

CAP AND TRADE OFFSETS: THE CASE FOR FOLLOWING RGGI'S MODEL RULE

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Introduction

The cap-and-trade of pollutants is often seen as the most politically acceptable form of regulating pollutants, such as carbon dioxide (CO₂), as it is seen as the lowest cost alternative of regulation and allows for innovative market responses within the regulated framework to lower costs. One of the regulation mechanisms that can be used to allow for these market innovations within a cap-and-trade market is inclusion of offsets into the market's framework. Offsets allow for credits to be given to off-site reductions of the emissions being regulated. The credits can then be bought and sold within the market to meet the requirements of regulation. However, offsets are often a highly contested and discussed portion of a cap-and-trade regulatory scheme due to issues surrounding the integrity of the offsets and concerns about additionality.¹ The offset provisions of the Regional Greenhouse Gas Initiative (RGGI) Model Rule address many of the potential issues surrounding implementation of an offset program, and providing an excellent model for developing offset provisions.

I. Overview of RGGI and Cap and Trade

I.1 What is RGGI?

RGGI is the first government-mandated CO₂ reduction program in the United States. It is a cooperative effort by ten states in the Northeast and Mid-Atlantic, each of which has its own individual CO₂ Budget Trading program, to create a unified Cap-and-Trade program. The individual states' programs are enacted through state regulations based around the RGGI Model Rule, which all allow for reciprocity of CO₂ allowances amongst the states. This allows for the ten states to create a single market place for carbon emissions.

I.2 What is Cap-and-Trade?

Most current and proposed carbon trading programs can trace their origins back to the Clean Air Act of 1990, which created a cap-and-trade system to

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¹ See Additionality – Carbon Markets, <http://www.global-greenhouse-warming.com/additionality.html> (last visited Jan. 3, 2010) (additionality answers a very simple question: Would the activity have occurred, holding all else constant, if the activity were not implemented as an offset project?).

lower acid rain producing emissions from power coal-fired power plants.² There is a wide consensus that the U.S. Acid Rain Program and other programs modeled on it have successfully lowered emissions at a lower cost than historic command-and-control systems.³ The environmental success coupled with the lower costs of these programs have made cap-and-trade the preferred approach to regulate emissions by politicians.

Cap-and-trade markets typically have 4 basic elements: 1) a cap, 2) allowances, 3) trading and 4) monitoring and enforcement.⁴ First, a “cap” must be set creating an absolute maximum limit on the emissions from the group of polluters that may be emitted during a given time period. The cap also establishes certainty for environmentalists and businesses as to how much of each pollutant that can or will be emitted. The second part of a program is that the cap level determines the number of permits, or “allowances,” (which allow the holder to emit a pre-determined amount of the regulated pollutant) that will be distributed for a given time period.⁵ The third element, trading, allows industries that are regulated by the cap-and-trade program to buy and sell allowances from other entities that are participating in the market.⁶ In theory a facility will buy allowances if the price of the allowance is less than it costs to reduce emissions, known as the entity’s marginal cost of abatement. In the alternative, an entity is encouraged to purchase fewer allowances if the price of the allowances is greater than its marginal cost of abatement.⁷ The final element, monitoring and enforcement, is to ensure that the market is not susceptible to gaming or manipulation, and that entities comply with the market regulations.

Since the cost of lowering emissions to meet regulation limits is not the same for every regulated entity, cap-and-trade allows companies to choose alternative cost effective ways to meet the requirements of the regulations according to their own cost structures.⁸ The promotion of emission reductions at those sources that have the lowest marginal cost of abatement - those that are able to achieve the reductions most cheaply - lowers the

² See 42 U.S.C.A. §§ 7401-7671q (West 2008).

³ See, e.g. Press Release, The White House, Executive Summary-The Clear Skies Initiative (Feb. 14, 2002), *available at* <http://www.whitehouse.gov/news/releases/2002/02/clearskies.html> (last visited Jan. 3, 2010)(stating that the Acid Rain Program “achieved significant reductions at two-thirds of the cost to accomplish those reductions using a ‘command and control’ system.”).

