

Hot Politics

ABOUT THE FILM

FRONTLINE and the Center for Investigative Reporting go behind the scenes to explore how bi-partisan political and economic forces prevented the U.S. government from confronting what may be one of the most serious problems facing humanity today. The film examines some of the key moments that have shaped the politics of global warming, and how local and state governments and the private sector are now taking bold steps in the absence of federal leadership.

WATCHING THE FILM:

Teachers can either assign the film for viewing as homework or show the film in class. Suggested discussion questions are provided. The lessons and activities in this guide can be used in the classroom without having viewed the film.

A NOTE TO TEACHERS:

This lesson guide is intended for classes in social studies, civics and government, language arts, current events and history; Grade Levels 9-12. The guide examines the wide range of viewpoints and scientific evidence that surrounds the issue of global warming and climate change. It is constructed in module activities, allowing teachers to use it in its entirety or to select individual activities to accommodate instructional time and student abilities.

DISCUSSION QUESTIONS:

This guide includes a list of pre-viewing and post-viewing questions for students to discuss.

FEATURED LESSON PLAN:

Congressional Hearing on Global Warming and Climate Change

Lesson Objectives:

Students will:

- Understand the issues surrounding global warming and the difficulty in finding a political solution
- Examine different views from a wide range of interest groups on how best to address the issue of global warming
- Research, develop and evaluate a U.S. policy statement from a private-interest perspective

ADDITIONAL LESSON IDEAS:

Taking Matters into Your Own Hands

Students look at greenhouse emissions at home and school and explore ways they can help reduce greenhouse gas emissions.

Public Forum on Global Warming and Climate Change

Students organize a public forum at school inviting academic experts and local public officials to discuss the issues of global warming and climate change and explore what actions should be taken to address the issue.

Assessing State and Local Action on Global Warming

Students research bills being discussed or laws passed addressing carbon emissions and climate change, then evaluate the pros and cons of the legislation and develop visual presentations to support their viewpoint.

ADDITIONAL RESOURCES:

An annotated list of relevant Web sites

PURCHASING THE FILM

Hot Politics can be purchased from [link] Shop PBS for Teachers. Also, teachers and students can watch the film streamed in its entirety on FRONTLINE's Web site [link] <http://www.pbs.org/wgbh/pages/frontline/hotpolitics>

CREDITS:

This teacher's guide was developed by Simone Bloom Nathan of Media Education Consultants. It was written by Greg Timmons, curriculum writer and educational consultant. Advisers were Ellen Greenblatt of The Bay School, San Francisco, and Danielle Altadonna of Eleanor Roosevelt High School, New York.

PREVIEWING QUESTIONS

1. Have you noticed recent changes in the weather or unusual weather patterns where you live? If so, describe them.
2. Do you think recent changes in climate and weather are more attributed to natural or human causes? Explain your reasons.
3. If you feel humans are the main cause of global warming, do you think you contribute to global warming, and if so, how?
4. Where do you stand on whether the U.S. government should be doing about global warming and climate change?

