



UNITED NATIONS ENVIRONMENTAL PROGRAMME (UNEP)

DESCRIPTION OF COMMITTEE

Established in 1972, the United Nations Environment Programme (UNEP) serves as the UN's primary organ of environmental education and awareness. UNEP promotes the sustainable development of the environment by encouraging cooperation between entities of the UN, international organizations, national governments, non-governmental organizations, the private sector, and civil society. UNEP reviews national and international environmental policies, assesses the global environmental situation and provides guidance in the drafting or setting of environmental policies. It is based in Africa, a reflection of its commitment to assess the environmental issues that face developing nations.

The UNEP Governing Council has 59 members who serve four-year terms. Member states are elected by the General Assembly and are selected to represent each region of the world. The Governing Council convenes annually at the Global Ministerial Environment Forum to address important environmental concerns. It may also convene in special sessions.

TOPIC: FRESHWATER RESOURCES

INTRODUCTION

Freshwater is a vital natural resource for plant irrigation, wildlife survival and human consumption. However, one out of every five human beings currently lacks access to safe drinking water.¹ There are severe consequences for such a drastic shortage in freshwater. As access to clean water decreases, strains on development, suffering economies and an increase in global health problems are all looming dangers. In these times of scarcity, nations may dispute ownership of bodies of water that lie across national boundaries.

2003 marked the UN International Year of Freshwater. The main goals for the year were to raise awareness of freshwater issues, to devise creative solutions to the freshwater problem using new technologies and ideas, and to increase participation in making solutions through all regions and social divides.² Two years later in 2005, the UN announced the start of the *Water for Life* decade, during which the UN hopes to reduce by half the proportion of people without access to safe drinking water.



BACKGROUND

The depletion of freshwater resources is the result of a variety of factors, primarily pollution and **waste management**. With the introduction of coastal industries, gasoline-powered boats and poor sewage systems, bodies of water are increasingly subject to harmful toxins and **contamination**. As a result, water becomes undrinkable for humans and uninhabitable for wildlife. **Small island developing states**, growing coastal areas, areas requiring **irrigation** and large cities with high water demand are those most affected by pollution and the subsequent loss of freshwater resources.

CRITICAL THINKING

How can conflict arise from multiple states sharing a single water source? How can these conflicts be resolved?

The contamination of freshwater limits the ability of a region to develop. Water deficiency in a region means the region can support fewer people and less wildlife. Similarly, water depletion means that more people must share smaller amounts of water. If a disease or **contaminant** is present, the effects will quickly spread throughout the population because they all drink from the same reserves. In addition, as wildlife in lakes and rivers decline due to pollution, communities that rely on fishing or hunting suffer. Ultimately, **sustainable development** depends on the maintenance of adequate freshwater sources.

It is estimated that “one-third of the world’s population will suffer from chronic water shortage by the year 2025 due to increasing demand for drinking water caused by growing population, decreasing quality of the water resulting from pollution, and [the increasing] requirements of expanding industries and agriculture.”

Source: United Nations Environment Programme, GRID-Arendal
www.grida.no/newsroom.cfm?pressReleaseItemID=669

Growing Demands for Freshwater Resources

As communities grow, there is an increasing demand for freshwater. Agriculture and industry continue to use and expend more water than is used for simple human consumption. The increased use of freshwater eliminates a resource that is not quickly replenished. Underground water sources, known as **aquifers**, rapidly deplete and may not have a means of renewal. In addition, many rivers tend to decrease in volume as they flow downstream, leaving users at the end of the river with shortages.

Effects of the Shortage of Available Freshwater

Water shortage and water contamination increase health risks, especially among the poor. It is estimated that at any given time, half of the people in developing countries are afflicted by



diseases caused by organisms that breed in water and food.³ Improperly running water systems can breed disease-carrying micro-organisms or insects that live in still water.

Economically, a lack of freshwater has serious consequences that can limit a country's development. As demand for the use of freshwater resources rises, the cost of freshwater rises, as well. This increases the possibility of conflict arising over shared water sources. In addition, as the cost of freshwater increases, so do food prices—causing already poor populations to suffer even greater hardship.

The contamination of water sources also causes ecological problems. Polluted bodies of water may undergo drastic changes in temperature, acidity levels and transparency, all of which alter the environment for underwater life. This adversely affects the plants, animals and people that rely directly or indirectly on those bodies of water.