⁴ Market Advisory Committee to the California Air Resources Board, Recommendations for Creating a Greenhouse Gas Cap-and-Trade System for California (DRAFT – For Public Review), 6 - 7 (2007), *available at* www.climatechange.ca.gov/events/2007-06-12_mac_meeting/2007-06-01_MAC_DRAFT_REPORT.PDF (last visited Jan. 3, 2010). See also Dale S. Bryk, *Recommendations For Designing a Greenhouse Gas Cap-and-Trade System for California*, SN062 ALI-ABA 93, 105 – 107 (2008) (hereinafter “Recommendations for California”).

⁵ Recommendations for California, at 106.

⁶ *Ibid.*

⁷ *Idem.* at 107.

⁸ *Ibid.*

overall costs to the regulated industries and in turn to consumers and society as a whole. The fungibility of a pollutant is also something to consider when designing a cap-and-trade market. CO₂ and greenhouse gases are particularly suitable for trading on a large scale because those pollutants are particularly fungible due to the fact that the effect of the pollutants are not localised but rather have a global impact.⁹ Outside of the basic elements of cap and trade, a complete regulatory environment can incorporate other features, such as offsets from non-regulated sources and sectors to further reduce costs and allow for greater innovation.¹⁰

II. Offsets and the Economical Case for Offsets

While the Acid Rain Program markets have been effective in reducing emissions at lower costs than anticipated, CO₂ and other greenhouse gas pollutants do not have the same control options as SO₂ and NO_x.¹¹ Reductions in NO_x and SO₂ can be obtained through changes in fuel inputs as well as retrofitting plants with scrubbers, however at this time there is no effective way to add a carbon scrubber or change CO₂ output.¹² Offsets can help alleviate the difficulty in obtaining cost effective reductions in emissions through reductions by non-regulated entities.

“An offset is a credit for emission reductions achieved by an entity not [regulated] by the cap-and-trade system.”¹³ Offsets widen the scope of the regulatory scheme by including offset projects such as, afforestation, renewable energy production, and methane capture, to promote the achievement of overall emission reduction at a lower cost.¹⁴ Offsets can add a great deal of complexity to managing and operating a pollution market by requiring additional regulations involving the offset projects, but they also add to the economic efficiency of a cap-and-trade market, and stimulate greater innovations allowing for quicker and lower cost alternatives for reductions in emissions.¹⁵

⁹ See *idem.*, at 197.

¹⁰ *Idem.* at 107.

¹¹ Richard Cowart, *Carbon Caps and Efficiency Resources: How Climate Legislation Can Mobilize Efficiency and Lower The Cost of Greenhouse Gas Emission Reduction*, 33 VTLR 201, 208 (Winter 2008).

¹² See e.g. James Katzer et. al., *The Future of Coal: An Interdisciplinary MIT Study*, 95 – 103, available at <http://web.mit.edu/coal/> (discussing what steps must be taken in order for “clean coal” technologies to become available in the broader market).

¹³ Recommendations for California, *supra* note 3, at 161.

¹⁴ *Idem.* at 162; Laurie A. Ristino, *It's Not Easy Being Green: Reflections on the American Carbon Offset Market*, 8 SUSDLP 34, 34 (Winter 2008).

¹⁵ Victor Flatt, Northwestern University Law Review Colloquy December 17, 2007: *Taking The Legislative Temperature: Which Federal Climate Change Legislative Proposal is “Best”?*, 102 Nw. U. L. Rev. Colloquy 123 (2007).

II.1 Concerns Surrounding Offset Provisions of Cap-and-Trade

The basic idea of an offset - a credit for reductions in CO₂ emissions - seems simple, but in practice measuring something that never came into existence is very difficult and can facilitate gaming and false accounting.¹⁶ Offset credits may support projects that do not actually reduce emissions, or provide additional funding to support emission reductions that would have happened absent of payment or legal requirement.¹⁷ For example the European Union (EU) carbon market discovered that some offsets were fraudulently reported, inflating the number of credits in the market.¹⁸

II.2 Validity of Offsets

The main debate surrounding offsets is typically which ones should be allowed. To ensure that offsets do what they are intended to do, they will require significant consideration and advanced measurement techniques to ensure that the integrity of the offset credit is established.¹⁹ Stakeholders often express concerns that the governing body will be unable to ensure the integrity of emission reductions outside of the regulated market, which would negate the reductions in emissions that the market is trying to achieve.²⁰

