

## By the time you are 65 – what impacts do you think climate change will have had on your life?

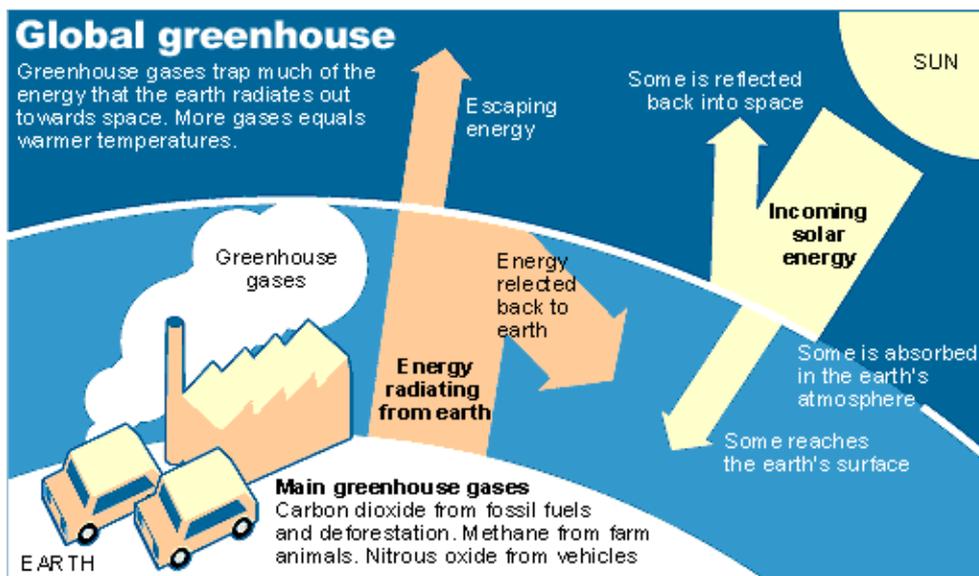
Your task is to produce a piece of extended writing which examines the impacts that climate change is likely to have on your life between now and when you are 65.



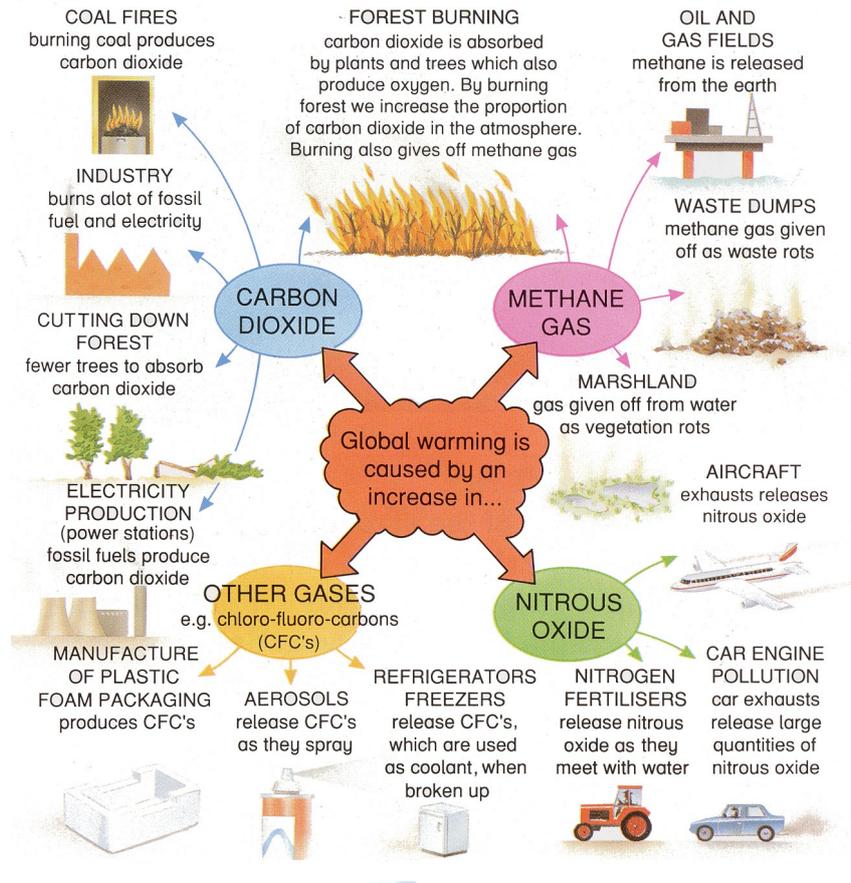
The piece of extended writing you submit will be graded for your **knowledge** of climate change and your understanding of the **concept** that climate change will have an impact upon your life.

