

## ***Teaching Activity: A World Conference on Global Change***

***Background Information:*** Human activities are changing the composition of our atmosphere at an unprecedented rate. If current trends continue, our planet could face a climatic shock unlike anything experienced in the last 10,000 years. Many of the world's best physical, chemical and biological scientists continue to puzzle over the questions being asked regarding the consequences of a rise in the average global temperature. Working together with economists and political scientists from around the world under the aegis of the Intergovernmental Panel on Climate Change (IPCC), they have developed long term scenarios, have used computer models to run simulation experiments and expanded their study of climate to past eons and other planets. In this way they have acquired a better understanding of the Earth's climate system and the forces that drive it.

The potential impacts of global warming and the cost of adapting to them will no doubt become significant. Because this is both a cosmopolitan and a long-term problem, perceptions of the fairness of any proposed regime will assume special importance internationally. Not only are equity considerations of intrinsic interest, but they will also affect the decisions of countries to join and abide by any global warming control agreements. Clearly, the participation of the large, industrialized countries, like the United States, is of great importance, especially when you consider the fact that they are responsible for the bulk of the increase in greenhouse gas emissions since the Industrial Revolution. However, the participation of key developing countries in any control regime is essential to its long-term effectiveness. Anti-global warming steps taken only by the industrialized nations would be heavily offset over time by inaction in the developing nations. Therefore, any effective response must attract and enable the meaningful participation of the South as well as the North.

### ***Objective:***

- To research information about different interest groups to be represented at a world conference on global warming;
- To plan their strategy for participation in the world conference'
- To plan proposals for effect, positive and cooperative global actions that will be satisfactory to all interest groups represented;

***Important Terms:*** Developing nations, developed nations, human rights, global , cooperative, delegate, strategy, recommendations;

***Materials:*** Copy of "International Meeting Calls for a Halt" news article, chalkboard or large sheets of butcher paper, markers, **Information Sheets**, paper, pencil;

### ***Procedure:***

1. As a warm-up, have the entire class read the article "International Meeting Calls for Halt to Degradation of the Atmosphere" and answer the review questions that follow.

2. Divide the class into teams of 4-5 students to represent different interest groups: Environmental Activists, Industrial Developers, Developing Nations, Nuclear Power Advocates, Future Generations of Human Beings, Rights of Animals and Plants.

3. Give each group their own **Information Sheet** (See attached).

- Have each group divide the responsibility for their class presentation so that each student has a point to make.
- Make sure that each group prepares answers to the following questions as they make their report.
  - a. What specific proposal or proposals will your group make that will mitigate the effects of global warming while keeping in mind your group's needs and objectives?
  - b. What strategy will your group use to advance its proposal?
  - c. What point will each team member make?

4. Arrange the chairs in a circle.

- Acting as a facilitator, have each group make its presentation and recommendations.
- Write these on the chalkboard or large sheet of paper.

5. Facilitate a discussion about each idea.

- Synthesize each idea and modify recommendations when necessary.
- Hold a vote on each idea that remains on the list.

6. **Follow-Up Homework Assignment:**

- Ask students to write a list or short essay on what they can do as individuals in the real world to mitigate the effects of global warming.
- Tell them to consider the actions that they can carry out as individuals, with their family or the class.

## ***INTERNATIONAL MEETING CALLS FOR HALT TO DEGRADATION OF THE ATMOSPHERE***

by Philip Schabecoff (Special to the New York Times)

**TORONTO, June 30, 1996** --- Government officials, scientists and environmental activists from 48 countries today called for an immediate halt to the degradation of the Earth's atmosphere and set targets for global reductions in the burning of fossil fuels.

Delegates to the conference on "the changing atmosphere" urged strong global control measures to slow and then roll back pollution that, they agreed, is rapidly warming the Earth's surface in a process that will produce profound climatic change.

The conference specifically called for a 20 percent worldwide reduction in the use of coal, oil and other fossil fuels by the year 2005, and an eventual reduction of 50 percent in the use of such fuels. The combustion of fossil fuels produces carbon dioxide, a chief cause of the global warming trend attributed to the greenhouse effect.

Called by the government of Canada, the conference included officials of many countries, as well as private scientists and others. The recommendations have no official or legal status. But participant said that a newly emerging consensus on the need to act against atmospheric pollution and the specific targets set here, would give an important impetus to national and international actions in the near future.

"Humanity is conducting an enormous, unintended globally pervasive experiment whose ultimate consequences could be second only to global nuclear war", the conference statement said. "Earth's atmosphere is being changed at an unprecedented rate by pollutants resulting from human activities, inefficient and wasteful fossil fuels use and the effects of rapid population growth in many regions. These changes represent a major threat to international security and are already having consequences over many parts of the globe".

Among other recommendations and findings of the conference were:

- Governments should establish a "world atmosphere fund" financed by a tax on fossil fuel consumption in industrialized countries;
- Half of the 20 percent reduction in fossil fuels use should come from more efficient use of energy and the other half from switching to fuels that emit less carbon dioxide. Nuclear energy should be reviewed as an option but only if considerations of safety, waste disposal, proliferation and environmental damage are paramount.
- The industrialized countries bear chief responsibility for the degradation of the Earth's atmosphere and should be responsible for remedial actions. They also should help the developing countries in ways that do not add to the problem.