Water scarcity poses tremendous problems for **food security**, too. Communities that depend on freshwater fishing find themselves with a diminished food supply. Freshwater also is vital for agriculture. In Africa, for example, agriculture accounts for 88 percent of freshwater use.⁴ According to the United Nations Environmental Programme, agriculture accounts for 70 percent of water use worldwide.⁵ Future water shortages may become the world's gravest threat to global food security.

CRITICAL THINKING

How is access to clean freshwater resources a developmental issue? How can lack of freshwater interrupt, or even reverse development in a country? What effect will this have on the people of that country?

The shortage of water resources can also alter important **hydrological cycles**, or **water cycles** (the series of effects water has on the earth's surface and atmosphere), which in turn affects climate conditions. Thus, the availability of freshwater depends not only on conservation, but also on proper resource-management, sound sanitation techniques and responsible economic guidelines.

Water as a Human Right

Human beings need water every day in order to survive, but safe water sources like wells and water pumps are often located miles away from people's homes. Usually, the task of collecting water falls to young women and girls. The time they spend collecting water could be better spent in school or fulfilling other needs, but instead they must spend hours collecting enough water for their families, often making two to four trips a day, sometimes over harsh terrain. These daily trips sometimes put women's and girls' safety at risk, especially in areas in conflict.

Experts believe people should ideally have access to at least 20 liters (about 5 gallons) of water per day for drinking, cooking and sanitation (bathing, cleaning their households and clothing, and hand-washing.) Having less than 20 liters of water a day means people may go thirsty or may become ill from poor hygiene. And people are affected in many other ways, including psychologically. Those without enough water may experience a loss of dignity because they



cannot bathe frequently, or they may have to bathe or wash clothing in public areas. Through its *Water for Life* campaign, the UN is calling on experts and officials to recognize a basic human right to 20 liters of water per day.⁶ The UN contends that water is something every human should have free access to.

But providing every citizen with at least 20 liters of water a day can be extremely difficult, especially for developing countries. Governments in developing countries often lack the resources to build water distribution systems. Many governments **privatize** water distribution, allowing private companies take over control of water sources. Privatization can sometimes help to improve the provision of freshwater because companies use newer technology and have more resources to secure water sources. Unlike governments, which use public funds to run water distribution systems, though, private companies must charge fees—which can make water inaccessible to the poor.

Security Concerns

Lack of available freshwater can even compromise international security. In 1999, a United Nations Development Programme report predicted that water scarcity in the coming 25 years would become the single greatest cause for violent conflict in Africa, and a major cause of conflict in the Middle East.⁷ Tensions over limited freshwater resources have already flared. In 1991, over competition from Sudan and Ethiopia, Egypt threatened to use military force to protect its access to the Nile river basin.⁸

Although in modern history “water wars”—military struggles over access or ownership of freshwater resources—have been rare, freshwater resources have played a central role in many military campaigns. Because freshwater is so vital to the survival of a country’s people and government, destroying freshwater resources and cutting off access to freshwater are effective ways to subdue an enemy. Dams were routinely bombed by both Allied and German forces during World War II. In 1945 German forces used sewage to pollute a reservoir in Romania—the only documented German use of biological warfare during World War II. During the Vietnam War, the United States bombed North Vietnam’s irrigation systems.⁹

The security of freshwater resources also plays a role in domestic security. Freshwater resources are frequently targets of terrorist threats in both Germany and the United States.¹⁰ And in April of 2000, rising water prices caused by the privatization of water resources lead to threats of rebellion in Bolivia.¹¹

“In early April [2000] the often-forgot country of Bolivia, tucked away in the Andes, grabbed the world’s attention when the city of Cochabamba erupted in a public uprising over water prices. In 1999, following World Bank advice, Bolivia granted a 40 year privatization lease to a subsidiary of the Bechtel Corporation, giving it control over the water on which more than half a million people survive. Immediately the company doubled and tripled water rates for some of South America’s poorest families.”

Source: The Democracy Center, www.democracyctr.org/waterwar



PAST INTERNATIONAL ACTION

Recognition of the increasing scarcity of freshwater resources began with the *United Nations Water Conference of 1977*, also known as the Mar del Plata Action Plan (MPAP).¹² This conference established basic guidelines for monitoring water management in order to predict future resource problems.

Water demands are increasing rapidly, with 70-80 percent required for irrigation, less than 20 percent for industry and a mere 6 percent for domestic consumption.

