

June 30, 2005

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RE: The Environmental Impact of the Kyoto Treaty.

Dear Dr. Ibeh:

I am glad to inform you that the final paper for the above project has been completed and is ready for your approval.

This paper will discuss issues that allow you to see in detail the effect the Kyoto Treaty has on global warming concerns and economic concerns. With globalization becoming more practice within world politics the Kyoto Treaty will allow for a global effort to reduce greenhouse gas emissions without disrupting third and second world countries economic growth via industrialization.

Sincerely,
Derrick Lamm

pc: Derrick Lamm, student, Plastics Engineering Technology, Pittsburg State University

PSU/ONR – REU/RET
Summer 2005 Program

Environmental Impact of The Kyoto Treaty

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Summary:

The Kyoto Protocol has been implemented on February 2005 and is an environment protocol directed towards the preservation of the environment and human life. With growing concerns about the destruction of the Earth's atmosphere by green house gases the world has decided to make a global effort to lower emissions of greenhouse gases. Life is very fragile and a drastic climate change will destroy life, as we know it today. With technology advancing lower green house gas production the thought of a clean safe environment is possible.

Introduction:

The Kyoto Protocol is a global climate change treaty with negotiations being completed on December 11, 1997 by the United Framework Convention on Climate Change (UNFCCC). The Protocol legally bound industrialized nations to lower their greenhouse gas emissions on six greenhouse gases. The treaty was open to signatures on March 16, 1998 through March 16, 1999 and the United States signed the treaty on November 12, 1998. This commitment would make the United States reduce emissions by 7% below the 1990 levels during a commitment period between 2008-2012. "Because of the way sinks, which remove these gases from the atmosphere, are counted and because of other provisions discussed in this protocol, the actual reduction of emissions within the United States required to meet the target is estimated to be lower than 7%". In December 1997, meeting in Kyoto, Japan, there were three key issues debated: one, the amount of binding reductions in greenhouse gases to be required, and the gases to be included in these requirements; two, whether developing countries should be part of the requirements for greenhouse gas limitations; and three, whether to allow emissions trading and joint implementation, which allow credit to be given for emissions reductions to a country that provides funding or investments in other countries that bring about the actual reductions in those other countries or locations where they may be cheaper to attain. After much debate over negotiations and stilled issues unresolved provisions were made to the original treaty. The major commitments in the treaty on the most controversial issues are: emissions reductions, developing country responsibility, and emission trading.

Key dates leading up to the Kyoto treaty

1750: Before industrial Revolution, atmosphere holds 280 parts per million of heat trapping carbon dioxide, later research determines.

1955: U.S. scientist Charles Keeling finds atmosphere carbon dioxide has risen to 315 parts per million.

1988: NASA scientist James Hansen tells Congress that global warming "is already happening now."

1997: Climate treaty parties approve Kyoto Protocol mandating emission cuts by industrial nations, an approach rejected in advance by U.S. Senate.

2001: President Bush renounces Kyoto Protocol.

2004: Carbon dioxide reaches record 379 parts per million: Russia gives crucial ratification to Kyoto Protocol.

2005: Kyoto Protocol takes effect.

Literature Review:

From Climate Change to Sustainability: An Essay on Sustainable Development, Legal and Ethical Choices

By: Christina Voigt

This paper discusses some fundamental impediments to implementing the complex concept of sustainable development within the international legal framework in general, and the climate change regime in particular. It argues that sustainable development should primarily be seen as a normative concept, closely linked to an idea of environmental justice that incorporates the interests not only of present humans but also of future generations and the non-human environment. The paper explores the relationship between sustainability as a moral idea and sustainability as located in a legal context. It argues for the evolution of a coherent system of ethics and law of sustainability, with particular relevance to decreasing greenhouse gas emissions on a global scale. The importance of multidisciplinary and interdisciplinary research is emphasized. It is suggested that the fundamental challenges posed by a globally changing climate might function as an important impulse to "cross-faculty" research and innovative thinking. The results of such thinking might in turn inform international action in tackling climate change. Although the investigation cannot be exhaustive, this paper aims to serve as an impetus for multidisciplinary research and further discourse on the reconciliation of society and the environment, law and ethics.

