

Climate Change

A. Environment

Here are some statements about the environment. Can you identify the authors?
What is your opinion?

Environmentalism is a religion that is based more on political ambitions than science. Communism has been replaced by the threat of an ambitious environmentalism.
Resources would be better spent investing in ending hunger and disease in developing countries than on climate change projects.
Our world faces a true planetary emergency
Freezing carbon emissions would harm Americans and lead to "no new industry, no new people and no new cars".

Václav Klaus

Bjorn Lomborg, Director of the Danish Environmental Assessment Institute, author of the book "The Skeptical Environmentalist"

Al Gore, former US vice-president

Joe Barton, the leading Republican on the House Energy and Commerce Committee

B. Questions to be discussed

1. What factors influence climate change?

Classify the listed items into three columns (white) and then formulate the general headings (grey).

- distribution of land and ocean
- sun activity, its changes
- human activities
- volcanic activities
- vegetation
- GHG emissions

2. Is the current global warming just part of a normal cycle? Why?
3. Can we trust new, sophisticated scientific technology, such as computer modelling that says our environment is in trouble?
4. What are the direct observations of recent climate change?
5. What are the arguments against climate change?
6. What are the projected impacts of climate change? See the table.
7. Do you know what IPCC stands for? What are the findings of IPCC?

**C. The Intergovernmental Panel on Climate Change (IPCC),
February 2007, Paris.**

Below (next page) you will find the key findings from Paris. However, the expressions of probability are omitted. First try to identify the probability of occurrence as defined in the IPCC Report.

very unlikely	more than 99%	
extremely likely	more than 95%	
more likely than not	more than 90%	
very likely	more than 60%	
likely	more than 50%	
unlikely	less than 33%	
virtually certain	less than 10%	
extremely unlikely	less than 5%	

Now complete the statements from the IPCC Report with the expressions from the table above + probable and possible.

- It is that human activities are causing global warming
- temperature rise by the end of the century will be between 1.8C and 4C (3.2-7.2F)
- temperature rise by the end of the century ranges between 1.1C and 6.4C (2-11.5F)
- Sea levels are to rise by 28-43cm
- Arctic summer sea ice is to disappear in second half of century
- It isthat parts of the world will see an increase in the number of heatwaves
- Climate change is to lead to increased intensity of tropical storms

D. Risks and benefits

Give examples of the following hazards. What are the risks associated with them.

natural hazards, e.g.

chemical hazards, e.g.

biological hazards, e.g.

social hazards, e.g.

personal hazards, e.g.

fires	tornadoes	viruses	earthquakes	volcanic eruptions
pollen	parasites	pollutants in air, water, soil and food	smoking	drinking
occupational safety	hurricanes	dieting	floods	transportation
bacteria				

E. Copenhagen, December 2009?

F. Environmental responsibilities

Define the environmental responsibilities and conflicting values of citizens who come from different countries and cultures. Here are some thought-starters for discussion.
(GHG=greenhouse gas)

- In many countries people rely on wood for their cooking needs as well as for warmth. This consumes valuable timber and produces harmful GHG emissions. This is bad, but uncooked food can lead to disease, and people die when there's not enough heat. Which is worse? What is the answer? (GHG=greenhouse gas)
- Is there a difference between the environmental damages from GHG emissions in a developed country versus the GHG damages in undeveloped countries? Explain the difference.
- Which is more excusable: deforestation for agricultural/forestry production in a developed country or deforestation for/by farmers in a developing country that uses the land and trees for survival?
- Are businesses from less developed countries that cut down forests for export or businesses from developed countries that demand the timber more environmentally responsible? What about governments that engage in this sort of exchange?
- As developing countries continue to progress, vehicles, residences, and industries that rely on fossil fuels for heat and power contribute more and more GHGs. Should they slow down their rate of progress? Should they be asked to reduce emissions of GHGs?
- Several industrialized countries have instituted a carbon tax. Some people have suggested that these countries should institute carbon credits. What are carbon taxes and carbon credits? Do you think they should be employed by developed countries?
- There are healthcare, medical well-being, and social costs associated with burning fossil fuels. Some would argue that these are external costs and that the industrialized world, particularly the United States, does not pay for them. What are external costs and who pays for them?
- Several models of fuel-efficient automobiles are available to the average consumer in the developed world. Why are there so few on the road?
- What is permafrost? What effect can the melting of the permafrost have on your country?
- What impact would rising sea levels have on your country? What about shoreline housing?
- What are coral reefs? How and why are they changing? What will it do to sea creatures?
- What is the Larsen-B ice shelf? Is this question relevant to your country?
- How do the rates of destruction of forests and the rates of drought compare with previous history?

G. Cinquain (sustainable development)

Line 1:	one word (subject or noun)
Line 2:	two words (adjectives) that describe line 1
Line 3:	three words (action verbs) that relate to line 1
Line 4:	four words (feelings or a complete sentence) that relates to line 1
Line 5:	one word (synonym of line 1 or a word that sums it up)

Sources:

<http://www.ipcc.ch/>

<http://www.chmi.cz/>

<http://www.beyondzeroemissions.org/arguments-against-climatechange>

<http://www.climate.org/topics/>

<http://teams.lacoe.edu/documentation/classrooms/amy/algebra/5-6/activities/poetry/cinquain.html>

Climate Change, opportunity through action, Brno, March 27, 2008