Ethical Issues Raised By Carbon Trading

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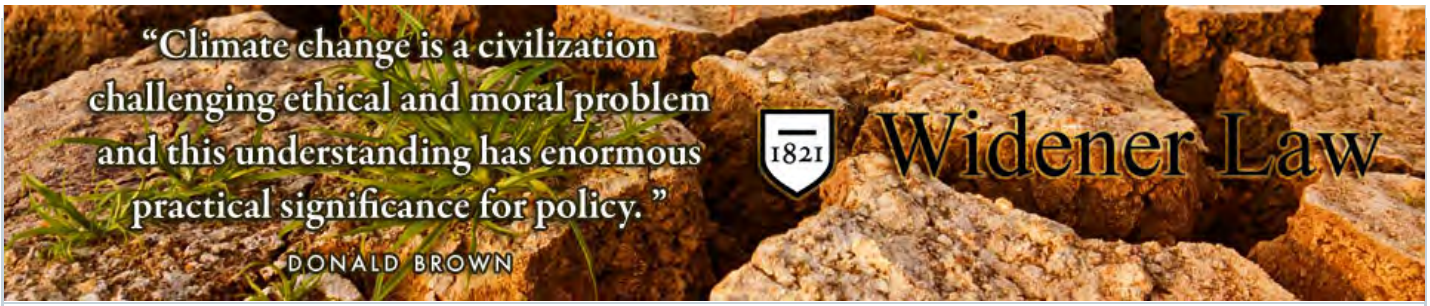

Ethical Issues Raised By Carbon Trading

I-Introduction

This post examines ethical issues raised by the cap and trade regimes that have emerged to solve the climate change crisis in the last decade. These regimes have emerged: (1) at the international level under the Kyoto Protocol, (2) at the regional international level including in the European Union and between US states and the Canadian provinces, and (3) at the sub-national level including among Northeastern U.S states. There is also a large voluntary carbon trading market that has emerged around the world that is not the focus of this post although these regimes raise many ethical issues considered here.

At the international level, under the Kyoto Protocol to the United Nations Framework Convention on Climate Change there are three different trading regimes. They are:

(a) Emissions Trading (ET) -A mechanism that allows a nation with a Kyoto target to buy d allowances from a country with a Kyoto target that does need all of its allowances.

(b) Joint Implementation (JI)-A mechanism that allows project financing by nation with a Kyoto target in another country with a Kyoto target.

(c) Clean Development Mechanism (CDM)-A mechanism that allows nations with Kyoto targets to finance projects in developing countries that reduce greenhouse gas emissions.

The goal of this post is to spot the major ethical issues raised by carbon cap and trade regimes that have emerged around world, not necessarily to resolve these issues.

Spotting ethical issues raised by cap and trade regimes will not necessarily lead to a consensus about what should be done about these issues because there are competing ethical theories that might reach different conclusions about these trading regimes including utilitarian, rights, virtue, relationship, and ecological based theories among others. However, for some issues there may be an overlapping consensus among ethical theories about what ethics requires. (Brown et al., 2006). For other issues there may be agreement among ethical theories that some positions on cap and trade issues are ethically problematic no matter what ethical theory is applied to analyze the issue under consideration. Therefore, spotting ethical issues raised by carbon cap and trade regimes may be practically valuable despite the inability on some issues to determine unambiguously what ethics demands, if spotting the ethical questions leads to eliminating from consideration some positions on these issues that

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fail to pass minimum ethical scrutiny. (Brown et al., 2006)

The purpose of this post is not to resolve all ethical issues entailed by cap and trade regimes but to encourage further ethical reflection about these issues. Cap and trade regimes have in a very short time reached wide support around the world with only very limited ethical reflection on the issues discussed in this chapter. Because uncritical acceptance of these existing regimes may lead to significant injustices and given that there may be opportunity to change and restructure existing regimes in the future, this post is meant to encourage ethical reflection on existing as well as future cap and trade regimes.

