

## The Climate Change Crisis

*“Global warming is too serious for the world any longer to ignore its danger or split into opposing factions on it.”* – Tony Blair, speech, September 27, 2005

Scientists warn that by the year 2050, the temperature on the earth’s surface will have risen 6 degrees Fahrenheit.<sup>1</sup> That may not sound like much, but consider this: the difference in global average temperatures between modern times and the last ice age—when much of Canada and the northern U.S. were covered with thick ice sheets—was only about 9 degrees Fahrenheit.

From 1905 – 2005, that’s 100 years, the earth’s surface temperature increased roughly .75 degrees Fahrenheit.<sup>2</sup> The issue of global warming came into the public conscience as effects of this nearly one degree rise started being felt with powerful natural disasters such as hurricanes and droughts. Now think about what will happen when the earth’s temperature increases by more than five times that amount in only 40 years.

The term ‘global warming’ may seem like a recent breaking news phrase, but experts have been predicting the effects of this phenomenon since the 1980s when massive forest fires raged in the Amazon and Yellowstone, searing droughts devastated some farmers, and global temperatures had seen enough of a rise that NASA expert James Hansen asserted before a Senate panel that statistics showed “the greenhouse effect has been detected and is changing our climate now.”<sup>3</sup> These changes in world temperature and weather patterns observed by experts have been on the rise and twenty years later, global warming and climate change issues have gone from the Senate floor to the world stage.

From political debates to the red carpet, the climate change crisis has arrived front and center in the global consciousness. Former Vice-President Al Gore’s documentary *An Inconvenient Truth* earned him not only an Academy Award, but a Nobel Peace Prize to boot. Gore and many others have waged a war against how humankind treats the planet, and are driving a paradigm shift in the way we think about the environment. In a recent speech to the Sierra Club, Gore said, “The warnings about global warming have been extremely clear for a long time. We are facing a global climate crisis. It is deepening. We are entering a period of consequences.”

### **Global Warming**

Though debate on the issue of global warming has occurred between politicians and among some scientists, the vast majority of experts agree that global warming is real, it’s already happening, and that it is a result of human activities and not a natural occurrence. Groups from the Intergovernmental Panel on Climate

---

<sup>1</sup> *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.* Intergovernmental Panel on Climate Change (2007-02-05).

<sup>2</sup> Ibid.

<sup>3</sup> Andrew Revkin, “1998-2008: Climate Then and Now” *New York Times*. 23 June, 2008

Change to the national academies of the countries that comprise the G8 to the National Research Council, the American Meteorological Society and the American Geophysical Union agree that global warming is, at least partly, caused by human influence.

Global warming is caused by increases in carbon dioxide and other greenhouse gases in the earth's atmosphere. Carbon dioxide and other gases warm the surface of the planet naturally by trapping solar heat in the atmosphere. This is a good phenomenon because it keeps the planet warm enough to be habitable. However, by burning fossil fuels such as coal, gas and oil and clearing the forests, we have increased the gas level at an alarming speed and temperatures are rising as a result.

Prior to the industrial revolution, the amount of greenhouse gases released into the atmosphere was in a rough balance with what could be stored on Earth. Natural emissions of heat-trapping gases matched what could be absorbed naturally. When industry took off in the mid-1700s, people began emitting large amounts of fossil fuels. The gases—which can stay in the atmosphere for at least 50 years up to centuries—are building up beyond the Earth's capacity to remove them, therefore creating a heat blanket around the Earth.

### **Effects of Global Warming**

The harmful effects of global warming are already being felt. We're seeing changes in our environment that cannot be ignored. Glaciers are melting, plants and animals are being forced from their habitat, and the number of severe droughts and storms is increasing.

In 2004 and 2005, mankind witnessed natural disasters of major proportions. From the earthquake and ensuing tsunami that devastated Southeast Asia to Hurricanes Katrina and Rita that ripped through the Gulf Coast, the wrath of Mother Nature was felt across the world. These storms and disasters were not random occurrences, but caused by changes in the ocean's temperature. These storms can only be expected to increase, in fact, the number of Category 4 and 5 hurricanes has almost doubled in the last 30 years.<sup>4</sup>

Human deaths from the effects of global warming are not limited to natural disasters. The spread of disease can also be attributed to increased atmospheric gases. The World Health Organization calculates that climate change and variability may already be the cause of an increase in the number of deaths from malaria, diarrhea, and malnutrition, with half of those deaths occurring in Asia and the Pacific. Malaria is already spreading as a direct result of global warming. Rising temperatures and increased rainfall have led to an abundance of mosquitoes in cooler climates where there is little knowledge of and resistance to the diseases they carry. Malaria has already spread to higher altitudes in places like the Colombian Andes, 7,000 feet above sea level.<sup>5</sup>

---

<sup>4</sup> Emanuel, K. 2005. "Increasing Destructiveness of Tropical Cyclones over the Past 30 Years" *Nature* 436: 686-688.

