

By far the most terrifying film  
you will ever see

# an inconvenient truth

A GLOBAL **WARNING**

A **STUDYGUIDE** BY ROBERT LEWIS & ANDREW FILDES

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MOUNT KILIMANJARO IN 2005

## OVERVIEW

*An Inconvenient Truth* (David Guggenheim, 2006) is a powerful resource for engaging students in the classroom in an investigation of the issue of enhanced global warming — meaning the human contribution to climate change and its potentially disastrous consequences.

> The film is a 90-minute version of former United States Vice President Al Gore's modestly described 'slide show' about global warming. > In fact the 'slide show' is a brilliantly illustrated and animated lecture, interspersed with biographical asides on Gore's journey to become a passionate advocate of the need for people to act to slow down global warming developments. > The lecture presents a variety of types of evidence and illustrations of the causes, manifestations and impacts of increased carbon dioxide in the atmosphere and the subsequent change to global temperatures. > After presenting a compelling case, Gore concludes on an optimistic note, by providing practical ways in which ordinary people can take personal responsibility to lessen the global problem. > The graphics, interactives and explanations of the aspects covered provide an excellent way of illustrating difficult ideas and developments simply and clearly in the classroom, and in a way that will engage students and promote understanding. > While the film itself states that there is no scientific doubt about the fact of increasing human-influenced global warming, teachers in the classroom will need to approach the issue in a constructively critical way, helping students both to evaluate Gore's evidence, and also to be aware of the major criticisms that exist to the global warming case, and the scientific validity they do or do not have. > The film is packed with evidence and information and this study guide suggests ways of breaking it into manageable sections in the classroom, as well as providing ways of critically exploring the evidence and arguments provided, and deconstructing the methods of persuasion used so skilfully and effectively in the film.



## Hurricane Katrina

August 29, 2005



### CURRICULUM APPLICABILITY

*An Inconvenient Truth* will be a rich and challenging resource for middle and senior secondary and tertiary level students in:

- **Geography/Society and Environment** – Care and management of places
- **Science** – The scientific method and global warming
- **English** – Exploring contemporary issues
- **Media Studies** – Analysing an activist documentary
- **Information Technology** – Ways of presenting information
- **Environmental Studies** – Global problems and their solutions
- **Civics and Citizenship** – People’s and governments’ rights and responsibilities
- **Values Education** – Ethical and moral behaviour

## BEFORE WATCHING THE FILM

### Brainstorm about global warming

- 1 Have students brainstorm their knowledge and ideas about global warming. Record these on a white-board.
- 2 Ask students to classify their ideas into:
  - Definite facts
  - Possible facts
  - Theories or explanations.Students should come back to

- this list after watching the film, and commenting on whether they would now change any aspects of it.
- 3 Ask students who Al Gore is. Does what an American politician say have any relevance for Australia? Why?

### Understanding key terms

During the brainstorm above it may be necessary to make sure all students

understand some key terms used in the film:

**Greenhouse gases** – Any gas that absorbs infra-red radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), halogenated fluorocarbons (HCFCs), ozone (O<sub>3</sub>), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs). The main gas that influences global warming is naturally



THIS IMAGE OF A GLACIER IN PATAGONIA WAS TAKEN 75 YEARS AGO, TODAY THIS VAST EXPANSE OF ICE IS NOW GONE.

occurring water vapour. The main one produced by human activity is carbon dioxide.

**Carbon dioxide** – The gas released by the burning of fossil fuels such as oil.

**Global warming** – The observable increase in global temperatures caused by the emission of gases that trap the sun's heat in the Earth's atmosphere.

**Climate change** – a statistically significant difference in the measurements of either the mean state or variability of the climate in a place or region over an extended period of time, typically decades or longer.

<http://www.answers.com/topic/greenhouse-gas>

## Understanding the science – Global warming experiments

Have students carry out these experiments to help them understand the science of greenhouse gases and global warming.

### 1. Measuring Carbon Dioxide samples (Grade Level: Senior)

*To compare differing proportions of Carbon Dioxide (CO<sub>2</sub>) in gases from different sources*

Resources: For each group - 2 to 4 students

- Test tubes and stand
- A graduated cylinder
- A funnel straw
- A marble-size piece of plasticine

- 4 different coloured balloons
- 4 twist-ties or balloon clips
- A narrow-necked bottle (the neck should be narrow enough for a balloon to fit over it)
- A dropper bottle of bromthymol blue indicator solution
- A dropper bottle of dilute household ammonia (1:50 ammonia to distilled water)
- 100 mL vinegar
- 5 mL baking soda
- Safety goggles to wear at all times
- Access to a bicycle tyre pump or balloon pump

### Teacher's Notes:

The students will fill balloons with carbon dioxide, exhaled air, and ambient air. You (the teacher) should fill the balloons containing the car exhaust gases. For safety reasons, you should wear thick gloves to protect your hands from being burned. Fill the balloons in an open area and when a slight breeze is blowing to keep the exhaust gases away from your face. Place a balloon over the narrow end of a metal funnel and place the wide end of the funnel over the exhaust pipe of a running car. When inflated, the balloons should be about 7.5 cm in diameter. It may be easier to over-inflate the balloon and then let a little gas escape. Twist and tie off the balloon or use a clip. Repeat the procedure with the same color balloon until you have one for each group of students.

Note that the air solution in tube A will not turn yellow. The level of CO<sub>2</sub> in ambient air is too low to affect bromthymol blue.

Students will need around 60 drops of the diluted ammonia to neutralize the solution in test tube D (vinegar-baking soda reaction). The other two vials should require between 7 and 40 drops. Warn students to add the drops slowly and shake solutions between drops so they can get a careful record of when the color changes back to the same color blue as the control.

Since the students will have to add a relatively large amount of ammonia to the solution in vial D, the color of this sample may be affected by dilution. To equalize this effect, you can tell students to add some water to the other samples to make the volume in each sample equal. This is easiest to do if sample D is titrated last.

You should demonstrate the balloon procedure first to avoid error.

### Procedure:

1. Add 15 mL of water and 10 drops of bromthymol blue indicator solution to each test tube. Label the vials A, B, C, D, and Control.
2. Fill each balloon until it has a 7.5cm diameter.
  - **Sample A (Ambient Air)** – Use a tyre pump to inflate the balloon to the required diameter. Twist the rubber neck of the balloon and fasten it shut with a twist tie. The tie should be at least 1 cm from the opening of the balloon. Record the colour of the balloon used for this sample.
  - **Sample B (Human Exhalation)** – Have one team member blow up a balloon to the required





ANOTHER GLACIER THAT HAS DISAPPEARED

3. Soften the plasticine and wrap it around one end of the straw to make a small airtight collar that will fit into the neck of a balloon. The collar should look like a cone with the straw in its middle, and should be large enough to plug the neck of the balloon.
4. Pick up Balloon A. Keeping the tie on it, slip the balloon's neck over the collar and hold it against the collar to make an airtight seal. Place the other end of the straw into the test tube of water and bromthymol blue labelled A. Have another partner remove the tie on the balloon and slowly untwist the balloon. Keeping the neck of the balloon pinched to control the flow of gas, gently squeeze the balloon so the gas slowly bubbles through the solution.
5. Repeat the same procedure with the other balloons and their tubes. In some cases, the bromthymol blue solution will change color, from blue to yellow, indicating the presence of carbonic acid formed from CO<sub>2</sub>.
6. Analyse each of the samples by titrating them with drops of dilute ammonia. Ammonia neutralizes the carbonic acid. The bromthymol blue will return to a blue colour when all the acid has reacted. Add drops of ammonia to each of the samples that turned yellow, carefully counting the number of drops needed until they are about the same color as your control. Record the results.

**Discussion:**

- Make a chart on the board to pool each group's results.
- Which samples had the most and the least carbon dioxide?
- Why didn't the ambient air sample turn yellow? (The test isn't sensitive enough to detect low concentrations of CO<sub>2</sub>. Carbon dioxide is a natural part of our atmosphere, but too much CO<sub>2</sub> could make the Earth warmer through an increased greenhouse effect.)
- Why is automobile exhaust a concern?

## 2. Modelling the Greenhouse Effect

This simple experiment serves as an introduction to the greenhouse effect for any age. Students can see for themselves the effects of a greenhouse, and relate this understanding to what occurs in our atmosphere.

### Objective:

1. Help students understand the greenhouse effect as a physical phenomenon.
2. Use simple experimentation techniques including: observing and recording data, use of a control, drawing conclusions from results, use of a model.

### Resources:

For every group of (about) four students:

- 2 Small thermometers
- 1 large beaker or other clear glass container
- 1 Clock, watch or timer.
- 1 Copy of the worksheet
- Sunlamp or access to a sunny area to perform the experiment

### Method:

Group the students and distribute the materials. Each group should place their thermometers a few inches apart under the sunlamp or in direct sunlight.

Wait about three minutes so the thermometers will be giving accurate readings, and then have the students record the temperature readings on both thermometers as well as the time.

Each group should now place their jar over one of their thermometers, taking care that the jar does not cast a shadow over the uncovered one. If the thermometers are too large to remain horizontal inside the jars, it is fine to stand them against an inner side. Every minute, for ten minutes, the students should record the readings of both thermometers on the table below.

### Explanation:

The air over the exposed thermometer is constantly changing, and as it gets warm it is replaced by cooler air. Because the air in the jar cannot circulate to the rest of the room, this air stays in the sunlight and gets warmer and warmer. A similar trapping of heat happens in the Earth's atmosphere. Sunlight passes through the atmosphere and warms the Earth's surface. The heat radiating from the surface is trapped by greenhouse gasses.

Without an atmosphere, the Earth's temperature would average about 0°F (-17.8°C). This warming due to heat-trapping gasses is called the 'Greenhouse Effect'. Both the atmosphere and the jar allow light to enter, but then trap that energy when it is converted to heat. They work differently, however, because the jar keeps

in the heated air, while the greenhouse gasses absorb radiative heat.

### Extension:

Students can graph their data. To simulate global warming, the experiment can be done using two jars, one filled with air and the other with carbon dioxide.

