

CLEARING THE AIR: PURSUING A COURSE TO DEFINE THE FEDERAL GOVERNMENT'S ROLE IN THE VOLUNTARY CARBON OFFSET MARKET

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INTRODUCTION

The carbon offset market grew out of the binding carbon-reduction commitments made by the Kyoto Protocol signatory nations.¹ The treaty requires signatories to establish emissions objectives for the five-year period starting in 2008 and ending in 2012.² The thirty-seven industrialized nations that are signatories to the treaty are required to reduce greenhouse gases (GHGs) by an average of 5% below 1990 levels starting in 2008.³ The Kyoto Protocol provides signatory nations flexibility in meeting GHG reduction targets. The carbon offset market is one of the tools that the signatory nations developed in order to meet those treaty obligations.⁴ The carbon offset market works by matching a reduction in GHG emissions in one location with continuing emissions elsewhere.⁵

The carbon market in the United States is almost entirely unregulated, in contrast to the European carbon market, which is highly regulated as part of a mandatory GHG reduction program designed to achieve compliance with the Kyoto Protocol.⁶ The United States has neither ratified the Kyoto Protocol nor made a binding commitment to reduce GHG emissions, so the use of carbon offsets in the United States is voluntary.⁷ As a result,

1. See LARRY PARKER, CONG. RESEARCH SERV., CLIMATE CHANGE: THE EU EMISSIONS TRADING SCHEME (ETS) ENTERS KYOTO COMPLIANCE PHASE 1 (2008) (examining the development of the carbon offset market in the European Union). The Kyoto Protocol is followed by 184 countries. Afghanistan, Andorra, Brunei, Chad, Iraq, San Marino, Somalia, Taiwan, the United States, and Zimbabwe do not follow the Kyoto Protocol. See UNITED NATIONS, KYOTO PROTOCOL STATUS OF RATIFICATION (2009), http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification.pdf (listing countries that have ratified or approved the Kyoto Protocol).

2. PARKER, *supra* note 1.

3. United Nations Framework Convention on Climate Change, Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php (last visited Oct. 28, 2009); UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, KYOTO PROTOCOL REFERENCE MANUAL ON ACCOUNTING OF EMISSIONS AND ASSIGNED AMOUNT 13 (2008), http://unfccc.int/resource/docs/publications/08_unfccc_kp_ref_manual.pdf.

4. See PARKER, *supra* note 1 (noting that the European Union's decision to adopt a carbon trading program in order to achieve compliance with Kyoto emissions reduction targets was based on the success of the emissions trading program used in the United States to control sulfur dioxide).

5. See Tseming Yang, *The Problem of Maintaining Emission "Caps" in Carbon Trading Programs Without Federal Government Involvement: A Brief Examination of the Chicago Climate Exchange and the Northeast Regional Greenhouse Gas Initiative*, 17 FORDHAM ENVTL. L. REV. 271, 272–74 (2006) (discussing how various cap-and-trade programs function).

6. Compare PARKER, *supra* note 1, at 3–10 (describing the highly regulated structure of the European Union carbon market), with U.S. GOV'T ACCOUNTABILITY OFFICE, CARBON OFFSETS: THE U.S. VOLUNTARY MARKET IS GROWING, BUT QUALITY ASSURANCE POSES CHALLENGES FOR MARKET PARTICIPANTS 19–23 (2008) [hereinafter GAO REPORT] (noting the federal government's limited oversight role in the voluntary carbon market).

7. See Jane Kay, *Paying to Absolve the Sin of Emissions; Consumers Snapping up Carbon Credits to Allay Their Guilt over Greenhouse Gases*, S.F. CHRON., Apr. 15, 2007, at A1 (explaining that the carbon market in the United States is voluntary because the United

consumers and businesses in the United States generally buy carbon offsets to prepare for future regulation, receive good publicity, and help the environment. One survey indicated that companies that are not seen as environmentally friendly will lose their market share, giving companies a strong incentive to purchase carbon offsets so they can claim carbon neutrality.⁸ Companies also participate in the voluntary market in preparation for a future mandatory GHG emissions-reduction program, hoping that the offsets purchased today will be usable under a future emissions cap.⁹ Additionally, many companies are working to reduce or offset their emissions on a voluntary basis because they hope that their actions will help mold future regulation.¹⁰ The total value of the U.S. voluntary carbon market in 2008 was estimated to be \$705 million with 123.4 million tons of carbon dioxide (CO₂) equivalent sold.¹¹ It is estimated that the size of the market will continue to increase in the coming years.¹²

This Comment will examine the consequences of the lack of regulations in the U.S. carbon offset market and discuss tools that federal agencies may use to regulate and strengthen certain aspects of the voluntary carbon offset market. Part I of this Comment examines the mechanics of the carbon offset market in the United States. Part II reviews the current statutory authority that allows the Federal Trade Commission, the Department of Energy, and the Environmental Protection Agency to issue regulations covering the voluntary carbon offset market. Part II also discusses private

States does not follow the Kyoto Protocol and there is no emissions cap in the United States).