POST-VIEWING DISCUSSION QUESTIONS

1. Climatologists reported that 1988 was the hottest year on record. What did some scientists like Dr. Jim Hansen say was contributing to this warming?
2. In 1992, President George H.W. Bush went to the Earth Summit in Rio de Janeiro and signed the landmark treaty on climate change agreeing to set voluntary emissions targets.
 - Explain why voluntary standards resonated with both energy companies and labor unions.
 - What kind of political pressure did the coalition of energy companies and labor place on Democrats and Republicans?
3. President Bill Clinton's 1993 State of the Union address proposed a BTU tax (or energy tax) to help reduce greenhouse gases. Its failure in the Senate was characterized by Philip Clapp as, "They got the policy right, but they got the politics entirely wrong." From information in the program, explain what this statement means.
4. How did the energy industry respond to the efforts by the Clinton administration and environmentalists to address the concern over greenhouse gases?
 - What factors lend credibility to the energy industry response?
 - What factors seem to discredit the energy industry response?
5. At the 1995 Berlin Climate Change Convention and again at Kyoto in 1997, the Clinton Administration was both unable to convince China and India to agree to mandatory cuts in greenhouse gas emissions and was unable to convince Congress to agree to ratify the treaty.
 - Explain why U.S. industry and much of Congress felt India and China should agree to these cuts if the United States was to agree to them.
 - Explain why developing countries like China and India distrusted the United States pushing them for these cuts.
6. Describe world reaction to President George W. Bush's eventual decision to reverse his campaign pledge on carbon emissions and then later pull out of the Kyoto Agreement altogether.
7. As a scientific consensus was growing that global warming was already underway, what efforts did the Bush administration take to address this new evidence?
8. Three presidential administrations avoided addressing the issue of global warming and climate change. How has recent physical evidence influenced the public to believe something needs to be done?
 - How have state and local politicians like Dallas Mayor Laura Miller and California Governor Arnold Schwarzenegger taken up the effort to address global warming and climate change?
 - How have some of the world's largest corporations and key environmental groups joined together to push for the government to impose mandatory limits on carbon emissions?

FEATURED LESSON PLAN

Congressional Hearing on Global Warming and Climate Change

LESSON OBJECTIVES:

Students will:

- Understand the issues surrounding global warming and the difficulty of finding a political solution
- Examine different views from a wide range of interest groups on how best to address the issue of global warming
- Research, develop, and evaluate a U.S. policy statement from a private-interest perspective

MATERIALS NEEDED:

- Internet access
- Copy of the FRONTLINE documentary *Hot Politics*
- *Hot Politics* Lesson Guide and student handouts

TIME NEEDED:

- Introductory questions -- 10 minutes
- Timeline on global warming and climate change -- 20 minutes
- Venn diagram of views on global warming -- 20 minutes
- Congressional Hearing on global warming and climate change -- two class periods

PROCEDURE

Step 1: Opening the Lesson - Introductory Questions

Write the following questions on the board or overhead projector. Pair students up to discuss each of the following questions and record the main points, and then have several student groups report to the class.

- What is global warming?
- When was the first time you heard of global warming and climate change?
- Do you believe the condition of global warming is caused by human activity or natural forces, or both? Explain your answer.
- Regardless of who is responsible, do you think people and governments should do something about global warming? State your reasons why or why not.

If needed, teachers might want to refer students to the EPA animated primer on global warming at LINK [http://www.epa.gov/globalwarming/kids/global_warming_version2.html] or a handout for kids on greenhouse gases found at LINK [<http://epa.gov/climatechange/kids/greenhouse.html>].

Step 2: Global Warming Timeline and Graphic Organizer

While students are still in pairs, distribute the Student Handout "Timeline on Global Warming" and have them complete the graphic organizer. When they are finished, review their responses in a class discussion.

Step 3: Hot Politics Perspectives on Global Warming.

Before beginning this activity, review with students the last question in Step 1 and have them restate their answers and reasons. Then distribute copies of or have students access the CNN article entitled "A Truly Global Problem" at LINK [<http://www.cnn.com/2005/TECH/science/04/08/earth.policy/index.html>]. Next, distribute the Venn diagram and statement sheet. Students may work in their original pairs or new groups. Review the directions, asking students to identify the number of the statement that goes in the appropriate section of the Venn diagram. The diagram asks the question, "Should the United States government be more aggressive in addressing the issue of global warming?" The Venn diagram features three positions:

- Statements that support of more aggressive government action
- Statements that do not support more aggressive government action
- Statements where both sides agree

After students have completed the Venn diagram, ask them if anything in the activity had caused them to change the position they stated in the last question of Step 1 and the reasons why or why not.