Although existing cap and trade regimes differ in many of their details, they all have the following common steps. First a government establishes an emission limitation for total emissions from the government's jurisdiction and then permits or allowances are either given away or auctioned off and in this way create a society-wide "cap." The cap is expected to be "tightened," that is, reduced over the years, thus increasing the costs over time of future allowances. The permits allow holders to emit ghgs usually in tons of carbon for a specific period. To enable trading, rules are established that allow those entities with caps to meet their obligations either by purchasing unneeded allowances from others that have caps, funding projects that reduce emissions at places under the control of others, or purchasing off-sets created by carbon reduction projects somewhere in the world.

Cap and trade regimes are usually justified on several different grounds including:

- Trading provides a mechanism for making carbon emissions reductions at lowest possible cost. Because carbon is well mixed in the atmosphere, it doesn't make any difference where reductions are made in the world to lower future atmospheric concentrations of ghgs. Therefore emitters of carbon can finance inexpensive projects to reduce carbon emissions and apply reductions achieved by these projects against their reduction obligations and in so doing reduce ghg emissions that cause climate change. In this way, cap and trade regimes maximize the efficiency of carbon reductions. And so cap and trade regimes are usually supported on the grounds that they provide the flexibility to achieve the greatest reductions at lowest possible cost.
- Proponents of cap and trade regimes often point to a successful program still in place in the US that has been declared to reduce 40% sulfur emissions (SOx) by coal-burning power plants in the period 1990-2004. (EDF, 2009)
- Cap and trade regimes provide economic benefits to developing countries through CDM credits and other "off-sets" thus helping developing countries economically.
- Cap and trade regimes keep high-cost emitters in the political game because they can reduce their emissions at low cost and thereby help minimize political opposition for climate change legislation.

This post next looks at the following ethical issues entailed by cap and trade regimes:

a. Justice of the Cap

b. Allocating Global Commons Resources as Property Rights.

c. Environmental Effectiveness

d. Distributive Justice

e. Procedural Justice

II-Ethical Issue One-Justice of the Cap

A cap and trade regime is just only if the cap is just both in the amount of the cap and how the cap is distributed among emitters. If the total society-wide cap, before it is

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allocated among emitters within the jurisdiction of the government allocating the cap, is less than the government's fair share of safe global emissions, then the cap is not environmentally just particularly to those who are vulnerable to climate change. (Brown, 2009) Because each nation or government has a duty to reduce its emissions to its fair share of safe global emissions (Brown et al, 2006), justice requires that caps be consistent with the government's ghg reduction obligations. Almost all nations have agreed that they should reduce their emissions at levels to prevent dangerous anthropogenic interference with the climate change system based upon equity under the United Nations Framework Convention on Climate Change. (UN, 1992) Yet many cap and trade regimes do not derive the quantity of the cap from these international obligations. (Brown, 2009)

A strong case can be made that the world is not currently on an emissions reduction pathway needed to prevent dangerous climate change. (Bear and Athanasiou, 2005) (Athanasiou and Bear, 2002). In fact some scientists are argue that is already too late to prevent catastrophic climate change. (Hamilton, 2009). Therefore an argument can be made that most existing and proposed cap and trade regimes are not sufficient to prevent dangerous climate change and therefore are unjust.

If the cap upon which the trading regime is based does not constitute a level of carbon reduction consistent with the nation's duty to reduce emissions, the entire cap and trade regime is unjust. In such cases, the regime is particularly unjust to those who are most vulnerable to climate change because the regimes gives rights to pollute at levels above what justice requires. Since many parts of the world including sub-Sahara Africa, Bangladesh, small island developing states in the Pacific and Indian Ocean, large parts of South-East Asia among others are particularly vulnerable to climate change impacts, a cap that is not sufficiently environmentally protective is unjust to these vulnerable countries and peoples. (Argwal and Narain, 1991).