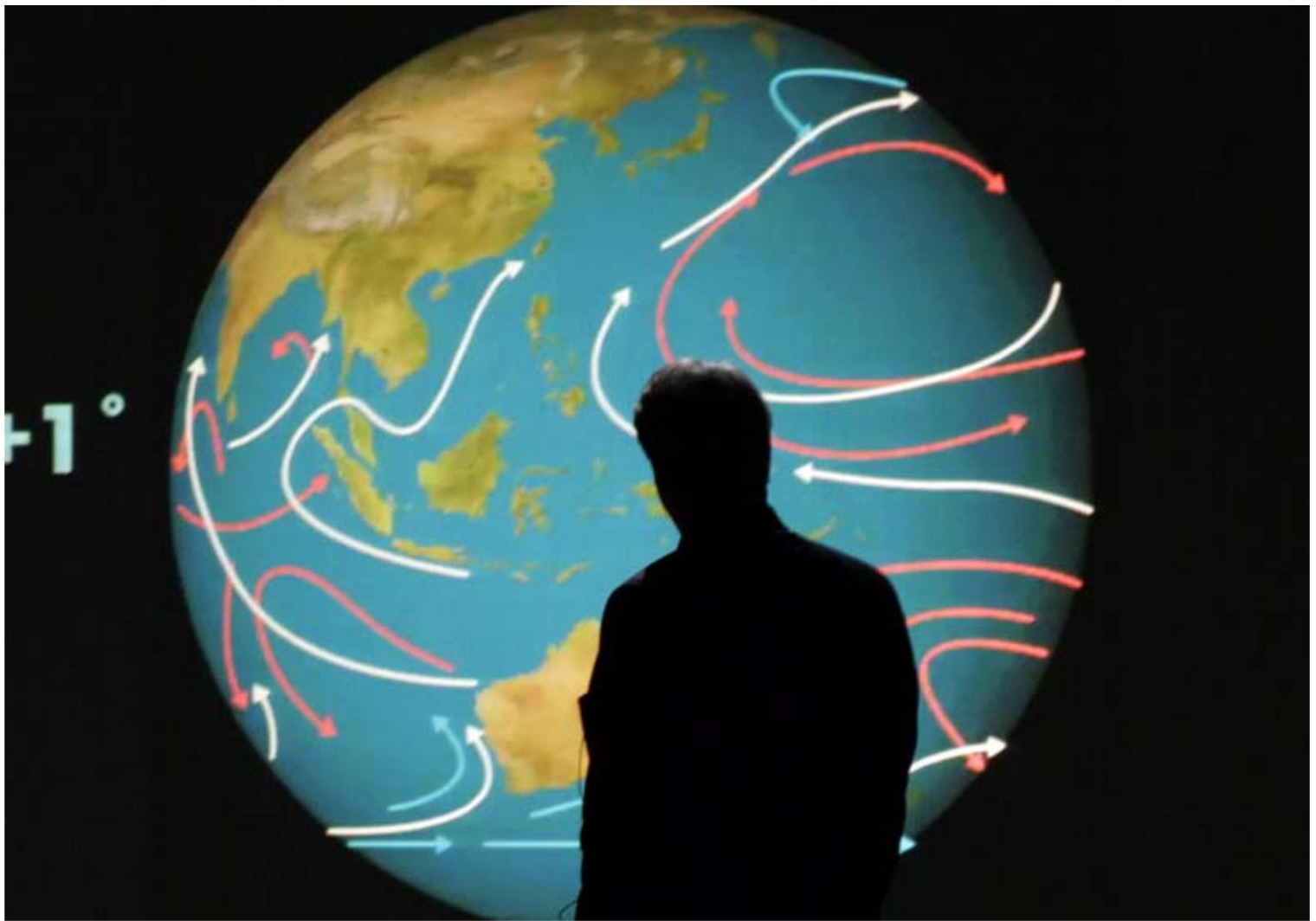
Older students can investigate the fact that both the jar and the atmosphere allow all wavelengths of light in but only reflect some wavelengths back out again, which is the most significant heat-trapping effect. They might also investigate the 'Venus effect' where very high levels of CO<sub>2</sub> cause extreme heating.

### Instructions

- 1 Place the two thermometers in the sunlight for a few minutes to let them get warm.
- 2 Record the readings of both thermometers at the top of the columns.
- 3 Record the time next to the starting temperatures.
- 4 Place the jar over the first thermometer.
- 5 Every minute, record the readings of both thermometers without disturbing them. (see the table below: Data)

OBSERVATION NUMBER	THERMOMETER #1	THERMOMETER #2
Time		
1		
2		
3		
4		
5		
6		
7		

DATA



## EXPLORING ISSUES AND IDEAS IN THE FILM

### Understanding the argument

*An Inconvenient Truth* is a film that presents an argument. This argument is:

- that human use of resources is releasing increasing amounts of carbon dioxide into the atmos-

- here,
- which is leading to increased temperatures,
- which are in turn changing our environment in ways that are and will increasingly continue to be harmful to the earth and its people.
- It is both governments' and individual people's responsibility to improve the situation by their

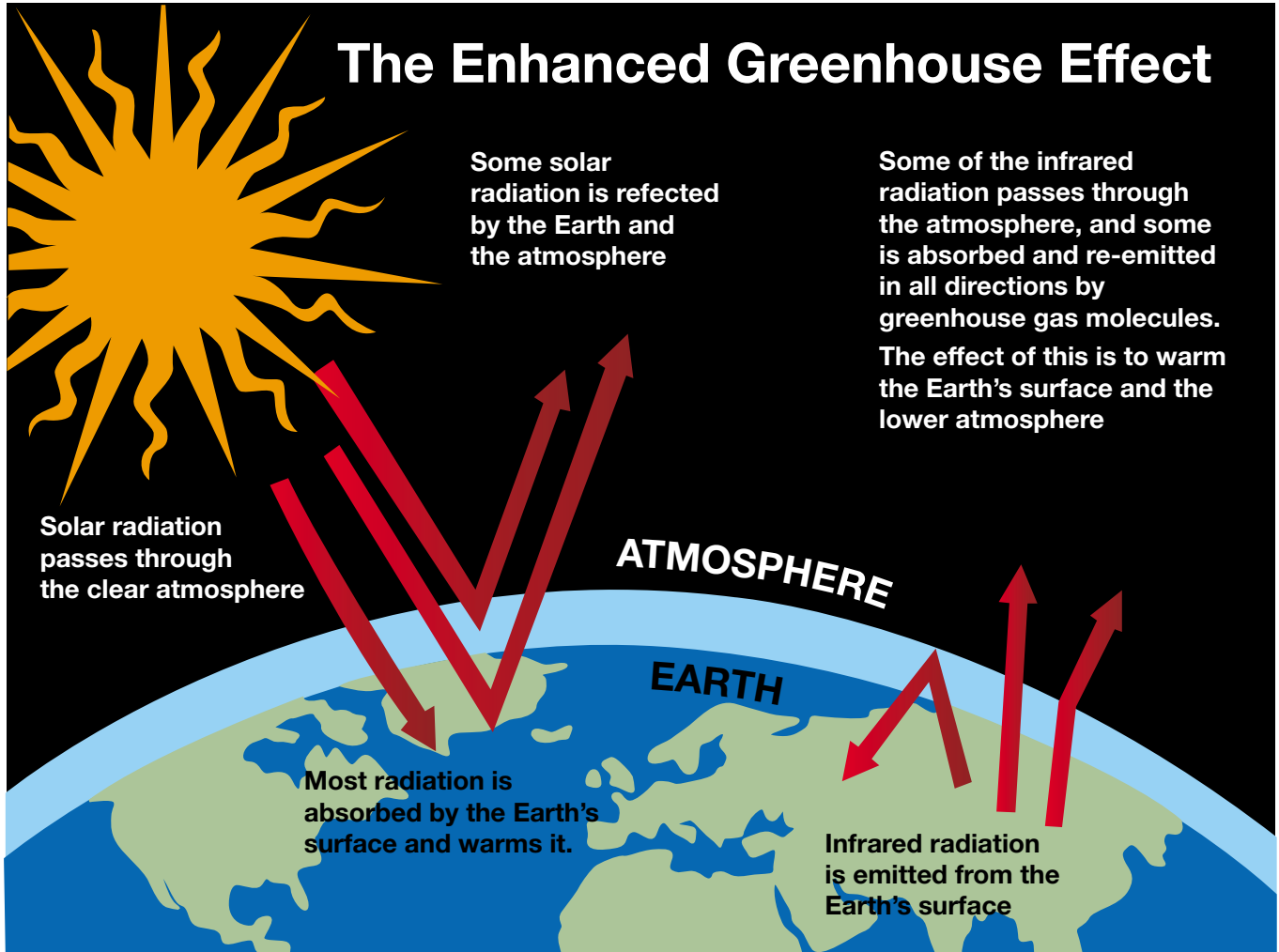
actions. This is both a political and a moral imperative.

How is this argument supported?

Look at the following steps and explain how each helps build up the overall argument. The time code indicates where each aspect can be found on the film.



# The Enhanced Greenhouse Effect



## 1 How does global warming work? (07:42 - 11:30)

The film provides this explanation: Sunlight enters the earth's atmosphere, some is absorbed, some is reflected, but some of the reflected sunlight is trapped by the atmosphere. If greenhouse gases increase, they make it harder for reflected sunlight to escape, so more is trapped, leading to a warmer atmosphere.

1.1 Prepare a sketch that shows this.

## 2 Carbon dioxide is increasing in the atmosphere (11:43 - 16:14)

The key evidence is the 'jagged red line' of increases in CO<sub>2</sub> concentrations in the atmosphere. (See the diagram on page 9.)

- 2.1 What is it?
- 2.2 What does it show?
- 2.3 Why does it go up and down each year?

- 2.4 What is its consistent trend?
- 2.5 What is likely to be the connection between this and rising temperatures?

## 3 We can see evidence of global warming in glaciers (16:18 - 18:24)

The film shows the state of various glaciers and ice areas to show that this is happening. (See the two images on page 11.)

- 3.1 Why do permanent ice areas exist?
- 3.2 What does Gore show happening in Kilimanjaro, Glacier National Park, Italian Alps and South America?
- 3.3 Why is this a problem, particularly with the Himalayas?