Step 4: Congressional Hearing on Global Warming and Climate Change

- Divide students into seven small groups, outlined below. Six of the groups will represent a constituency concerned about global warming and climate change, and the seventh will represent a Congressional committee on the environment and public works.
 - Environmentalist who feels the physical evidence of climate change warrants immediate action LINK [<http://www.pbs.org/wgbh/warming/debate/schneider.html>]
 - Climatologist who feels the data is quite clear and immediate action is needed LINK [<http://www.pbs.org/wgbh/warming/debate/wigley.html>]
 - Atmospheric scientist opposing immediate action LINK [<http://www.pbs.org/wgbh/warming/debate/singer.html>]
 - Economist and global industry advocate LINK [<http://www.pbs.org/wgbh/warming/debate/palmer.html>]
 - Advocate for taking more action at the state and local level LINK [<http://gov.ca.gov/index.php?/press-release/4111/>]
 - Private business and environmental organizations coalition LINK [<http://www.us-cap.org/media/release.pdf>]
 - Congressional Committee on the Environment
 - From the Heritage Foundation LINK [<http://www.heritage.org/Research/EnergyandEnvironment/wm1403.cfm>]
 - From the National Resource Defense Council LINK [<http://www.nrdc.org/globalWarming/fcons.asp>]
- Provide copies of the research information from the links above respective to the constituency group and the congressional committee. Then, distribute the "Constituent Presentation Guidelines" to each of the six constituent groups and the "Congressional Committee on the Environment Hearing Guidelines" to the congressional committee members. As students work through their research, have them complete the questions on the handouts.
- The congressional committee has instructions for conducting the hearing on their handout. The committee hearing will consist of each constituent group making an opening statement and providing three reasons with supporting evidence for its position. In the interest of time, each constituent group will have a maximum of five minutes to present their position and evidence. Then the Congressional Committee will ask its questions to the members of each constituency.
- Conclude this activity by asking students to write a newspaper editorial or letter to the editor evaluating the policy statement of their constituent group. (The Congressional Committee can choose any constituent group.) They can choose to agree or disagree with the group's statement. The editorial should take a position on the issue, provide reasons and specific supporting evidence, identify the points of the opposing position, and state reasons to reject this position. A short closing should restate their position and summarize the reasons for supporting it.

Assessment Recommendations

1. Assess student involvement in the discussion questions and opening activity.
2. Evaluate the students' coverage of the timeline graphic organizer and the Venn diagram.
3. Evaluate students' participation in their constituent group's (or Congressional Committee's) preparation and presentation of their policy statement.
4. Evaluate the editorial on students' accuracy in following the guidelines above, the extent of their evidence and quality of their arguments, as well as the organization and persuasiveness of their writing.

Student Handout: "Timeline of Key Events in Global Warming"

