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Subject: Final Ethics Report

To Whom It May Concern:

This is the submission of my enclosed final ethics report, "The United States, Emissions Trading, and Ethics," as part of ETECH 795-02 Investigations in Technology: Research Topics in Nanocomposites. My assigned topic was Emissions Trading. As this is a very expansive topic for a 5-page paper as assigned, I have focused the topic of this paper in the following ways. First, primarily CO<sub>2</sub> emissions are discussed because it is by far the largest of the green house gases commonly referred to and some instances other gases are listed in CO<sub>2</sub> equivalencies. Also, this report focuses on how the U.S. stands in respect to a number of theories of safety ethics and ethics in general.

This report shows that the United States is morally obligated to reduce its emissions as much as possible, and as emissions trading is the method that will probably incur the least hardship on the American side, it is the best method for doing so.

I would like to thank Dr. Ibeh, Dr. Donovan, Dr. Hensley and the class of ETECH 795-02 for their feedback that helped shape and fine tune this report.

If you have any questions concerning anything in this report, please contact me at (620) 240-7679 or via email at [raybrian@earthlink.net](mailto:raybrian@earthlink.net).

Thank you,

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Enclosed: Final Ethics Report

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## The United States, Emissions Trading, and Ethics

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## **Summary**

This report investigated the science behind global warming, the ethical considerations concerning the harm it is doing and may do, the part of the United States of America in this, the ethical theory as applied to the situation of America, and the ethical and economic considerations with respect to using emissions trading as a way to be ethical and economically efficient with regard to the United States.

The science finds that global warming is happening and the United States is contributing to it heavily. As the harm global warming is causing is great, the ethical theories generally support America reducing its emissions. The economics of trading systems show that they are the least costly way for America to reach the emissions goals it is ethically required to reach.

## **Introduction**

The threat of nuclear holocaust has given way, since the end of the cold war, to the threats of rising temperatures, rising sea levels, rampant disease, and other natural extremes brought on by global warming.[2] The United States of America stands at the forefront of this new threat in that it is both one of the greatest contributors to it and it has the greatest power to thwart or mitigate it. Yet of late, the government of the United States has stood nearly alone in its denial of the issues. Does the U.S. Have any ethical obligation to decrease its production of green house gases, especially carbon dioxide (CO<sub>2</sub>), which the preponderance of scientific evidence states are major contributors to global warming? It is here that the ethical dilemma rests.

Many have said that the cost of emission reduction would cripple or destroy the U.S. Economy, but recent evidence concerning the use of emissions trading programs to meet reduction guidelines while minimizing cost cast doubt that such gloomy predictions are reliable. In addition, growing evidence is linking the emission of green house gases and global warming to natural disasters occurring around the globe at increasing rates.

This paper will define the importance of emissions trading in meeting the safety needs of the world while maintaining an acceptable level of safety in the U.S. Economy.

## Literature Review

“A CBO Study: Who Gains and Who Pays Under Carbon Allowance Trading? The Distributional Effects of Alternative Policy Designs”:

This study conducted by the Congressional Budget Office at the behest of the Ranking Minority Leader of the House Committee on Commerce in 2000 establishes that most of the implementation plans for carbon allowance trading are regressive in nature and that international inclusion would decrease the burden on the lowest quintile of the population while decreasing the profit for the highest quintile.

“Fairness, Responsibility, and Climate Change”:

This article discusses the arguments of three texts on ethics and global warming. It begins with the basic premise that as the risk of thermonuclear global annihilation has declined greatly of late, “the greatest threat facing our planet is global warming.” Having thus, delineated the importance of the topic, the article then comments on the ethics of avoiding decisions because of a lack of causal proof from science, the “polluter pays” principle, and distributive justice.

“Alaska's Changing Landscape”:

This article is a report of the accelerating rate of climactic change in one of the areas most affected by global warming, Alaska. It provides information on glaciers retreating and Inuit village relocations due to rising sea levels and thermokarsting. It also gives a view of how the view of some that the affects of global warming are something that will not affect them therefore their contribution to the problem is not seen as unethical to them. This is a fair example of ethical egoism.

“Paving the Way for U.S. Emissions Trading”:

This article gives an example of how global warming is expected to impact the U.S., the Oakland airport will be under water with only a four degree rise in global temperatures. The focus of the article is the Chicago Climate Exchange commodities market, a voluntary market that is nonetheless gaining popularity and momentum as a force in emissions trading.