## 4 This is more than a cyclical phenomenon (18:30 - 24:40)

Gore shows two time lines. One is for

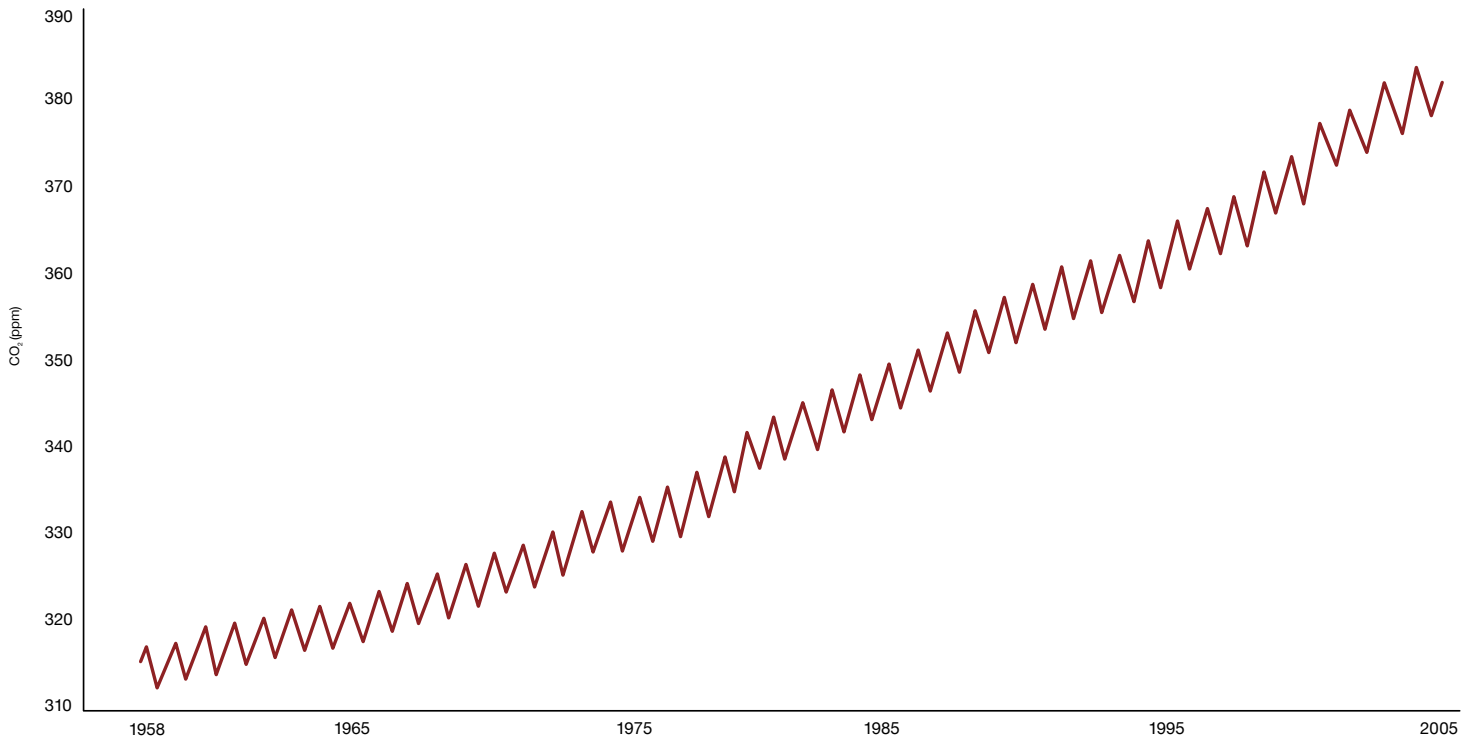
1000 years. See the graph at top of page 10.

- 4.1 What cyclical pattern does this show?
- 4.2 What connection does it show between carbon dioxide levels and temperature?
- 4.3 Why might this weaken Gore's argument?
- 4.4 How does Gore imply that it does not weaken it?

The other one shows a much longer time period, 650,000 years. See the graph at bottom of page 10.

- 4.5 Why would it be significant to have this long period available?
- 4.6 What pattern does it show?
- 4.7 What is the key feature of the modern period?
- 4.8 How does it challenge the 'cyclical' theory?
- 4.9 What prediction does Gore make from this?
- 4.10 Is this reasonable?





**5 It is happening all over the world and affects oceans as well (28:00 - 33:24)**

Gore shows a temperature record from the 1860s. See the graph on page 11.

- 5.1 What does it show?
- 5.2 What impacts is this having?
- 5.3 What impact is this having on oceans' temperature ranges?
- 5.4 Why?
- 5.5 What effect does this have on hurricane activity?
- 5.6 Why?

**6 This results in both severe storms and drought – increasing precipitation and changing rainfall distribution (36:36 - 39:13)**

- 6.1 Global warming has an effect on precipitation, and on the distribution of that precipitation. What is this?
- 6.2 Why is this a problem?

**7 Two major warnings (41:59 - 49:34; 51:42 - 54:26; 54:29 - 01:01:21)**

An *Inconvenient Truth* describes some very recent phenomena observed in

Greenland and Antarctica which may have rapid effects on global sea levels.

Large pools of meltwater were observed on the ice shelf attached to the Antarctic coast and on the Greenland plateau.

In Antarctica, these were a precursor to the break-up of a major ice shelf as the meltwater eroded down through cracks in the ice to form *moulins*.

The term *moulin* is French for 'mill'. Usually it refers to a windmill but here it refers to the water channel of a water mill, which these features in the ice resemble.

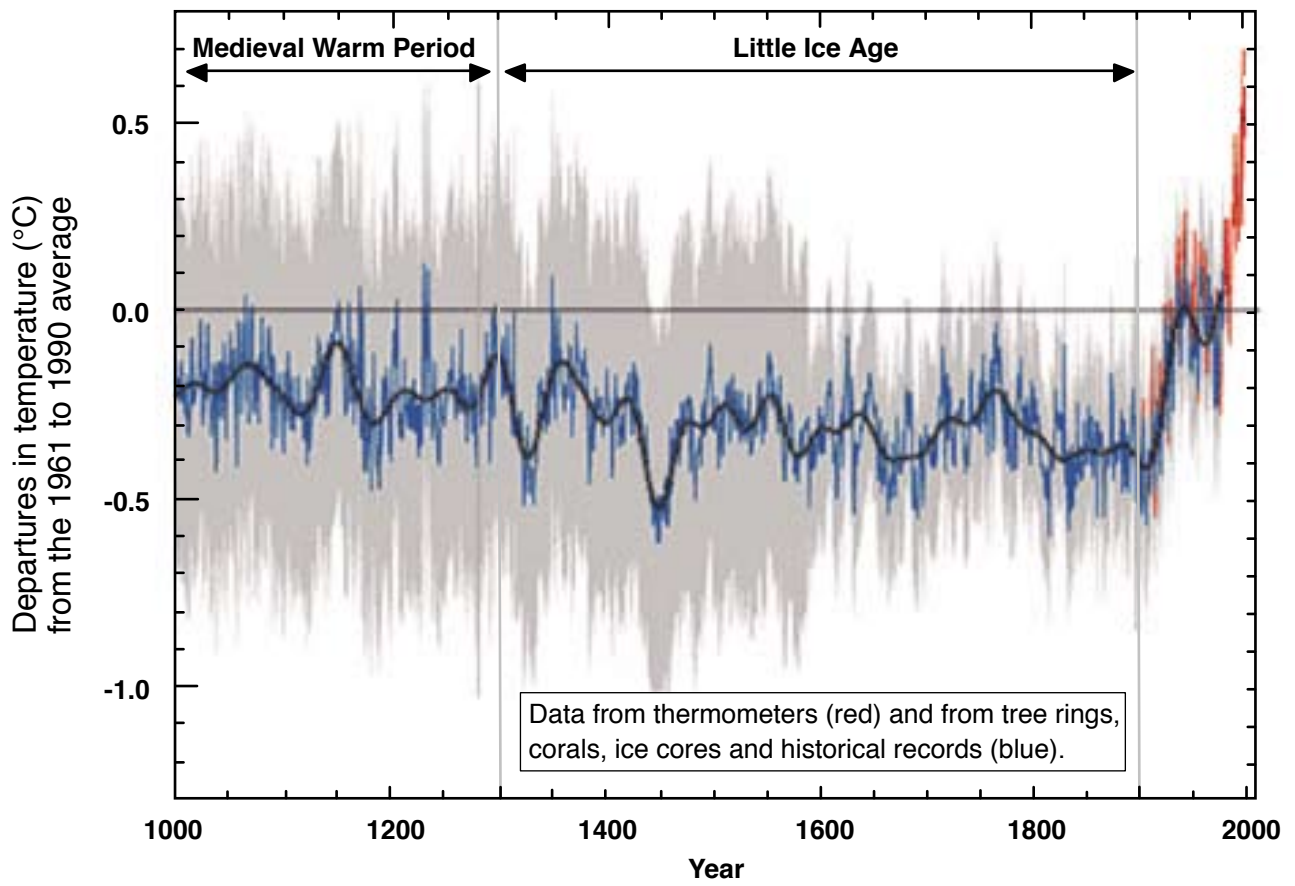
In the ice shelf, these moulins widened cracks and crevasses in the ice and triggered a massive break-up of the great shelves which extend over the ocean. The ice over the land then began to collapse as well. When they occur over land, water pours down through moulins until it reaches the rock underneath. It then has a lubricating effect, causing the ice sheet to slip off the rock.

The melting of the floating ice of the Arctic polar ice and the Antarctic

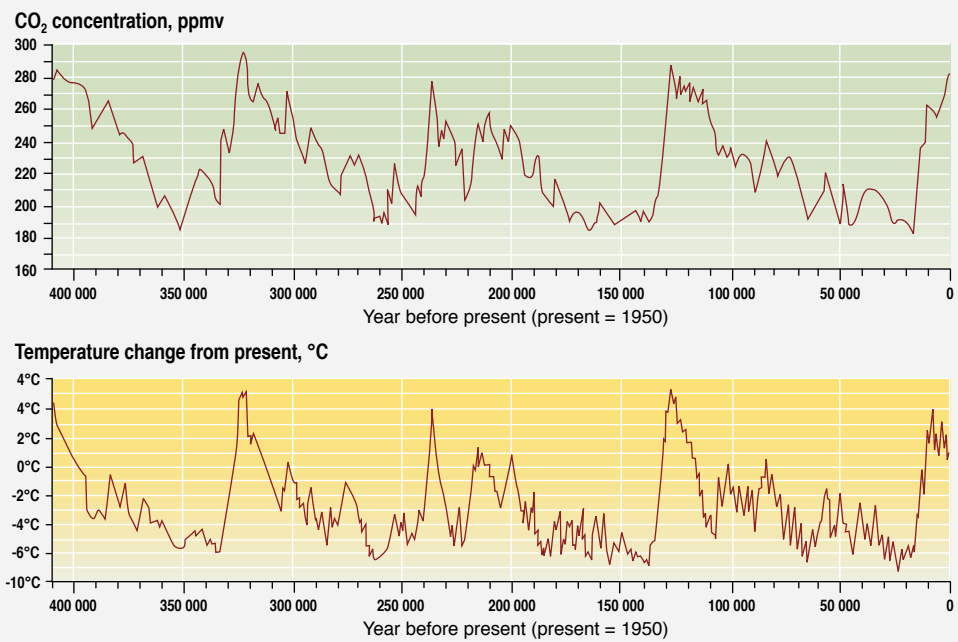
shelves should have little effect on the global sea level. This is easy to demonstrate.

- As you start looking at this part of the film a large glass beaker or trough and half-fill it with water. Add a number of ice cubes or pieces to simulate a floating ice pack on the surface. This is similar to the Arctic Ocean where the pack is a mass of ice blocks and floes which have constantly part melted and refrozen to form a broken mass.
- Mark the water level on the side of the glass. What do you think will happen to the level of the water when the ice has melted? During the lesson, as the ice melts, observe the changes in the water level. The level should rise very little, ideally not at all, even though the ice was floating partly above the water level.