Source: United Nations Division of Sustainable Development, *Agenda 21*, Chapter 18

Throughout the 1980s and 1990s the international debate on water resources focused only on regional shortages. The *International Conference on Water and the Environment (ICWE)* held in Dublin, Ireland in 1992 and *Agenda 21*, adopted that same year in Rio de Janeiro, Brazil, both proposed a wider-reaching, more integrated plan than any considered before. The plans dealt with improving sanitation worldwide, analyzing the impact of climate change and global warming on water levels, and offering states courses of action to ensure the future maintenance of freshwater.

“Water is increasingly recognized as a finite and vulnerable resource and one which is likely to be the principal constraint on development in some countries,” explained a 1997 report from the Secretary-General. Freshwater resources will be “a development issue, a political issue, and a welfare issue.”¹³ The issue of protecting and properly managing freshwater resources therefore has far-reaching effects, affecting many aspects of the UN’s agenda.

In 2000, the countries of the world agreed on a set of development goals that they would strive to meet by 2015. These Millennium Development Goals (MDGs) are central to the work of the UN, and include specific goals related to preserving freshwater resources. In 2005, the UN initiated the decade of *Water for Life*. The decade concludes in 2015, the same year that the MDGs are to be completed.

MILLENNIUM DEVELOPMENT GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

- Reduce by half the proportion of people without sustainable access to safe drinking water
- Reverse loss of environmental resources (including freshwater)

The 2006 United Nations Human Development Report focused on the importance of access to clean water. The report, titled *Beyond Scarcity: Power, Poverty, and the Global Water Crisis*, argues that access to clean water is a human right, and that water scarcity is preventable with the right policies. The United Nations Development Programme, which produced the report, takes the view that water scarcity is the result of inequality in power and opportunity.



In a world of unprecedented wealth, almost 2 million children die each year for want of a glass of clean water and adequate sanitation. Millions of women and young girls are forced to spend hours collecting and carrying water, restricting their opportunities and their choices. And water-borne infectious diseases are holding back poverty reduction and economic growth in some of the world's poorest countries.

Source: The Human Development Report 2006, <http://hdr.undp.org/hdr2006>

RECOMMENDATIONS FOR FORMULATING A RESOLUTION

There are many factors contributing to the freshwater problem, including the effects of pollution, the question of resource management, and modern requirements of sanitation and irrigation. In addition, many nations are not financially or technologically prepared to confront these obstacles.

In its support of the *Mar del Plata Action Plan*, the UN General Assembly encouraged the following methods of future action:

1. The creation of national water resource management commissions for action on a country-specific level;
2. The establishment of regional programs and conferences to discuss broader measures to preserve water;
3. The inclusion of different NGOs and individuals in the debate on freshwater.

Source: UN Resolution 32/158; www.un.org/documents/ga/res/32/ares32r158.pdf

Delegates must:

- Address both the needs and limitations of developing countries, especially those in arid regions of the globe, which may not be able to afford or implement freshwater programs;
- Consider solutions such as financial aid programs, educational programs or technical assistance;
- Discuss ways to monitor global freshwater reserves;
- Suggest ways that shortages can be overcome quickly and efficiently; and
- Address the main causes of freshwater shortage, such as pollution and mismanagement.

Delegates may also want to address recognizing access to freshwater as a human right and consider incorporating the business sector in its recommendations to ensure that industry does not contaminate water reserves. Ultimately, sustainable water resources for the future will require sound and responsible planning on the part of all actors, including nations, corporations and individuals.



QUESTIONS TO CONSIDER

1. Are there shortages of freshwater resources in your country? If so, what effects do these have on your nation's health, economy, and development?
2. What does your country believe the international community can do to address the issue of declining freshwater resources?
3. How does your country suggest the international community pay for global water resource management programs?
4. What are the types of roles NGOs and businesses can play in the water shortage problem?

TERMS AND CONCEPTS

Freshwater: water that is not salty; clean water that can be used for drinking and watering plants

Waste management: the processes that deals with the waste of humans and animals, such as sewage and garbage. Waste management includes processing, storage, recycling, transport and disposal of waste.

Contamination: pollution; the presence of a harmful material in something. Contaminated water may contain chemicals or waste products that make it undrinkable.

Small island developing states: developing countries that are only one or several small islands. These countries face issues most countries do not; they are especially vulnerable to climate change, natural disasters and environmental damage. Small island developing states, such as many Caribbean or Micronesian islands, typically have few freshwater resources.

Irrigation: to supply land with water, usually for farming on dry land.

Contaminant: something that contaminates, such as a chemical.

Sustainable development: development that meets the current needs of a population without compromising the ability of future generations to meet their own needs.

Aquifer: an underground water source.

