

# PURCHASING THE RIGHT TO POLLUTE: ECONOMIC MARVEL, ETHICAL MINEFIELD OR BOTH?

by

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## Establishment of Pollution Rights

Polluting, or contaminating the environment, is widely recognized as an undesirable byproduct of many activities. The activities themselves may be considered either positive or negative, apart from their polluting byproducts. For example manufacturing consumer goods is a positive activity while littering is a bad activity, but each activity results in contamination of the environment. Pollution often occurs in the context of emissions resulting from business activities. For example, the production of power in power plants is a beneficial and necessary activity, yet such plants emit significant amounts of the pollutants sulfur dioxide, nitrogen oxides, carbon dioxide and mercury.

Although many industries emit harmful products and gases into the environment, all of which are either man made or facilitated products of manufacturing, electric power plants are the “single largest industrial source of such air pollutants. In 1998, power plants were responsible for 67 percent of the annual total sulfur dioxide, more than one-quarter of the nitrogen oxides, 33 percent of the mercury and 40 percent of the carbon dioxide emissions in the United States.”<sup>1</sup> Sulfur dioxide is also produced and emitted from industrial fuel combustion and other sources such as motor vehicles. Fifty-three percent of the nitrogen oxides emitted are attributable to on- and off-road vehicles, while the remainder is from electric utilities and other industrial sources.<sup>2</sup>

Emissions discharged into the atmosphere are then deposited on the earth's surface as acid deposition. Acid deposition takes one of two forms. It appears as rain, snow, sleet or fog, known as wet deposition; or in the form of gases, aerosols and particles, known as dry deposition. Barring a significant technological advancement, certain amounts of pollutants introduced into the environment through acid deposition are tolerated as an unavoidable byproduct of economically desirable activities. This fact gives rise to the postulate that there exists a limited right to pollute in many forms, including the emission of various pollutants into the atmosphere by businesses.

Even if the postulate of a limited right to pollute is acknowledged as a right, many issues are attendant to such acknowledgment, some of which include: what levels of pollution are acceptable; who has the authority to decide the levels of acceptable pollution; what are the means for limiting such pollution; should the right to pollute be treated as a commodity for trading; whose interests are relevant in the consideration of such limitations? This article will explore some of the issues surrounding the right to pollute in the context of emissions trading, one of the methods being used to create a market incentive to reduce pollution.

## Determination of Acceptable Pollution Levels

Increased attention has been given to the necessity for a decrease in pollution, particularly since the United Nation's 2007 report on climate change concluded with “high confidence” that human activity has contributed to global warming,<sup>3</sup> that “warming of the climate system is unequivocal,”<sup>4</sup> and that “continued greenhouse gas emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would *very likely* be larger than those observed during the 20th century.”<sup>5</sup> There are a multitude of responses to address such desired pollution decrease. Mechanisms for regulating emissions include tort law, direct specification of production technique, flat prohibition, pollution taxes and pollution quotas.<sup>6</sup> The following concentrates on emissions trading which involves the setting of pollution quotas establishing a target level of acceptable pollutants and the distribution of allowance credits related to such quota.

There have been legislative mandates to reduce pollution levels by the federal government as well as state governments. In general, the legislative framework to achieve such levels consists of targeting certain pollutants for reduction; setting limits on the amount of pollutant emissions that companies may acceptably produce; and levying fines against those companies that are out of compliance with such levels or even types of pollutants.

Although there are a number of regulatory initiatives, the Federal Clean Air Act represents the federal government's most significant legislation in this area and was first promulgated in 1955.<sup>7</sup> The Act underwent substantial revisions in 1977 and 1990 and again in 2002 and 2004.<sup>8</sup> The Federal Clean Air Act, as amended, requires the Environmental Protection Agency (the “EPA”) to periodically set standards for specific pollutants.<sup>9</sup> The Clean Air Act provides maximum levels of pollutants that a power plant is allowed to emit. There is then an enforcement mechanism under which fines are assessed against any company exceeding such limits.

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Title IV of the Clean Air Act Amendments of 1990 includes provisions concerning the control of acid deposition.<sup>10</sup> The rules proposed by the EPA to implement Title IV of the 1990 Amendments provided for nationwide free trading of allowances. Allowances are a fairly straightforward concept. Once the allowable pollution limits are set for various pollutants, credits, or allowances, were distributed at no cost to companies in the amount of such limits. Each allowance was equal to the right to emit one ton of the particular pollutant. Essentially, such businesses are distributed “rights to pollute.” Over the course of the compliance period, each emitter is required to surrender allowances equal to its emissions.<sup>11</sup> If a company did not exceed the target set, they were in compliance with the law. If, however, the company was able to reduce emissions below the target level, the law allows for the banking or trading of the excess credits up to the amount of the allowance set for that company. Credits banked may be held for later use by the company in its existing or potentially expanded operations. In the alternative, such pollution credits may be traded, or sold, to other companies which are still exceeding the required maximum emission levels under the federal statute, thus enabling the business still polluting in excess of their allowance to continue in existence rather than face closure or significant fines under the regulations. These marketable pollution rights allow businesses to sell the right to pollute to one another.

