

NINE ISSUES AND MYTHS REGARDING THE IMPLEMENTATION OF EMISSIONS TRADING

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The views expressed in this paper are solely those of the author and are based on 26 years of experience designing and implementing emissions credit and quota trading programs around the world and his experience in many offset, bubble, SO₂ allowance, NO_x, and greenhouse gas transactions.

INTRODUCTION

Most treatises on emissions credit and emissions quota trading repeat or modestly extend the same story -- the importance of leveraging the energies and private information of industry to find cost-effective solutions to environmental problems. While these papers emphasize similar insights, they are still useful because the packaging of old and well-established truths into new vessels gives credence to the assertion that emissions trading concepts work. Nevertheless, given the plethora of papers and people arguing the benefits of emissions trading, one has to ask why more emissions credit or emissions quota trading programs do not exist.

This paper, therefore, will not discuss the benefits of emissions trading. Instead this paper considers some issues related to the implementation of emissions trading policies. These observations are offered with the hope that they might guide future public and private-sector advocates for emissions trading programs.

This paper addresses nine issues related to the implementation of emissions trading programs:

1. The role of industry in advocating emissions trading
2. The resistance of some stakeholders
3. The concerns of some companies
4. The speed at which prices are established
5. The importance of liquidity
6. The downward pressure on prices until scarcity or demand causes an increase in price
7. The failure of voluntary programs
8. Logical inconsistencies – we want uniformity but we want to account for differences
9. The bandwagon effect or “there is nothing as powerful as an idea whose time has come”

I. THE ROLE OF INDUSTRY IN ADVOCATING EMISSIONS TRADING

Industry has not been a strong advocate of emissions trading until recently, despite the large cost-savings that industry receives from emissions trading programs. To understand why this has been the case, an understanding of the development of emissions trading programs is necessary.

There are four well-developed and documented emissions credit and emissions quota-trading programs. These include:

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1. Emissions credit trading (the first emissions trading concept) -- the Offset Policy, Bubble Policy, credit banking, and netting. These credit-based trading systems started in 1976 and has produced over 5,000 environmentally sound trades.
2. Emissions quota trading to manage acid deposition started in 1990 and has produced billions of dollars in cost saving with no environmental degradation relative to command-and-control policies.
3. NO_x allocation trading in the Northeastern part of the United States started in the last year.
4. Greenhouse gas credit and quota trading under the Kyoto Protocol (concepts and experience from experiments are now becoming a commercial reality).

The first emissions trading program (Offset Policy in 1976) was developed with virtually no input from industry. This policy was aimed to help cite new emitting sources and only those few companies that could immediately benefit from the policy were engaged in advocating the policy.

The second program called the Bubble Policy (1978-79) also had little input from industry except for a few mid-level advocates in less than twenty organizations. These advocates were intrigued by the idea of the marketplace as a regulatory instrument but resisted the development of national policies to provide for trading. Instead, they focused on lobbying for immediate benefits for their individual companies.

While it is true that individual companies advocated trading-solutions that addressed their idiosyncratic compliance problems, appeals for national rules were subservient to the more parochial interests of single companies. This self-interest should not surprise anyone.

Classical economics suggests that companies and individuals will try to maximize their benefits, and developing a specific cost-effective compliance program for a single facility or company captures more benefits for one company than developing cost-effective environmental programs for the United States. A famous economist once noted that there is no constituency for nation-wide economic efficiency; commonsense tells us that there is a constituency for our own economic well-being. That is why self-interest trades – the Offset Policy, the Bubble Policy, so-called early crediting, and within company emissions trading programs blossom while national policy slowly takes shape. Yes, it is true that some companies advocated emissions trading activities when it came to their specific facilities; however, few companies, if any, aggressively advocated emissions credit or quota trading policies that would provide for homogenous policies across the country.

Nevertheless, once regulators began to advocate national policies, companies and trade organizations were drawn into the debate, more reactively than pro-actively.

The driving force for emissions trading came from public-sector economists, attorneys, policy analysts, and regulators who, for whatever reasons, saw cost-effectiveness as a worthy goal and the status quo as an impediment worth challenging.

2. THE RESISTANCE OF STAKEHOLDERS

While many diffuse stakeholders have advocated trading-based environmental programs, until recently there have been more agnostics and adversaries. Even among the advocates, there was a sizable group that was, in fact, fifth columnists for the status quo. Another group of so-called advocates was the broad middle of the “cautious unconverted.” Many stakeholders saw emissions trading as a direct threat to their livelihood and passively conspired to slow-down or thwart the development of emissions trading programs. Others legitimately worried about the unintended consequences of trading programs and were therefore cautious as to effectively impede its development.

Consider that some or most regulators and industry people were and are risk averse, belonging to the “devil you know verses the devil you do not know” theory of regulation. The existing system, with all of its imperfections, was at least understood and capable of being manipulated by learned and skilled industry and regulatory professionals. Emissions trading stood to create new “winners” in terms of economic and policy power. It also stood to elevate some skills and downgrade others in a variety of industries.