8. See Andrea Billups, *FTC Reviews Rules to Keep Advertisers True 'Green,'* WASH. TIMES, Mar. 4, 2008, at A1, available at <http://www.washingtontimes.com/news/2008/mar/04/ftc-reviews-rules-to-keep-advertisers-true-green> (discussing a need for restrictions on false environmental marketing claims).

9. ROSS W. GORTE & JONATHAN L. RAMSEUR, CONG. RESEARCH SERV., FOREST CARBON MARKETS: POTENTIAL AND DRAWBACKS 7 (2008).

10. See Miguel Bustillo, *A Shift to Green; Driven by Profit and the Opportunity to Shape Regulations, Major Corporations Are Backing Stronger Measures to Reduce Global Warming*, L.A. TIMES, June 12, 2005, at C1 (discussing corporate motives for advocating stricter GHG emissions regulation).

11. KATHERINE HAMILTON ET AL., FORTIFYING THE FOUNDATION: STATE OF THE VOLUNTARY CARBON MARKETS 2009, at 6 (2009), http://ecosystemmarketplace.com/documents/cms_documents/StateOfTheVoluntaryCarbonMarkets_2009.pdf. It is estimated that 28% of the offsets bought in the retail market were created by projects in the United States. *Id.* at 8. The exact value of the carbon market in the United States is unknown because the market lacks transparency. See GAO REPORT, *supra* note 6, at 13 (explaining the difficulty in determining which portion of the market the United States accounts for because transactions occur across international boundaries and are private).

12. See GAO REPORT, *supra* note 6, at 13 (explaining that exact growth projections for the carbon market in the United States are unknown, but the market is part of a world market that is expected to grow rapidly).

regulatory options for the carbon offset market. Part III discusses how regulation could improve the functionality of the voluntary carbon market in the United States. Part IV examines possible regulatory solutions for the voluntary carbon offset market in the United States. Part V argues that a voluntary carbon offset market should be part of any legislative solution aimed at reducing GHGs. Finally, this Comment concludes that regulation of the voluntary carbon offset market is necessary for the market to make a meaningful contribution to reducing GHGs and preventing climate change.

I. THE CARBON MARKET

A. Carbon Offsets

A carbon offset is a measurable reduction or avoidance of GHG emissions.¹³ Projects that provide carbon offsets generally fall into four categories: biological sequestration,¹⁴ renewable energy projects, energy efficiency, and reduction of non-CO₂ emissions from specific sources.¹⁵

Because carbon offsets represent something that is not physically tangible, the credibility of carbon offsets is important.¹⁶ In order for an offset to be credible it must be “additional,” “permanent,” and only counted once.¹⁷ *Additional* means that the offset project would not have occurred without the funding provided by selling the offset.¹⁸ Additionality is often

13. JONATHAN L. RAMSEUR, CONG. RESEARCH SERV., VOLUNTARY CARBON OFFSETS: OVERVIEW AND ASSESSMENT I (2007).

14. *Biological sequestration* refers to projects that use trees, plants, and soil to trap carbon, removing it from the Earth’s atmosphere. Examples of biological sequestration projects include planting trees, preserving forest land, and using agricultural practices that reduce the amount of carbon released into the atmosphere. *Id.* at 4–5; see also Robert R. Nordhaus & Kyle W. Danish, *Assessing the Options for Designing a Mandatory U.S. Greenhouse Gas Reduction Program*, 32 B.C. ENVTL. AFF. L. REV. 97, 124–26 (2005) (suggesting a carbon-credits system that accounts for corporations’ sequestration of GHGs).

15. Reduction of non-CO₂ from specific sources refers to reductions from GHG emissions sources that are not generally controlled by law. These agricultural, industrial, and waste management sources emit methane, nitrous oxide, or hydrofluorocarbons as a byproduct of their operations. This category encompasses a wide variety of projects from methane flaring at landfills to the abatement of HFC-23 emissions during the production of refrigerants. See RAMSEUR, *supra* note 13, at 4–9 (explaining *additionality* and how this test can help avoid compensating industry actors who offset GHGs in the ordinary course of business).