This concern is only heightened by rent-seeking behavior of lobbyists that come to law makers hoping to make returns on investments with offset provisions designed for their industry or pet project, rather than proposing the lowest cost or most reliable means to reduce emissions.²¹ Examples of this were seen most recently during the comment period for the RGGI Model Rule where parties including Wal-Mart submitted comments hoping to establish practices they were already undertaking as eligible for offset credits.²²

Offset provisions should maintain high standards, allowing only projects that have tested and measurable reductions in emissions. In ensuring the validity of offsets, credits should only be given if they are “real or additional, quantifiable, excess to any regulatory requirements, permanent and enforceable.”²³

¹⁶ Dave Owen, *Climate Change and Environmental Assessment Law*, 33 CLMJEL 57, 94 (2008).

¹⁷ Ibid.

¹⁸ Flatt, *supra* note 15, at 143.

¹⁹ *Idem.* at 142.

²⁰ Recommendations for California, *supra* note 3, at 108.

²¹ Flatt, *supra* note 15, at 145.

²² Comments of Wal-Mart Stores, Inc., Regional Greenhouse Gas Initiative Draft Model Rule, at 3, available at http://www.rggi.org/about/history/public_comments (numerous other public comments are available as well that contain the same rent-seeking behavior).

²³ Kevin Doran, *United States Climate Policy: Using Market-Based Strategies to Achieve Greenhouse Gas Emission Reductions*, 3 EELPJ 31, 80 (2008). See also Stephen Gardner, *Finance: Creating a global carbon market*, ETHICAL CORP. (June 2, 2008) (discussing issues with offset credit validity in the Chicago Climate Exchange, “[t]he credits traded on the world’s largest offsets market, the Chicago Climate Exchange (CCX), lack transparency and have high

- Real or Additional: Reductions that have actually occurred, not emissions that could have been emitted but were not or are avoided emissions, and are not considered “business as usual.” (This is discussed in greater detail in the next section)
- Quantifiable: Can be measured with reasonable certainty.
- Regulatory Surplus: Emissions reductions must be surplus of any legal requirements.
- Enforceable: Independently verified and legally binding.
- Permanent: Projects should be “irreversible,” that is, the reductions should not be subject to backsliding or vulnerable to changes in external conditions.

Failure to create defined terms for offsets that ensure the validity of the projects will allow for projects that do not achieve the end goal of reducing emissions. This will allow excess emissions, negating the environmental benefits of the program. Further excessive offset project approvals will water down the value of offset credits. As the number of offset credits in the market increases the price received for these credits will decrease, reducing the profitability of offset projects which would meet the requirements of a stricter system that ensure valid reductions in emissions. Therefore it is in the interest of the environmental goals of the program, and the offset developers, for the standards of offset projects to remain high and ensure that emission reductions are actually achieved.

II.3 Additionality

One of the key concerns within the validity of the offsets is the additionality of the offset. Additionality is defined as “emission reductions that occur solely as the result of voluntary or regulatory greenhouse gas (GHG) market incentives, not reduction that would have occurred anyway.”²⁴ Additionality has been a criterion for developing offset approval standards under the Kyoto Protocol, as well as the Chicago Climate Exchange (CCX) and RGGI.²⁵ Environmentalists concern about offsets is that they will not deliver an additional environmental benefit equal to the emissions reduction required at the regulated facility.²⁶ This concern is often based around the variable quality of offsets that can be purchased through retail outlets and even through other regulated markets such as the CCX and the EU market.²⁷

risks associated with their measurability and verification, he says. CCX credits are generated by a variety of projects including methane trapping, restoration of carbon-rich soils, and renewable energy. For the credits ‘to get to the level where they would be acceptable for a global programme would take at least five years,’ Ewing says”).

²⁴ Ristino, *supra* note 14, at 34.

²⁵ Recommendations for California, Appendix B: Glossary AB 31, *defining* “Additionality” at 190.

²⁶ *Ibid.*

²⁷ Ristino, *supra* note 14, at 35; *Gardner*, *supra* note 23.