## Major Ethical Schools of Thought

### *Utilitarianism*

Concerning the issue of emissions trading, two aspects from the utilitarian school of ethics come to the fore: impartiality and the use of hedonistic/pleasure-pain calculus. Utilitarian impartiality has to do with considering each and every person who is affected by an action or rule to have equal value with regard to the pleasure and pain they experience because of the action or rule. This means that the good of a man toiling in a village in Eastern Europe must be counted the same as that of a person's own, dear mother. Effectively for the utilitarian there is no such thing as a supererogatory care for another's welfare. This has an affect on how the “happy points” in hedonistic calculus are tabulated. In this calculus, when a person is at an impasse and must decide what to do, they must consider what their choices of action are. Then they must calculate the amounts of pleasure and/or pain that each person affected by the prospective act will accrue if the action is taken. If they person is a non-hypocritical utilitarian they will choose that act which will result in the greatest net happiness. This is also known as the “Greatest Happiness Principle”. [8]

### *The Ethics of Emmanuel Kant*

Echoing some of the impartiality of the utilitarians, Kant held that, due to their capacity for reason and their autonomy in the use of such, each person has intrinsic value that should be respected

by others. Following from this idea is Kant's Categorical Imperative that states one should, "Act only according to that maxim by which you can at the same time will that it should become a universal law." [8] In addition to that imperative, Kant also formulated what he called the Practical Imperative which reads as follows: "Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only." [8]

From these principles Kant formulated his retributivism, which basically says that if someone decides to follow a harmful rule in their actions they should be willing that a just society will turn that rule back on the person in a karmic fashion. One example would be if one were to kill a person because they did not like the color of their shirt. A just society according to Kant would accept this person's decision to make this rule a part of their personal repertoire of rules, as it were. The society would follow that rule with regard to that person and should anyone dislike the color of that person's shirt, they would be duty-bound to kill that person. This example may seem outlandish and it is but it displays the basics of Kant's Retributivism: 1) the punishment should be proportional to the harm and 2) the punishment should be targeted on the offender only because they are the one who exercised their autonomy and reason in choosing to follow that rule in their life.

### *Ethical Egoism*

A system espoused by the famous author Ayn Rand, ethical egoism focuses on what will benefit a person. Specifically, it says that one should only do what is in their best interest in the long run without regard to the desires or needs of others. One of the basic arguments for ethical egoism states that as external and imperfect viewers of others' wants and needs we are destined to continually bungle any attempts at fulfilling them. In addition, in trying to act on the behalf of another's perceived wants, we are interfering in what should really be the others' autonomous decisions, which is prideful and rude. [8]

### *Prohibition Against Harm to Innocents*

This tenet holds to no singular ethical system. It is found in the Ten Commandments of Christianity, Kant's statements on retributivism, as well as many others. Essentially, it is an absolute moral requirement that states one is never justified in harming someone who has not earned that harm through their acts.

### *The Ethics of Care*

Relationships is what the ethics of care targets. People who hold to this ethical school, such as author Nel Noddings, see morality as the caring for and attending to the relationships that one has with all the specific people one interacts with. It is an interesting way of looking at ethics that differs from many of the others in that it does not require impartiality. In fact, according to this ethical system one has no moral obligations to any entity that cannot participate in a one-on-one relationship with them. [8]

### *The Social Contract*

Social contract theory states that certain benefits are felt by people living together in a society. These benefits range from specialization of labor to group protection. In order to get these benefits, though, it is necessary for there to be a set of enforceable rules of the society. This is the social contract and to form a society all must have consented to it either expressly or tacitly. Basically, in order that a person might get the advantages that society can offer, they must agree to follow a set of rules of the society that may limit their freedom of choice of actions and to submit to punishment should they violate those rules. In this way, the societal rules become the moral rules because they are what expressly allow for society to exist and social living is considered a good. Otherwise, why would the person consent to give up some of their freedom to join?

## **Green House Gas Emissions and Global Warming**

The Earth is warming up. On this point, practically all scientists agree. Many also agree that man has at least some part to play in this warming. Ice core studies have shown that such warmings do occur in a cyclic fashion and may occur over much shorter time periods than previously believed. At least one contributing factor is the accumulation of specific gases in the atmosphere that act like the glass panes of a greenhouse by preventing heat reflected off the ground and clouds from escaping back into space. A multitude of gases such as carbon dioxide, the sulfoxides and the nitroxides have been identified as “green-house gases” (GHG's). Of these carbon dioxide is released in the largest amounts and is generally considered to have the widest spread affects. Historically, it was believed that the phytoplankton in the ocean and plant life all over the Earth acted as a sink for these gases. With the Industrial Revolution, though, man's ability to produce these gases has far outstripped nature's ability to absorb them.

