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# Trading the Earth: The politics behind tradeable pollution rights

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# TRADING THE EARTH: THE POLITICS BEHIND TRADEABLE POLLUTION RIGHTS

**Sharon Beder**

Tradeable pollution rights and emissions trading are being increasingly used as an environmental policy tool for pollution control. It allows firms to trade the right to emit specific pollutants. Tradeable pollution rights were originally developed in the USA to cut costs to industry and enable economic growth to continue in highly polluted areas but they are increasingly being used in other countries for air (Moore 1994) and water pollution (James 1994). They are now being proposed as a method for meeting Kyoto Protocol targets for greenhouse gas emissions. Firms such as BP and Shell have already established internal carbon trading systems (O'Brien 2000) and Canada has approved a privately run internet-based greenhouse gas emission reduction exchange (KEFI-Exchange 2000).

However pollution rights trading, or emissions trading, is aimed at minimising costs to firms rather than maximising environmental gains and past experience has shown that the environmental gains from emissions trading are far from guaranteed. This article seeks to expose the ways in which the theory and application of economic instruments, and in particular tradeable pollution rights, is shaped by the interests, values and ideologies of those who are promoting and implementing them.

There are two main types of economic instruments used in environmental policy, both of which aim to provide an incentive to use resources sustainably:

- Price-*based measures* use charges, taxes and subsidies to persuade polluters to reduce their discharges.

- Rights-*based measures* "create rights to use environmental resources, or to pollute the environment, up to a pre-determined limit, and allowing these rights to be traded" (Commonwealth Government 1990: 14).

The rationale behind rights-based measures is that environmental degradation results from incomplete ownership of rights to use valuable resources. Proponents of rights-based economic instruments argue that there is a strong tendency for people to overexploit and degrade common property resources. In situations where the environment cannot be privately owned, access rights or user rights can be owned. The idea of rights-based pollution control measures is to grant or sell such rights and establish markets in them. The market is then used to allocate a scarce resource—the capacity of the environment to absorb pollutants—in the most efficient way. David James (1991: 8), previously a Commissioner of the Australian Resource Assessment Commission, says:

> When factories, for example, dump organic waste into streams they cause damage if their rights to use the assimilative capacity of the resource are uncontrolled. The destruction of open-sea fisheries through unrestricted harvesting, the pollution of beaches resulting from sewage discharges, and land degradation resulting from overgrazing and overcropping of marginal lands, are all examples of poorly defined or allocated user rights.

## Origins of Tradeable Pollution Rights

Emissions trading in the US arose from government and business concern that economic growth would be constrained by air quality laws enacted as part of the Clean Air Act. Under these laws, maximum allowable concentrations for specific air

pollutants were set for each region. The problem for regions which were already over the maximum allowable concentrations (non-attainment areas) was how to achieve economic growth when industrial growth was likely to add to the pollution load and therefore would be illegal.

In response, regulators adopted an 'offset policy'. Initially, these offsets occurred within companies. Firms that wanted to expand had to reduce the emissions from their existing facilities so that the total amount of emissions when they built their new plant was no more than they had previously been discharging.

This then spread to external offsets. For example, in Oklahoma City, oil companies were persuaded by the local chamber of commerce to reduce their hydrocarbon emissions enough to allow a new General Motors car manufacturing factory to be established in the area. Elsewhere government facilities reduced their emissions to offset the effect of new private industries moving into their areas. In another situation, an oil company planning to build a petroleum processing plant that would discharge sulphur dioxide and hydrocarbons arranged to pay for the pollution control equipment for a dry cleaning business; to buy and close down a chemical factory; and to buy low-sulphur fuel for some ships in San Francisco Bay (Senneca and Taussig 1984: 233).

Such arrangements were formalised into a market for offsets—in fact, offsets became mandatory for major new sources of pollution in non-attainment areas. Trading in pollution quotas means that firms already in an overpolluted area can voluntarily reduce their emissions; in return they get 'emission reduction credits'. These credits can then be sold to firms wanting to move into the area. New firms have to buy 1.2 emission reduction credits for each unit of emission that will come from their plant. However, most offsets still occur within companies rather than between companies.