In addition to national governments, each individual sub-national government, business, organization, and entity also has a duty to reduce its emissions to its fair share of safe global emissions. If the allowances that entities are allocated by the government are not sufficient to assure that the entity's emissions are no greater than its fair share of safe global emissions, an argument can be made that their individual allocation is unjust.

Because some emitters are often not included within the scope of a cap and trade regime, a strong case can also be made that those excluded from the cap are emitting at unjust levels if they are not emitting at levels less than the emitter's fair share of safe global emissions. For this reason, the creation of a cap and trade regime that excludes classes or categories of ghg emitters should not necessarily be understood to satisfy what justice requires if some emitters within the government's jurisdiction are allowed to emit at unjust levels because they are excluded from regime. However, a counter argument can be made that a regime is just if total emissions from the area within the jurisdiction of the government are below the government's fair share of safe global emission regardless of whether some emitters are not covered by the government's ghg allocation because governments have the right to make decisions distributing the burdens and benefits of government policies within their jurisdiction.

III-Ethical Issue Two-Allocating Global Commons Resources for Private Consumption.

Cap and trade regimes can be understood to give emitters of ghgs a property right to emit at a level consistent with their allocation. Yet the atmosphere is usually understood to be a global commons. One feature of global commons resources is that they are owned by all people and as a consequence no person or entity can acquire a private property right that excludes others from the use of that resource. (Ott and Sachs, 2000) It is also generally understood that governments have a duty to protect commons resources for the benefit of all peoples and that such responsibilities include obligations to prevent entities from using the commons for private uses. And so there is a potential conflict with assigning property rights to pollute in a carbon cap and trade regime and

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the duty of governments to protect commons resources for the benefit of all.

One way to reconcile the conflict between honoring the prohibition against allocating a commons resource for private interests and the need to give a ghg emitter some authorization to pollute for a specific amount of time is to make sure that the polluters right to emit at any time under the cap may be rescinded if it is latter determined that an existing allocation is not sufficiently protective of human health or the environment. That is, trading regimes should make it clear that rights to emit are temporary and can be adjusted for cause. Under such an approach, an allowance is understood to be only a temporary property right like a rent subject to specific conditions and reservations, not a permanent right to emit at the level prescribed by the allowance. (Ott and Sachs, 200) If this approach were taken the common practice of allowing those who have allowances to bank unused portions of the allowance indefinitely would need to be abandoned. Such an approach would also limit the ability of entities to purchase pollution rights that could be used at any future time as a credit against any future emissions obligations.

IV-Ethical Issue Three-Environmental Effectiveness

As we have seen, a cap and trade regime can be unjust if it is does not sufficiently protect those who are vulnerable to climate change. Many design features of cap and trade regimes can lead to inadequacies of the environmental protection effectiveness of the regime even if the cap is initially sufficiently protective. Some of these design issues follow:

- *Conflicts*. There are conflicts between minimizing transaction costs and maximizing environmental effectiveness in monitoring and verification of carbon projects. Because there is a tension between keeping the transaction costs low and the environmental effectiveness of the cap and trade regime, rules often fail to assure that carbon will be reduced at levels described in the trading proposal. This is so because, for example, there are often huge scientific questions about how much carbon storage will be achieved by forests which are comprised of mixed species, given that it is virtually impossible to measure the carbon that will be stored in every tree or stored in forest soil in light of the fact that there are practical limits on how much measurement and compliance data can be obtained. To have high levels of confidence of the carbon storage capacity of forests and other biological systems that are relied upon to sequester carbon is often scientifically challenging because of large amounts of sampling, monitoring, and verification data that are needed to reduce uncertainties. Yet monitoring and verification costs can be prohibitively expensive, and as a result rules have sometimes been created that err on the side of keeping transaction costs low by limiting the amount of data that will be required. This threatens the environmental effectiveness of the project.

