

Global warming

1 What the papers say

Coastal areas in E and S of England may flood
– *Is your home safe?*

More carbon dioxide (CO₂) in the atmosphere:
'greenhouse gases' increasing

2020: Daffodils in flower at Christmas

Polar bears in danger

Glaciers melting faster

World getting warmer

Read the newspaper headlines. Many people think that these are all signs of global warming. Link each one to one of the facts below:

- The U.S. has now added polar bears to the list of endangered animals.
- The 10 warmest years on record have all happened since 1995.
- Glaciers are a good measure of historical changes in the weather: Records of them often go back further than scientific weather data. These records show that the weather is getting warmer.
- The growing season for plants is getting longer: It starts earlier and goes on later in the year.
- As the polar ice melts, the level of the seas will rise. Low-lying areas may be flooded.
- It is the so-called 'greenhouse gases', including CO₂, that keep the earth warm. And these are increasing more and more quickly.

2 Greenhouse gases

- Read the text and find out the difference between a real greenhouse and the 'greenhouse effect'.

Plants grow more quickly in a greenhouse because the sun warms the air and the earth. The glass lets the sunlight through and protects the plants from wind and cold weather. Gardeners use their greenhouse for plants that don't like cold weather. They can also get tomatoes and other fruit and vegetables earlier in the year than if the plants are outside. A greenhouse is useful to gardeners. So why are 'greenhouse gases' bad for the environment?

Some gases in the atmosphere hold on to heat and send it down towards the earth. This is not a problem, because it keeps the earth warm. But scientists think that human activities are making more of these gases and so the earth is getting warm more quickly. The gases, especially carbon dioxide (CO₂) are formed by burning 'fossil fuels': coal, oil and natural gas. Over the last 650,000 years the normal level of CO₂ in the atmosphere was between 180 and 300 parts per million by volume (ppmv). Before heavy industry started

about 300 years ago, there were about 280 ppmv of CO₂. There are now more than 380 ppmv, far more than the natural level.



Another reason for the higher levels of CO₂ is that more and more trees are being cut down. Large areas of forest absorb carbon dioxide but these large areas are disappearing fast. The temperature on Earth has risen in the last 100 years. If this goes on, the 'greenhouse effect' will cause the global temperature to rise faster. Ice at the North and South Poles and in the high mountain areas will melt: We can already see that this is happening. Sea levels will rise and the weather patterns around the world will change. The sea level has been rising at an average of 1.7 mm per year over the last 100 years.

- Draw a graph to show how the level of carbon dioxide in the atmosphere is rising.
- Talk about the problem with a partner and make a list of things which you know about that people are doing to prevent global warming.
- Compare your list with the others in the class.