Food security: a people's access to basic foods necessary for survival.

Privatization: The process of passing government-controlled services to private corporations. Governments often choose to privatize services in the hope that those services will be run without tax money, freeing government funds for other projects, and in the belief that private corporations will be more effective than government bureaucracy. But corporations often charge fees or raise prices for services that were previously free to the tax-paying public.

Hydrological cycles, water cycles: the series of effects water has on the earth's surface and atmosphere.



SOURCES FOR RESEARCH

The Dublin Plan www.wmo.ch/web/homs/documents/english/icwedece.html

The Millennium Development Goals www.un.org/millenniumgoals

Water for Life Decade www.un.org/waterforlifedecade

UN *Works Water for Life* page www.un.org/works/water/wfl.html

BBC World Water Crisis

http://news.bbc.co.uk/1/hi/english/static/in_depth/world/2000/world_water_crisis/default.stm

Pacific Institute www.worldwater.org



TOPIC: GLOBAL WARMING

INTRODUCTION

In the 1970s, scientists began to warn that the Earth's temperature was rising. They measured an increase of 1°F over the past century and labeled the phenomenon “global warming.”¹⁴ In determining the cause of global warming, many pointed to humankind's extensive use of fossil fuels—such as coal and oil—as an energy source. Human activities can unnaturally raise the Earth's temperature because of a scientific process called the “greenhouse effect,” which occurs when chemicals trap heat from the sun in the atmosphere. Some scientists began to warn the public of the effects of global warming, cautioning that the process could devastate living conditions on Earth if people continued to create such high quantities of heat-trapping chemicals, or so-called “greenhouse gases.”

For years, skeptics of global warming theory insisted that even though temperatures on Earth were rising, the change was not the result of human activities. They referred to the trend by more general terms like “climate variability.” They proposed alternate theories to explain the change, such as the belief that current climate changes are part of the Earth's natural climate cycles.

After years of heated debate, experts now say that data show conclusively that human behavior is changing the climate. And the results—although unpredictable—are potentially disastrous for the planet and its inhabitants. The UN International Panel on Climate Change (IPCC) has estimated that global temperatures will rise two to 10 degrees by 2100.¹⁵ Environmentalists are warning that coastal cities may find themselves entirely underwater, and that the world will face an unprecedented refugee crisis as people flee to higher ground. Scientists report that 1990 was the warmest decade on record, with 1998 and 2005 being the hottest years ever recorded. Since the climate is a resource that all nations share, global warming is an international problem and requires immediate attention.

BACKGROUND

The **greenhouse effect** describes the way the Earth is warmed: The Earth's atmosphere naturally contains certain chemicals, which trap heat from the sun. But human activity also contributes to the greenhouse effect, causing the planet to warm more than it would naturally. **Global warming** refers to the increase in the Earth's temperature through the greenhouse effect that is caused by human activity.

Many countries, especially industrialized ones, use fossil fuels as an energy source, which emit—or give off—greenhouse gases into the atmosphere when they are burned for energy. For example, the gasoline that cars run on is a fossil fuel. In addition to automobiles, factories and even farms produce greenhouse gases.

Scientists believe that the greenhouse effect is causing the Earth's temperature to rise significantly. They believe an increase in the amount of greenhouse gases will destabilize weather patterns on Earth. Recently scientists have been pointing out warning signs that suggest such a trend is already occurring.



Greenhouses, which people use to grow plants in cold climates, work in a similar way as the Earth's atmosphere. They are made of glass windows, which let light in and then keep the sun's heat from leaving so that plants stay warm. Similarly, the naturally-occurring chemicals in the Earth's atmosphere, which are known as greenhouse gases, keep the Earth at the right temperature. These chemicals include methane, nitrous oxide, and most importantly, carbon dioxide.

CRITICAL THINKING

If human activity is contributing to the greenhouse effect, what can be done to stop global warming?

Possible Effects of Global Warming

Some of the predicted effects of global warming include rising sea levels, the disruption of ecosystems and extreme weather patterns. Scientists predict sea levels will rise as oceans warm up and glaciers melt. This is dangerous because the expansion of oceans will wear away at the coastline of cities along the shore.