III. The Kyoto Protocol and Project-Based Mechanisms

Project-based mechanisms under the Kyoto Protocol allow entities to earn emission credits through the reduction of emissions.²⁸ First a baseline target must be certified and verified for an individual project, typically a business-as-usual scenario, then emission credits equivalent to the reduction in emissions below the baseline will be issued to the entity.²⁹ Project-based mechanisms are similar in effect to offsets by increasing the variety of possible GHG reduction options, with the goal of lowering overall costs. However, project based mechanisms can have high transaction costs due the individual certification, validation and monitoring costs associated with each project.³⁰ These high transactions costs can inhibit the entrance of smaller offset projects into the market, limiting the amount of market participants.

Project-based mechanisms under Kyoto are being used by the EU market for both 'Joint Implementation' (JI) and 'Clean Development Mechanisms' (CDM). When offsetting projects are located in countries without a Kyoto target (non-Annex I Parties) they operate under the CDM, while if projects are in a country with a Kyoto target they operate under JI. However, the validity of the individually certified system has sparked criticism from the media that "polluters are encouraged to invest in supposedly carbon-saving projects ..., very few of which promote clean energy at all."³¹ Other investigators have found that projects have been approved without proper certification while exaggerating the benefits provided.³² These concerns have pushed policy experts to recommend that future greenhouse gas markets should not accept Kyoto CDM credits until standards are improved.³³ The case-by-case method of approving emissions reductions is more susceptible to manipulation and gaming of the system since there are no standards set for projects, which results in credits being issued for emissions reductions that did not occur, undermining the goal of the mechanism and the value of other valid offsets.

Another issue surrounding the CDM is concerns over whether the offsets pass the additionality standard, meaning the reductions are additional to

²⁸ OECD/IEA Project for the Annex I Expert Group on the UNFCCC, *Linking Project Based Mechanisms with Domestic Greenhouse Gas Emission Trading Schemes*, 14 (2004) available at, www.iea.org/textbase/papers/2004/bosi_bygrave.pdf.

²⁹ Ibid.

³⁰ Ibid.; Kirsten Engel, *Harmonizing Regulatory and Litigation approaches to Climate Change Mitigation: Incorporating Tradable Emissions Offsets into Common Law Remedies*, 155 U. PA. L. REV. 1563, 1601 (2007).

³¹ See e.g. Press Release, Dag Hammarskjold Foundation, New Book Exposes Scandal of Carbon Trading, available at www.wrm.org.uy/actors/CCC/Nairobi/Bad_South_North_Climate.pdf.

³² Julio Godoy, *Kyoto Protocol's clean development mechanism requires 'radical reform'*, THE DAILY STAR, LEBANON (March 19, 2009), available at http://www.dailystar.com.lb/article.asp?edition_id=1&categ_id=1&article_id=100174.

³³ Recommendations for California, supra note 3, at fn 63.

those that would have happened in the absence of the market incentives. A review of CDM auditors found that many were not “fulfilling the requirements and expectations of the CDM Executive Board.”³⁴ Further there is also the belief that manufacturers in developing countries are not installing emissions reducing equipment in order to keep emissions high in hopes of positioning themselves to sell credits to the EU Market.³⁵ This further advances the concern over the additionality of CDM credits as it implies that manufacturers would have installed the emissions reductions equipment without the market incentives, and that the manufacturers wait longer to reduce their emissions until they will benefit from the CDM credits. This breaks the additionality requirement of offset credits, and undermines the goal of creating an emission regulation to reduce CO₂ emissions.

The Kyoto case-by-case method of approval of offsets projects is not recommended, as the process is susceptible to manipulation that results in projects being certified that do not actually reduce the purported amount of emissions. Further the process does not adequately ensure that emissions reductions are additional to those that would have happened in the absence of the incentives to meet the additionality criterion of proper offsets. Finally the case-by-case process is administratively tedious and expensive requiring significant measurements and calculations for each project, which may limit smaller projects from participating.

IV. Strength of the RGGI Model Rule Offset Provisions

When regulators or legislators are determining the possibilities for offset projects in a regulatory scheme, selecting a small, but “heavily vetted” group of possibilities, “while having a mechanism to approve new offsets” would be the preferred approach.³⁶ Ensuring the validity of offsets credits and overall program integrity requires that the regulations only allow credits that are real or additional, quantifiable, a regulatory surplus, enforceable and permanent. Regulators are increasingly using a “standards based” approach, whereby generic performance standards criteria are developed and then applied to individual project requirements.³⁷ The developers of the RGGI Model Rule used a similar set of standards to determine projects that are eligible for offset credits.³⁸

The RGGI Model Rule offset provisions provide an excellent model of a small group of projects that have strict criteria for being allotted market

³⁴ Öko-Institut e.V., *A rating of Designated Operational Entities (DOEs) Accredited under the Clean Development Mechanism*, at 5 (May 27, 2009), available at <http://www.oeko.de/oekodoc/902/2009-020-en.pdf>.