It was soon realised by the US authorities that offset policies were not enough to reduce pollution to acceptable standards; additional 'bubble policies' were introduced to deal with established industries. Such policies also started off by being applied to individual companies. An imaginary bubble with a single opening is placed over an industrial complex which actually has more than one point of discharge. This means that the stacks are not regulated individually, but standards are set for the total emissions of the whole complex. In this way, the company can meet the standards by reducing the emissions from those of its operations where it can be done cheaply and leaving other operations with above-standard emissions. The concentrations and volumes of emissions from the various operations are then averaged, and it is this average that must meet the standard. The regulator does not have to negotiate what pollution control equipment should be installed at each outlet point. This is left up to each company to decide.

The bubble concept seldom involves trading outside a company. However, the concept can be extended from one industrial company to a whole region and several firms. Standards are set, and firms are encouraged to reduce their pollution beyond the required standards to create emission reduction credits. Such credits can be stored for use later (in an emissions bank) when a firm may want to expand, or may be sold to another company that cannot meet the standard. Companies that cannot afford to meet the standards can buy emission credits from other companies and continue to exceed the standards.

Although bubbles have saved industries a lot of money, there is little evidence that they have benefited the environment in the same way. A 1989 study published by Hahn and Hester (1989), themselves advocates of tradeable pollution rights, found that the effect of bubbles on environmental quality was unclear:

> although we recognize that a few bubbles have enabled firms to avoid making emission reductions that they otherwise would have been required to make, there is no evidence to indicate what precise effects bubbles

> have had on air quality. We conclude that the net impact of bubbles on environmental quality has not been significant. (Hahn and Hester 1989: 129)

In another application of the idea of tradeable emission rights, the US Government has allowed the four major US CFC manufacturers to decide how they will meet the 15 per cent reduction in CFCs that the government is aiming for. They are able to buy and sell CFC production rights (Thompson 1990: 51).

## Setting Baselines and Caps

One of the problems with emissions trading is setting the level of emissions that individual firms have a right to emit so that trading can occur. If the baseline level is too low, there will be few pollution rights for sale—because few firms will be able to reduce their pollution levels below the standards set. However, if the baseline level is too high, there will be few buyers of pollution rights—because most firms will be able to meet the standards. In either case, there will be too little trading.

There are various ways that baselines can be set. In the past the baseline level was usually set in the USA by making it the same as existing license limits. Opponents of emissions trading point out that these established license limits have not enabled states to meet air quality goals and that, while further reductions in emissions are needed, surplus rights should not be traded. Proponents argue that the problems lie with the licensing system, and that these problems should not prevent cost savings being made through the use of emissions trading.

In practice pollution credit trading did not prevent pollution growth resulting from economic growth. Baselines were set and companies could gain credits from keeping their emissions below the baselines and sell them to companies who had emissions above the baseline but since new firms were given the same baselines as established firms, the total pollution continued to climb.

As a result of some of these problems a new form of trading was introduced—allowance trading. With allowance trading a prespecified number of allowances is allocated or auctioned off to polluters. The total allocation can be based on the estimated capacity of the environment to take a certain amount of pollution. New firms have to buy up allowances in order to operate at all, if they have emissions of the particular pollutant in question. This system is also referred to as "cap and trade".

In the first instance of allowance trading the US EPA, in March 1993, allocated allowances to emit sulphur dioxide, which is a primary cause of acid rain. A small percentage of the allowances (2.24%) were also auctioned off. $US21 million was raised by selling 150,000 'allowances' mainly to electricity companies. Each allowance allowed the company which paid for it to release 1 tonne of sulphur dioxide into the air after 1995. The price for each allowance was between $122 and $450, much cheaper than paying for flue gas scrubbers to remove sulphur dioxide from their emissions (Kiernan 1993: 10; Tietenberg 1997).

A similar alternative is to set baselines according to a reduction target. Authorities can work out what reduction in pollution they desire and make that the basis for deciding the allocation of permits. Those that have spare capacity on their permits or need to discharge more than they are permitted to can trade. Most recently three states in the USA have proposed such a system to clean up volatile organic compounds (VOC) in the air of non-attainment areas. The EPA has already approved one of these schemes in Chicago where it is hoped that VOC emissions can be capped at 12% less than 1996 levels. Companies that reduce their VOC emissions by more than 12% will receive credits that they can trade with companies that are unable to meet the 12% target (Hansen 2000).