You should work through the following tasks to help you complete the piece of extended writing/essay at the end.

1. Why do we prefer to use the term 'climate change' rather than 'global warming'?
2. Why do we need the greenhouse effect?
3. Name the three main greenhouse gases and list their possible sources.
4. Describe how the 'Global Greenhouse' work?



5. Look at the following diagram. How does your lifestyle contribute to the greenhouse effect?



6. Read Source One and highlight any consequence of global warming.
7. Write a list of the consequences in your exercise book – for each consequence describe the consequence could affect you.

## SOURCE ONE

### Global warming to devastate Europe first - 19 August 2004

European winters will disappear by 2080 and extreme weather will become more common unless global warming across the continent is slowed, warns a major new report.

Europe is warming more quickly than the rest of the world with potentially devastating consequences, including more frequent heatwaves, flooding, rising sea levels and melting glaciers, says the European Environment Agency document, launched on Wednesday.

The changes are happening at such a pace that Europeans must put in place strategies to adapt to an unfamiliar climate, the researchers write, although they stress the importance of the Kyoto Protocol in cutting greenhouse gas emissions.

Jacqueline McGlade, executive director of the the European Environment Agency said "This is a phenomenon that will considerably affect our societies and environments for decades and centuries to come,"

The report paints a dismal picture of Europe's future, based on climatic changes since the Industrial Revolution, which have accelerated over the

last 50 years. The concentration of the main greenhouse gas, carbon dioxide, in the lower atmosphere is at its highest for possibly 20 million years, and stands 34 per cent higher than its pre-Industrial Revolution level.

The global warming rate is now almost 0.2°C per decade, and temperatures in Europe are projected to climb by a further 2 to 6.3 degrees this century, due to the build-up of greenhouse gases.

Picture postcard European snowscapes are destined to become consigned to history books before the end of the century, and 75 per cent of Alpine glaciers will have melted by 2050 - melting reduced the glaciers by one-tenth in 2003 alone, the study found.

Sea levels are predicted to rise for centuries to come, at a rate of up to four times faster than during the last century - a particular concern in low-lying countries such as the Netherlands, where half the population lives below sea-level.

Freak weather conditions, such as the floods of 2001 that killed about 80 people, and the heatwave of 2003 that led to more than 20,000 deaths, are set to become more frequent and severe, the report states.

"The consequences of climate change are a very real and dangerous threat, yet international leaders seem to pay little heed to the warning bells," warns Mike Childs, campaigns director at Friends of the Earth.

"Climate change is as big a threat to people and the planet as international terrorism."

Adapted from source: <http://www.newscientist.com/article/dn6302-global-warming-to-devastate-europe-first.html>

8. Read Source Two.
9. What is water stress?
10. How could 'lower crop production' be linked with higher food prices?
11. What positive impacts of global warming are listed in Source Two?

## **SOURCE TWO**

Nearly all European regions are expected to be negatively affected by some future impacts of climate change.

Central and Eastern European countries could face less summer rainfall, causing higher water stress. Health risks due to heat waves are expected to increase. Forest productivity is expected to fall and the frequency of peatland fires to increase.

Southern European countries are very likely to see reduced water supplies, lower crop production, more wildfires and health impacts from increased heatwaves.

Northern countries are likely to benefit from increased crop yields, forest productivity, and food supplies from the North Atlantic. By 2020, most areas of Europe are likely to see an increased flood risk.

Source: [http://news.bbc.co.uk/2/hi/in\\_depth/629/629/6528979.stm#europe](http://news.bbc.co.uk/2/hi/in_depth/629/629/6528979.stm#europe)

12. How will the 'human population' of Switzerland be impacted upon by climate change?

### **SOURCE THREE**

#### **Impact of climate change**

Switzerland is acutely aware of the threat of climate change. In Switzerland the immediate impact of temperature rises on the human population will come from the mountains and their cover of snow and ice. In the last few decades the temperature in Europe's higher mountain regions has increased by one degree Celsius. Research shows that the trend is continuing.

Human settlements will be affected by landslides and floods. The all-important tourism industry will suffer as the areas available for winter sports shrinks more and more. Agriculture will also be hit.

Climate change is a cause for concern both economically and socially. The leading reinsurance company, Swissre, has called for strategies to be implemented now to tackle climate change before it is too late.