The reasons are simple. The main part of the ice, like an iceberg, is already beneath the surface. Secondly, the ice is less dense than liquid water. Unusually, water is less dense in its solid state – that's why it floats! Consequently, when it melts the portion



Temperature and CO<sub>2</sub> concentration in the atmosphere over the past 400 600 years (from the Vostok core)





1970

KILIMANJARO, AFRICA

2000

of the ice above the surface should be exactly equivalent to the loss of volume in the melted ice. In the polar floating ice, some is held above the water under pressure but the amount of sea level rise should be negligible.

However, when the melting extends to land areas, the result is very different.

This is water which has been held out of the oceans for geological time frames, up to millions of years.

Once the destabilizing effect of surface meltwater and moulins is established in ice sheets and glaciers, this water is released back into the world's oceans. You may have seen the blueish colour of some of the ice breaking up – this indicates that it is very old ice which has been compressed over thousands of years. This is only seen at the edges of shelves and glaciers as they 'flow' outwards into warmer areas – these breaking and melting masses are now retreating back up inland. The result is a rise in sea level.

This is the equivalent of tipping more ice into the trough or beaker – the water level rises rapidly. *An Inconvenient Truth* suggests that we can see this happening in the world today, through the following information.

Gore also looks at the state of ice at the Arctic Circle.

- 7.1 What is happening to the ice in the Arctic?
- 7.2 What is the physical evidence that it is happening?
- 7.3 Why is that a problem?
- 7.4 Gore explains that the melting of the ice cap increases the temperature of the water. When the sun's rays hit the ice, more than 90% is reflected back. But when it hits the water, more than 90% is absorbed, and warms the water. So the less ice there is, the greater the warmth of the water. Illustrate this process with a simple diagram. See the two images at the top of page 13.

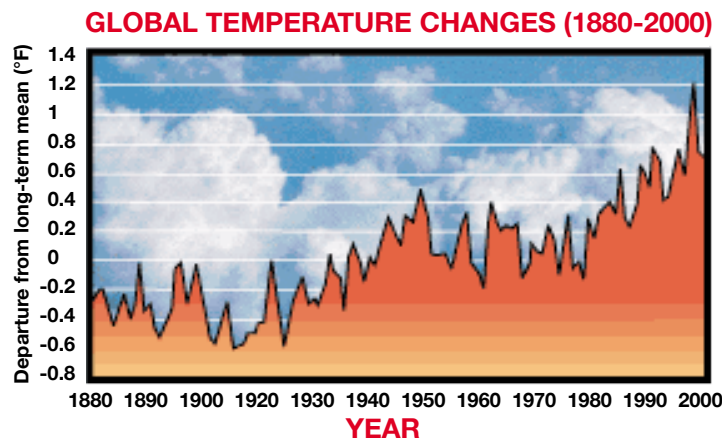
7.5 Why is this a problem?

This also has an effect on currents in the Gulf Stream, that flows between North America and western Europe.

The Gulf Stream

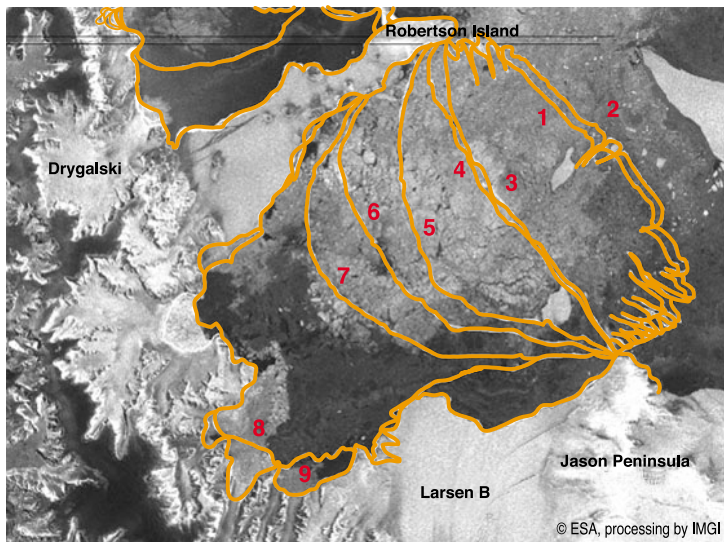
The warm currents of the Gulf Stream collide with the cold winds coming off the Arctic and Greenland. (See image at bottom of page 12) Heat evaporates from the Gulf Stream and is carried towards western Europe. This water left behind is cooler but also saltier, and sinks, where it starts to flow south. This process acts like a pump, keeping the 'Global Ocean Conveyor Belt' moving around the world. About 10 000 years ago a huge volume of melted fresh water flowed into the Gulf Stream, and it virtually stopped. As the warm air was no longer being blown across Europe, an ice age developed, lasting for nearly 1000 years.

7.6 Where does Gore say a modern



Source: U.S. National Climate Data Center, 2001





CHANGES IN THE LARSEN B ICE SHELF

THE RED NUMBERS AND ORANGE LINES REPRESENT THE FOLLOWING DATES:

- 1 MARCH 1986
- 2 AUGUST 1993
- 3 JANUARY 1995
- 4 JULY 1997
- 5 JANUARY 1999
- 6 OCTOBER 2000
- 7 FEBRUARY 2002
- 8 MARCH 2002
- 9 JULY 2004

equivalent body of fresh water could come from to potentially disrupt the Gulf Stream again?

- 7.7 Change in climate can also lead to a change in seasons and animals' ability to live within a habitat. How has that had an impact on the environment?

(See graphs at the bottom of this page.)

- 7.8 How can it have an effect on human health?

Gore also looks at the state of Antarctic ice where a substantial part of the Larsen B ice shelf has melted. (See the image Larsen B ice shelf, above left)

- 7.9 A huge amount of water is trapped as ice. If it melts, it will cause a rise in sea levels. Why is

this a problem?

- 7.10 If sea ice melts, it will not cause any rise; but if land ice does, it will. How is the melting of sea ice helping the melting of land ice?

- 7.11 The creation of *moulins* is helping cause a problem. *Moulins* exist when land ice starts to melt, creating tunnels of water that lubricate the point where land ice meets the rock base, meaning that it can move more easily to the sea. See the diagrams on page 14.

- 7.12 Why will it cause a problem?

- 7.13 Note how many of the world's major cities are on the coast and have low-lying areas. Examine the situation in your own region. What effect would a major sea level rise have on the cities that you know?

**8 There are three key causes (01:03:43 – 01:09:40)**

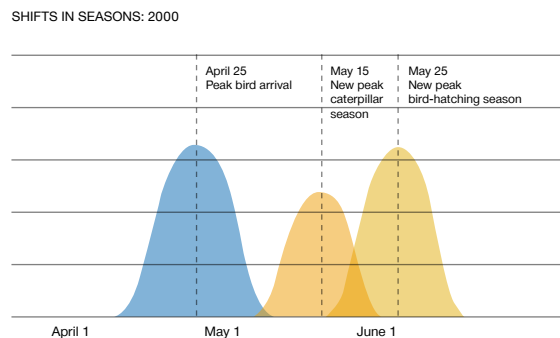
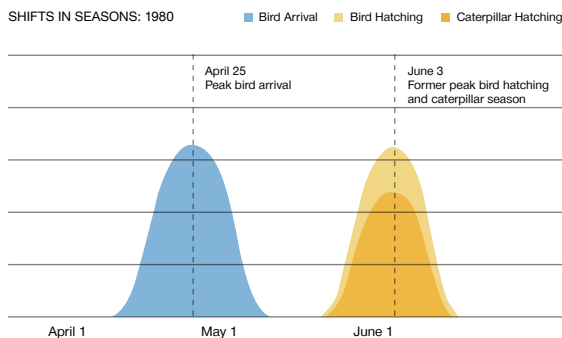
*Population* (See image on page 17.)

- 8.1 What has happened to population?  
8.2 Why is this a problem?

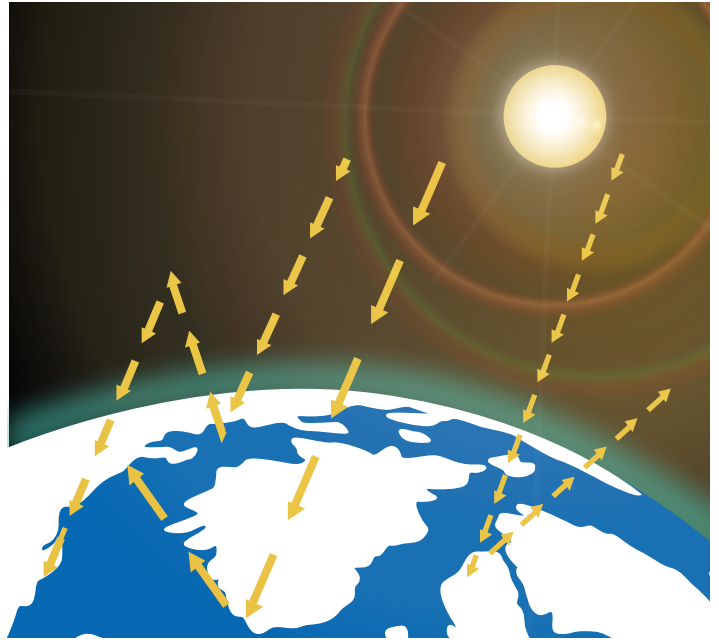
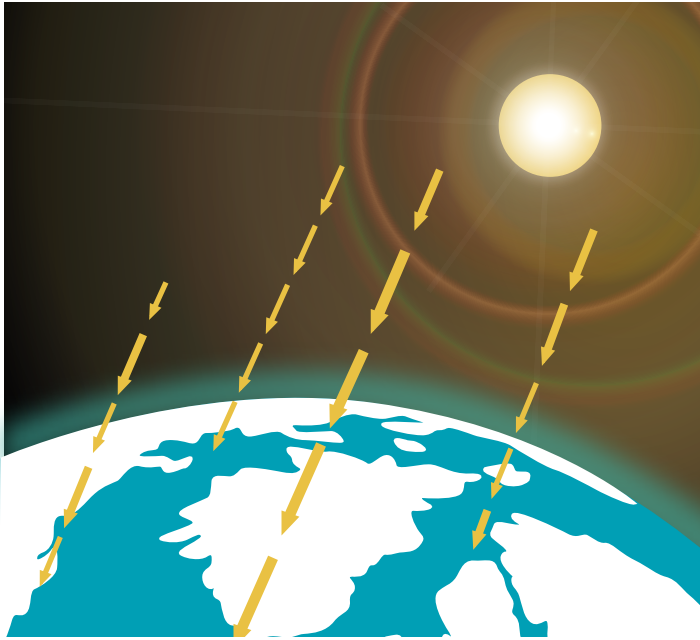
*Technology*

- 8.3 What is happening to technology?  
8.4 Why is this a problem?  
8.5 Gore says that:  
*Old habits + old technology = predictable consequences*  
*Old habits + new technology = dramatically altered consequences*  
Why? How does he illustrate this with his discussion of tools and irrigation?