## **Allowances**

Since the initial grant of free allowances under Title IV of the 1990 Amendments, free allowances have been the subject of controversy.<sup>12</sup> Under either the original free allocation of allowances or more recent auction policies, the government will ultimately receive the total value of the allowances. “If the government auctioned off allowances, it would receive their total value, which would equal the selling price multiplied by the number of allowances issued. If it gave allowances away, the fossil-fuel-producing or -importing companies that received them would have higher profits than would otherwise be the case. In that situation, the rise in profits would reflect the value of the allowances. The government would receive approximately 45 percent of that value through taxes on those profits (including state and local as well as federal taxes). The other 55 percent of the allowances' value would ultimately benefit the U.S. households that were shareholders of those companies.”<sup>13</sup> However, the financial impact on specific households under the two systems would be varied. “The distributional implications of those decisions are an important consideration for policymakers because the amount of wealth that would be redistributed by a U.S. carbon trading policy could reach into the tens or hundreds of billions of dollars.”<sup>14</sup> The determination of who benefits from such wealth redistribution raises issues similar to those posed by emission trading programs themselves; which parties are entitled to the wealth distribution and who determines such entitlement as well as the availability of such wealth distribution to minority and low income populations?

One of the problems with free allowances is the determination of the number of allowances to be distributed. Internationally, Europe appears to have initially made mistakes in its distribution of carbon emission allowances as “too much supply drove down the price of pollution to less than 80 cents per ton.”<sup>15</sup> Clearly, if the initial distribution of allowances is not calculated correctly, the trading market for the allowances will not sustain prices that will encourage power plants and other pollution emitters to reduce pollution. In other words, it becomes so “cheap to emit greenhouse gas that it now pays to burn more dirty fossil fuel than less.”<sup>16</sup>

Power plant owners object to an auction systems claiming paying for them will raise electric bills.<sup>17</sup> “Environmentalists and other experts are accusing the companies of using a scare tactic, and say free credits would mean windfall profits for the companies, which can add the value of credits into the price they charge for power - even if they get the credits for free.”<sup>18</sup>

Assuming that the errors experienced by Europe can be corrected and that auction systems can be utilized to maximize the market effect of emissions trading without excessive additional costs to consumers, allowances are still criticized by some as contributing to an increase in emissions, at least in the short term, as purchasers of the credits are able to construct additional coal-fired power plants using their new allotment of credits.<sup>19</sup> Provided that the overall level of emissions decreases, such increase in coal-fired power plants will actually increase emissions in the areas surrounding such plant. The contents of such emissions as well as the populations affected by them again raise the ethical issue of who is being asked to bear the burden of the market efficiency of a trading allowance system.

## **Authority to Determine Acceptable Pollution Levels: New York’s Air Pollution Mitigation Law Challenge to Trading Pollution Rights**

The EPA established standards for smog and soot at various points during the period from 1971 to 1987. New rules were added in 2004 to address specific pollutants and include the following: 1) Clean Air Ozone Rules; (2) Clean Air Fine Particles Rules; (3) Clean Air Interstate Rule; (4) Clean Air Mercury Rule; and (5) Clean Air Nonroad Diesel Rule.<sup>20</sup> States that did not attain the reduced pollutant levels imposed by the national standards were allowed, under the Clean Air Act, to develop their own remediation plans. State plans were developed to address those specifically designated areas and, according to one claim, “the air began to improve.”<sup>21</sup> However, in at least one case, *Clean Air Markets Group v. Pataki*,<sup>22</sup> there were differing opinions with respect to the improvement of air quality. A group of plaintiffs brought an action

challenging the constitutionality of New York's plan. New York's plan was found to have violated the Supremacy Clause of the United States Constitution as well as to have imposed an impermissible burden on interstate commerce.<sup>23</sup>

New York took exception to certain provisions in the Federal Clean Air Act allowing credit trading and enacted its own, tougher statute which was later struck down as having been preempted by the federal legislation in addition to being an unconstitutional violation of the Commerce Clause.<sup>24</sup> In *Clean Air Markets*, the plaintiff was concerned that the highest emissions of sulfur dioxides and nitrogen oxides emanated from high source states in the Midwest and the East, including Iowa, Kansas, Illinois, Missouri, Indiana, Michigan, Minnesota, Ohio, Wisconsin, Alabama, Florida, Georgia, Kentucky, Mississippi, Tennessee, Maryland, Pennsylvania, West Virginia, Massachusetts, New Hampshire, New Jersey, and New York (the "Upwind States"). The problem for New York was that the emissions from those states do not remain in the Upwind States. Instead, they travel up to hundreds of miles and contribute significantly to acid depositions in particularly susceptible areas in New York such as the Adirondacks. New York objected to the free trading of pollution allowances and requested such trading not include the so called Upwind States.<sup>25</sup> The EPA disagreed and retained its free trading provisions.