The Ethics of Burden-Sharing in the Global Greenhouse

By: E. Wesley and F. Peterson

The Kyoto Protocol on global warming has provoked great controversy in part because it calls for heavier burdens on wealthy countries than on developing countries in the effort to control climate change. The U.S. Senate voted unanimously to oppose any agreement that does not require emissions reductions in low-income countries. The ethics of this position are examined in this paper that shows good moral reasons for supporting the provisions of the Kyoto Protocol. Such a conclusion follows easily from considerations of distributive justice but can also be supported by more narrowly self-interested arguments

Ethics, Scientific Experience, and the Limits of Nature

By: Catton, Philip

Morality is non-natural because, in the order of cognition, it is prior to the very category of nature or the natural. It is *ideal*, yet objective; and the ideal in question is prior to

other, like and related ideals which inform the metaphysics of nature and thus the possibility of science. Plato pointed out to us this kind of priority of ethics to the natural, but he mistakenly failed to distinguish ethics from science. Kant showed how to secure the needed distinction, but he mistakenly regarded his insights as about experience as such. Kant's insights in fact concern what experience comes to under a *cultural* form that is very special and has existed only (roughly) since Plato's day. This cultural form is required, however, before people can possess in the first place any aspiration for science: so Kant's conclusions do successfully limn what is necessary for the possibility of that kind of experience which can inform a science of nature. By exploring the cultural conditions that are necessary in order for self and world to hold together in ways involving space, time and the categories as Kant argues that they do, and by indicating why these conditions suffice to determine that human experience is ethical, both correct and deepen Kant's case for non-naturalism about ethics. The argument serves to recover into the contemporary context some insights of rationalist philosophy that were sidelined in philosophy during its analytical phase. It also serves to remark the absolute centrality of ethics to philosophy. Furthermore, it demonstrates that a people, in order to possess scientific aspirations, must already be subject to an ethics that, no less than science, is a species of cognition. To possess the very category of nature or the natural is already to be cognitively subject to ethics. *That* is how ethics lies beyond nature: in the order of our cognition it lies before it.

Emissions Reductions:

The United States would be obligated under the Protocol to a cumulative reduction in its greenhouse gas emissions of 7% below 1990 levels for three greenhouse gases (including carbon dioxide), and below 1995 levels for the three man-made gases, averaged over the commitment period 2008 to 2012. The Protocol states that Annex I Parties are committed--individually or jointly--to ensuring that their aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases do not exceed amounts assigned to each country in Annex B to the Protocol, "with a view to reducing their overall emissions of such gases by at least 5% below 1990 levels in the commitment period 2008 to 2012." Annex A lists the 6 major greenhouse gases covered by the treaty.

Annex B lists 39 nations, including the United States, the European Union plus the individual EU nations, Japan, and many of the former Communist nations. The amounts for each country are listed as percentages of the base year, 1990 (except for some former Communist countries), and range from 92% (a reduction of 8%) for most European countries--to 110% (an increase of 10%) for Iceland. The United States is committed on this list to 93%, or a reduction of 7%, to be achieved as an average over the 5 years 2008-2012.

Based on projections of the growth of emissions using current technologies and processes, the reduction in greenhouse gas emissions required of the United States would likely be between 20% and 30% below where it would be otherwise by the 2008-2012 budget period. However, according to Administration officials,

based on the accounting method adopted in the Protocol, which includes (as the United States had urged) greenhouse gas sinks, it appears that the actions that must be taken to reduce emissions within the United States, after sinks are counted, would be substantially less than 7%--probably in the range of 2 to 3% below 1990 levels. The Administration also is assuming that a significant portion of its 7% target could be met through some combination of emissions trading and joint implementation

Developing Country Responsibilities:

The United States had taken a firm position that "meaningful participation" of developing countries in commitments made in the Protocol is critical both to achieving the goals of the treaty and to its approval by the U.S. Senate. This reflects the requirement articulated, passed in mid-1997, that the United States should not become a party to the Kyoto Protocol until developing countries are subject to binding emissions targets. The U.S. government also argued that success in dealing with the issue of climate change and global warming would require such participation. The developing country bloc argued that the Berlin Mandate--the terms of reference of the Kyoto negotiations--clearly excluded them from new commitments in this Protocol, and they continued to oppose emissions limitation commitments by non-Annex I countries. The negotiations concluded without such commitments, and the United States indicated that it will not submit the Protocol for Senate consideration--and therefore will not be able to ratify it--until meaningful commitments are made by developing countries.

At the COP-4 in Buenos Aires, Argentina became the first nation to indicate that it will make a commitment to take on a binding emissions target for the period 2008-2012. Kazakhstan also announced its intention to take similar action. It was immediately after these announcements that the United States signed the Kyoto Protocol. However, it is unclear exactly what emissions limitations Argentina will undertake, and how many other developing countries--particularly key large greenhouse gas emitting nations such as China, India and Brazil--will make similar commitments.

The Protocol does call on all Parties--developed and developing--to take a number of steps to formulate national and regional programs to improve "local emission factors," activity data, models, and national inventories of greenhouse gas emissions and sinks that remove these gases from the atmosphere. All Parties are also committed to formulate, publish, and update climate change mitigation and adaptation measures, and to cooperate in promotion and transfer of environmentally sound technologies and in scientific and technical research on the climate system.

Emissions Trading and Joint Implementation:

Emissions trading, in which a Party included in Annex I "may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases" for the purpose of meeting its commitments under the treaty, is allowed and outlined in Article 6, with several provisos. Among the provisos is the requirement that such trading "shall be supplemental to domestic actions." The purpose of this proviso is to make it clear that a nation cannot entirely fulfill its responsibility to reduce domestic emissions by relying primarily on emissions trading or joint implementation to meet its targets. Joint implementation is project-based activity in which one country can receive emission reduction credits when it funds a project in another country where the emissions are actually reduced.

A number of specific issues related to the rules on how joint implementation and emissions trading would work are to be negotiated and resolved in subsequent meetings, as these issues are clarified and identified. In the year since the Protocol was completed, it became increasingly clear that this is an extremely complex issue, and an emissions trading system is not likely to be designed and implemented quickly. This will be a major element of the Buenos Aires action plan over the next 2 years.

A major development is the establishment of a "clean development mechanism" (CDM), through which joint implementation between developed and developing countries would occur. The United States had pushed hard for joint implementation, and early proposals were formulated with the expectation that "JI" projects would be primarily bilateral. Instead, negotiations resulted in agreement to establish the clean development mechanism to which developed Annex I countries could contribute financially, and developing non-Annex I countries could benefit from financing for approved project activities; Annex I countries could then use certified emission reductions from such projects to contribute to their compliance with part of their emission limitation commitment. Emissions reductions achieved through this mechanism could begin in the year 2000 to count toward compliance in the first commitment period (2008-2012). Again, proposals on how this mechanism would operate will be developed and negotiated under the Buenos Aires action plan. Like emissions trading, making the CDM operational appears likely to be a protracted and difficult process, given the increasing number of complexities emerging from the on-going work and discussions on how the CDM might work.