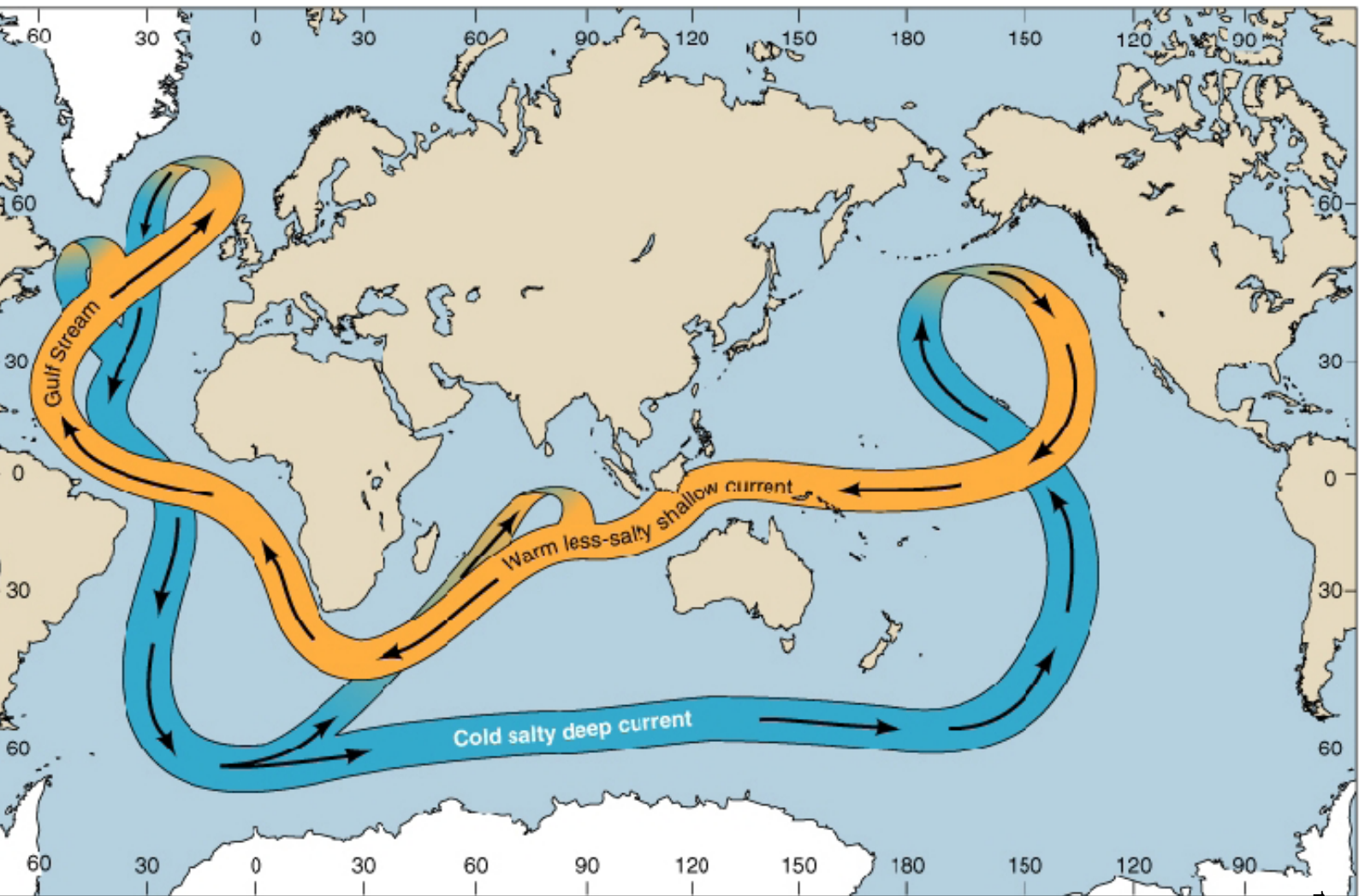
**EFFECTS OF A SHIFT IN SEASONS**



SOURCE: Scientific American



EFFECTS OF SUN ON THE ARCTIC ICE



THE GULF STREAM AND THE GLOBAL OCEAN CONVEYOR BELT

**an inconvenient truth**

Awareness

8.6 What is the 'message' about the frog?

9 There are three causes of misconceptions that affect awareness (01:12:18 01:27:57)

Disagreement among scientists

9.1 What point is he making about the sampling of scientific articles about global warming, compared to journalistic articles?

9.2 Why is this important?

9.3 How might it affect our readiness to act?

9.4 In whose interest is this?

Choice between economy and environment

9.5 Gore refers to the illustration showing gold in one tray of a scale, and the earth in the other. Why does he say this is a false choice?

9.6 He doesn't actually finish the sentence 'If we don't have a planet ...' Finish it for him.

9.7 What does the car example illustrate?

Too late, cannot be solved

9.8 Gore provides a range of examples of big problems that have been solved in the past. List some of these. Is global warming a similar problem to these? Give reasons for and against.

### Conclusion

10 Does the film convince you that:

- climate is changing?
- there is global warming?
- the main cause of any current climate change

and global warming is the increase of carbon dioxide in the atmosphere due to human activity? Explain your reasons.

### Critically evaluating the argument

The argument in *An Inconvenient Truth* is presented as clear and incontestable fact. The film asserts that there is no scientific disagreement with it, and that the doubt that exists is presented through journal articles by those with a vested interest in not changing the American people's excessive use of energy resources.

Is this a fair characterisation of the 'sceptics' and 'doubters'? We need to consider this.

1 Look at page 16. It is a table with three columns. The first notes many of the key issues raised in the film. The second is blank – you are to summarize briefly what the film claims about each of these issues.

2 After you have done this, look at the third column. It provides space for you to place in it the appropriate argument or claim made by the 'doubters' on each issue. Select the appropriate claim from the list in the column on the right of page 15, cut each out, and paste them in the appropriate place in the 3rd column of Table 1. (on page 16)

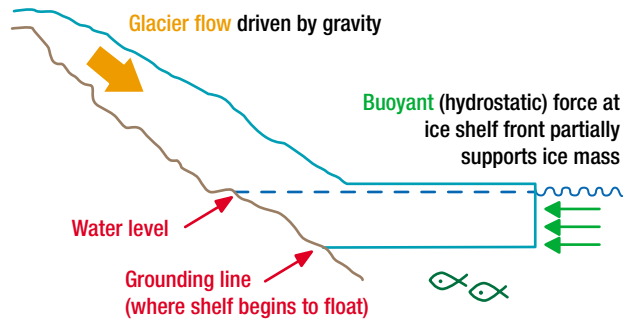
### An Inconvenient Truth and scientific method

For *An Inconvenient Truth* to be credible it must contain good science.

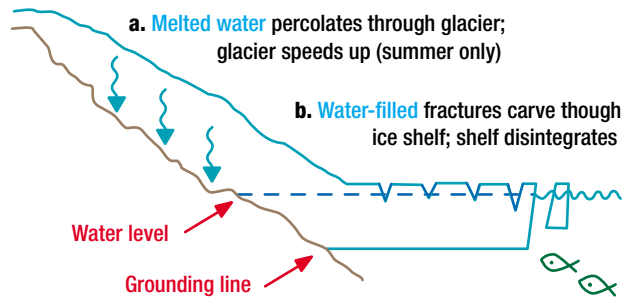
1 Why?

### Moulins

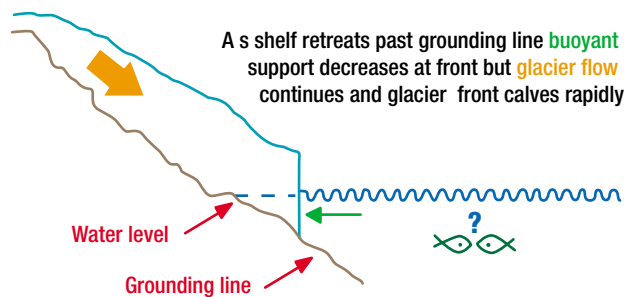
#### 1. Stable glacier and ice shelf



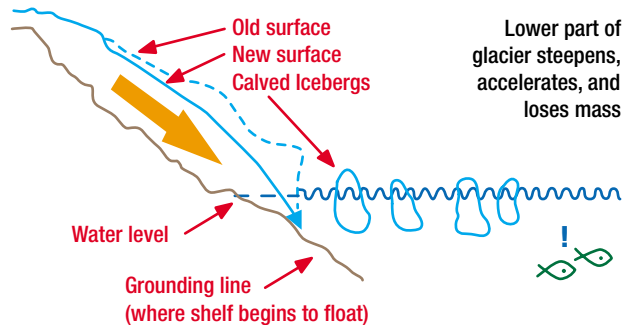
#### 2. Two effects of warmer temperatures



#### 2. Unstable glacier front after ice shelf collapse



#### 2. Glacier acceleration





- 2 Do you think it does contain good science? Why? Refer to elements within the film that convince you that the science is accurate and reliable.

Here is a claim about the scientific method:

So what is science? What is the Scientific Method?

For something to be considered a scientific fact, it must be testable with the scientific method.

1. Observe some aspect of the universe.
2. Invent a tentative explanation, called a hypothesis, which is consistent with what you have observed.
3. Use the hypothesis to make predictions.
4. Test those predictions by experiments or further observations and modify the hypothesis in the light of your results.
5. Repeat steps 3 and 4 until there are no discrepancies between theory and experiment and/or observation. Real science is humble. Some things are unknowable. It is human nature not to accept the idea that some things are beyond our reach of knowing, but it is often the case.

Step 4 of the scientific method requires an experiment. An experiment requires a control. What are the controls in climate science?

<http://xtronics.com/reference/globalwarming.htm>

- 3 Discuss this definition. Do you agree that because climate science is not a closed system that it cannot be known? How would you answer the person above?

## Australia in *An Inconvenient Truth*

Australia receives a few mentions in *An Inconvenient Truth*: for our car fuel efficiency rating (better than the USA but not world's best); on a map of places in the world where burning of vegetation is contributing to greenhouse gas emissions (yet most burning is in the north where fire is needed to 'clean up' country and cause re-vegetation); on a world map showing places where rainfall has changed substantially over the last century (a map which is directly contradicted by one in Tim Flannery's *The Weather Makers*, pages 108 to 109); and for our non-involvement in the Kyoto Protocol.

*An Inconvenient Truth* mentions the Kyoto Protocol several times, with the final reference being that the United States and Australia being the only two developed nations who have refused to ratify its terms.

- 1 What do you think the Kyoto Protocol is?
- 2 What is your reaction to the way Gore represents Australia and Kyoto?
- 3 Why might Australia not have been part of it?

The Kyoto Protocol is an agreement made under the United Nations Framework Convention on Climate Change (UNFCCC). Countries that ratify this protocol commit to reduce their emissions of carbon dioxide and five other greenhouse gases

An Intergovernmental Panel on Climate Change (IPCC) has predicted an average global rise in temperature of 1.4°C (2.5°F) to 5.8°C (10.4°F) between 1990 and 2100.