**Review Questions:**

1. Why are scientists, environmentalists and some government officials calling for reductions in the use of fossil fuels? \_\_\_\_\_

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2. According to the conference statement, what are the causes of atmospheric change? \_\_\_\_\_

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3. What do you think of the recommendations and findings of the conference? Which do you favor and why? Which bare you opposed to and why? \_\_\_\_\_

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4. If you had been delegate to the conference, what actions would you have proposed? \_\_\_\_\_

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## **INFORMATION SHEET: NUCLEAR POWER ADVOCATES**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will at the same time, promote the point of view and interests of your group.

1. Energy is necessary to maintain and improve a decent standard of living. The fossil fuel energy supply must come to an end, not only through exhaustion of its supplies, but because of the damage it does to the world's environment. Mining and oil extraction scars the Earth and burning changes the climate, in addition to producing acid rain.
2. We need a source of power which will produce energy without producing greenhouse gases, and we need the energy source now.
3. Nuclear power can be made safe. France produces  $\frac{1}{4}$  of all its electrical needs through safe, simple nuclear power plants.
4. The technology now exists to build safer, clean nuclear power plants.
5. Waiting for new alternative non-atmospheric polluting sources of energy to be developed adds daily to the carbon dioxide burden the Earth is carrying.

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## **INFORMATION SHEET: ADVOCATES OF THE RIGHTS OF PLANTS AND ANIMALS**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will, at the same time, promote the point of view and interests of your group.

1. Without plants and animals humans could not exist. But besides their benefits to humans, plants and animals have their own rights.
2. Increased global temperatures and deforestation will destroy many habitats and cause the extermination of untold numbers of species.
3. Biological diversity is necessary for the benefit of all animals and plants including humans. It would be diminished as world habitats are affected.
4. In many countries, current laws make it a crime to be cruel to animals. In some communities, you can be arrested for leaving an animal in a closed car on a hot day. Our society is saying that an animal has the right not to be victimized by human actions. But isn't that what we are doing if we let them suffer and die as we change the world's ecosystems? We must immediately stop the emission of greenhouse gases.

## **INFORMATION SHEET: REPRESENTATIVES OF DEVELOPING NATIONS**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will, at the same time, promote the point of view and interests of your group.

1. We need the same sort of economic growth which the industrialized countries have enjoyed in order to improve the standard of living of our people.
  2. We recognize that industrialization has its environmental costs, but why should we be asked to reduce our impact on our own land after the industrialized countries have decimated their? It is the industrialized countries who have fouled the world.
  3. We have the right to exploit the natural resources of our own lands just as others have done without legislation, or even verbal inference from outsiders.
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## **INFORMATION SHEET: ENVIRONMENTAL ACTIVISTS**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will, at the same time, promote the point of view and interests of your group.

1. Increase carbon dioxide, methane, nitrogen oxides and CFCs are producing global warming, and enhancement of the natural greenhouse effect,
2. The expected rise in average global temperature of 3-5 ° C in the next 20-30 years will cause untold hardships. It will destroy some habitats. Changes in rainfall patterns will affect the food supply. ( The 1988 summer drought in the mid-west has been cited as the kind of weather we can expect to increase in frequency.)
3. Sea level rise due to the melting of ice will flood and destroy existing wetlands upon which a portion of the marine food chain is based. Salt water will also inundate coastal aquifers.
4. The rise in greenhouse gases has been linked to the rise in industrialization and therefore, mitigating actions that are necessary would include: energy conservation, recycling, reforestation, finding and developing alternative energy sources, and a change in the energy wasteful lifestyle of the industrialized world.

## **INFORMATION SHEET: REPRESENTATIVES OF FUTURE GENERATIONS**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will at the same time, promote the point of view of your group.

1. Our disruption of the world's ecosystem by increasing the average global temperature has broad ethical ramifications. It raises serious questions concerning the correctness of our actions.
2. Due to our technological development we have the unprecedented power of acting. What we do affects the entire world. Changing the world's climate will affect the future forever.
3. We also have the unprecedented ability to foresee the long-term consequences of our actions. We have the freedom and power to make choices. It is within our power to control technology.
4. What right do we have to impose detrimental environmental conditions on future generations? What gives us the right to alter the world for our benefit? Do we have the right to ignore those who are not present and have no voice in the decisions that will affect their lives?
5. We have the capacity, the knowledge, and the ability to make choices concerning the lives of future generations. We also have the obligation not to act to harm them.

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## **INFORMATION SHEET: ADVOCATES OF INDUSTRIAL DEVELOPMENT**

**NOTE:** Remember that your goal is to present arguments and recommendations to reduce global warming that will, at the same time, promote the point of view and interests of your group.

1. It has only been through the efforts of industry that the standards of living of the world have been raised.
2. The average life expectancy of all human beings has been raised by the production and transportation of goods and services. Production and transport require energy.
3. Who would want to reduce their energy use and thereby their standard of living?
4. Industry should not be limited. If entrepreneurs are left free to respond to the needs of the public, they will develop those innovations which will most benefit mankind.

5. Additional environmental demands on industry will simply raise the prices of goods and services. If protecting the environment needs capital investment, governments should supply the money. If all people benefit, all should pay. Don't put the burden on industry.