- **1890s:** Swedish scientist Svante Arrhenius and an American, P.C. Chamberlain, independently target carbon dioxide as a warming gas and suggest that the burning of fossil fuels could lead to global warming, describing what is known as the "greenhouse effect."
- **1927:** Yugoslavian Mulin Milankovic proposes that small, naturally occurring changes in Earth's orbit affect climate, leading to Ice Ages and warm periods. Geophysical records later support this theory.
- **1956:** Canadian-born physicist Gilbert Plass publishes a series of articles stating human activity can raise the average global temperature "at the rate of 1.1 degree C per century."
- **1957:** American scientist David Keeling sets up the first continuous collection of carbon dioxide levels in the atmosphere and immediately finds a consistent yearly increase.
- **1977:** The nonpartisan National Academy of Sciences issues a study called *Energy and Climate* that suggests that the possibility of global warming "should lead neither to panic nor to complacency" and recommends more research be conducted.
- **1983:** The Environmental Protection Agency releases a report detailing the effects of greenhouse gases and some of the threats of human-generated emissions of carbon dioxide on rising temperatures.
- **1988:** NASA climate scientist James Hansen and his team report to Congress on global warming, explaining that the earth is getting measurably warmer and there is a high degree of probability that it is due to human-made greenhouse gases.
- **1990:** The United Nations' Intergovernmental Panel on Climate Change presents its First Assessment Report, stating that human activities are substantially increasing the concentrations of greenhouse gases in the atmosphere.
- **1992:** The Climate Change Convention, signed by 154 nations in Rio de Janeiro, agrees to prevent "dangerous" warming from greenhouse gases and sets an initial target of reducing emissions from industrialized countries to 1990 levels by the year 2000. Concerned about the cost to American industry, President George H.W. Bush agrees to voluntary targets.
- **1997:** More than 160 nations meet in Kyoto, Japan, to negotiate binding limitations on greenhouse gases, setting legally binding emissions cuts for industrialized nations to be met by 2010. The United States Senate says that it will not ratify the agreement unless developing countries like China and India commit to more "meaningful participation." Though the Clinton Administration signs the treaty at the convention, it decides not to bring the treaty to the Senate for ratification.
- **2000:** Candidate George W. Bush campaigns on supporting *mandatory* cuts in greenhouse gas emissions.
- **2001:** President George W. Bush appoints New Jersey governor Christine Todd Whitman, with a strong environmental record, to head the EPA. Months later, he announces that the United States will not ratify the Kyoto Protocol because it does not apply to other polluting countries like India and China, and he believes it would damage the U.S. economy.
- **2003:** Scientists record 2003 as the third hottest year on record. Europe experiences its hottest summer in 500 years with an estimated 30,000 fatalities resulting from the hot weather. Researchers conclude the heat wave is attributable to man-made climate change. However, scientists are less certain as to whether a marked acceleration in accumulated greenhouse gases is just a blip or a new trend.
- **2005:** The Kyoto Protocol goes into effect on February 16. The treaty is ratified by more than 140 countries. In a speech on the floor of the U.S. Senate, Sen. James Inhofe (R-Okla.) calls global warming as "the greatest hoax ever perpetrated on the American people." Meanwhile, researchers link the increased warming with a record U.S. hurricane season, accelerated melting of the Arctic sea ice, and disruption of the global ocean current.
- **2006:** Former Vice President Al Gore's documentary *An Inconvenient Truth*, about the consequences of climate change, is released. It goes on to become one of the highest grossing documentaries and wins an Academy Award for best documentary feature.
- **2007:** IPCC (Intergovernmental Panel on Climate Change) reports with 90 percent certainty that global warming is man-made and will continue for centuries. A second report predicts that in coming decades rising temperature and sea levels will cause floods and famine.

Sources: CNN, NOW with David Brancaccio (PBS), and NewScientist.com

**Hot Politics Graphic Organizer
Climate Change Timeline**

1. Summarize the first timeline entry of 1890 and its importance.

2. Review the next five dates and list by date and short description in the corresponding boxes below which events support, undermine, or have no effect on the discoveries of 1890.

Supports	Undermines	Has no effect

3. What conclusions can you draw about people's understanding of greenhouse gases by 1977?

4. Summarize the reports regarding greenhouse gases and human activity from the following agencies:

The EPA (1983)	NASA climate scientist James Hansen (1988)	IPCC report (1990)

What conclusions can you draw from these reports?

5. In 1992, at the Climate Change Convention in Rio de Janeiro, 154 nations signed an agreement to reduce warming from greenhouse gases and reduce emissions. Why did President George H.W. Bush only agree to voluntary and not mandatory emission reductions?

6. In 1997, in Kyoto, Japan, 84 nations, including the United States, signed the Kyoto Protocol setting emissions cuts for industrialized nations. Explain the political reasons why this treaty was never ratified by the United States.

7. Document President George W. Bush's political actions on the environment between 2000 and 2001.

- a. _____
- b. _____
- c. _____

Clarify below President Bush's reasons for this apparent reversal in policy and explain why you agree or disagree with his decision.

President Bush's Reasons for changing policy:
Your Comments:

8. List the conflicting announcements regarding the consequences of global warming made in 2003 and 2005.

Announcements in 2003	Announcements in 2005

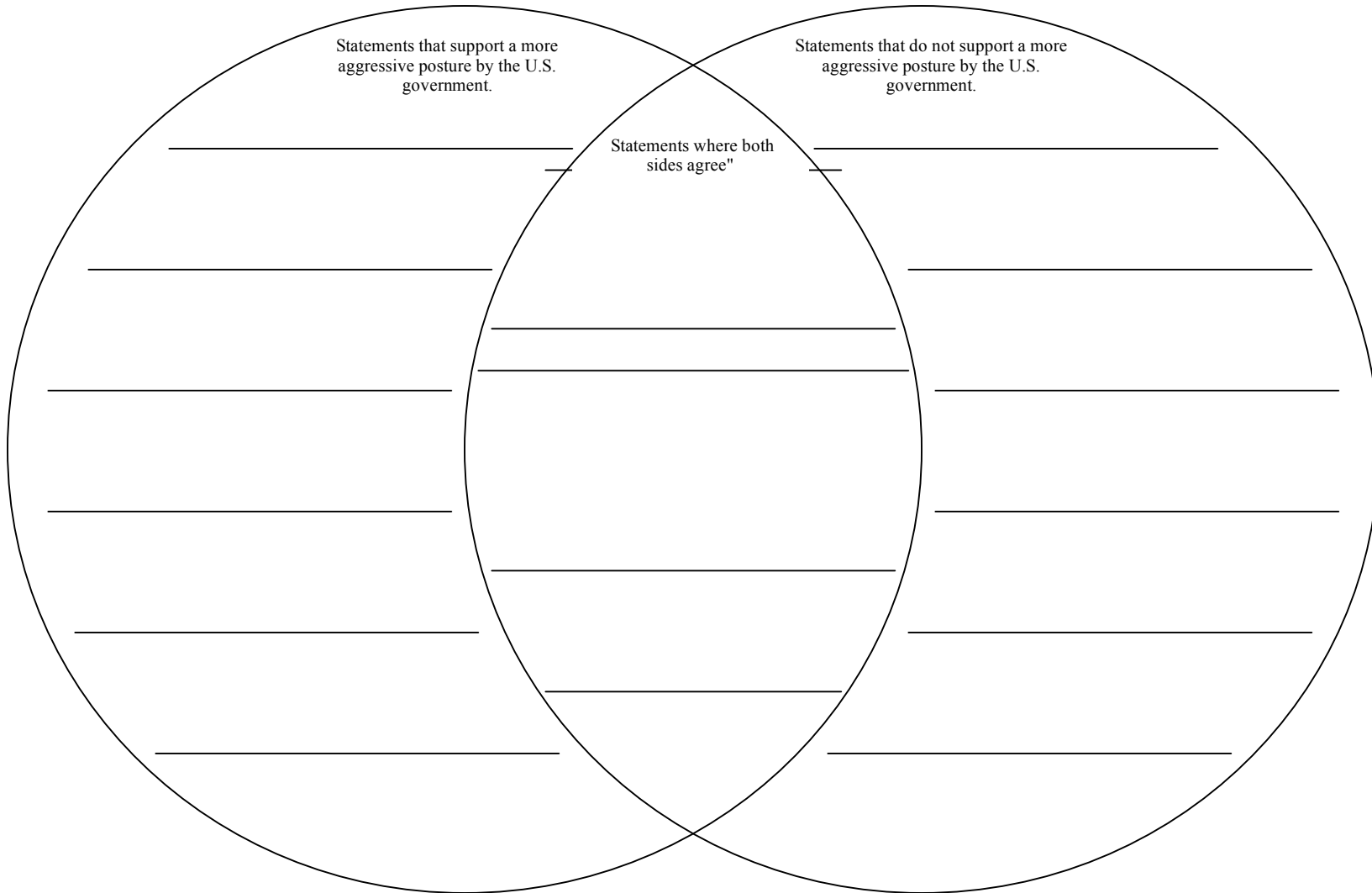
9. What effect do you think these conflicting statements had on policy-making during this time? What do you think were the reasons for the government's conflicting statements?

10. Comment on the Intergovernmental Panel on Climate Change (IPCC) report on global warming and what actions, if any, you think the United States government should take to address the concerns of this report.

Hot Politics Perspectives Venn Diagram

Directions: Review the CNN article "A Truly Global Problem" LINK [<http://www.cnn.com/2005/TECH/science/04/08/earth.policy/index.html>] regarding the costs, stakes, and uncertainties of global warming. Then review statements taken from the article on the second page of this handout and answer the question below using the Venn diagram. Write the number of each statement in the section of the diagram where it best fits.