Small islands are particularly vulnerable because most of their populations live in coastal zones that may be flooded. Several small islets in the South Pacific have already been flooded, and many key roads and bridges have been destroyed.³ Currently, the sea level is rising more rapidly along the US coast than anywhere else in the world. The US Environmental Protection Agency predicts that by 2050 the sea level will already have risen by an average of one foot along the Atlantic and Gulf coasts.⁴

“Scientists for the first time have documented multiple deaths of polar bears off Alaska, where they likely drowned after swimming long distances in the ocean amid the melting of the Arctic ice shelf...Some scientists have predicted polar bears could become extinct within the next century because they have adapted over the millennia to only hunting on ice. If they try to swim in disappearing ice conditions to catch seals, more are likely to tire and drown, scientists say.”

Source: Jim Carlton, “Is Global Warming Killing the Polar Bears?” Wall Street Journal, December 14, 2005.

Scientists also believe that global warming is causing major changes in the environment. Scientists predict that certain species of plants and animals will not be able to survive in these changing conditions. Entire **ecosystems** will be threatened.

Already, animals are migrating to new areas because their old homes are no longer habitable, or livable, for them. Many plants are blossoming earlier than usual because changes in the weather confuse them.⁵ Recent news on ecosystems has focused on coral reefs and polar bears. Both of

these species are highly sensitive to changes in their environment and the climate, and they already show signs of suffering from global warming.⁶

Another potential outcome of global warming is extreme weather patterns, including a rise in temperatures. The hottest ten years on record have all occurred in the last fifteen years; 2005 and 1998 were the hottest years ever recorded.⁷ High temperatures also result in higher levels of precipitation and evaporation according to scientific theories. Some areas of the world such as Southeast Asia, England and Wales have experienced record levels of heavy rainfall in recent years. Greece on the other hand, had major fires because of the unusually dry weather, which consumed 20 percent of Samos Island.⁸

“If all the ice caps melt, the Statue of Liberty would be up to her neck in water!”
- Galileo Educational Network

Source: “Impact of Climate Change on our Water Systems,” Galileo Educational Network,
<http://www.galileo.org/schools/crowther/science/blueplanet/climate.html>.

According to the World Meteorological Organization, further effects of global warming could include an increase in the seriousness of diseases, heat waves and floods. Some scientists also attribute the recent severe hurricanes and typhoons to global warming by explaining that a rise in the ocean’s energy is increasing the frequency and intensity of storms.⁹

CRITICAL THINKING

Can governments only base their policies on scientific conclusions? When making decisions, what else do policy-makers need to consider?

Past International Action

The international community’s first step in addressing the threat of global warming was to create the **Intergovernmental Panel on Climate Change (IPCC)** in 1988. It was organized by the United Nations Environmental Programme and the World Meteorological Organization and it regularly produces reports that give an overview of the current scientific literature on climate change. The first report came out in 1990 and spurred the creation of the United Nations Framework on Climate Change. The second report, which came out in 1996, provided the background for an agreement called the Kyoto Protocol. The newest assessment was released in 2001, and it stated that there was strong evidence for global warming. Their next report will be published in 2007.

The **United Nations Framework Convention on Climate Change (UNFCCC)** recognizes that the climate system is a shared resource among all nations. It was introduced in 1992 and entered into force on March 21, 1994. It was ratified by nearly all of the member states. It stated that governments should gather and share information on global warming and strategies for minimizing its harmful impacts. It also pressured developed nations to reduce their emissions, since they emit the largest percentage of greenhouse gases.



Most scientists believe humans have increased greenhouse gases, but there are still many people who do not agree that this increase has caused global warming. One alternative theory is based on the idea that the Earth experiences long-term climatic cycles in which periods of cold weather are followed by periods of extremely warm weather. Many people refer to recent changes in the Earth's climate as, simply, **climate change**. This concept affirms that the Earth's temperatures are rising, but does not attribute it to human activity. Others use this term because global climate change may not only cause a rise in Earth's temperatures; greenhouse gases or other phenomena could potentially make parts of the world colder by disrupting air currents.

Several years later, as the evidence supporting global warming continued to grow, many nations realized that countries' commitment to reducing greenhouse gas emissions needed to be strengthened. On December 11, 1997 the international community produced the **Kyoto Protocol**, an amendment to UNFCCC, which introduced legally binding targets for countries to meet during the commitment period 2008-2012. By then, the reductions made by individual countries will add up to a 5 percent cut in greenhouse gas emissions from the 1990 levels.¹⁰

The Kyoto Protocol also introduced **emissions trading**, which allows countries that exceed their emission quotas to purchase **emission credit** from countries that are able to stay below their limits. This provides developed countries, which emit large quantities of greenhouse gases, with greater flexibility and gives developing countries an economic incentive to reduce emissions. The agreement entered into force on February 16, 2005 after being ratified by 163 countries.¹¹ Neither the United States nor Australia—two of the world's biggest emitters of greenhouse gases—ratified the Protocol.