In response, the New York legislature enacted the Air Pollution Mitigation Law in 2000 in order to encourage New York utilities to protect sensitive areas from acid deposition and to "make prudent revenue decisions regarding their participation in the federal allowance credit trading programs established" by Title IV. The Air Pollution Mitigation Law required that all transfers of sulfur dioxide allowances were to be reported to the PSC, the regulatory commission responsible for utility rates and service in New York. The PSC would then charge an offset to any company which sold emission allowances to an upwind state or to a non Upwind State if such sale did not include restrictive covenants against its later sale to an Upwind State. The amount of the offset would be equal to the proceeds from the sale of the allowance. Attaching such restrictive covenant lowers the value of the allowance. "Allowances that originate in New York State have a market price of 2.5 to 5% less than allowances from the other 47 states subject to Title IV."<sup>27</sup> The allowances belonging to independent power company members of Clean Air Markets Group were thus reduced in value when earned from locations in the state of New York. Clean Air Markets Group brought suit against Governor Pataki for his mandate resulting in the Air Pollution Mitigation Law as an impermissible state restriction on interstate commerce.<sup>28</sup>

Although the court acknowledged that Congress had specifically reserved to the states the primary authority to control air pollution,<sup>29</sup> and that states clearly have the right to "adopt and enforce regulations limiting the emission of pollutants to the extent that such regulations are more stringent than the requirements of the Clean Air Act,"<sup>30</sup> the Court held that the trading restriction or alternate 100% penalty for which the New York law provided were contrary to federal law.<sup>31</sup> The Court noted that the EPA had considered and rejected geographical restrictions on the trading of allowances and had clearly mandated the free transferability of such assets. A 100% penalty on such transfer constituted a significant restriction on such free transferability and therefore was clearly contradictory to the purposes of the federal law. The court acknowledged that the Air Pollution Mitigation Law might result in reduced emissions in the Upwind States since such states would either be prohibited from purchasing allowances from New York or such allowances would be more costly to them. However, such reductions were not within New York's power to regulate. New York only has power to restrict the emissions within its own state, not to take action resulting in reduced emissions in other states even though the emissions of that other state ultimately negatively impact New York.

Although it may be clear to many that emissions trading is an effective market tool to decrease overall emissions of pollutants,<sup>32</sup> arguably New York's experience with increased pollution in sensitive areas as a downwind state due to emissions trading is analogous to other populations' experience with increased pollution under an emissions trading system. Some of the populations to consider with respect to the effect such increased pollution include women of childbearing age, low income communities and some African American communities. The legal trading of emission credits to emitters sited in communities with concentrations of such populations may result in concentrated areas of increasingly dirty air in particular locations, or "hot spots" affecting such communities. Given the outcome of *Clean Air Market Groups*, it is likely that, using a purely legal analysis, the increased emissions affecting such communities would be upheld. However, applying an ethical overlay to such analysis does not necessarily result in the same conclusion.

### **Mercury emission challenges.**

On January 30, 2004, the EPA announced new regulations applying to mercury emissions that became final on March 15, 2005.<sup>33</sup> Mercury was added to the pollutants for which power companies were able to purchase trading credits.<sup>34</sup> Mercury is a highly toxic substance that cannot be safely consumed by humans. It can cause neurological damage, birth defects or death, in extreme cases.<sup>35</sup> Women and children are particularly vulnerable.<sup>36</sup> A coalition of 14 states, including California, Maine, Massachusetts, New Hampshire, New Mexico, New York, Pennsylvania, Vermont and Wisconsin filed a lawsuit in 2005 challenging the federal rule that allows coal-fired power plants to buy pollution credits to avoid lowering their mercury emissions. The lawsuit claimed that the new rule slows attempts to decrease dangerous mercury emissions and poses grave health risks to those exposed to such emissions.<sup>37</sup> The lawsuit alleged that the credit trading system would create hot spots around some plants that purchase the rights to emit more mercury. Reducing overall pollution at the cost of increasing it in particular areas results in the beneficial decrease in pollution at one location for a particular population and a concomitant increase in exposure to the detriment of an alternate population. The question becomes whether that is an

acceptable ethical result given its apparent legality. The federal appeals court rejected the lawsuit<sup>38</sup> while the EPA conducted its internal review of the rule.

In 2006, sixteen states combined to file another lawsuit in against the EPA after the EPA refused to strengthen the mercury emissions rule after its “reconsideration” process concluded.<sup>39</sup> The plaintiffs’ efforts highlight the fact that pollution credits, although arguably a reasonable method of ultimately reducing pollutants, may ultimately reduce such pollutants at a slower rate than alternative methods such as mandates of industry-wide reductions. Pollution credits in themselves are not bad, but these groups argue that they are not as effective in reducing pollution as alternative methods.