All attempts to link specific recent outbreaks to climate change cannot survive a confrontation with the facts. In all cases, local conditions (such as the banning of the insecticide DDT, land use changes, or foreign contact) account for expansions of disease vectors or increases in infection rates.

Nobody denies that CO<sub>2</sub> is increasing. But changes in global temperature are better correlated with changes in solar activity. Solar magnetic flux shows trends similar to that for temperatures from 1880 to the present.

Of thirteen populations of polar bears in Canada two are growing, two are in decline, the rest are stable. The growth is in areas where there is warming, the decline where there is cooling.

Only two per cent of ice floats, so if that melts it will have little impact on sea levels. Ice is increasing in size in parts of the Antarctic, balancing out any melt. Melting may be due to the Atlantic Multi-decadal Oscillation (AMO). The AMO is an ongoing series of long-duration changes in the sea surface temperature of the North Atlantic Ocean, with cool and warm phases that may last for twenty to forty years at a time and a difference of about 0.5°C between extremes. These changes are natural and have been occurring for at least the last 1000 years.

Since 1976 the world has warmed at a remarkable constant and non-alarming rate of 0.17°C per decade, and this is not a problem.

The fact that greenhouse gas emissions add heat energy to the climate system and are bound to warm the planet to some extent has never been in doubt. The real question is how much the climate will warm, how fast, and with what effects.

The Gulf Stream is a wind-driven system that depends on the earth's spin and lunar tides, not on salt.

There have always been patterns of rainfall variability over time in all areas.

There have been periods of abnormally high temperatures in the past – such as in the Mediaeval period.

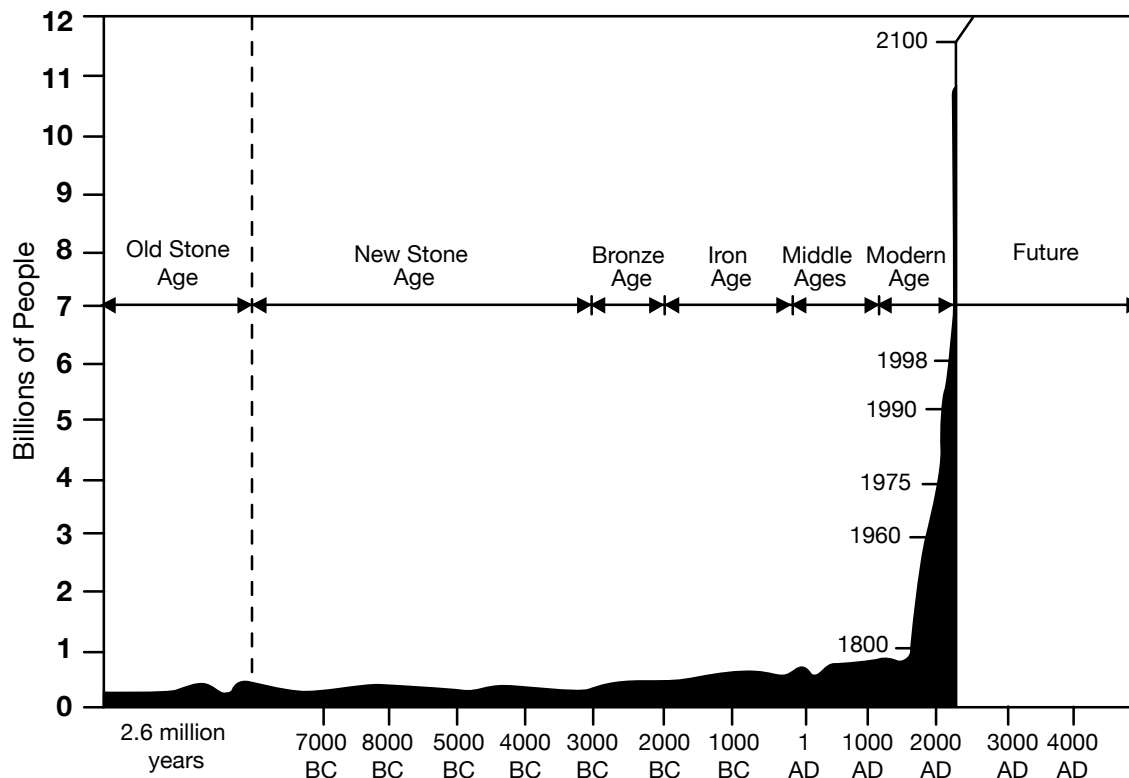
There is no change globally in the frequency of cyclones over the past thirty-five years. Some portion of the 0.5°C warming of the sea surface temperature is due to the cyclical Atlantic Multi-decadal Oscillation (AMO).

This may be a forest management problem. The beetles like thick, old-growth forests. Thinning the forests will solve the problem.

TEXT FOR TABLE 1 EXERCISE

1 ASPECT	2 POINT MADE IN AN INCONVENIENT TRUTH (WRITE YOUR SUMMARY HERE)	3 SCEPTICS/DENIERS (CUT AND PASTE IN HERE)
Global warming is real		
Carbon dioxide is increasing rapidly		
Temperatures are increasing		
Ice melts in glaciers, Arctic and Antarctic		
Ocean currents / Gulf Stream		
Rising ocean temperatures and extreme weather conditions – rain, hurricanes and drought		
Changes in seasons and pest infestations		
Polar bears		
Drought		
Ten hottest years		
Global warming and insect vectors		

TABLE 1: \*BASED ON: <http://www.cei.org/gencon/030,05288.cfm> and <http://www.johnstonsarchive.net/environment/index.html>



Source: "Population: A Lively Introduction." Joseph A. McFall, Jr. *Population Bulletin*, Volume 46, Number 2, October 1991, pages 1-43, Population Reference Bureau, Washington, D.C.

The Kyoto Protocol was devised to cut global emissions of greenhouse gases so as to stabilize or reduce the gases in the atmosphere.

Look at the list of major nations and their greenhouse gas emissions on the next page.

- 4 What are the rankings of the USA and Australia in this list?
- 5 Is Australia a 'major player' in this list? Justify your view. You will need to refer to both Australia's total contribution, as well as our per person one in your discussion.

Kyoto set enforceable targets for participants, usually a decrease of 5% on 1990 emissions, which would mean about a 29% decrease of expected 2010 emissions.

It came into effect in 2005. If successfully implemented, the Kyoto Protocol will reduce the effects of increased greenhouse gas emissions by some-

where between 0.02°C and 0.28°C by the year 2050.

- 6 Do you think this is a substantial improvement? Explain your view.

The Australian Government argued for a different outcome for itself, and won an allowance to increase its greenhouse gas emissions to 108% of its 1990 levels (arguing that the 1990 baseline was not an accurate and typical year.

This applied to major developed countries, but not to developing economies, such as China and India.

This was accepted, but Australia, while accepting the target, has refused to ratify the Protocol – that is, make it a legally enforceable agreement in Australia.

Australia argued that as its economy was so dependent on coal-based power and also coal exports, a larger reduction would cause it great eco-

nomical harm – with loss of markets, productivity and jobs.

The Kyoto issue is a complex one, but one that needs to be looked at. Here are three extracts about the issue. One is from a speech by Australian Foreign Minister Alexander Downer on the issue in June 2006, the second is from a speech by Labor parliamentarian Peter Garrett in a speech in April 2005, and the third is from a Commonwealth Parliament Briefing document on the issue from September 2002. Read them and answer the questions that follow.

#### A. An Australian Government Minister's view

Thank you for the opportunity to talk to you today about international efforts to address climate change.

This is a most serious issue and a major challenge for the international community.



COUNTRY	YEAR	CO2 EMISSIONS (MEGATONNES MT)	POPULATION (MILLIONS)	CO2 EMISSIONS (PER PERSON)
Albania	1994	7.06	3.20	2.21
Australia	2000*	535.30	19.44	27.54
Canada	2003	740.00	31.56	23.45
China	2004	3650.00	1198.50	3.05
European Union	1999	4030.00	375.30	10.74
Hong Kong	2003	43.5	6.803	6.39
India	2001	1228.54	914.00	1.34
Indonesia	1994	904.433	191	4.74
Iran	1994	417.01	57.67	7.23
Israel	1996	62.71	5.69	11.02
Japan	2002	1224.98	126.93	9.65
Laos	1990	0	4.57	0.00
Malaysia	1994	76	20.1	3.78
Marshall Islands	1990	0.0025	0.055	0.05
Mexico	2000	686.10	97.48	7.04
Micronesia	1997	0	0.106	0.00
Mongolia	1998	15.6	2.42	6.45
Nauru	1994	0.019	0.013	1.46
Netherlands	1999	174.10	15.80	11.02
New Zealand	1999	54.70	3.79	14.43
Niue	1994	0	0.002	0.00
Philippines	1994	100.738	73.527	1.37
Russian Federation	1999	1880.00	145.60	12.91
Samoa	1999	0.43	0.17	2.53
Singapore	1994	26.80	3.20	8.38
Solomon Islands	1994	0.32258	0.4	0.81
South Africa	1994	379.84	40.60	9.36
Thailand	1994	286.37	62.00	4.62
United Kingdom	2003	656.00	59.60	11.01
US	2003	6746.00	280.00	24.09
Zimbabwe	1994	0.00	10.64	0.00

LIST OF MAJOR NATIONS AND THEIR GREENHOUSE GAS EMISSION. [HTTP://WWW.CARBONPLANET.COM/HOME/COUNTRY\\_EMISSIONS.PHP](http://www.carbonplanet.com/home/country_emissions.php) FOR DATA ON GREENHOUSE GAS (\*AUSTRALIA'S FIGURE WAS 564.7 MT FOR 2004 WITH A POPULATION OF 20 MILLION. THIS WAS 2.3% ABOVE 1990 FIGURES, COMPARED TO THE TARGET OF AN INCREASE OF 8% BY 2012 [HTTP://WWW.GREENHOUSE.GOV.AU/INVENTORY/2004/NATIONAL-REPORT.HTML](http://www.greenhouse.gov.au/inventory/2004/national-report.html))

And it's an area where, quite frankly, there are no easy answers.

But as I think about climate change, it always occurs to me that we need to push on many fronts at once.

We need to work domestically to reduce emissions.

And we need to build international co-operation on reducing emissions and also on adapting to climate change.

Most importantly, we need to continue to pursue new technologies and new approaches to reduce carbon emissions here and globally.

That's why I am a strong supporter of the Prime Minister's call two weeks ago for a full debate on the use of nuclear energy in Australia.

It is now fifteen years since the world gathered at Rio and forged the UN Framework Convention on Climate Change.

The international community agreed on the need to stabilize greenhouse gases at a level that would prevent dangerous interference with the climate system.

That much, we could all agree on. And Australia would like this worthy goal implemented.