Question: "Should the United States government be more aggressive in addressing the issue of global warming?"



Statements from the CNN article "A Truly Global Problem" LINK

[<http://www.cnn.com/2005/TECH/science/04/08/earth.policy/index.html>]

1. No one knows exactly how, when, or where global warming will play out ... which countries will bear the greatest burdens to control greenhouse gas emissions.
2. If left unabated ... climate change could elevate sea levels (meaning more flooding, fewer beaches and less land) and alter weather patterns (hurting agriculture and producing more extreme weather events), among other repercussions.
3. The costs [of unchecked climate change] -- including effects on property values, insurance rates, food and water supplies -- would be in the tens or hundreds of billions of dollars, according to the United Nations and other organizations.
4. Earth's climate system is very complex, so nobody can say absolutely, without question, this [the problem of global warming] is going to happen in five, 10, 50 years time.
5. If the United States wants cooperation on international security and counterterrorism, then it should be more forthcoming [in addressing global warming].
6. Politicians are being asked to shell out public money to avoid crises that might only arise many election cycles in the future.
7. The Kyoto Protocol is quite unique and innovative. It has created a new commodity that can and will be traded: carbon. ... This system can [address the problem] in the most cost-effective manner.
8. It's hard to get a country to get significant reductions, and it is especially hard to get a country to act unless all its key economic rivals do.
9. The [Kyoto] treaty is unworkable ... it puts a "significant and unnecessary burden on the U.S. economy" in mandating a roughly 35% U.S. drop in greenhouse gas emissions by 2012.
10. Politicians will play the biggest role in determining how well and how soon the climate change issue is addressed.
11. Some of the most significant moves [to address the increasing amount of greenhouse gases] have come on the state level. Individual companies have also stepped up, intent on helping the environment and/or promoting energy efficiency (thus saving money).
12. Great Britain's economy has thrived as it has addressed global warming. ... Such efforts could be cost effective in the long-term, saving money by using renewable energy more and making existing energy supplies more efficient.
13. Action now is essential. Otherwise, the problem will become unsolvable. Every year that goes by, the task becomes more difficult.

Student Handout: Constituent Presentation Guidelines

Name _____

Constituent groups speaking at the Congressional hearing. Circle the name of your group.

- Environmentalists
- Climatologists
- Atmospheric scientists
- Economists and global industry advocates
- State and local action advocates
- Coalition of private business and environmental organizations

Directions:

1. Working with the members of your group, review the research material you were assigned and, if time permits, other material from library or Internet sources pertaining to your topic. Then complete this worksheet. Use extra paper if necessary.
2. Develop a presentation from your constituent point of view on the issue of global warming and climate change. Follow the guidelines below to prepare your statement.
3. After completing the worksheet, assign a spokesperson or persons to deliver your statement to the congressional committee. Meet at a table or desk facing the committee.

Our position on the issue is:

One reason to support the position is:

One piece of evidence that supports this position is:

A second reason to support the position is:

One piece of evidence that supports this position is:

A third reason to support the position is:

One piece of evidence that supports this position is:

Student Handout

Congressional Committee on the Environment Hearing Guidelines

Name _____

Constituent groups speaking at the Congressional hearing. Circle the name of your group.

- Environmentalists
- Climatologists
- Atmospheric scientists
- Economists and global industry advocates
- State and local action advocates

Coalition of private business and environmental organizations

Directions:

1. Working with the members of your group, review the research material you were assigned and, if time permits, other material from library or Internet sources pertaining to your topic.
2. Create a list of questions to ask each of the constituent groups after its presentation. Ask challenging questions based on the research you have completed to make sure each constituent is able to support their position. Also make sure your questions are balanced and not biased.
3. After completing the worksheet, divide up the questions among the members of the committee. Select a chairperson to bring the hearing to order, call on witnesses to present, introduce committee members for their questioning, and adjourn the meeting. Sit your group at desks or a table facing the different constituency groups.