In fact, the many regulators who were required under the law to micro-manage facility-level decisions by developing more (in quantity) and more (in detail) regulations were directly threatened by emissions trading because it mooted the need for technology-based regulations that required regulator-specified technologies. After all, the fundamental rationale for emissions trading is that industry does not need to be told how to achieve inexpensive emissions reductions; industry only needs to be given the freedom to develop these reductions in a way that assures positive environmental outcomes. What was the need for those who had mastered the system of regulation writing and industry representatives who debated with these regulation writers? Their jobs could be made obsolete by emissions trading.

Such resistance only exists when emissions trading is replacing or complementing an existing regulatory program such as command-and-control, emissions charges (taxes) or voluntary agreements. New regulatory programs, by their very nature, do not yet have constituencies for the status quo.

3. THE CONCERNS OF SOME COMPANIES

Environmental economists do not study the distributional effects of regulations as much as the aggregate costs and benefits, yet distributional effects of a policy greatly influence its political viability. A command-and-control regulation that costs more than an emissions trading regulation generating a similar environmental outcome can have many beneficiaries. For example, many companies have a vested interest in the existing regulatory system that promotes specific technologies, and as a result, the cost-effectiveness of these technologies is a secondary consideration. The needs of society might be for cost-effectiveness. However, regulators under some command-and-control programs strive to promote the technology that creates the most emissions reductions, referring to this as the technologically best solution. But BAT (best available technology) creates economic rents at the cost of industry-wide cost-effectiveness. The goal should be to create the most environmental protection at the least cost, not to create the most environmental protection with the best technology. Somewhere overtime, the quest for the best technology became the goal instead of cost-effectiveness.

Obviously, command-and-control programs can create advocates for the status quo because these advocates can lose market share and revenues if policies are changed to allow for more flexibility.

Certainly there are companies under command-and-control models of regulation that have escaped regulation or that have created good arrangements with regulators under the existing system. Emissions trading systems might not benefit this minority.

4. THE SPEED AT WHICH PRICES ARE ESTABLISHED

Twenty real trades are worth 200 economic modeling studies. While economic studies of emissions control costs are valuable, real emissions trades reveal the true cost to avoid on-site emissions reductions. Economic modelers are not able to predict prices very well for many of the same reasons that regulators are not able to develop cost-effective command-and-control regulations. One reason is that neither modelers nor regulators have access to the detailed information about facility-specific control opportunities that companies possess. Another reason is that it is impossible to assess the inefficiencies in the existing regulatory program. A third reason is that the profit incentive, that is the foundation of emissions trading, drives the invisible hand of the marketplace toward research and development in ways that regulators never can.

Everyone seems to understand intuitively that real prices are far superior to the forecast prices generated by modeling studies -- the forward curve for prices is viewed by industry and traders is more important than even the best model.

Evidenced by the acid deposition control program that created SO₂ allowances trading, market prices will rapidly inform decision makers of their compliance alternatives and promote more commercial activity than any number of modeling studies. The first trades under the acid deposition program in the US happened more than a year after the law went into effect. The second and third trades happened only a few weeks after the first. Within a year, many trades had taken place and prices had become somewhat predictable.

5. THE IMPORTANCE OF LIQUIDITY

Liquidity in a market is created by a large number of market participants entering into many different transactions. The design of a regulatory program can greatly affect the liquidity in a market. For example, the US SO₂ market is quite liquid while the US emission reduction credit market under Title I of the Clean Air Act is not liquid. In the former, speculators help create enhanced liquidity while speculators shun the latter.

Regulatory designers should consider ways to increase liquidity. In general liquidity is increased with a larger geographic area for emissions trading, a greater number of participants, greater the regulatory certainty, and greater the heterogeneity of compliance cost of firms in the marketplace. Every market benefits from liquidity because it allows hedgers and speculators to allocate risk and project developers to plan over a longer time horizon. Liquid markets also reduce the market power of individual participants and increase confidence in the market as a viable alternative to producing or using emissions reductions in house.

Without a liquid market, business decisions predicated on the price of emissions credits or quotas become more risky because the market may be dry when a buyer seeks to execute a trade. Sellers facing an illiquid market risk driving down prices in the short term while buyers risk pushing prices up.

Speculators, traders, and other participants that keep the market liquid provide a public good by increasing the reliance on the marketplace.

6. THE DOWNWARD PRESSURE ON PRICES UNTIL SCARCITY OR DEMAND CAUSES AN INCREASE IN PRICE

In general, prices for emissions credits and emissions quotas have been lower than predicted.

Many analysts have written on why this may have been the case and this paper will not attempt to summarize the various explanations that have been put forward.

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While prices have been overestimated, this bias should not necessarily be expected to apply in all settings. This is because models are improving and modelers are likely taking into account previous mistakes.

Nevertheless, models will never have detailed information on the cost structure all facilities face, the business rationale of all businesses, and the criteria for investment decisions confronting all market participants.

