

Chapter 19: Technological Advances and Economics in the Global Age: 19-3d Responding to Environmental Threats
Book Title: The Earth and Its Peoples: A Global History 7th Edition Update, AP® Edition
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19-3d Responding to Environmental Threats

Despite the gravity of environmental threats, there were many successful efforts to preserve and protect the environment. The Clean Air Act, the Clean Water Act, and the Endangered Species Act were passed in the United States in the 1970s as part of an environmental effort that included the nations of the European Community and Japan. Grassroots political movements and the media encouraged environmental awareness, and most nations in the developed world enforced strict antipollution laws and sponsored massive recycling efforts. Many also encouraged resource conservation by rewarding energy-efficient factories and manufacturers of fuel-efficient cars and by promoting the use of alternative energy sources such as solar and wind power.

Environmental efforts produced significant results. In western Europe and the United States, air quality improved dramatically. Smog levels in the United States fell nearly a third from 1970 to 2000, even though the number of automobiles increased more than 80 percent. Emissions of lead and sulfur dioxide were down as well. The Great Lakes, Long Island Sound, and Chesapeake Bay were all much cleaner at the beginning of the new century than they had been in 1970.

AP® Exam Tip

Understand the environmental impacts of deforestation, desertification, and greenhouse gasses on the debate regarding the nature and causes of climate change.

Loss of Brazilian Rain Forest

The destruction of large portions of Brazil's virgin rain forest to grow soybeans or raise cattle and other livestock has come to symbolize the growing threat to the environment caused by population growth and economic development. In this photograph we see the scale of environmental destruction.





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New technologies made much of the improvement possible; for example, pollution controls on automobiles, planes, and factory smokestacks reduced harmful emissions. At the same time, the desire to preserve the natural environment was growing around the world. In developed nations continued political organization and enhanced awareness of environmental issues seemed likely to lead to step-by-step improvements in environmental policy. In the developing world and most of the former Soviet bloc, however, population pressures and weak governments were major obstacles to effective environmental policies. Since the 1990s the rapid expansion of China's industrial sector as well as industrial growth in other developing nations like India and Brazil has put additional pressure on the environment.

Environment & Technology

Global Warming

Until the 1980s environmental alarms focused mainly on localized episodes of air and water pollution, exposure to toxic substances, waste management, and the disappearance of wilderness. The development of increasingly powerful computers and complex models of ecological interactions in the 1990s, however, raised awareness of the global scope of certain environmental problems.

Many scientists and policymakers came to perceive global warming, a slow increase in the temperature of the earth's lower atmosphere, as an environmental threat requiring preventive action on an international scale. The warming is caused by a layer of atmospheric gases (carbon dioxide, methane, nitrous oxide, and ozone) that allow solar radiation to reach earth and warm it but that keep infrared energy (heat) from radiating from earth's surface back into space. Called the *greenhouse effect*, this process normally keeps the earth's temperature at a level suitable for life. However, increases in greenhouse-gas emissions—particularly from the burning of fossil fuels in industry and transportation—have added to this insulating atmospheric layer.

Recent events have confirmed predictions of global temperature increases and melting glaciers and icecaps. Greenland glaciers and Arctic Ocean sea ice are melting at record rates, and huge sections of the Antarctic ice shelf are breaking off and floating away. Andean glaciers are shrinking so fast they could disappear in a decade, imperiling water supplies for drinking, irrigation, and hydroelectric production. Drought has affected much of the United States in recent years, and Australia has experienced the “Big Dry,” its worst drought in a century.

Despite this evidence, the industrialized countries that produce the most greenhouse gasses have been slow to adopt measures stringent enough to reduce emissions. They cite the negative effects they believe this could have on their economies. Because of these fears, many nations hesitated to sign the 1997 Kyoto Protocol, the first international agreement to impose penalties on countries that failed to cut greenhouse-gas emissions.


Shortly after succeeding George W. Bush as president in 2009, Barack Obama announced to an audience of scientists and citizens concerned with climate matters: “You can be sure that the United States will once again engage vigorously in these negotiations, and help lead the world toward a new era of global cooperation on climate change.” Yet when he ran for reelection in 2012, the issue of global warming, which his Republican opponents denied was a real phenomenon, played no role in his campaign. Ironically, a tropical superstorm named Sandy that dealt a devastating blow to New York and New Jersey just before the election seemed to vindicate the prediction that the increased energy in the atmosphere caused by global warming would produce severe weather anomalies around the world.

Flooding in Bangladesh

Typhoon-driven floods submerge the low-lying farmlands of Bangladesh with tragic regularity. Any significant rise in the sea level will make parts of the country nearly uninhabitable.



David Greedy/Getty Images



David Greedy/Getty Images

In 2015 Obama achieved his goal at a Paris conference where all of the world's industrialized nations reached agreement on a United Nations Framework Convention on Climate Change (UNFCCC). Article 2 of the convention sets forth its goals:

- (a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
- (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
- (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

Republican skepticism about global warming prompted President Trump in 2017 to officially withdraw the United States from the Paris climate agreement. On January 20, 2021, President Biden recommitted the United States to the agreement.

Questions for Analysis

1. Should it be the concern of people today to attack problems that are not expected to become severe for several decades?
2. Do industrialized and nonindustrialized economies share responsibility for climate change?
3. As an environmental problem, is global warming more of a concern than overpopulation, extinction of wild species, or preservation of fresh water supplies?

It now seems likely that industrialized nations will have to fund global improvements and that the cost will be high. Slow growth and fiscal crises in the mature industrial economies after the 2008 recession have politicized and slowed the progress of environmental reform. Nevertheless, growing evidence of environmental degradation and global warming have continued to propel popular reform efforts, as when the media drew attention to the precipitous shrinkage of Peru's Andean glaciers and to loss of rain forest in Brazil. Yet,

without broad agreement among the rich nations, the economic and political power necessary for environmental protections on a global scale will be very difficult to institute. When representatives from around the world negotiated a far-reaching treaty to reduce greenhouse gases in Kyoto, Japan, in 1997, President George W. Bush refused American participation even though the treaty was affirmed by nearly all other industrial nations. Canada subsequently withdrew from the agreement, and China and other rapidly industrializing nations were largely exempted from the treaty's limits. This agreement, as a result, has had a limited effect on greenhouse gas emissions. More recently, in 2015, world leaders successfully negotiated the Paris Agreement, a broad climate accord to limit the growth of carbon emissions and slow global warming. In 2017 President Donald J. Trump withdrew the United States from this international treaty, despite dire warnings from climate scientists.

Section Review

- American cities were transformed by skyscrapers, and the automobile led to the creation of suburbs.
- During the 1970s young people provided crucial leadership to a worldwide movement to conserve natural resources and protect the environment.
- The environmental movement achieved some successes in developed nations, reducing pollution and improving resource management, but global progress was hindered by a lack of cooperation between developed and developing nations.

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