chief-calls-climate-change-most-important-issue-we-face/>

"Even as we witness devastating climate impacts causing havoc across the world, we are still not doing enough, nor moving fast enough, to prevent irreversible and catastrophic climate disruption" UN Secretary General, 2018

<sup>4</sup> <https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>

<sup>5</sup> <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>

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#### 10. Action.

Many individuals are looking at their **Carbon Footprint** and reducing their consumption – using and buying less e.g. reducing their food waste & the amount of clothes they buy, buying renewable energy and electric cars, nurturing carbon sinks by planting trees or forests.

**“Defence of our resources is just as important as defence abroad. Otherwise what is there to defend?”**

- Robert Redford

#### 11. Action.

Collective responses. There are many collective groups taking action. People join campaigning groups, or lobby organisations they are already members of. Farmers’ organisations across the world are taking action. Businesses are responding to this ‘demand’ by providing more environmentally-friendly products and services (e.g. power). These collective and individual actions can help governments to make policy changes.

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