At issue in a mercury emissions debate in Pennsylvania is the question of the effect of mercury emission trading. Under a proposed EPA rule mercury emission trading would be allowed, while under a DEP proposal, such trading would be prohibited. Constituents in favor of the DEP proposal cite the fact that “mercury emissions tend to deposit around power plants, forming so-called hot spots. To let Plant A buy mercury-emission credits from Plant B means the people living around Plant A would face heightened health risks, while the owners of Plant B benefit from the transaction.”<sup>40</sup> Again, the question arises as to whether the fact that emission trading is a cost effective method for reducing overall pollution justifies the negative impact on sensitive populations due to the localized increase in emissions due to such emissions trading.

### **Interests affected by the transferability of pollution rights**

It has been established that the right to purchase pollution credits allows a power plant that is unwilling, or economically unable, to reduce its emissions to the level required by law to utilize the credits to maintain emissions in excess of those required by such law.<sup>41</sup> A legal right has been created that may be efficient from an economist’s perspective, but that results in a selection as to which populations remain exposed to increased pollution emission levels. As previously mentioned, there are also some highly environmentally susceptible areas, such as the Adirondacks, that are disproportionately affected by emissions migrating downwind from power plants in high source areas,<sup>42</sup> as well as some highly susceptible populations such as women of childbearing age and children.<sup>43</sup> The ability of such high source areas to maintain their existing levels of emissions rather than decrease them, as was a stimulus behind the law, highlights the issue of the disproportionate effect that the trading of allowance credits permits. Hot spots may be created under this system when the allocations are purchased by companies in such a manner as to allow for clustering of the highest emission levels.<sup>44</sup> A study in 1985 analyzed the cost of regulatory controls on emission levels versus a free market allowance trading.<sup>45</sup> The range of results suggested that the cost of free market allowance trading was “apparently quite sensitive to local conditions”<sup>46</sup> and varied depending upon which system requires more control which in turn increases the cost.

A memorandum sent from Haley Barbour, a former Republican party chairman and lobbyist for electric power companies, to Vice President Dick Cheney in 2004 laying down a challenge regarding environmental policy, further illustrates the divide between politics, economic concerns and environmental interests. Mr. Barbour wrote that “[t]he question is whether environmental policy still prevails over energy policy with Bush-Cheney, as it did with Clinton-Gore,” and called for measures to show that environmental concerns would no longer “trump good energy policy.”<sup>47</sup> The memo clearly illustrates the competing interests of both groups. Obviously there is no “one size fits all” solution to the pollution problem which will equally address and satisfy the concerns of all interests.

Another aspect of the competing concern issue is illustrated by research which claims that more African Americans than whites live near power plants, thus exposing them to greater pollution risks.<sup>48</sup> Because of such greater concentration, the fact that power plants are able to purchase the right to produce additional pollution potentially means that such right then affects African Americans at a greater percentage rate than whites, opening the door to discriminatory allegations stemming from such right.

Finally, there is also the matter of determining whether to address purely current interests in existence at this point in time, or whether the interests of future generations should play a role. Business decisions that address current concerns may not be the same as those that would be put into place if future generations were to focus on the remedy. Understandably many consumers of generated power are concerned with the cost of such power. However, future generations do not have to be concerned with the cost of power today but would prefer that their power company’s choose to charge a little more for such power today in order to meet current emissions targets rather than choose to purchase pollution credits that would allow it to exceed such target and produce additional pollution. It is suggested in the literature that business has to “assume its responsibility towards future generations”<sup>49</sup> in establishing policy, not just its responsibility to those currently in existence for it is the future generations that will ultimately bear the burden.

### **Environmental Justice**

The concerns regarding sensitive areas and sensitive populations have been raised in the environmental justice movement which became a nationally recognized issue in 1982.<sup>50</sup> In 1990 EPA Administrator William K. Reilly established the Environmental Equity Workshop to study evidence showing that minority and low-income populations were disproportionately affected by environmental hazards.<sup>51</sup> The Workshop concluded that minorities experience disproportionately greater exposure to environmental pollutants.<sup>52</sup> President Clinton issued Executive Order 12898 in 1994<sup>53</sup>

requiring federal agencies to consider the effects of their programs, policies and activities on minority and low-income populations, including native tribes.<sup>54</sup> Although the Executive Order formalizes the principles of environmental justice and obligates federal agencies to adhere to them,<sup>55</sup> it does not address women as a population which is of particular concern with respect to mercury emissions. The harshest effects of this oversight are perhaps ameliorated by the fact that women are the largest constituents of the minority and poor populations.<sup>56</sup> The Executive Order requires that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environment effects of its programs, policies and activities on minority populations and low-income populations.”<sup>57</sup> The Executive Order’s intent to compel the EPA to ensure, or at least consider, environmental justice in its policies and programs would lead one to expect that the EPA would consider the environmental justice impact of programs such as emissions trading. Unfortunately, such expectation is incorrect.