CRITICAL THINKING

Why did the United States and Australia not want to ratify the Kyoto Protocol?

Achieving Sustainable Development

The world's climate is changing—that much is clear. And scientists have concluded that humans are to blame. But global climate change promises to remain a highly controversial issue. Developed countries are largely responsible for starting the global warming trend by producing greenhouse gases throughout the past century. Their companies' factories and citizens' dependence on fossil fuels continue to comprise the largest percentage of emissions. Therefore, some developing countries want them to bear the expense to fix the problem and to start by sharply cutting their emissions.

On the other hand, as the economies of developing countries grow and begin to industrialize, they are producing more and more greenhouse gases themselves. Developed countries are keeping an eye on economies like India and China, with large populations and emerging industries, because they, too, have the potential to become huge emitters of greenhouse gases. Many developing countries argue that industrialization, and the pollution that comes with it, is



the only way for them to develop. A period of industrialization is the path that each of the developed countries took, and developing countries claim they deserve the same opportunity.

Sustainable development—meeting people’s current needs without preventing future generations from meeting their needs—is the issue at stake. Together, the countries of the world must decide how to help developing countries nurture their economies while taking steps to halt global warming. If the countries cannot work together find a solution, they risk the devastation of a climate shared by everyone in the world.

RECOMMENDATIONS FOR FORMULATING A RESOLUTION

Delegates must create a resolution addressing people’s fears about unstable, extreme weather conditions, while encouraging nations to promote and convert to a more energy-efficient lifestyle. Delegate may:

- Suggest ways of minimizing the effects of climate change, using the groundwork laid in place by the Kyoto Protocol could be used as a starting point;
- Introduce mechanisms, such as signing legal documents or providing rewards, for enforcing the decided course of action; and
- Set up a system to respond to natural disasters or other emergencies.

QUESTIONS TO CONSIDER:

1. Of the greenhouse gases emitted by human activities, what percentage is produced by your country?
2. How dependent are your country’s people on fossil fuel-based energy sources?
3. How would your country be affected by the predicted impacts of global warming, such as a rise in sea levels, reduction of biodiversity, extreme rainstorms, etc? Has it been affected by these already?
4. Has the government introduced energy-efficient technologies? If so, how much of the population uses these technologies?

TERMS AND CONCEPTS

Greenhouse effect: the warming of the Earth's surface as a result of chemicals in the atmosphere that retain some of the heat coming from the Sun.

Global warming: an increase in the Earth's temperature due to an enhanced greenhouse effect where human activities in industrialized societies have added to nature's emissions of greenhouse gases.

Ecosystems: systems formed by the interaction of organisms with their physical environment.

Climate change: a general term referring solely to a change in the Earth's temperature.

Intergovernmental Panel on Climate Change (IPCC): an organization created by the United Nations Environmental Programme and World Meteorological Organization in 1988. Its purpose is to provide international bodies with a synthesis of the current scientific literature on climate change.

United Nations Framework Convention on Climate Change (UNFCCC): a convention that recognized the climate system as a shared resource among nations. It affirmed the importance of an international cooperative effort in cutting greenhouse gas emissions, but placed a larger responsibility on developed nations who are the largest emitters. It was ratified by 189 countries and went into effect on March 21, 1994.

Kyoto Protocol: a treaty strengthening the objectives of the UNFCCC. It sets specific targets and deadlines for cutting greenhouse gas emissions and nations are legally bound to their commitments. The goal is for a reduction of at least 5 percent in emissions in the commitment period 2008-2012 from 1990 levels of greenhouse gases.

Emissions trading: a principle or component of the Kyoto Protocol whereby countries can trade emission credits. In other words a market is opened up for countries to buy or sell quotas of greenhouse gas emissions. This allows some countries to emit more greenhouse gases than what is stated in the agreement, while encouraging other countries with economic gains to further reduce emissions.

Emissions credit: an allowed quantity of greenhouse gas emissions. Countries receive an allotment of emissions credits. Those that they do not use, countries can sell.

Sustainable development: development that meets people's current needs without preventing future generations from meeting their needs as well.

SOURCES FOR FURTHER RESEARCH

United Nations Framework Convention on Climate Change <http://unfccc.int/2860.php>

CyberSchoolBus: Global Warming www.un.org/cyberschoolbus/treaties/global.asp

Intergovernmental Panel on Climate Change www.ipcc.ch



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