The United States Moral Framework and the Kyoto Treaty

The Kyoto Treaty is a contract between all industrialized nations and non-industrialized nations to preserve the environment for future habitants, being human or non-human. The environmentally safe practices that the treaty legally binds many nations are morally and ethically right. Preservation of the

environment is not a job but a moral obligation for everyone aware or unaware. There are a number of moral values that comply with individual moral frameworks: truth, compassion, responsibility, freedom, reverence for life, fairness, self-respect, preservation of nature, tolerance, generosity, humility, social harmony, honor, devotion, respect for elder, etc. The list changes with accordance to cultural values. For example, a Japanese male may have tradition or a Jewish male may have religion within their framework. With so many variables there is no real way to objectively diagnose an individual's moral framework and the values have to transcend demographic characteristics. Compassion and preservation of nature are both demographically unaltered values that the Kyoto Treaty addresses. Compassion is a broad word that relates emotional feelings toward people present and future, which is a universal value. The United States is uncompassionate about the implementations of the Kyoto Treaty and is concerned about the economical effect on the United States. Preservation of nature is essential for future generations of people. The treaty is ethically the "right" thing to do and the United States has chosen to feel less impulse to extent their moral concerns. Moral boundaries are not ascribed but developed over the years and the extent of the United States moral boundaries do not subside with the implementations of the Kyoto Treaty. The United States has stated that it will lower emissions without the implementations but on their accord. Modern science has proven that global warming is real and is a top source of authority along with religious leaders, best friends, personal experience, god's word, and government. With these facts a resolution must be made for the longevity of the environment. There are three resolutions for moral dilemmas: utilitarianism (maximizing benefits for the greatest number of people), the Kantian categorical imperative (establishing a rule that everyone should follow), or the Golden Rule (reflecting the way the respondent would like to be treated by others). The United States will solve the problem using the Kantian categorical imperative by passing a law to lower emissions of greenhouse gases with California leading the way by example. The United States showed the lack of virtues by pulling out of the Treaty and need to lead by example and stop being the biggest threat towards the environment.

Methodology:

This paper was solely a literature research paper with no machines or materials. The information was compiled by use of Pittsburg State University's library and Internet resources. Prior knowledge of the Kyoto Treaty was limited and expanded by sources of news publication. This is the extent of information obtained to write the report.

Conclusion:

Although the United States helped shape the Kyoto Treaty, President George Bush Jr. pulled the United States out as soon as he took office. The pact was ratified by 141 nations and limits emissions from 35 industrialized countries.

Developing countries were exempted from the limits to give them a chance to catch up with the economic development of the industrialized world. Australia and the United States have refused to join. The Bush administration officials said the treaty would hurt the economy and is ineffective and discriminatory because rapidly industrialized countries such as China and India escape the limits. Moreover, many countries, including Japan and several in the European Union, are unlikely to meet their emission-control targets and will have to buy "credits", most likely from Russia, which will have lots of "credits" to sell because many of its industrial shut down during the economic meltdown in the 1990s. The effects of greenhouse gases include rising global temperatures and rising global temperatures have already been linked to impacts on agriculture, coastal areas, and public health. Melting the ice caps will rise sea levels and inundate coastal areas with ocean temperature changes that would disrupt marine life and could disrupt the gulf stream, making Europe colder. Tropical diseases such as malaria are spreading into new areas as a result of climate change in Africa. Under the treaty, the European Union committed to reducing its emissions 8% below 1990s level; Japan and Canada committed to a 6% cut; and Russia, whose entry November provided the quorum needed to put the treaty into effect, committed to limit emissions right at 1990 levels. The United States would have had to limit emissions at 7 percent below 1990 levels.

Works Cited:

Fletcher, Susan. *98-2:Global Climate Change Treaty: The Kyoto Protocol*. CRS Report for Congress. March 6, 2000.

Vedantam, Shankar. *Kyoto Treaty Takes Effect Today*. Washington Post. Feb. 16, 2005: A04.

Voigt, Christina . *From Climate Change to Sustainability: An Essay on Sustainable Development, Legal and Ethical Choices* : Brill Academic Publishers World Views: Environment, Culture, Religion, 2005, vol. 9, no. 1, pp. 112-137(26).

Peterson, F and E.I Wesley. *Journal of Agricultural and Environmental Ethics*. Springer Science and Business: Jan. 1999 vol. 11, no. 3 pp:167-196.

Catton, Philip. "Ethics, Scientific Experience, and the Limits of Nature" University of Canterbury Feb. 26, 2002.