In 2004, an evaluation was completed regarding the EPA’s implementation of the Executive Order requiring consideration of principles of environmental justice.<sup>58</sup> The report concluded that the EPA had not fully implemented the Executive Order and had not identified populations addressed in the Executive Order. In fact, the report criticized the EPA for not emphasizing minority and low-income populations in its policies in accordance with the intent of the Executive Order.<sup>59</sup> In direct contravention of the Executive Order, the EPA elected not define “environmental justice community” or to establish “cut points” for determining disproportionate impacts.<sup>60</sup>

The fact that the EPA has refused to emphasize minority and low-income populations in its policies results in a lack of meaningful government data on the effects of emission trading on such populations. The presumed impact on minorities and low-income populations of increased emissions due to hot spots is difficult to detail given such lack of data, however there is literature supporting its existence.<sup>61</sup> An example given in literature of the creation of hot spots through an emissions trading program that raised environmental justice issues concerned Rule 1610 in Los Angeles, the “car scrapping program” which allowed “stationary source polluters (such as factories and refineries) to avoid installing expensive pollution control equipment if they purchased pollution credits generated by old, high polluting cars.”<sup>62</sup> In the process, an overwhelmingly Latino local population was being exposed to high levels of dangerous pollutants while the general public in Los Angeles benefited from a slight decrease in their exposure to such toxics.<sup>63</sup> The conclusion in the study of the Los Angeles example was that advances in genomics and ethnicity “may provide the EPA with a new and powerful tool to protect minority populations from environmental injustice,”<sup>64</sup> however, the EPA must first be willing to recognize and attempt to ameliorate such injustice.

Another example of documented potential for hot spots involves Native tribes in the upper Great Lakes states of Michigan, Minnesota, and Wisconsin. It is argued that by 2020, emissions will be higher under the new Clean Air Mercury Rule than the EPA’s earlier rule using “maximum achievable control technology”.<sup>65</sup> The increase in emissions is predicted to “create mercury hot spots that will be particularly deleterious to Native tribes who fish the region’s lakes”.<sup>66</sup> The same study concludes that mercury emissions disproportionately affects women living below the poverty line because heavily polluting facilities, “the facilities that are more likely to purchase pollution credits, are more apt to be situated in low-income, urban areas than in middle to upper-income, suburban areas.”<sup>67</sup>

In order to recommend a modification to emission trading programs to lessen the impact on minority and low income populations as well as the population of childbearing women, studies must be conducted to determine the extent of the problem. In addition the public as well as governmental agencies such as the EPA must demonstrate a renewed commitment to environmental justice in order to begin to address remediation.

### **Pollution as a commodity for trading**

The “public trust doctrine” is a common law doctrine that suggests that certain resources belong to the public and as such, the government holds them in trust for the public; they can not be given away.<sup>68</sup> The public, then, is one of the primary constituents to be considered in determining whose interests are affected by the pollution rights trading laws. The problem remains, to which public are we referring? The public as a whole may be benefiting from decreased overall pollution levels if, as the economists claim, the free market theory of pollution credits is the most cost efficient method of pollution reduction. However, there are still the interests of the public residing nearest to the areas containing the business that is buying the pollution credits with which we need to be concerned. For that segment of the public, the level of pollution is increasing, or at the very least, not decreasing to the same degree as pollution near power plants that have opted not to purchase emission trading credits for the right to continue to pollute in excess of the thresholds targeted by law.

One of the continuing conflicts between economists and the environmental community with respect to tradable pollution permits has been the issue of whether such permits constitute a secure property right under the law. Economists prefer the treatment of the permits as property rights in order to protect the investment in the resource while the environmental community consistently argues that the environment belongs to the people and, as a matter of ethics, should not become private property. According to at least one economist, in this view no end could justify the transfer of a community right into a private one.<sup>69</sup> The practical resolution of this conflict has been to attempt to give a minimum level of security to the permit holders with respect to their rights, while making it clear that permits are not a property right. For example, the Clean Air Act clearly attempts to resolve this debate by declaring that “[a]n allowance under this title is a

limited authorization to emit sulfur dioxide....Such allowance does not constitute a property right.”<sup>70</sup> One of the benefits of this declaration is that in the event that an awarded pollution right was limited in future years, the declaration, if accepted, would forestall a challenge to such reduction as being a “takings” problem. The government is allowed to change the rules of the game at any time having stated that the pollution credits are not property.

This principle was further upheld in the New York courts in *Clean Air Markets* when the court struck down the law that would have effectively limited the value of the pollution allowances. In this way, the power companies were able to remain secure in the value of their right without the need to declare such right a full property interest. If pollution rights were to be viewed as property rights, administrators of such rights would have to give up their ability to change control requirements as the need arises. In particular they will not be inhibited by the need to pay compensation for withdrawing a portion of the authorization to emit as they would if allowances were accorded full property right status. It is a somewhat uneasy compromise, but it seems to have worked.

## Conclusion

Although it is established that the right to pollute is legally traded, the question of the ethics of such trading confronts society on many levels. Allowing the sale of credits to a company, effectively allowing them to exceed the legislatively determined emission levels, may be legal however the question of the ethics of such an action remains.