The problem with such schemes is that if the baseline level is later found not to be the ideal ultimate level, or if new information comes to hand that means the regulator has to tighten the air quality standards, baseline levels will have to be reduced. How does that affect a firm's 'banked' credits? Would the government have to buy them back? Otherwise, according to Hahn & Hester, "reductions that were once surplus would then be required, thereby effectively confiscating the property right held by the firm" (Hahn and Hester, 1989). This also adds to the uncertainty of firms that may not be inclined to get involved for fear of having their banked credits devalued.

One way of dealing with this problem is to allocate shares rather than credits or permits. Based on their share of the total pollution allowed, the emitter would get a permit to emit a certain volume of pollution per time period. The permits could be bought and sold. The share would be owned forever but the volume of pollution it permitted could vary if, for example, it was found that the pollution needed to be more strictly controlled or, in the case of greenhouse gases, because of new international agreements.

There are various ways of allotting shares or permits as we have seen. The two main ways are usually referred to as grandfathering and auctioning. Grandfathering involves allocating shares or permits to firms on the basis of their past emissions. Firms that polluted more in the past would have larger shares. If the share or permit they are allocated is less than their normal emissions, or if they increase their emissions, then such firms would have to buy extra permits. Similarly they would be able to sell those they don't need if they reduce their emissions.

There are problems associated with each method. Auctioning means that each firm has to bear additional costs just to operate as they have to buy permits at auction to emit gases they had previously been emitting for nothing. This is especially hard for firms that are competing with overseas firms not having to bear these costs. It is for these reasons that auctioning appears to be less "politically acceptable", that is less acceptable to industry, than grandfathering. (AGO 1999)

Grandfathering, because it involves a free allocation to begin with, does not involve these costs. However, if the initial allocation is based on current emissions, firms may not have enough incentive to make the reductions necessary to meet targets. Also, grandfathering favours existing firms and disadvantages new firms wanting to set up. In order to establish itself, a new firm must buy up enough pollution rights to cover its emissions, or the government must increase the amount of rights available and give the new firm an allocation. Existing firms may be unwilling to make room for the new company and, if the government increases the rights available, pollution levels will increase.

Ironically, it is often easier and cheaper to install clean technology processes when a firm is newly established than to refit an older established firm with outdated and polluting equipment. Yet it is these new firms that could be squeezed out non-attainment areas if older firms are unwilling to compete with them. As the Australian Greenhouse Office points out, newcomers will be disadvantaged "thereby impeding domestic competition and innovation" which might otherwise lead to reductions (AGO 1999).

One suggestion is that shares could be allocated to new firms based on a mean figure for that industry, less a discount to account for the fact that new industries tend to have less emissions. The overall allocation could be reduced progressively over time (Young 1999).

**Practical Problems**

The evidence of how well tradeable pollution rights have worked in practice is mixed. Whilst proponents claim that a given environmental standard has been met for much less cost, opponents argue that the environment has benefitted little from such

schemes. For example in Los Angeles there are two schemes to improve air quality. One is the Regional Clean Air Incentives Market, RECLAIM, which enables the trading of smog causing nitrogen oxides and sulphur oxides. An internal audit by the South Coast Air Quality Management District found no significant emissions reductions between 1993 and 1997 when the audit was done. James Jenal from Citizens for a Better Environment claims this happened because companies were able to inflate the baseline of allowable emissions, enabling an additonal 40,000 tons of air pollution which would not have been allowed under the previous regulatory regime (TRAC 1998).

The second scheme introduced in Los Angeles, was a trading scheme enabling companies to offset their emissions by scrapping cars, that is, removing older more polluting cars from the roads. Some twenty thousand cars were scrapped in this way, but critics argue that these cars were often barely running and would not have continued to be used much longer anyway (TRAC 1998).

The introduction of emissions trading as a mechanism for achieving the Kyoto Protocol has the potential to enable similar "phony" reductions. The most obvious is the trading of emissions credits with Russia and other eastern European countries that are in economic decline. Russia's economic decline has meant that its carbon dioxide emissions have decreased by some 30% below 1990 levels. Now countries such as the US and Japan are looking to buy the right to those emissions which Russia is unable to use so that they don't have to reduce their own emissions. This will not benefit the environment or help to reduce the global emissions of greenhouse gases in the long-term. They are referred to as "hot air" or or "phantom" emissions reductions (Gupte 1998; Belliveau 1998).