- Permanence*. Many proposed projects for carbon trading raise serious questions about whether the carbon reduced by a project will stay out of the atmosphere forever. Yet permanent storage of carbon is needed to assure equivalence between*

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emissions reductions avoided if no credits were issued and atmospheric carbon reductions attributable to a project which creates carbon credits. This is so because emissions reductions guarantee that some quantity of ghgs will not wind up in the atmosphere, yet some projects which are used to substitute for emissions reductions have difficulty in demonstrating that the quantities of carbon reductions projected will actually be achieved. For instance, carbon stored in forests, soils, or geological carbon sequestration projects could be released to the atmosphere under the certain conditions. For example, rapid temperature change could kill trees thus releasing back into the atmosphere carbon stored in the trees. This problem is usually referred to as the problem of "permanence" of carbon reduction projects. For this reason, only projects that assure permanent reduction of carbon in the atmosphere can be categorized as environmentally effective projects.

- Leakage. *Many proposed projects for carbon trading raise serious questions about whether carbon reduced by a project at one location will result in actual reductions in emissions because the activity which is the subject of the trade is resumed at another location. For example, paying people to plant trees in location A is not environmentally effective if these same people that receive the money chop down trees at place B. This is the problem usually referred to as "leakage." Forest and other kinds of bio-sequestration projects that sequester carbon in particular often create leakage challenges. Industrial projects can also create leakage problems if the industry gets credit for reducing carbon at one industrial plant while moving the carbon producing activities to another place. If leakage occurs, then the trade is not environmentally effective.*

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- Additionality
  A project subject of a trade will also not be environmentally effective if the project would have happened anyway for other reasons. This is so because a trading regime assumes that a ghg emitter should get credit because of their willingness to invest in projects that reduce carbon emissions that would not happen without the incentive to get credit for carbon reductions. If the project would happen without the investment of the emitter, than the investment in the project is not "additional" to business as usual. This is the problem usually referred to as the "additionality" problem.

- Enforcement of trading regime.*A trading regime is environmentally ineffective if its conditions can not be enforced. Although enforcement of trading regimes is sometimes practical when the project on which the trade is based is within the jurisdiction of the government issuing the allowances, enforcement is particularly challenging when the project is located outside of allowance issuing government. In such cases, enforcements must be "out-sourced" to other institutions. In addition, while many hundreds of millions of dollars are being invested in setting up emissions trading schemes all over the world, virtually no resources are being channeled into their enforcement of verification. Although most cap and trade regimes have built in carbon reduction verification steps, verification remains extremely difficult for many types of carbon reduction projects for which credits are being issued because of the lack of enforcement or long-term verification potential. This enforcement challenge is exacerbated when projects for which credits are issued are in poor countries without the*

technical capability to enforce or verify. Because of this, a strong case can be made that those who desire to rely on projects that have dubious enforcement and verification potential should have the burden of demonstrating enforcement and verification potential before they may obtain credits generated from these projects.

- Allowing Delay In Investing In New Technology. *The ability to buy credits in a trade can create incentives to delay in making the transition away from fossil fuels that*
  is likely necessary to avoid dangerous climate change. As emissions reductions pathways that stabilize atmospheric ghg concentrations at safe levels require that global emissions peak in the next few years followed by large reductions in emissions yearly, there is an immediate need to invest in sustainable energy. Yet the ability to trade for cheap emissions reductions credits reduces the pressure on high-emitting entities to change behavior now. In addition cap and trade regimes do not invest in sociological, political, and historical analysis of how to make historical change required to achieve the civilization challenging ghg reductions needed.