Then, ten years ago the Kyoto Protocol was negotiated, to operationalize the UN Framework Convention by setting targets and timetables for developed countries to limit greenhouse gas emissions.

Kyoto's great achievement was that forty developed countries all pledged to curb emissions.

However, Kyoto's great flaw was that it exempted the 149 countries of the developing world from making a similar effort.

Moreover, it locked in a sharp distinction between developed and developing countries that in 2006 does not

reflect the reality of global emissions – and will do so even less by 2012.

Now, we are often criticized for not signing onto the Kyoto Protocol but the fact of the matter is that Australia is on track to meet our Kyoto target – unlike, by the way, many other developed countries.

The latest greenhouse accounts show that Australia has reduced per capita emissions by thirteen per cent since 1990 and emissions per dollar of GDP by thirty-five per cent.

We are indeed taking seriously the need for Australia to contribute to greenhouse mitigation.

Yet large emitters such as Brazil, Mexico, India, Indonesia, Korea and China, have made no such commitment.

The net result is that global greenhouse gas emissions are projected to grow by forty per cent by 2012.

Without Kyoto, global emissions would have grown by forty-one per cent.

[http://www.foreignminister.gov.au/speeches/2006/060602\\_esaa.html](http://www.foreignminister.gov.au/speeches/2006/060602_esaa.html)

### B. An Australian Opposition Member's view

The government's response, record and progress have been woeful.

The advent of climate change and the likelihood of increasing global warming means this issue is one of the most critical we face. Its time scale is long, its impact as vast as the oceans already warming. It has presided over a substantial increase in greenhouse gas emissions which by 2020 are expected to increase by 23%. And [experts predict] our energy consumption to increase by a whopping 53% by that year too. Yes we are on track to reach the Kyoto first phase target of 108% of 1990 levels but only because of the Australia clause whereby we could include as a one off land clearing, namely the benefits of the reductions undertaken by the [Queensland]

government, in our emissions total.

Otherwise we are stuffed, with no coherent policy or institutional framework to address the ever growing greenhouse gas spiral.

Whatever the precise effects of increasing amounts of carbon dioxide and other gases will be over the long term, there is strong consensus that deep cuts in greenhouse gas emissions will need to be made – something in the order of 60% by 2050, and that the world will need both international agreements and financial instruments to enable and regulate that process.

The Kyoto Protocol, now in force, was the first attempt by the international community to address the issue. The protocol has been called a modest first step, which indeed it is, but Kyoto also represents a considerable achievement in;

- 1) Bringing a large number of states to the table;
- 2) Establishing an international legal framework for reductions that facilitates the trading of carbon and the investment in energy efficient technologies as initial steps along the path to greenhouse gas reductions.

Critics have concentrated on the deficiencies of Kyoto; the status of carbon sinks, that the treaty is inequitable, the absence of developing nations and some big producers of greenhouse emissions like India and China, and the poor track record of those European nations that have signed on but made little progress.

Some of these criticisms are ill founded. China and India, along with a number of developing countries are a part of Kyoto, they've signed on, but will not act yet. Indeed the first obligation agreed to amongst the developed nations, namely to reduce their emissions which have permitted their existing high levels of development, has not really started.

And it is true that progress in Europe has been less than spectacular. But for those who say it's too modest in scope, 'from little things big things grow' we say.

<http://www.petergarrett.com.au/c.asp?id=35>

### C. An Australian Parliamentary Paper summary

Australia made an international commitment in December 1997 at Kyoto to limit its greenhouse gas emissions growth to 108 per cent of its 1990 baseline, which equates to nearly a 30 per cent reduction from its 'business as usual' projections.

Australia was one of three countries — the other two being Norway and Iceland — granted an increase of its emission levels on its 1990 base; an argument won on the concept of 'differentiated targets' based on a country's particular economic circumstance. In contrast, this compares to developed countries collectively agreeing to reduce their aggregate emissions of greenhouse gases by at least 5 per cent from 1990 levels in the first commitment period 2008–2012.

Whilst Australia has not agreed to ratify Kyoto it has put in place a broad range of measures representing almost \$1 billion worth of investment, to ensure that the commitment made at Kyoto can be met.

[However], the energy sector is one of continuing growth in emissions and an increasing share of Australia's total greenhouse emissions. According to the Australian Greenhouse Office (AGO), emissions in the Energy Sector are expected to grow by over 39 per cent between 1990 and 2010 [which would mean that] over the period 2008–2012 Australia's emissions would be 111 per cent of 1990 levels on average.

<http://www.aph.gov.au/library/int-guide/SCI/kyoto.htm>

7 Why has the government not ratified the Kyoto Protocol?

- 8 The government claims that a binding commitment to the Kyoto Protocol would be against the national interest while having no impact on the international greenhouse emission situation. Is this a reasonable attitude for a government to adopt?
- 9 The government also claims that it is implementing policies that will achieve the reduction required without having ratified Kyoto. Does this seem to be happening?

Australia is reducing its emissions, and has also joined the Asia-Pacific Partnership on Clean Development and Climate (or AP6), including USA, Australia, China, Japan, South Korea and India. These nations, several of them developing economies, represent over 50% of emissions. The aim is to co-operate on the development and transfer of new technology to reduce greenhouse gases. But there are no set targets, and any targets voluntarily adopted are not legally enforceable.

Here is a document produced by the Australian Government.

Look at the chart on the next page, produced by the Australian Government.

- 10 What does it show?
- 11 What is meant by the 'stabilisation triangle'?
- 12 What will this 'stabilisation triangle' do?
- 13 Divide into seven groups. Have each group research and explain exactly how each of those seven elements will help solve the problem of greenhouse emissions leading to global warming. Report back to the whole class, and add a brief sentence of explanation to each of the seven strategies.
- 14 Do you think Australia is acting responsibly in its greenhouse policies and programs?
- 15 How would you represent Australia's situation if you could add a small section to *An Inconvenient Truth*?

## LOOKING AT THE FILM'S TRAILER AND POSTER

The trailer to the film has been made by a different company to the film itself. Look at the trailer at [www.aninconvenienttruth.com.au](http://www.aninconvenienttruth.com.au) for the film, and read this comment by Gore during an interview:

*It's a great trailer, very effective. But the people who make the trailer are completely different from the people who make the movie. I think they've done a terrific job on the movie, and I think a different group did a terrific job on the trailer.*

*The purpose of a trailer is very different from the purpose of a movie. I talked with Steven Spielberg, who saw the movie and loved it, and saw the trailer and loved it. And I asked him pretty much the same question you're asking me. He said, 'Al, you've got to know this: the purpose of a trailer is to grab an audience by the throat and wrestle them into the seat.' [Laughs.] They've got two minutes instead of ninety-two minutes, and they want to get people in to see the movie.*

<http://www.grist.org/news/main-dish/2006/05/09/roberts/index.html>

Look also at the poster for the film, and the interactive exercise on it, at [www.aninconvenienttruth.com.au](http://www.aninconvenienttruth.com.au)

- 1 What is each trying to achieve?
- 2 Are they fair representations of the film?
- 3 Are they persuasive?

## CONSIDERING SOLUTIONS

### Finding out more

One of the areas that *An Inconvenient Truth* raises is alternatives to oil and coal energy.

Here are some alternative sources that are briefly mentioned.

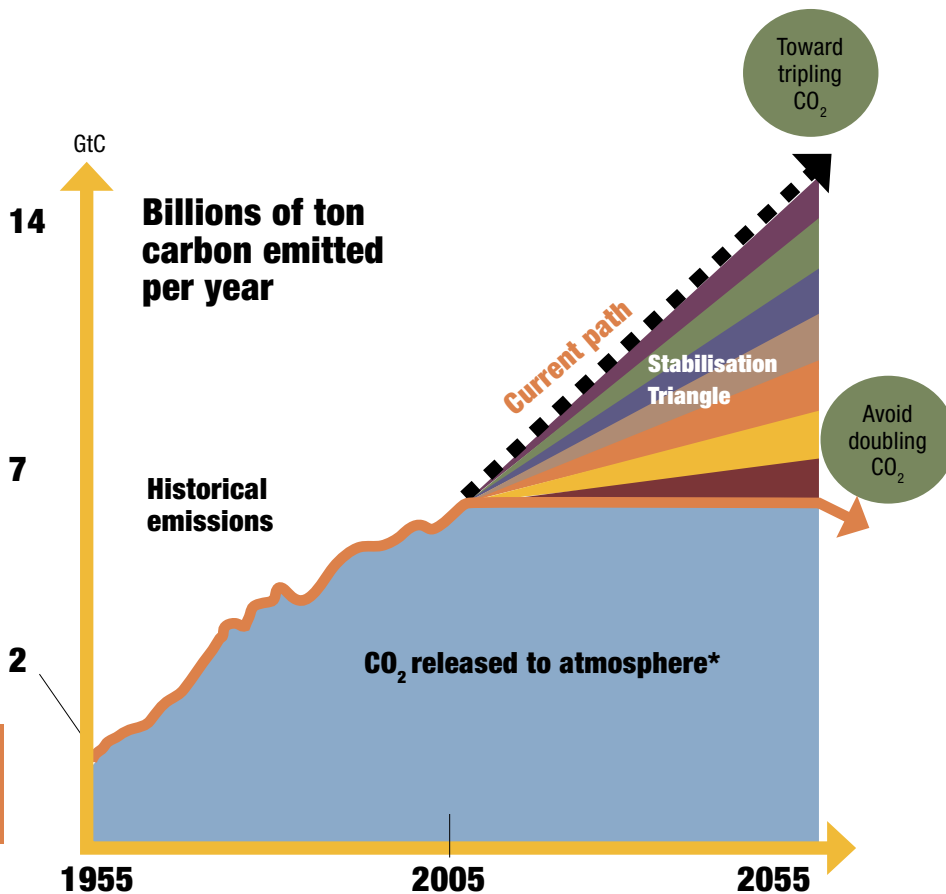
- Solar
- Wind



If emissions could be kept flat for the next fifty years, we'd be on track to **avoid more than doubling CO<sub>2</sub>** from its pre-industrial concentration.