The problem of inflated base-lines is also an issue for emissions trading in greenhouse gases. If a trading scheme is based on an initial free allowance based on past emissions, it is in the interests of polluting companies to put out as much greenhouse gases as possible in the next few years prior to such a trading scheme being introduced.

What is more, such a scheme rewards the worst polluters by giving them the highest entitlements to start with. This applies both to individual companies and to nations as well. Anil Agarwal and Sunita Narain, claimed in the publication *Down to Earth* that Australia was being rewarded for its poor record on deforestation. They argued that a significant proportion of the country's emissions have been from deforestation. "Emissions which are still present in the atmosphere and are causing global warming. But instead of being penalised for creating the problem in the first place, Australia has been able to use its high emissions to its advantage by winning the right to count any improvement from this position as its national credit."(Agarwal & Narain 1998)

It is often argued by economists that markets are more efficient than centralised government decision making because they automatically gather information and ensure that supply and demand are balanced and resources allocated efficiently. However, this sort of argument cannot be applied to artificially contrived markets such as those created for pollution rights since the need for monitoring and enforcement remains—the regulator still needs to know what volumes and concentrations of wastes are being discharged, and needs to ensure that the firm is paying the correct amount or deserves emission credits, even when that firm is being charged for its wastes. "Any system of environmental control needs inspectors to check whether claimed emissions, discharges or resource extractions are correct: they are not less 'bureaucratic' because they are tax inspectors rather than regulatory ones" (Jacobs 1993: 7).

> Emission reduction credit trades now frequently involve a broker. Brokers' fees are typically calculated as a percentage of the value of the transaction. Add to this the costs of accomplishing the air quality modelling that is frequently required for trades involving noncontiguous sources of nonuniformly mixed pollutants and the transactions costs can become very

> large. These costs serve to further reduce the cost savings from trades and therefore the incentive to trade, particularly when the potential savings are small.(Atkinson and Tietenberg 1991: 28)

**Philosophical Problems**

However, opposition to emissions trading is often at a more fundamental, moral level. Greenpeace campaigner Lisa Bunin expresses the horror some environmentalists feel towards the concept:

> This approach appears like a thinly veiled scheme to privatise air using 'marketable permits.' Industry simply does not have the right, nor should it ever be given the right, to make money off our air. Air is a part of nature that is priceless—it is essential to all life on earth. It must never be allowed to be quantified or traded by industry over the heads of communities, nor should industry be allowed to bribe communities into consenting to allow them to do so. ... In my view, it is a highly offensive and dangerous program that should be eradicated at the earliest opportunity. (Bunin 1991: 3)

Similarly, Richard Ayres, chair of the US National Clean Air Coalition, argues that trading in emission rights "takes a public resource and turns it into something that can be traded as if it were property". Others dislike the inherent assumption that a certain amount of pollution is acceptable. They question how a system of marketable permits will ensure a decreasing amount of pollution each year, since gains made by some firms will be negated by others buying up those gains so they can put out more pollution. The only way that pollution will be decreased each year is if pollution rights are reduced. However, firms are not going to take part in banking and trading their 'credits' if their pollution rights are reduced each year (Thompson 1991).

There is also the question of how localised pollution will be prevented, since some firms—those that buy up the pollution rights—will be putting above- standards emissions into the environment. What is to stop some neighbourhoods getting more pollution while others get less? Bunin suggests that such trading is likely to disadvantage poor communities who will find the air quality in their neighbourhood goes down as wealthy people negotiate and buy high air quality above their own heads.

An inherent assumption behind tradeable pollution rights and other economic instruments is that the environment can take a certain amount of pollution and that trading can ensure efficient allocation of that capacity to firms that need to utilise it. In other words, they assume that the environment has an assimilative capacity. This idea is based on the fact that some wastes, such as organic wastes that occur naturally, will decompose and break down in the environment if there are not too many of them in the one place at the one time. Other materials, such as some metals, may exist naturally in the environment at very low concentrations.