The accumulation of GHG's causing rising temperatures is something the scientific community can agree on, but the affects this will have and exactly how much of it is natural warming and how much is due to human influence are a place for some debate. There have been a number of recent occurrences that are being scientifically linked to global warming, though, some are contested as simply being natural occurrences. These include the rising of sea levels around the world. At least four ancestral Inuit villages have had to be abandoned for higher ground because of this.[5] In addition forecasters say that with just a four degree increase in the average global temperature, among other problems that would be nigh catastrophic, Oakland's international airport would be flooded. Other estimates say that up to one-fifth of the land mass of what is now known as Bangladesh will be inundated if current warming trends cannot be averted. Thermokarsting and the retreat of glaciers are other effects of global warming that can be seen. Thermostatting is the melting of permafrost which results in falling ground levels and marshes where there has traditionally been tundra. Some lodges that were built to look out on specific glaciers are now defunct in that respect because the acceleration of the glacial retreat has pulled the ice back too far to be seen from the lodges' current sites.[5]

The GHG's being emitted by man come from a variety of sources. Those usually spoken of with regard to reductions are the emissions from industrial activities such as energy production and manufacturing because these activities release the largest aggregate amounts.

### **What is Emissions Trading?**

In the past several decades in a number of industrialized nations there have been attempts to implement market systems for the trading of emissions credits for specific gases. One such system that still exists is the U.S.'s sulfoxide credit system implemented by the EPA. The goal of these systems is to bring the release of GHG's down while doing so in as economically efficient a manner as possible.

The most popular type of trading market is a cap-and-trade system where the government or other regulatory agency places a cap on the emission of a GHG. Credits for the release of this gas are then issued and distributed via an auction or by simply parceling them out. Businesses that can exceed their reduction goals more easily and cheaply than others can then benefit by selling the emission credits they do not need to businesses that had a harder time and were not able to meet their goals. So long as the cap is not violated and a business is able to buy enough credits or reduce emissions enough to stay in compliance, all is well. Fines do come about if the cap is breached, though.

Recent studies on the effects of cap-and-trade regimes conducted by the Congressional Budget Office found that in order to cover the costs of emission reduction businesses would have to increase product prices in proportion to their carbon content. This would have a regressive affect, meaning the poor would pay proportionally more of the cost than the rich who would actually profit from most trading schemes. Internationalizing the market, it is agreed, would decrease the price of each emission

credit which would decrease the benefit of trading to shareholders, but the spreading of the cost around on a larger scale as well as the introduction of third world markets where technology is so old that minor capital inputs can gain major reductions would decrease the burden on the lowest quintile of the U.S. Population.[1]

### **The Position of the U.S.A. In all this**

Politically, the U.S. has held that it would be economically infeasible for the U.S. to drastically cut emissions, even considering that the U.S. is the richest nation on the face of the planet, and has held to the fact there is some disagreement in the scientific community over the effects of global warming as a reason to not take anything more than nominal and perfunctory action. In fact, President Bush has been referred to recently as an obstacle to any deal on global warming, citing the rejection of the Kyoto Protocol by the U.S. as an example.[4] Among the advanced, industrialized nations the U.S. stands alone with regard to its aversion to any mention of accountability in regard to global warming and GHG production.[2]

Another aspect of the American position with regard to global warming is a feeling that it will not affect us and therefore is not something to be worried about. This can be seen in the statements of an elderly resident of Alaska that though he had seen a lot of changes he was not worried that the glaciers would all melt in "his" time.

There are at least three regards in which there is little if any room for argument about America, global warming, and GHG's: the science, the pollution, and the expanse of the effects. Reputable scientists around the world and in the U.S. are in unanimous agreement that global warming is occurring and that to some degree the gases emitted by man contribute to this warming just the way the emissions of Mt. St. Helens and other large volcanic eruptions have been seen to. The U.S. is the indisputable ruler of the waste heap with regard to GHG's. The U.S. produces approximately one fourth of the global CO<sub>2</sub> emissions from industry yet comprises just one twentieth of the world's population.[2] One law of matter is that, unimpeded, a gas will expand to fill its container uniformly. Emissions therefore of CO<sub>2</sub> and most other GHG's affect the whole world no matter where they are produced.

### **What the Ethical Theory has to say about the U.S.'s position**

There are two ethical theories that might cast a positive light on the position of the U.S. and they are the ethics of care and ethical egoism. The ethics of care is known for its support of partiality, which is seen in the old man's statement that he is not worrying even though he has seen the glaciers melt at increasing rates because he does not believe he will live to see the end effects. Ethical egoism follows suit in that it supports the idea that if a person wants to help those around them more than they want to help those far away and doing so does not hurt them it is perfectly moral for them to make that distinction.