Source:

[http://www.swissworld.org/en/environment/climate\\_change/impact\\_of\\_climate\\_change](http://www.swissworld.org/en/environment/climate_change/impact_of_climate_change)

13. Read Source Four and highlight any positive consequence of global warming.
14. Write a list of the positive consequences in your exercise book – for each consequence describe how the positive consequence could affect you.
15. Do you believe that climate change has a silver lining?

### **SOURCE FOUR**

#### **Global Warming's Silver Lining - 03.28.05**

Earth's temperature is on the rise, researchers say, and environmental watchdogs are howling, hoping it's not too late to avert negative effects that could range from melting icecaps to mass extinctions.

Certain economists and scientists are searching for a silver lining. While the good news they find might not be global, some researchers believe the benefits of Earth's warming will help compensate for the harmful consequences. Benny Peiser, a social anthropologist at Liverpool John Moores University, is one such academic.

Earth's temperature is expected to rise 1.4 to 5.8 degrees Celsius between 1990 and 2100, according to the Intergovernmental Panel on Climate Change, or IPCC. One area where this warming could aid society is in terms of health.

In Britain alone, scientists estimate between 20,000 and 40,000 deaths a year are related to cold winter weather. A report from the United Kingdom's Faculty of Public Health found that the number of cold-weather deaths increase by approximately 8,000 for every 1 degree Celsius the temperature falls. Peiser estimates there will be only 2,000 more deaths a year

due to an equal rise in temperature, because humans adapt better to hot climates and can rely on air conditioning.

Kert Davies, research director for Greenpeace, doesn't buy this argument.

"It's underestimating the illness and mortality caused by the heat," he said. He points to the European heat wave of 2003, in which an estimated 10,000 people died in France. Part of the severity and length of that heat wave is attributed to global warming.

There is also speculation that warmer weather will bring a surge of malaria or bacterial diseases to hotter areas of the world, potentially devastating human health. While Peiser admits the price of global warming will differ for every region of the world, "the benefits outweigh the costs by far," he said.

Another area of contention is the economy. Various studies performed to evaluate the economic impact of global warming have reached different conclusions. The Intergovernmental Panel on Climate Change, for example, cites a loss of gross domestic product for developing countries due to global warming, and mixed consequences for developed nations.

But a group of 26 scientists and economists who contributed to the book 'The Impact of Climate Change on the United States Economy' begs to differ.

Fred Singer, president of the Science & Environmental Policy Project, a group that has consistently voiced doubts about the veracity of global warming projections, thinks the IPCC report is wrong because "it deals with only part of the problem."

Singer agrees with conclusions of The Impact of Climate Change. The book finds that a moderate warming will have a positive economic impact on the agriculture and forestry sectors. Since carbon dioxide is used by plants to capture and store energy, there may be a fertilizing effect as levels of the gas rise. This, combined with longer growing seasons, fewer frosts and more precipitation, among other factors, could benefit some economic sectors.

The book "is a very thorough study covering different economic sectors," said Singer. "It deals just with the U.S. but should apply to all areas at mid-latitudes, while Canada and Siberia would benefit greatly."

Another economic boost could come from the establishment of new trade routes as a direct result of global warming.

As rising temperatures melt glaciers in the Arctic and particularly in Alaska, threatening indigenous creatures like the polar bear, a new, faster trade route could open up. The Bering Strait, a legendarily difficult passage for ships, could become an oceanic highway between the hemispheres as ice sheets disappear.

While the indigenous Inuit may lose exotic animals, business investors in the Arctic region are anticipating an influx of everything from tax revenue to tourism. The seldom-used strait is set to become the Suez Canal of the north, cutting down travel time between Europe, America and Asia by as much as one-third.

A final potential upside to global warming is that with every degree Celsius warmer our planet gets, we could have up to 20 percent more calamari. Phillip Lee, director of the National

Resource Center for Cephalopods, points out that squid are extremely sensitive to temperature, and individual cephalopods react to warmer weather by developing a larger body mass.

Adapted from source:

<http://www.wired.com/print/science/planetearth/news/2005/03/66981>

### **Extended Writing/Essay**

16. Annotate the following essay plan with what you will include in each section/paragraph – think about the examples you use. High scoring pieces of work will include an evaluation of the positives and negatives. Show your teacher your essay plan before you start writing.

#### **Title**

By the time you are 65 – what impacts do you think climate change will have had on your life?

#### **Introduction**

**Paragraph One: Negative impacts on your life.**

**Paragraph Two: Positive impacts on your life.**

#### **Conclusion**