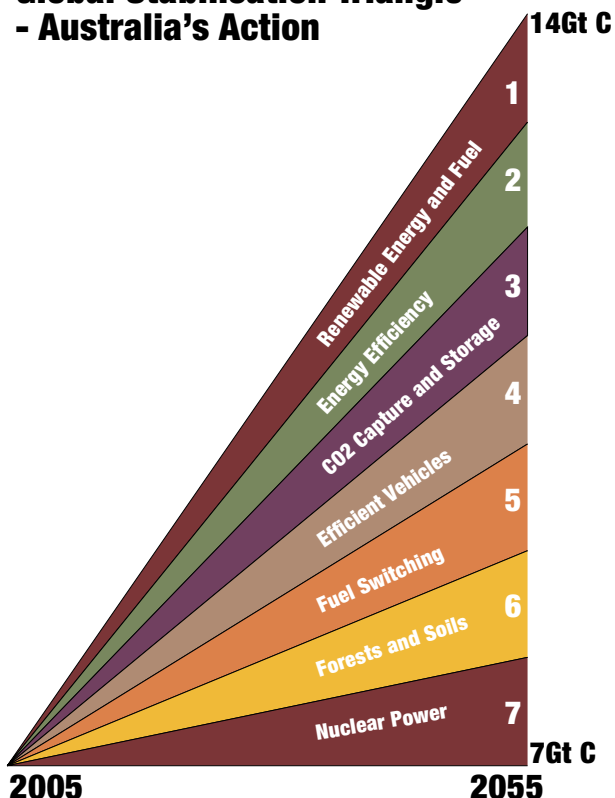
The new course is predicted to avoid the worst predicted consequences of dramatic warming, but will require avoiding massive quantities of carbon dioxide emissions over the next fifty years.

We call the avoided emissions the **'stabilisation triangle'**.



\* The vertical axis represents carbon emissions – not CO<sub>2</sub> (other greenhouse gases are not included). The graph also does not include emissions from land-use change and forestry.

### Global Stabilisation Triangle - Australia's Action



GLOBAL STRATEGIES (EXAMPLES)	AUSTRALIAN ACTION
1. Installing 700 times the current global capacity of solar electricity	<ul style="list-style-type: none"> <li>MRET – \$3 billion boost in RE investment</li> <li>REDI \$100 million</li> <li>Solar Cities \$75 million</li> <li>RRPGP \$205 million</li> <li>PVRP \$52 million (7,500 systems installed)</li> <li>AP6</li> <li>LETDF \$500 million</li> </ul>
2. Using best efficiency practices in all residential and commercial buildings	<ul style="list-style-type: none"> <li>Minimum appliance standards</li> <li>Solar Cities</li> <li>Building codes</li> <li>Energy efficiency opportunities</li> </ul>
3. Capturing and storing CO <sub>2</sub> from 800 coal-fired power stations	<ul style="list-style-type: none"> <li>LETDF \$500 million</li> <li>AP6</li> <li>Otway Basin Pilot</li> <li>Industry contribution (ACA \$300 million)</li> <li>State program (Qld / Vic)</li> </ul>
4. Doubling fuel economy of the world's cars	<ul style="list-style-type: none"> <li>Green Vehicle Guide</li> <li>Alternative Fuel Conversion Program</li> <li>National Fuel consumption Target</li> <li>Fuel consumption labelling</li> <li>Participation in global hydrogen initiatives</li> </ul>
5. Using natural gas instead of coal at 1400 electricity power stations. Cogeneration, waste gas use	<ul style="list-style-type: none"> <li>GGAP</li> <li>Greenhouse Challenge Plus</li> <li>AP6</li> </ul>
6. Eliminating tropical deforestation and doubling the rate of new forest planting	<ul style="list-style-type: none"> <li>2.1 million ha revegetated</li> <li>NRM/NHT/NAP \$4.4 billion</li> <li>Halting land clearing</li> <li>Greenhouse Action in Regional Australia</li> </ul>
7. Tripling the world's current nuclear capacity	<ul style="list-style-type: none"> <li>PM announced Switkowski review</li> </ul>

Source based on S. Pacala and R. Socolow, *Science*, 13 August 2004.

- Hydro
- Biomass
- Wave power
- Geothermal

1 Divide your class into small groups, with each group having responsibility for exploring a different source. The key questions to report on are:

- How does it produce energy?
- Where is it being used?
- To what extent?
- What are its advantages and disadvantages as an energy source? (Consider both environmental and economic aspects here.)
- Will it promote ecological sustainability?

2 One of the alternative sources that is not mentioned in *An Inconvenient Truth* is nuclear energy. Is it a low-greenhouse emissions alternative? Do other potential dangers associated with its use make it an unacceptable alternative? Research and discuss this important issue.

Whose responsibility is it to reduce greenhouse emissions? Is it up to governments, or do individuals have a responsibility? Do the developed nations have a greater responsibility than the developing ones, given that we have already benefited from energy use in a way that developing nations are now trying to do? Can an individual really do anything, or is it all too overwhelming?

The film's website suggests a number of practical steps that every individual can take to reduce their own greenhouse impact.

3 Here is a practical way of calculating your own personal contribution to greenhouse emissions:

Carbon Dioxide gas emissions are measure and recorded in kilograms.

1. Work out how many kilometres your family drove last year in total. If any member of your family drives another vehicle as part of a job,

estimate the distance driven over the year. Calculate the amount of fuel used – family members will have a very good idea of the consumption of each vehicle. 2.35kg is produced per litre of petrol – calculate the total amount produced in a year.

2. Check your electricity bills for the past year. For each kWh (kilowatt-hour) allow 0.8kg of carbon dioxide.
3. Do the same for your gas bills. For each cubic metre or 300MJ of natural gas (methane) that your household used, you produced 2.5kg carbon dioxide.
4. If you flew on a commercial airline in the last year, add 0.35kg for each kilometre flown by each person (i.e. if a family of four went on holiday, multiply the distance by four).

Add the totals for each section.

Then double it to allow for fuel used in the goods and services you used (carbon dioxide is produced to make the products that you buy and in heating or cooling the buildings that you visit). What's the number?

Now, list the ways in which you could reduce your impact.

Extension Question: is it better for your family to fly to a holiday destination 500km distant or to drive there? (ignore all other factors!) Calculate the comparative emission figures.

## Personal actions

- 4 Look at website <http://www.climatecrisis.net> Go to the TAKE ACTION page.

The next pages show possible actions that individuals in a family can take. Use the information to fill in your own responses to each of the columns in this table.

**(SEE TABLE 2 OVERLEAF)**

## Conclusion

*An Inconvenient Truth* finishes with this statement:

*Future generations may well have occasion to ask themselves: 'What were our parents thinking? Why didn't they wake up when they had a chance?' We have to hear that question, from them, now.'*

- 1 Do you agree that human activity is creating greenhouse gases that are contributing to global warming that may create harmful effects in the world?
- 2 If not, are you *certain* that human activity is not having this effect?
- 3 Do you believe that you have a personal responsibility to act in a way that reduces personal greenhouse gas emissions?
- 4 Do you agree with Gore's statement above?
- 5 How would you answer the question?

## Further resources

*An Inconvenient Truth* website: <http://www.climatecrisis.net>

An interview with Al Gore: <http://www.grist.org/news/main-dish/2006/05/09/roberts/index.html>

A climate scientist site, with its verdict on the film: <http://www.realclimate.org/index.php?p-299>

A global warming education site: <http://www.climatechangeeducation.org/>

The Pew Center researching climate change: <http://www.pewclimate.org>

The Climate Institute researching climate change: <http://www.climate.org>

Australia's CSIRO site: <http://www.csiro.au>

Australian Government Department of the Environment and Heritage Australian Greenhouse Office: <http://www.greenhouse.gov.au>

Sceptical sites: <http://www.cei.org>  
<http://www.junkscience.com>

<http://www.globalwarming.org>  
Al Gore, *An Inconvenient Truth*, Rodale, Pennsylvania, 2006.

Tim Flannery, *The Weather Makers*, Text Publishing, Melbourne, 2005.

Bjorn Lomborg, *The Skeptical Environmentalist*, Cambridge University Press, Cambridge, 2001.

1 SUGGESTED ACTION	2 WHY IS IT DESIRABLE?	3 ARE THERE ANY UNDESIRABLE ASPECTS TO IT?	4 WOULD YOU CONSIDER DOING IT? YES, NO, MAYBE AND WHY.	5 IMPACT – SEE THE WEBSITE TO GET THESE FIGURES
Replace a regular incandescent light bulb with a compact fluorescent light bulb (cfl).				
Move your thermostat down 1°C in winter and up 1°C in summer.				
Clean or replace filters on your furnace and air conditioner.				
Install a programmable thermostat.				
Wrap your water heater in an insulation blanket.				
Use less hot water.				
Use a clothesline instead of a dryer whenever possible.				
Unplug electronics from the wall when you're not using them.				
Only run your dishwasher when there's a full load and use the energy-saving setting.				
Insulate and 'weather proof' your home.				
Be sure you're recycling at home.				
Plant a tree.				
Switch to green power.				

TABLE 2



1 SUGGESTED ACTION	2 WHY IS IT DESIRABLE?	3 ARE THERE ANY UNDESIRABLE ASPECTS TO IT?	4 WOULD YOU CONSIDER DOING IT? YES, NO, MAYBE AND WHY.	5 IMPACT – SEE THE WEBSITE TO GET THESE FIGURES
Buy locally grown and produced foods.				
Buy fresh foods instead of frozen.				
Seek out and support local farmers' markets.				
Buy organic foods as much as possible.				
Avoid heavily packaged products.				
Eat less meat.				
Reduce the number of miles you drive by walking, biking, car pooling or taking mass transit wherever possible.				
Start a car pool with your coworkers or classmates.				
Keep your car tuned up.				
Check your tyres weekly to make sure they're properly inflated.				
When it is time for a new car, choose a more fuel efficient vehicle.				
Try car sharing.				
Try telecommuting from home.				
Fly less.				

TABLE 2

# ten things to do

Want to do something to help stop global warming?  
Here are ten simple things you can do and how much carbon dioxide you'll save doing them.

## **Change a light**

Replacing one regular light bulb with a compact fluorescent light bulb will save 68 kilograms of carbon dioxide a year.

## **Drive less**

Walk, bike, carpool or take mass transit more often. You'll save 282 grams of carbon dioxide for every kilometre you don't drive!

## **Recycle more**

You can save 1.1 tonnes of carbon dioxide per year by recycling just half of your household waste.

## **Check your tyres**

Keeping your tyres inflated properly can improve fuel efficiency by more than three per cent.  
Every litre of petrol saved keeps 2.4 kilograms of carbon dioxide out of the atmosphere!

## **Use less hot water**

It takes a lot of energy to heat water. Use less hot water by installing a low flow showerhead (160 kilograms of CO<sub>2</sub> saved per year) and washing your clothes in cold or warm water (225 kilograms saved per year).

## **Avoid products with a lot of packaging**

You can save 544 kilograms of carbon dioxide if you cut down your garbage by ten per cent.

## **Adjust your thermostat**

Moving your thermostat down just one degree in winter and up one degree in summer could save about 900 kilograms of carbon dioxide a year.

## **Plant a tree**

A single tree will absorb 900 kilograms of carbon dioxide over its lifetime.

## **Be a part of the solution**

Learn more and get active at [ClimateCrisis.net](http://ClimateCrisis.net)

**Spread the word! Encourage your friends to see An Inconvenient Truth.**



**an inconvenient truth**  
in cinemas 14 September

for school group bookings:

[www.aninconvenienttruth.com.au](http://www.aninconvenienttruth.com.au)



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