It is safe to assume that in many situations, the existing inefficiencies in the current regulatory program are substantial and that emissions trading programs will yield compliance costs substantially below modeled outcomes, essentially repeating 26 years of experience.

However, the previous general statement might not cover all situations. For example, price forecasts for greenhouse gas credits and quotas are notoriously weak since the reductions required in the second Kyoto budget period are unknown and thus the behavior of countries and companies in 2008-2012 is also unknown. Therefore, greenhouse gas prices must also be unknown.

7. THE FAILURE OF VOLUNTARY PROGRAMS

There have been experiments with voluntary emissions trading programs but none have been successful in producing active markets. Voluntary trading programs may have been useful for knowledge building and capacity building but beyond that, voluntary programs have, at best, a checkered history.

What supports the conclusion that voluntary programs have not developed active markets? First, voluntary programs do not create a secondary market for trading emission reductions. Trades have been for demonstration purposes only. Second, few trades have actually occurred. Third, given the tendency for advocates to advertise success and minimize failures, the fact that there are few if any publications citing the successes of industry-wide voluntary emissions trading programs after 26 years of experience with these systems makes some policy analysts believe that any success must be very modest.

While it is possible to construct voluntary programs that do have market and regulatory traction, existing voluntary programs have succeeded only to the extent they serve as laboratories for new ideas and give legitimacy to actions that might have taken place anyway or were very inexpensive.

A final point, voluntary programs can take many forms. Canada has experimented with the PERT and GERT programs, and many demonstration projects such as the so-called Open Market system have been tried in the United States. There are other voluntary trading programs that go by other names. For example, it must be the case that under some national programs for voluntary agreement, some companies face higher marginal cost of control than others. It impossible to construct a voluntary agreement that would lead all facilities to the same cost of

control given the variability in the age of equipment and the uniqueness in each regulated facility. Some companies pay more to control emissions and others pay less. Yet the voluntary agreement has integrity because of the political *quid pro quo* between the companies within the industry and the regulator. While this may not be emissions credit trading and might be more like political trading, it is clear that there is trading of a sort. In this later case, more than cost-effectiveness is being traded. And in many cases such voluntary agreements are very useful. Nevertheless, when it comes to strictly cost-effectiveness, the invisible hand of the marketplace will guide countries and companies to better solutions than even the wisest industry negotiators.

The fact that voluntary trading has not been successful historically does not mean they cannot succeed in the future. The burden of proof, however, rests on the advocates of such programs.

8. LOGICAL INCONSISTENCIES

While many environmental groups and industries plead for uniformity in regulatory programs, they also want these programs to account for differences. Obviously these objectives are in conflict.

Simpler, more uniform programs may be easier to understand and may make the planning process easier but they do not take into account many of the complexities of the existing regulatory and economic environment into which these programs enter.

It is difficult to avoid developing an emissions trading program without creating a comparative disadvantage for some companies. The trade-off is clear, simplicity promotes more trades and greater efficiencies while accounting for differences can retard the development of the trading system and lead to a never-ending series of negotiations with industries and companies to establish special conditions.

Clearly, the tradeoff between simplicity and special accommodations is a political decision and, while experience can inform this trade-off, such a discussion is beyond the scope of this paper.

9. THE BANDWAGON EFFECT OR “THERE IS NOTHING AS POWERFUL AS AN IDEA WHOSE TIME HAS COME”

While successful emissions trading has resulted from the efforts of a relatively few people, many people claim parentage. A smart policymaker allows for many people to be part of the success even when they might have initially been hostile to emissions trading.

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In the private sector, there is now a constituency for emissions trading because companies have had to hire and train emissions traders in order to comply with existing regulations. In fact, there has been for some time, an association of emissions traders (the Emissions Marketing Association that represents the interest in the 300-400 commercial emissions traders). This constituency call help policy makers advance and refine emissions trading concepts because they bring to the discussion an understanding of how their companies will respond to market signals, not in some abstract way, but in the most concrete ways.

Regulators must find ways to leverage the energies on industry lobbyists and future emissions traders to reach the regulatory solution that best fits their commercial needs. While policy analysts might have one view, the lobbyist another, the trader may have a third. Reaching out to all assures a process and result that works for all. Emissions trading is now seen as an advanced policy and many people want to see their “finger-prints” on emissions trading policies. A smart regulator leverages these energies for the collective benefit of the environment and industry.

CONCLUSION

Emissions credit and emissions quota trading work. These programs achieve their intended goals. However, not all proposed emissions trading systems have been implemented even though they would have likely proved beneficial to society.

The art in helping to implement emissions trading programs is not in shouting ever-louder their great attributes but in understanding the truths associated with their design and implementation – in understanding what has worked, why, and in understanding what has created implementation failures.

Emissions trading is not a solution for every environmental problem and trading – based programs have not been easy to design and implement; but results are worth the effort. Designers and implementers of emissions trading systems will do well to understand what has happened in the past to avoid implementation problems tomorrow. As the saying goes: “Those who cannot remember the past are condemned to repeat it.”¹

¹ George Santayana.