The hedonistic calculus of utilitarianism is very close to the risk assessment used by many business-persons and they are both dependent on how one tabulates the pleasure/pain or the safety and stability/risk and costs. In both methods, due in part to their reliance on perceived probability and hypothetical situations and reactions, there is some room for projection and subjective interpretation. Because of this, these methods of deciding on the correctness of an action in ethical or economic terms could go either way depending on how the calculations are run.

With utilitarianism, though, there is the requirement of impartiality which may tilt the balance in the ethical realm towards the side against the current aversion of the U.S. To cleaning up its emissions. This is because out of around six billion people inhabiting earth who have to deal with the problems of global warming, those in the U.S. make up only one-twentieth of the total. Therefore, for

the U.S. To be ethical in a utilitarian manner, the good/pleasure each person in the U.S. Must gain from not cleaning up must be at least one hundred times the pain netted by the rest of the world on a per capita basis. Given the depths of anguish that are felt every year by the multitudes in third-world countries that cannot adapt to the droughts, deluges, and disease that are arguably caused by or helped along by global warming, it is difficult to image the levels of sustained mass ecstasy that would be needed in the U.S. to make being dirty morally acceptable. In addition to utilitarianism, impartiality is a major tenet of many ethical systems such as divine command and Kantian ethics.

Kantian ethics would be against the U.S.'s relative inaction because it violates the Categorical and the Practical Imperatives. In the current U.S. Doctrine, other nations' companies are left having to reduce emissions, which increases there overhead and puts American companies who do not have to submit as restrictive guidelines at an advantage. This is using another as a means only on a truly massive scale. It also applies the rule that something should be done about the environment by saying that this rule should apply to other nations but not the U.S. This is seen in the fact that the U.S. helped to begin the creation of the Kyoto Protocol but then speciously withdrew from talks and never entered the agreement.

Also, retributivism as put forward by Kant would require that the entity who has harmed/polluted must pay for that harm/pollution proportionally. No one can deny that the U.S. produces CO<sub>2</sub> far out of proportion with respect to other nations and that it makes great profits doing so. Also, no one can deny that global warming is at the very least sped along by such emissions and that scientists agree that global warming will have devastating effects and is already harming people. Therefore, Kant would say that the U.S. owes a debt to the world and it is their moral duty to pay. Of course, how much would still be a matter of scientific and economic debate.

The prohibition against harm to innocents is a corrolary to Kant's retributivism and in some other ethical systems, such as divine command theory, it is also seen as an absolute moral law. This prohibition denies the morality of risk analysis and hedonistic calculus and says that the U.S. should stop doing any harm through its emissions and make reparations for what harm it has done.

The application of social contract theory points out a weakness in relation to getting the U.S. to break out of its ethical egoist shell and act with benevolence towards the rest of the world. That weakness is the fact that the U.S. is the sole superpower left, and without peer to bring force to bear on the U.S. to comply there would be little enforceability in any agreement the U.S. did decide to sign.

## **Methodology**

The procedure for this study began with a review of as much relevant literature as the time constraints of this paper would allow. A bibliography of the reviewed literature can be found at the end of this report. All efforts were made to rely solely on sources from reputable entities such as governmental publications, or peer-reviewed works and not such sources as unsubstantiated opinion columns. An effort was made to not infer more than the evidence in the literature would allow or, at least, to state when such inferences were made and for what reason. Reasons for such inferences might range from their use in illustrating a point to applications in the arguing of a slippery slope.

The Google™ search engine, Google™ News search tool, and Pittsburg State University's Axe Library Online Catalog search tool were utilized in the literature review portion of this report. This report was written on Microsoft® Word version X for Mac and NeoOffice®/J 1.1. Adobe® Reader® 6.0 was used for viewing “.pdf” files from the web.

## **Conclusions**

The arguments for the U.S. Taking more drastic action to limit its harmful GHG emissions outweigh those for maintenance of the status quo, which according to a recent release of the World Resource Institute has the U.S. Increasing its emissions fourteen percent by 2012.[9] The amount of likely harm done is too great a risk of the safety of the many to be outweighed by the convenience of a few. Having said that, if the U.S. Can reduce its emissions to sustainable levels via a route like emissions trading that works to limit the economic harm incurred, then utilitarian ethics, not to mention basic economics, would say that they should do so as opposed to more expensive systems.

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