The societal issues that must be resolved with respect to the process of issuing credits include; where do the credits get allocated, what is a fair distribution of credits and how much pollution is tolerable? These are not economic issues, but rather political ones that are determined by law in the pollution rights arena. The question of how much pollution is tolerable requires an answer that assumes a certain number of illnesses or sickness due to the pollution that is allowed to remain. The fair distribution issue determines which areas remain polluted longer once the tolerable level of pollution is determined. One of the questions that policy makers face is what level of pollution is initially tolerated, meaning where are the initial limitations set? This question gives rise to an additional issue of whether the level is grandfathered so that existing levels are acceptable or is the initial level based upon a reduced percentage of what has presently been emitted? The Clean Air Act does utilize such a system and the resulting issue is whether such lack of reductions, although legal, was an ethical creation of the law. Again, the law should resolve these issues before market forces can come into play.

Two alternate means of distribution have been suggested that would first, provide for their distribution to individuals who would then have the right to retain them or sell them to polluters or, second, auction the rights off to the highest bidder.<sup>71</sup> The problems with these alternatives are that the first would never be supported by business and the second favors the wealthy which creates another set of ethical issues.

The trading of pollution rights involves the moving of pollution from one location to another. As previously highlighted, this frequently results in the greater burden being born by low income populations and minorities. Hot spots are created by businesses concentrated in a low income area purchasing significant amounts of credits. It appears to be economically efficient to dump pollution on poor people.<sup>72</sup>

Another ethical issue is the determination of the actual level of emissions. Typically the government relies on businesses self reporting their emissions. Although a laudable goal, it is surely one that is fraught with concern for the integrity of the information received.

Finally, one of the stated purposes of pollution credit trading is to give firms flexibility to comply with pollution regulation in a least-cost manner.<sup>73</sup> The fact that a business may elect to buy pollution credits rather than decrease its emissions because such purchase results in the least cost to the company is ethically troublesome. More pollution is allowed, but the company is maximizing its bottom line and staying within the limits of the law. Corporate law should be reviewed to determine whether businesses must take such course of action to remain within the law or whether it is simply the course of action they choose to take and can justify within the law. If the latter is true, there is again room for improvement in the program to satisfy environmental justice goals as well as legality.

Perhaps it can be accepted that the market concept of emissions trading is the best method of reducing overall pollution<sup>74</sup> given the fact that a simple carbon tax may not necessarily reduce emissions and taxes in general are a “political nonstarter.”<sup>75</sup> Accepting that concept does not necessarily mean that the concept does not have significant room for improvement. The potential for hot spots to be created in environmentally sensitive areas and potentially resulting in a greater impact on minority and low-income populations suggests that, at a minimum, the program could benefit from a reduction in the availability of credits in areas where the environment or the population is particularly susceptible to temporary increases in emissions due to emissions trading.

## Footnotes

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<sup>1</sup>National Resources Defense Counsel, *Dirty Skies: The Bush Administration's Air Pollution Plan*, Nuclear Resources Defense Council, <http://www.nrdc.org/air/pollution/qbushplan.asp>.

<sup>2</sup> *Clean Air Markets Group v. Pataki*, 194 F.Supp. 2d 147 (N.D.N.Y. 2002).

<sup>3</sup> Richard Alley, et. al, *Climate Change 2007: The Physical Science Basis*, <http://www.ipcc.ch/SPM2feb07.pdf> (2007).

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<sup>4</sup> *Id.* at 5.

<sup>5</sup> *Id.* at 13.

<sup>6</sup> David Burress, *What Global Emission Regulations Should a Corporation Support*, 60 JOURNAL OF BUSINESS ETHICS 317 (2005).

<sup>7</sup> See generally, 42 U.S.C. §§ 7401-7671q (codifying the Clean Air Act as amended).

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> See 42 U.S.C. §§ 7651-7651o.

<sup>11</sup> See, 42 U.S.C. §§ 7651-7651o.

<sup>12</sup> See A. Denny Ellerman, *Emission Trading in the U.S.: Experience, Lessons and Considerations for Greenhouse Gases*, PEW CENTER ON GLOBAL CLIMATE CHANGE (2003) at 17, <http://www.pewclimate.org/docUploads/emissions%5Ftrading%2Epdf>.

<sup>13</sup> CONG. BUDGET OFFICE, *Who Gains and Who Pays Under Carbon-Allowance Trading?: The Distributional Effects of Alternative Policy Designs* 8 (2000).

<sup>14</sup> *Id.* at 11.

<sup>15</sup> Marianne Lavelle, *The Carbon Market has a Dirty Little Secret*, U.S. NEWS & WORLD REPORT, May 14, 2007, at 38.

<sup>16</sup> *Id.*

<sup>17</sup> Brian Neering, *Division Over Payment for Pollution Credits; Power Plants Want Them for Free, but Consumers Object*, TIMES UNION, December 11, 2006, at A1.

<sup>18</sup> *Id.*

<sup>19</sup> See, Bret Schulte, *Putting a Price on Pollution*, U.S. NEWS AND WORLD REPORT, May 14, 2007 at 38.

