

# Carbon dioxide at record high level

12<sup>th</sup> May, 2013



The level of carbon dioxide (CO<sub>2</sub>) in the atmosphere is now at a record high. An American weather station in Hawaii recorded the new high on the 9th of

May. It found CO<sub>2</sub> levels were at 400 parts per million (ppm). The last time CO<sub>2</sub> was at this level was five million years ago. This was when there were no humans on the Earth. Scientists say the 400ppm level is a warning sign. They say we must do more to stop this number getting bigger. However, scientist James Butler said he thought CO<sub>2</sub> levels would keep rising. He warned: "In eight to nine years, we will probably have seen the last CO<sub>2</sub> reading under 400ppm." He told reporters that even at the South Pole, CO<sub>2</sub> would be above 400ppm.

Carbon dioxide is one of the gases that create global warming. Just one CO<sub>2</sub> molecule can stay in the atmosphere for hundreds of years. Pieter Tans, one of the scientists measuring CO<sub>2</sub> levels, said human activity is making the Earth warmer. He said that, "the burning of coal, oil, and natural gas is driving the acceleration". He pointed out that 300 years ago, CO<sub>2</sub> levels were around 280ppm. He added that 800,000 years ago, they were at 180ppm. Another scientist, Dr Ralph Keeling, warned that CO<sub>2</sub> is warming the Earth to dangerous levels. He is worried about arctic ice melting, causing sea levels to rise. This will put billions of people in danger. He said: "It takes a long time to melt ice, but we're doing it. It's scary."

Sources: BBC / ClimateCentral.org

## Writing

Global warming is the biggest problem in the world. Discuss.

## Chat

Talk about these words from the article.

CO<sub>2</sub> / atmosphere / five million years ago / warning sign / scientist / South Pole / global warming / human activity / natural gas / arctic ice / sea levels / melt ice

## True / False

- a) A weather station in Peru found high levels of CO<sub>2</sub> in the atmosphere. T / F
- b) The level of CO<sub>2</sub> was at 400 parts per million. T / F
- c) The last time the Earth saw this level was 5 million years ago. T / F
- d) The level of CO<sub>2</sub> at the South Pole will always be under 280. T / F
- e) One molecule of CO<sub>2</sub> stays in the atmosphere for around 7 years. T / F
- f) A scientist said humans are not making the Earth warmer. T / F
- g) Levels of CO<sub>2</sub> were under 300, 300 years ago. T / F
- h) A scientist said it was scary that the arctic ice was melting. T / F

## Synonym Match

- |                 |                |
|-----------------|----------------|
| 1. level        | a. increasing  |
| 2. high         | b. over        |
| 3. humans       | c. at risk     |
| 4. rising       | d. amount      |
| 5. above        | e. speeding up |
| 6. create       | f. frightening |
| 7. driving      | g. produce     |
| 8. acceleration | h. record      |
| 9. in danger    | i. pushing     |
| 10. scary       | j. people      |

## Discussion – Student A

- a) Are you worried about global warming?
- b) What do you do every day to reduce CO<sub>2</sub>?
- c) What more could you do?
- d) Do you think people worry or care about the CO<sub>2</sub> level being 400ppm?
- e) When will people really start to worry about global warming?
- f) What causes global warming?
- g) What do you think of scientists who say human activity does not create global warming?
- h) Can we do anything to keep CO<sub>2</sub> levels under 400ppm?

## Phrase Match

- |                             |                              |
|-----------------------------|------------------------------|
| 1. weather                  | a. sign                      |
| 2. when there were no       | b. would keep rising         |
| 3. a warning                | c. of people in danger       |
| 4. he thought CO2 levels    | d. create global warming     |
| 5. even at the South Pole,  | e. humans on the Earth       |
| 6. one of the gases that    | f. to melt ice               |
| 7. natural gas is driving   | g. station                   |
| 8. CO2 is warming the Earth | h. CO2 would be above 400ppm |
| 9. This will put billions   | i. the acceleration          |
| 10. It takes a long time    | j. to dangerous levels       |

## Discussion – Student B

- How much pollution is there in your town?
- What do you think of giant oil companies?
- Can an oil company be green?
- What will happen if the Earth gets warmer and warmer?
- Which countries are most responsible for global warming?
- What kind of danger will billions of people be in if sea levels rise?
- Is global warming the biggest problem on Earth?
- What questions would you like to ask a global warming expert?

## Spelling

- CO2 in the mepaotehrs
- teerwah station
- ntstecisis say...
- a rwinnag sign
- CO2 levels would keep sinirg
- He told sretrepro...
- gases that create global aiwrnmq
- one CO2 uelmloce
- enusmagir CO2 levels
- Inutaar gas
- ouergasnd levels
- It's cyras

### Answers – Synonym Match

1. d	2. h	3. j	4. a	5. b
6. g	7. i	8. e	9. c	10. f

## Role Play

### Role A – Human warming scientist

You think human activity causes global warming. Everyone on Earth must change how we live so we do not produce CO2. Tell the others three things we must do. You totally disagree with the other scientist and the oil company CEO. Tell them why they are wrong. You agree with the penguin.

### Role B – Natural warming scientist

You think human activity is not the reason for global warming. Tell the others three reasons why. You believe it is natural the Earth is getting warmer. You don't think anyone is in danger. You think it is OK to keep using gas, oil, coal, etc. You know scientists can protect the Earth.

### Role C – Oil company CEO

You are tired of scientists warning about global warming. You are angry because people get scared. They also start using less oil and gasoline. Your company is very green. Tell the others 3 reasons why. Disagree with everything the human warming scientist says. Also, if the ice melts, penguins can easily find a new home.

### Role D – Penguin

You are very, very, very angry with humans. Tell the others three reasons why. They only care about money. Oil companies want profits and do not care about the environment. Scientists who say human activity does not warm the earth are crazy. You want all oil production to stop immediately.

## Speaking

Rank these and share your rankings with your partner. Put the most dangerous at the top. Change partners often and share your rankings.

- |                    |                         |
|--------------------|-------------------------|
| • global warming   | • water wars            |
| • pollution        | • cybercrime            |
| • chemical weapons | • extinction of species |
| • overpopulation   | • killer viruses        |

### Answers – True False

a	F	b	T	c	T	d	F	e	F	f	F	g	T	h	T
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Answers to Phrase Match and Spelling are in the text.