> The unspoken assumption behind all such models is that the capacity of the environment to tolerate a certain number of renegades is something that we ought, collectively, take advantage of. We ought to make sure that all those slots are taken, we ought allow just as many renegades as nature itself will tolerate.(Goodin 1992: 16)

This approach is highly dependent on the ability of scientists to assess the impact of pollutants on the environment and to determine a safe level that will not irreversibly or severely damage the environment. Greenpeace campaigner Lisa Bunin (1991) argues that emissions trading puts 'blind faith' in both science and the regulatory authority's ability to set an 'acceptable' baseline air quality standard, as well as to monitor and prevent deviations at each source.

Similarly Robert Fowler, a well known Australian environmental law expert and consultant to government, argues that traditional approaches to regulation which set

'allowable' discharges or emissions have failed to reduce global pollution and are rapidly losing credibility. He points out that plants and animals and ecosystems interact with chemicals in such complex ways that assumptions about assimilative capacity and 'safe levels' of pollution or exposure bear little relation to reality (Australian Environment Review 1991).

The alternative approach is to adopt the precautionary principle. Instead of purposely making economic use of what is thought to be the assimilative capacity of the environment, a precautionary approach would be to continually seek to reduce emissions that may harm the environment by reducing allowable discharges to zero over time rather than selling them off or auctioning them.

**Cost Effectiveness vs Environmental Effectiveness**

Little analysis of how emissions trading affects the environment has been undertaken. But the study done by proponents Hahn and Hester found that emissions trading did not improve the environmental quality. Instead, it saved money for industry. This is hardly surprising since one of the key motivations for the development of marketable permit systems was the potential for cost savings to polluters. An OECD report, which surveyed and evaluated the experience of OECD countries using economic instruments for environmental protection, states that:

> More consensus seems to exist regarding advantages of emissions trading in terms of economic efficiency than with respect to its environmental effectiveness. Substantial cost savings are reported by many authors on this subject. An important advantage of emissions trading over direct regulations is that it has facilitated continuous economic growth in dirty areas. (OECD 1989: 118)

Regulations are said to be inefficient because they require discharges from all firms to meet uniform standards regardless of their ability to meet them or alternatively require all firms to install particular pollution control technologies regardless of their ability to pay for them. Whilst this might improve environmental quality it is said to be at a high cost. Economic instruments, on the other hand, are said to permit "the burden of pollution control to be shared more efficiently among businesses" (Stavins and Whitehead, 1992: 9).

The idea is that some firms can reduce their pollution more cheaply than others and that it is more efficient to expect them to reduce their pollution more than those firms for whom it would be expensive. In this way the marginal costs of pollution control, that is the additional cost of achieving an extra unit of pollution reduction, would be equalised between the businesses. Those firms that could most afford to reduce their emissions could sell their excess credits to those companies least able to reduce their emissions. Proponents argue that a given level of air or water quality could be achieved more efficiently because the firms that could afford most to reduce their pollution levels would do so, rather than each firm reducing their pollution by the same amount. The chemical company Du Pont has estimated that its fifty-two plants achieved cost savings of over 86 per cent from the use of regional bubbles (Senecca and Taussig 1984: 232).

But often cost savings arising from economic instruments result directly from firms not having to make pollution reductions that would have been required if a legislative policy was in place. Hahn and Hester (1989: 129) found that emissions trading saved money for industry by enabling firms to "avoid making emissions reductions that they otherwise would have been required to make."

The conflict between economic efficiency and environmental goals can be seen in the setting of baseline levels for tradeable emissions. Even proponents of trading admit that there will inevitably be a conflict and an implicit trade-off between the goals of reducing costs and improving environmental quality. They argue that the US EPA's

concern with improving environmental quality has in fact hampered the effectiveness of trading and limited markets (Atkinson and Tietenberg 1991: 20-26; Hahn and Hester 1989: 198, 147).