<sup>20</sup> EPA, *Clean Air Rules of 2004*, <http://www.epa.gov/cleanair2004/>.

<sup>21</sup> See Michael O. Leavitt, *The Clean Air Rules of 2004: The Next Chapter in America's Commitment to Clean Air*, Speech Before the National Press Club (Apr. 14, 2004) (transcript available at <http://yosemite.epa.gov/administrator/speeches.nsf>, last visited March 17, 2006).

<sup>22</sup> *Clean Air Markets Group v. Pataki*, 194 F. Supp. 2d 147 (N.Y.D.C. 2002).

<sup>23</sup> See, *Id.*

<sup>24</sup> *Clean Air Markets Group* 194 F. Supp. 2d at 162.

<sup>25</sup> *Id.*

<sup>26</sup> Historical and Statutory Notes, N.Y. Pub. Serv. L. § 66-k (McKinney's Supp. 2001-2002).

<sup>27</sup> *Clean Air Markets Group* 194 F. Supp. 2d at 154.

<sup>28</sup> See, *Id.*

<sup>29</sup> See 42 U.S.C. § 7401(a)(3).

<sup>30</sup> *Clean Air Markets Group* 194 F. Supp. 2d at 157.

<sup>31</sup> *Id.*

<sup>32</sup> Robert R. Nordhaus, *New Wine Into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L.J. 53, 57 (2007); A. Denny Ellerman, *Emission Trading in the U.S.: Experience, Lessons and Considerations for Greenhouse Gases*, PEW CENTER ON GLOBAL CLIMATE CHANGE (2003), <http://www.pewclimate.org/docUploads/emissions%5Ftrading%2Epdf>.

<sup>33</sup> Lauren Parry, *Clean Air Rules of 2004: Motivation, Impacts, and Concerns*, 25 J. LAND RESOURCES & ENVTL. L. 367 ( ).

<sup>34</sup> *EPA Issues Mercury Rule*, 307 SCIENCE 1705, (2005).

<sup>35</sup> See, Jeremiah Baumann, et. al., *Brainfood: What Women Should Know About Mercury Contamination of Fish*, Env'tl Working Group (2001).

<sup>36</sup> Rachel Kalman, *EPA's Mercury Cap and Trade Rule: An Environmental Injustice for Women*, 13 CARDOZO J.L. & GENDER 111, 112-113 (2006).

<sup>37</sup> O'Donnell, Michelle, *States Challenge Break on Mercury for Power Plants*, N.Y. TIMES, May 19, 2005.

<sup>38</sup> *Court Rejects Effort to Halt Pollution Rules*, N.Y. TIMES, August 6, 2005.

<sup>39</sup> Beth DeFalco, *Sixteen States File Petition Challenging EPA Mercury Rules*, THE ASSOCIATED PRESS STATE & LOCAL WIRE, June 20, 2006.

<sup>40</sup> David DeKok, *Mercury Emissions Debate Rages*, PATRIOT NEWS, June 20, 2006.

<sup>41</sup> See, Robert R. Nordhaus, *New Wine Into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L.J. 53, 57 (2007).

<sup>42</sup> Bernard C. Melewski, *Acid Rain and the Adirondacks: A Legislative History*, 66 ALBANY LAW REVIEW 171 (2002).

<sup>43</sup> See, Rachel Kalman, *EPA's Mercury Cap and Trade Rule: An Environmental Injustice for Women*, 13 CARDOZO J.L. & GENDER 111, 112-113 (2006).

<sup>44</sup> T.H. TIETENBERG, Editor's Introduction in THE EVOLUTION OF EMISSIONS TRADING: THEORETICAL FOUNDATIONS AND DESIGN CONSIDERATIONS (1997), <http://www.p2pays.org/ref/07/06541.pdf> (concluding that emission permits may increase the threat of hot spots in two main ways. "First, trades may create unacceptably high local concentrations near sources that

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have acquired permits as an alternative to further control. Second, permits may allow the long-range transport of emissions to increase, thereby increasing deposition problems.” *Id* at 9).

<sup>45</sup> T. H. TIETENBERG, EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY, (Resources for the Future 1985).

<sup>46</sup> T.H. TIETENBERG, Editor’s Introduction in THE EVOLUTION OF EMISSIONS TRADING: THEORETICAL FOUNDATIONS AND DESIGN CONSIDERATIONS (1997), <http://www.p2pays.org/ref/07/06541.pdf>.

<sup>47</sup> Christopher Drew and Richard Oppel, Jr.; Jennifer Lee, *AIR WAR -- Remaking Energy Policy; How Power Lobby Won Battle Of Pollution Control at E.P.A.*, N.Y. TIMES, March 6, 2004.

<sup>48</sup> See Martha H. Keating and Felicia Davis, *Air of Injustice: African Americans and Power Plant Pollution*, CLEAR THE AIR, (2002).

<sup>49</sup> Ronald Jeurissen and Gerard Keijzers, *Future Generations and Business Ethics*, 14 BUSINESS ETHICS QUARTERLY 47 (2004).