<sup>5</sup> World Health Organization

Plants and animals are also responding to the change in climate. Variations in patterns are being observed in almost all species. Birds are laying eggs earlier than usual, plants are flowering earlier and mammals are breaking hibernation sooner.<sup>6</sup> Additionally, plants and animals are changing habitats as the earth gets hotter. At least 279 species of plants and animals are responding to changing temperatures by moving to higher elevations and closer to the poles, indicating that their current climate is warming up.<sup>7</sup>

Probably the most highly publicized effect of global warming is the melting of glaciers and ice caps. The flow of ice from glaciers in Greenland has more than doubled over the past decade.<sup>8</sup> A report charting changes in glaciers through 2006 released in March 2008 by the World Glacier Monitoring Service shows that most of the world's mountains and glaciers are shrinking at an accelerating pace as the climate warms. Climate researcher Andrew Revkin commented, "In a few places, especially where glaciers are close to the moisture of the sea and thus nourished by frequent snows, the ice is advancing. But overall, from Peru to New Zealand, from Kenya to Indonesia, from Canada to China, independent research teams have sounded a chorus of alarms as ice caps and glaciers dwindle at a pace unprecedented in thousands of years."<sup>9</sup>

### **What Might the Future Look Like?**

The picture most scientists and experts paint of the future if we don't reduce our carbon dioxide output is bleak. If the rate of global warming increases as steadily as it has been, we can expect catastrophic consequences. Severe storms, droughts, wildfires and other natural disasters will occur more often and heat waves will be more frequent and intense.

Living organisms will feel the effects in even more dire ways. By the year 2050, more than one million species of plant and animal worldwide could be driven to extinction.<sup>10</sup> And the World Health Organization estimates that human deaths from global warming will double to 300,000 people a year in just 25 years. Ponder the enormity of that: 300,000 people per year dying from our own every day activities. The figures are astounding.

Moreover, if temperatures continue to rise, glaciers and ice caps will proceed to melt at an even faster pace than they have been. By the summer of 2050, the Arctic Ocean could be completely ice free<sup>11</sup> and as shelf ice in Antarctica and

---

<sup>6</sup> Stanford Institute for International Study

<sup>7</sup> 2007 *Nature* study

<sup>8</sup> Krabill, W., E. Hanna, P. Huybrechts, W. Abdalati, J. Cappelen, B Csathos, E. Frefick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R. Thomas, and J. Yungel. 2004. "Greenland Ice Sheet: Increased coastal thinning." *Geophysical Research Letters* 3.1

<sup>9</sup> Andrew Revkin, "Melting Pace of Glaciers is Accelerating" *New York Times*. 18 March, 2008

<sup>10</sup> Bjerklie, David "Feeling the Heat" *Time*. 26 March, 2006

<sup>11</sup> Arctic Climate Impact Assessment. 2004. *Impacts of a Warming Arctic*. Cambridge, UK: Cambridge University Press.

Greenland melt, global sea levels could rise by more than 20 feet.<sup>12</sup> A rise such as this would devastate coastal areas worldwide and the economic impact of this devastation in poorer regions of Africa and Southeast Asia, which rely on fishing and the coastal community as a way of life, could cripple global economy.

Dr Shigeru Omi, WHO Regional Director for the Western Pacific, elaborates: “Millions of people could face disease, poverty and hunger if Asia’s arable lands become unworkable through changes in temperature, rainfall, river flows or pest abundance. At the same time, the health of tens of millions of residents of some of Asia’s delta megacities, such as Calcutta and Manila, could be threatened by river and coastal flooding.”<sup>13</sup>

### **What Can We Do?**

Sounds pretty depressing right? The good news is that this problem can be solved by making small changes to our everyday lives. The average American generates about 15,000 pounds of carbon dioxide every year from personal transportation, home energy use and from the energy used to produce all of the products and services we consume.<sup>14</sup> Small changes in our daily routines can reduce this output, and if everyone works together, we can significantly reduce the greenhouse effect.