³⁵ Gary Bryner, *Reducing Greenhouse Gases Through Carbon Market*, DENV. U. L. REV. 961, 978 (2008).

³⁶ Flatt, *supra* note 15, at 144.

³⁷ Recommendations for California, *supra* note 3, at 163.

³⁸ *Ibid.*

credits.³⁹ The RGGI Model Rule allows for only a limited number of project categories where the requirements were “developed to ensure that offset projects represent CO₂-equivalent emissions reductions or carbon sequestration that is real, additional, verifiable, enforceable, and permanent.”⁴⁰ In planning the offset requirements the designers consulted with both agency heads and stakeholders to pursue a benchmark or performance standard approach. This creates transparency in the approval enabling developers and interested parties to understand the program requirements before applying for approval.

In order to receive offset credits, the project sponsor must first submit a Consistency Application demonstrating that the project meets the regulatory requirements.⁴¹ Then the regulating state must deem the project to be consistent with the requirements.⁴² Projects determined to comply with the requirements must submit ongoing monitoring and verification reports demonstrating the achievement of the emission reductions prior to any award of offset allowances by an RGGI participating state.⁴³

While the development of the regulations may be burdensome, the detailed standards promulgated by RGGI will streamline approval and lower transaction costs for the projects.⁴⁴ Lower transaction costs are important to encourage smaller offset developers to enter the market. Along with the defined standards, the RGGI program also establishes numerical and geographical limits on offsets so as not to go against the regulatory goal of reducing emissions from the power sector.⁴⁵

Conclusion

Policy makers should take a disciplined approach to creating a regulatory cap-and-trade scheme, learning from the strengths and weaknesses of previous markets. Offsets expand the market’s ability to innovate and create more cost effective methods of emissions reductions, thus lowering the overall cost of the regulatory framework. New regulations must allow only high quality offset projects that will actually reduce the purported amount of emissions to ensure that meaningful climate change mitigation is achieved.⁴⁶

³⁹ Ibid.

⁴⁰Regional Greenhouse Gas Initiative, Offset Requirements
http://www.rggi.org/offsets/offset_requirements (last accessed Sept. 21, 2009).

⁴¹ Regional Greenhouse Gas Initiative, Application Process
<http://www.rggi.org/offsets/process> (last accessed Jan. 3, 2010).

⁴² Ibid.

⁴³ Ibid.

⁴⁴ See Regional Greenhouse Gas Initiative, Offset Requirements, Appendix C: Lessons Learned From Experiences with Other Cap and Trade Systems, at 206.
http://www.rggi.org/offsets/offset_requirements (last accessed Sept. 21, 2009).

⁴⁵ See REGIONAL GREENHOUSE GAS INITIATIVE MODEL RULE, XX-6.5(a)(3), XX-10.3(a)(2) & XX-10.3(b) *available at* http://rggi.org/model_rule_key_documents_link.

⁴⁶ Laurie Ristino, *supra* note 14, at 37.

The case-by-case approval process used under Kyoto to determine baseline emissions and ensure additionality for each individual project is administratively burdensome, creating high transactions costs.⁴⁷ The system tends toward giving credits for projects that do not meet the additionality criteria, or an exaggeration of actual emission reductions. This increases the amount of credits in the market, deflating the value of offset projects that would meet stricter standards. The standards-based approach limits the types of projects that can be approved, and provides strict criteria to ensure that the goals of the regulations are met. Further it ensures offset project developers that the value of the credits will not be watered down by falsified credits. Therefore, future CO₂ regulation should adopt the standards based approach used by RGGI to develop offset projects to ensure the validity of offset credits and maintain the integrity of the market.

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⁴⁷ Recommendations for California, Appendix C: Lessons Learned From Experiences with Other Cap and Trade Systems, *supra* note 3, at 206.