<sup>50</sup> Daniel J. Carroll and Steven J. Weber, *EPA Needs to Consistently Implement the Intent of the Executive Order on Environment Justice*, Report No 2004-P-00007, OFFICE OF INSPECTOR GENERAL (2004).

<sup>51</sup> OFFICE OF ENVTL. JUSTICE, U.S. ENVTL. PROT. AGENCY, *Toolkit for Assessing Potential Allegations of Environmental Injustice* (2004), <http://www.epa.gov/compliance/resources/policies/ej/ej-toolkit.pdf>.

<sup>52</sup> See *Id.*

<sup>53</sup> Exec. Order No. 12,898, 3 F.F.R. 859 (1994), reprinted in 42 U.S.C. §4321 (1994).

<sup>54</sup> See, *Id.*

<sup>55</sup> See, *Id.*

<sup>56</sup> Rachel Kalman, *EPA’s Mercury Cap and Trade Rule: An Environmental Injustice for Women*, 13 CARDOZO J.L. & GENDER 111, 112-113 (2006) (citing the 200 Census which found that 29.3 percent of women are members of racial and ethnic minority groups. See, U.S. Census 2000, *Male-Female Ratio by Race Alone or in Combination and Hispanic or Latino Origin in the United States*, available at <http://www.census.gov/population/www/ce000/phc-t11.html>.)

<sup>57</sup> Exec. Order No. 12,898, 3 F.F.R. 859 (1994), reprinted in 42 U.S.C. §4321 (1994).

<sup>58</sup> Daniel J. Carroll and Steven J. Weber, *EPA Needs to Consistently Implement the Intent of the Executive Order on Environment Justice*, Report No 2004-P-00007, OFFICE OF INSPECTOR GENERAL (2004).

<sup>59</sup> *Id.* at i.

<sup>60</sup> *Id.* at 9.

<sup>61</sup> See generally Stephen M. Johnson, *Economics v. Equity: Do Market-Based Environmental Reforms Exacerbate Environmental Injustice?* 56 WASH. & LEE L. REV. 111 (1999); Pamela D. Harvey & C. Mark Smith, *The Mercury’s Flaming: The Massachusetts Approach to Reducing Mercury in the Environment*, 30 AM. J. L. AND MED. 245, 263 (2004).

<sup>62</sup> David L. McMurray, Jr., *Genomics & Ethnicity: Using a Tool in the U.S. Environmental Protection Agency’s Environmental Justice Toolkit*, 10 J. HEALTH CARE L. & POL’Y 187, 210 (2007) (quoting Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles’ Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL’Y. F. 231, 270-71 (1999).)

<sup>63</sup> David L. McMurray, Jr., *Genomics & Ethnicity: Using a Tool in the U.S. Environmental Protection Agency’s Environmental Justice Toolkit*, 10 J. HEALTH CARE L. & POL’Y 187, 211 (2007).

<sup>64</sup> *Id.* at 213.

<sup>65</sup> Rachel Kalman, *EPA’s Mercury Cap and Trade Rule: An Environmental Injustice for Women*, 13 CARDOZO J.L. & GENDER 111, 130 (2006).

<sup>66</sup> *Id.* at 130 (citing Catherine A. O’Neill, *Mercury, Risk & Justice*, 3 CTR. FOR PROGRESSIVE REGULATION (2004), [http://www.progressiveregulation.org/articles/Mercury\\_2004.pdf](http://www.progressiveregulation.org/articles/Mercury_2004.pdf)).

<sup>67</sup> *Id.* at 130 (citing Reps. Alcee Hastings and Hilda Solis, *With Clear Skies, Who are the Winners and who are the Losers?; Minorities Face Greatest Threat From Pollution, Roll Call* (April 21, 2005)).

<sup>68</sup> T.H. Tietenberg, *The Tradable Permits Approach to Protecting the Commons: What Have We Learned?* <http://www.colby.edu/personal/t/ttieten/TT.NRC4.pdf>.

<sup>69</sup> B.J. MCCAY, OYSTER WARS AND THE PUBLIC TRUST: PROPERTY, LAW AND ECOLOGY IN NEW JERSEY HISTORY (University of Arizona Press 1998).

<sup>70</sup> 104 Stat 2591.

<sup>71</sup> *Sustainable Development – Part 5: Emissions Trading*, 628 RACHEL’S ENVIRONMENT & HEALTH NEWS, December 10, 1998, <http://www.ratical.org/co-globalize/REHW628.html>.

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<sup>73</sup> *Id.* at 35.

<sup>74</sup> See, A. Denny Ellerman, *Emission Trading in the U.S.: Experience, Lessons and Considerations for Greenhouse Gases*, PEW CENTER ON GLOBAL CLIMATE CHANGE (2003), <http://www.pewclimate.org/docUploads/emissions%5Ftrading%2Epdf>. at 32.

<sup>75</sup> Bret Schulte, *Putting a Price on Pollution*, U.S. NEWS AND WORLD REPORT, May 14, 2007 at 37.