- Environmentalist

- Climatologist for taking immediate action

- Atmospheric scientist against taking immediate action

- Economist and global industry advocate

- Advocate for taking more action at the state and local level

- Private business leader

ADDITIONAL LESSON IDEAS:

Taking Matters into Your Own Hands

Have students examine greenhouse emissions produced at home and at school. They can examine their everyday actions, the greenhouse gas emissions some of these produce and the potential for climate change at the EPA Web site at LINK [<http://www.epa.gov/climatechange/wycd/school.html>] for information on how to investigate their school and LINK [<http://www.epa.gov/climatechange/wycd/home.html>] on investigating their home.

Public Forum on Global Warming and Climate Change

Students can organize a public forum on the issue of global warming. They can invite speakers from local higher academic institutions with diverse views on the reasons and actions that should be taken surrounding global warming. They can also show films and share other materials on the causes and consequences of global warming and climate change. Students can also invite state legislators and local city or county officials who can speak to the actions politicians are taking in their state. Students might want to start with a small forum that presents to combined classes or to the school community at lunch. They can then plan a public forum to be held during or after school in the gym or other large facility and be open to the public.

Assessing State and Local Action on Global Warming

Have students research laws passed or being discussed in state legislatures addressing carbon emissions and climate change issues. For information, students can call their state legislator or city council member. Then have them research the pros and cons of these bills or laws. They can review media outlets, political party Web sites, or statements by public officials. Students can express their opinions based on their research by creating posters, political cartoons, billboards, or public service announcements to support their point of view.

ADDITIONAL RESOURCES

A Note about Internet Resources

Students need to be aware that Web sites sometimes only present one view of an issue. Encourage them to think about Web sites even as they are reading. Guiding questions as they review Web sites are: What did you learn from this site? What didn't you learn from this site? Who sponsors this site? What bias might the sponsor have? How current is the site?

WEB SITES

FRONTLINE

www.pbs.org/frontline/hotpolitics/

The companion Web site to the documentary features extended interviews with political insiders, on-demand videostreaming of the full program, interactive maps and special reports about the newest energy technology and climate science.

The Senate Committee on Environment and Public Works

epw.senate.gov/public/index.cfm?FuseAction=Home.Home&SY=2007&SM=2

The site provides current and archival information on the committee's work in addressing environmental issues and their relationships with public works and private industry. Two distinct views are presented and addressed throughout. The committee's legislative calendar documents committee hearings and provides archival videostreams of sessions. Also included are press releases and written testimony of hearings.

Environmental Protection Agency

www.epa.gov/climatechange/

The agency's official Web site on climate change contains information on the basics of global warming and climate change, explanations of U.S. climate policy, an animated explanation of how global warming occurs, and activities that people can engage in to address the problem.

National Oceanic and Atmospheric Administration (NOAA) Global Warming FAQ

www.ncdc.noaa.gov/oa/climate/globalwarming.html

This site provides quick information on global warming and climate change with links to national and international climate sites.

National Environmental Trust

www.net.org/about/

This non-profit, non-partisan organization works to inform citizens about environmental problems and how they can affect the health and quality of life. The Web site contains information on clean air, global warming, energy and forest management, as well as ocean and marine life.

The Cooler Heads Coalition's Global Warming Web site

www.globalwarming.org/

The Web site is a project of the "Cooler Heads Coalition" that presents the skeptic's view of global warming. The Coalition points out that the science of global warming is uncertain, but the negative impacts of global warming policy on consumers are very real. The site has information about the Kyoto Protocol, and updates on the science, politics, and economics of global warming.

Union of Concerned Scientists

www.ucsusa.org/

The organization is a science-based non-profit organization working for a healthy environment and safer world. The site reports on global warming, its causes, and what organizations and businesses are doing to combat the problems. Featured are reports and information from scientists who believe global warming is real and must be addressed.

United States Climate Action Partnership (USCAP)

www.us-cap.org/

This official site of a coalition of business and leading environmental organizations calls on the federal government to quickly enact strong national legislation to require significant reductions in greenhouse gas emissions. The site's main feature is a report published in early 2007 titled "A Call for Action" in which it lays out a blueprint for a mandatory economy-wide, market-driven approach to climate protection.