**Removal of Decisions from the Political Arena**

Business people, bureaucrats and politicians have been attracted to the idea of economic instruments by the economists' promise that they will remove decision-making from the public arena thereby depoliticising environmental debates. The outcomes of environmental conflicts have been traditionally determined by the political process. Many economists don't like this system, however, preferring such decisions to be made by the market. Chant et al. argue that market-based instruments transform environmental conflicts from political problems to economic transactions:

> A major advantage of the market as an allocational device is that it provides a non-political solution to the social conflict raised by resource scarcity. Individuals obtain title to scarce resources through voluntary exchange and such exchange represents a solution to what would otherwise be a political issue. (Chant et al 1990: 20)

In contrast legislative policies are characterised by Chant (1990: 8) and his colleagues as engendering "an adversarial relationship among regulators, environmentalists, and private industry. As a result, excessive economic resources often have been used for litigation and other forms of conflict among concerned parties". Jeff Bennet (1991) has also argued that the political process of allocation of scarce environmental resources is "highly divisive, confrontationist and largely inefficient", because resources are misallocated and a great deal of time and money is spent on "the largely unproductive activities of lobbying and protesting." If, instead, he argues, the market could be used to allocate environmental resources on the basis of supply and demand, just as other choices are made (for example, between growing wool or wheat on a farm), they could be removed from the political arena.

Anderson and Leal (1991: 23) juxtapose the market with the political process as a means of allocating environmental resources and argue that the political process is inefficient, that is it doesn't reach the optimal level of pollution where costs are minimised:

> If markets produce "too little" clean water because dischargers do not have to pay for its use, then political solutions are equally likely to produce "too much" clean water because those who enjoy the benefits do not pay the cost... Just as pollution externalities can generate too much dirty air, political externalities can generate too much water storage, clear-cutting, wilderness, or water quality.
>
> Free market environmentalism emphasises the importance of market processes in determining optimal amounts of resource use.

Gary Sturgess (1991), former director-general of the New South Wales Cabinet office, is one of many who has been convinced by such arguments and has argued for market-based solutions to environmental problems as they have the potential to remove the politics from policy-making and to prevent politics from distorting decisions.

Politicians have seen the "environmental problem" as being one of potential politically damaging conflict. In making policy decisions in this area they are forced to make choices that inevitably put some sectors of the electorate off-side. Bureaucrats tend to see the "environmental problem" as more of a technical/managerial problem that can be solved more efficiently without political interference. Both politicians and bureaucrats have reason to prefer a solution that is technocratic and non-political and this is the way economists have sold economic instruments.

**Reaffirming Market Principles and Business Autonomy**

The heightening awareness of global and local environmental problems during the late 1980s in many countries around the world drew attention to the inadequacies of existing political, economic and regulatory structures. There were increasing demands from environmental and citizens groups for tightened environmental standards and increased government control of private firms and corporations. Green political groups challenged traditional political parties in elections with varying degrees of success. It appeared as if the free market economic system (like the socialist system) was unable to provide economic growth and environmental protection.

Under threat, business groups and governments looked to economic instruments as a way of avoiding stricter and more costly regulations that might inhibit economic growth; as a way of solving a political problem; and as a way of correcting and therefore preserving the free-market system. In 1991 the OECD (1991) issued guidelines for applying economic instruments and an Economic Incentives Task force was established by the US EPA "to identify new areas in which to apply market-based approaches" (Stavins and Whitehead 1992: 29). Similar units have been established in regulatory agencies in other countries including Australia where the Commonwealth Department of Environment, Sport and Territories has set up an Environmental Economics Unit with this as one of its objectives and the NSW Environmental Protection Authority has done the same. At the Earth Summit in Rio in 1992 business groups pushed for the wider use of economic instruments in conjunction with self-regulation (Schmidheiny 1992: chapter 2).

For some advocates, promotion of market-based instruments is a way of resurrecting the role of the market in the face of environmental failure. They claim that economic instruments provide a way that the power of the market can be harnessed to environmental goals (Tietenberg 1990: 42; Stavins 1989). Economic instruments, such as tradeable pollution rights, serve a political purpose in that they reinforce the role of the 'free market' at a time when environmentalism most threatens it.

Chant et al (1990: 62) argue that "contrary to the popular view that a market system leads to the abuse of the environment" it is in fact the absence of a market which leads to environmental degradation. They claim that where the environment consists of common property or ill-defined property rights then there are no markets "to price and allocate valuable environmental assets." Their underlying agenda comes through when they point out that the use of the price mechanism, such as effluent charges or tradeable pollution rights, not only corrects this situation but "has an important additional advantage in that it extends the operation of the market system and limits the growth of bureaucratic forms of government control" (1990: 66).