### **Renewable Energy**

For decades, the world has relied on coal, oil and natural gas for its energy. These fossil fuels are nonrenewable, drawing on finite resources that will eventually dwindle, becoming too expensive or too environmentally damaging to retrieve. Renewable energy on the other hand, is drawn from constant resources that will never run out, such as the sun and wind.

The search for renewable energy has taken center stage recently as gas prices spin out of control and the market is growing. Wind power is growing at the rate of 30 percent annually, with a worldwide installed capacity of over 100 GW<sup>15</sup> and many businesses across the globe are switching, at least partially, to solar energy to heat buildings and run power systems.

Governments across the world are implementing new legislation to try and curb use of nonrenewable energy and are working to provide incentives to companies that work toward using renewable forms of energy. A recent bill introduced in the U.S. House of Representatives this spring would renew billions of dollars in tax breaks for solar, wind, biomass and other renewable energy sources, and extend a proposed new tax credit for ethanol fuels not produced from corn. France, Germany and the United Kingdom have also passed similar measures

---

<sup>12</sup> Eilperin, Juliet “Debate on Climate Shifts to Issues of Irreparable Change” *Washington Post*. 29 January, 2006

<sup>13</sup> World Health Organization

<sup>14</sup> An Inconvenient Truth: An Inconvenient Truth and Participant Media website. July 11, 2008

<sup>15</sup> European Wind Energy Association press release April, 2008

through their governments, and this year the eight member nations of the G-8 made a pledge to cut greenhouse gas emissions by at least 50 percent by 2050.

Though these changes are a step in the right direction, much more must be done to stop the burning of fossil fuels throughout the world. Whether for economic or environmental purposes, human beings must work together to find new ways of producing energy.

### **Recycling Education**

Recycling campaigns have been an important issue in the U.S. since the early 1990s, but today recycling is more important than ever. Recycling means taking a product or material at the end of its useful life and turning it into a usable raw material to make another product. Recycling saves trees, protects wildlife, stems the flow of water pollution and reduces the need for landfills. It also is a key component in reducing global warming. Using recycled materials cuts down on the energy used in the manufacturing process, dramatically reducing emissions of greenhouse gases and other air pollutants. For example, recycling one ton of glass results in energy savings of more than 300 percent and lowers carbon dioxide emissions by 3.46 tons.<sup>16</sup> Humans can lower emissions by more than three times the amount they recycle!

The value of recycling cannot be denied, and can be practiced by everyone from ages five to 95. Environmental agencies and groups around the world recognize the need to teach people how to recycle from a young age. Programs have been developed to educate school children, adults and corporations on the proper ways to recycle and the reasons for doing so. From online games for children to classroom materials to corporate seminars, education on recycling is the best way to get people involved and aware of the importance of reusing our resources and reducing waste.

### **Environmental Stewardship**

*"I believe that environmental responsibility is everyone's responsibility. The fact is: government can't solve our environmental challenges alone. We need everyone involved."*

– EPA Administrator Stephen L. Johnson

Environmental stewardship is the responsibility for environmental quality shared by all those whose actions affect the environment. The Environmental Protection Agency has committed itself to promoting environmental stewardship by individuals, communities, businesses and other organizations, and by their partners throughout government.

From individuals making small commitments toward using less gas, recycling and reducing their carbon footprint to communities coming together and making larger contributions, people across the country are beginning to get involved.

---

<sup>16</sup> Top Ten Reasons You Should Recycle: Natural Resources Defense Council website. July 11, 2008  
<http://www.nrdc.org/cities/recycling/ften.asp>

By increasing awareness of not only the issue of global warming, but of the ways to remedy the situation, we are on the right track to solving this problem. Many people, however, still see global warming as a problem too big to solve with consequences too far in the future to worry about. As evidenced here, this problem is very real and quite imminent. The more people who are educated about the threat of global warming and its solutions, the closer we will get to quelling the threat and keeping our planet healthy for years to come.

**Project 7**

- Project 7 is committed to “changing the score” by creating consumer goods that change people’s lives. Fifty percent of profits from Project 7 products will be donated to charities supporting one of the world’s seven critical needs, including environmental causes such as global warming, renewable energy, and recycling education.