V-Ethical Issue Four- Distributive Justice

Cap and trade regimes can create many distributive justice issues. They include the following:

- *Diminishing cheap*
  projects in developing countries. Under the CDM international trading system established by the Kyoto Protocol, developed nations can fund carbon reduction projects in developing countries without targets. If developing countries in some future international climate regime are asked to meet targets, they run the risk of having sold their cheapest carbon reduction projects to developed country interests by participating in the CDM, thus making achievement of any national target more expensive. Over 4000 CDM projects have been funded in developing countries and these projects have often been selected by investors because they produce the greatest reductions at lowest cost. Some of these projects, such as hydroelectric dams, are now not options for developing countries to meet future domestic ghg emissions reductions obligations.
- *Diminishing ODA*. Some countries have announced that they will move official

development assistance monies (ODA) into CDM projects thus moving funds that would benefit the quality of life in the developing country to energy projects. This could have significant impact on monies that would be otherwise available to help poor nations with such dire emergencies such as health care or nutrition. As a result, a problem created largely by developed countries may lead to worsening human health problems in countries that are minor causes of climate change when ODA flows are applied to ghg emissions projects which largely benefit emitters in developed countries.

- *Distributive justice and internal allocation of government-wide cap.* How a cap is allocated among entities within a government creates many potential distributive justice problems. Governments sometimes distribute a cap they have by giving away allowances, auctioning allowances, and other ad hoc considerations that often take into account political feasibility. Each of these methods of distributing a cap raises distributive justice issues that are often ignored for political reasons. For instance, both auctioning allowances and giving away allowances could be significantly regressive, making higher-income households better off while making lower-income households worse off. Auctioning could also be regressive if the most wealthy get the most permits forcing those without the financial resources into non- polluting options. Sometimes governments choose to allocate the cap by placing caps on “upstream” carbon users such as coal and petroleum companies and ignoring “downstream” carbon emitters such as coal fired industrial users. A decision to place a cap upstream makes the climate change regime easier to administer but could have regressive effects on those least able to afford increased fuel costs. An upstream cap also can create little incentives for those who can afford to waste energy to change behavior. In contrast, downstream caps puts responsibility on energy users. There is no ethically neutral way to decide these design questions.
- *Distributive justice and revenue from allowances.* When allowances are auctioned or otherwise purchased, governments must make decisions about how to use allowance revenues. These decisions raise a host of distributive justice issues that are often ignored for political reasons. Some governments have chosen, for instance, to use allowance revenues to fund climate change technology research, to meet international obligations to fund climate change adaptation projects in developing countries, to fund programs to reduce deforestation projects in developing countries, to buy off politically powerful opponents to climate change legislation, to help those least able to cope with rising energy costs, or to subsidize nuclear power, geologic carbon sequestration, or renewable energy. Decisions about how to allocate revenues from distributing allowances raise distributive justice issues.

VI-Ethical Issue Five- Procedural Justice

Cap and trade regimes raise a host of procedural justice issues including the following:

- *The right to participate in cap decisions*. Because carbon trading design has distributive justice implications, those whose interests may be affected by design considerations have procedural justice rights to participate in decisions on trading design. In representative democracies, an argument can be made that individual procedural rights are satisfied by duly elected representatives who participate in government decisions on cap and trade. However, some representative governments do not adequately represent some populations such as indigenous peoples. Even where governments are controlled by representatives of the people, procedural rights to comment on cap and trade rules as they are developed are often inadequate. Some developing nations have been accused of ignoring rights of local people when they permit carbon reduction projects which benefit only a small group at the expense of interests of citizens.

- *The technical ability to participate in cap and trade regimes*. The Kyoto Protocol has
  created a staggeringly complex system for those who seek to sell or purchase carbon credits. Only those who can hire consultants and experts can effectively participate in the creation of trading projects and the development of the rules of the trading regime. For this reason, design of trading regimes that have been created often reflect the economic interests of those with the financial ability to participate in the design of much more than the interests of those who cant afford to hire experts and lobbyists. Because of the complexity of cap and trade regimes, strong cases can be made that governments should fund capacity building of groups that don't have the financial resources to hire experts.

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