Similarly, Anderson and Leal (1991: 171) reveal their concerns with government intervention in the form of legislation when they say that "free market environmentalism emphasizes the importance of human institutions that facilitate rather than discourage the evolution of individual rights." They argue that even if legislation improves environmental quality it is at the expense of "individual freedom and liberty".

In 1978 Washington-based government officials were interviewed about their attitudes to economic instruments. Their responses indicated that their opinions about economic instruments were based on ideological arguments:

> Proponents of charges were endorsing, in a general ideological way, "the market," and excoriating government and bureaucrats: opponents of charges were uneasy about or hostile to "the market" and more convinced of the necessity for the government, bureaucrats and all. (Kelman 1983: 302)

Economic instruments also appeal to business people because they remove their polluting activity from the 'criminal sphere' and legitimise it. Unlike a fine that is

imposed for doing something wrong, a charge or a pollution right indicates that the activity is official and done with approval. The permission granted to go on doing that activity on a continuing basis also reinforces the perception that the activity cannot be wrong.

The environmental crisis of the 1980s brought with it calls for a new environmental ethic and changes in moral values that governed the human-nature relationship. At risk was the possibility that the profit-motive itself could be questioned and the corporations responsible for much pollution labelled as villains. Schultz identified this possibility early on when he said that what was needed for social welfare was "the identification, not of villains and heroes but of the defects in the incentive system that drive ordinary decent citizens into doing things contrary to the common good." (Kelman 1983: 297) Economic instruments make a virtue out of the profit motive and the pursuit of self-interest whereas those arguing for a new environmental ethic took the traditional approach of trying to combat self-interest through morality. Sara Diamond claims "Some farsighted corporations are finding that the best 'bulwark' against 'anti-corporate' environmentalism is the creation and promotion of an alternative model called 'free market environmentalism'" (Diamond 1991: 54).

## Conclusion

The real and potential benefits of tradeable pollution rights are ideological and financial rather than environmental. They were developed to reduce the costs of environmental protection to industry, to enable continued economic growth and to keep decision-making power in the hands of industry. They have not led to significant environmental quality improvements. The most often cited success case is the use of tradeable pollution rights for removing lead from petrol between 1982 and 1987. Whilst proponents claim it saved petrol refiners hundreds of millions of dollars those same proponents admit it "appears to have had very little impact on environmental quality... In Canada, lead in gasoline was eliminated by gradually raising standards set out in traditional regulations." (Cassils 1991: 10).

Many environmentalists have willingly accepted that "all the possible instruments at our disposal should be considered on their merits in achieving our policy objectives, without either ideological or neoclassically-inspired theoretical judgement" (Jacobs 1993: 7). In fact the ideological and political shaping of these instruments has been hidden behind a mask of neutrality. Stavins and Whitehead have argued that "Market-based environmental policies that focus on the means of achieving policy goals are largely neutral with respect to the selected goals and provide cost-effective methods for reaching those goals." (Stavins and Whitehead 1992: 8)

The portrayal of economic instruments as neutral tools removes them from public scrutiny and gives them into the hands of economists and regulators. Market-based measures grant the highest decision-making power over environmental quality to those who currently make production decisions now. A market system gives power to those most able to pay. Corporations and firms rather than citizens or environmentalists will have the choice about whether to pollute (and pay the charges or buy credits to do so) or clean up. Tradeable pollution rights mean that permission to pollute is auctioned to the highest bidder (Goodin 1992). In this way, companies can choose whether or not to change production processes or introduce innovations to reduce their emissions.

Economic instruments are being advocated as a technocratic solution to environmental problems which is premised on the neoclassical economist's view of the problem—that environmental degradation is caused by a failure to put a market value on the environment and a lack of properly defined property rights. By allowing this redefinition of the environmental problem, environmentalists and others implicitly agree that an extension of markets is the only way to solve the problem.

If environmental degradation is indeed a result of a failure to price environmental goods and therefore harness self-interest to the common good then economic

instruments could well provide a much needed solution. However, if environmental degradation has resulted from always making environmental concerns secondary to economic concerns, and having decisions made by people who see environmental resources merely as an adjunct to production, then economic instruments will merely perpetuate the problem and subvert any potential for political or value-based change.

Such political and ideological choices are not clear whilst environmentalists and others insist on viewing economic instruments, such as tradeable pollution rights, as neutral tools.

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