16. See Moises Velasquez-Manoff, *It’s Tricky to Trap Carbon*, CHRISTIAN SCI. MONITOR (Boston), Jan. 10, 2007, at 13 (noting that it is difficult for consumers to evaluate quality because carbon offsets are an intangible commodity).

17. See RAMSEUR, *supra* note 13, at 3–4 (outlining the factors that make an offset credible).

18. The difficulty in determining additionality lies not in the definition but in creating a method to measure whether the project would have happened anyway. Market participants disagree as to whether additionality should be judged by performance benchmarks or on a case-by-case basis. See GAO REPORT, *supra* note 6, at 26–27 (describing eight different

hard to determine because, to a certain degree, it requires project developers and offset sellers to predict the future.¹⁹ In the offset market context, *permanent* means that carbon will not be released into the atmosphere at a later date.²⁰ Finally, emissions reductions from offsets must only be counted once; otherwise, subsequent emissions are not actually offset because there are no corresponding reductions.²¹

B. Selling and Producing Offsets

Both nonprofit and for-profit companies sell carbon offsets.²² Companies usually sell offsets through their websites.²³ Some sellers have deals with travel websites such as Travelocity and Orbitz so that consumers can purchase offsets when booking a flight.²⁴ When purchasing carbon offsets, consumers often use carbon calculators on companies' websites to

standards that are used to judge additionality). As one commentator has noted, the low price of offsets prevents them from being truly additional because there is not enough of a financial incentive for providers to change their behavior. David A. Fahrenthold, *Value of U.S. House's Carbon Offsets Is Murky*, WASH. POST, Jan. 28, 2008, at A1. One thing that all commentators can agree on is that projects that are required by law are not additional. See, e.g., RAMSEUR, *supra* note 13, at 1–2 (noting that GHG emissions reductions achieved as part of a mandatory GHG emissions-reduction program are not additional).

19. Frequently, it is difficult for the project developers themselves to know what would have happened with the project if they did not get money from the offset market. See CLEAN AIR COOL PLANET, A CONSUMER'S GUIDE TO RETAIL CARBON OFFSET PROVIDERS 4 (Bill Burtis ed., 2006), <http://www.cleanair-coolplanet.org/ConsumersGuidetoCarbonOffsets.pdf> (discussing the problems inherent in determining additionality); see also Fahrenthold, *supra* note 18 (giving examples of projects with dubious additionality characteristics where the sellers were uncertain of whether the project would have gone forward without the offset funding).

20. Offset projects that sequester carbon by planting trees raise the largest permanence concerns. The trees might later die, be cut down, or burn down, thereby re-releasing the CO₂ into the atmosphere. See GORTE & RAMSEUR, *supra* note 9, at 17–18 (discussing permanence concerns posed by forestry-related biological sequestration projects). One example of the problems inherent in forestry-related sequestration is that in 2003, Coldplay planted 10,000 mango trees to offset the carbon emissions of their world tour, but then the trees died due to neglect. Barbara De Lollis, *Can You Be Traveling Green by Buying Offsets?*, USA TODAY, Mar. 2, 2007, http://www.usatoday.com/money/industries/energy/2007-03-02-offsets-usat_x.htm.

21. RAMSEUR, *supra* note 13, at 3. Some commentators are concerned about double counting because very few offset retailers use registries to track the offsets they sell. See discussion *infra* Part II.C.

22. According to the Government Accountability Office (GAO), 210 organizations and corporations provide offsets, eighty-seven of which are based in the United States. GAO REPORT, *supra* note 6, at 10. Offset providers include project developers that sell their offsets directly to consumers, wholesalers that sell in bulk, and intermediaries that match project developers with consumers. *Id.* See generally CLEAN AIR COOL PLANET, *supra* note 19 (grading various carbon offset sellers).

23. See CLEAN AIR COOL PLANET, *supra* note 19, at 1–2 (discussing the Internet market for offsets consumers).

24. See De Lollis, *supra* note 20 (discussing deals between offset sellers and travel sites).

calculate their emissions and then purchase corresponding amounts of offsets.²⁵ The factors that the calculators take into account in estimating an individual's GHG emissions, however, are often not disclosed, leaving consumers with no metric to compare them.²⁶

Offsets are produced either by sponsoring projects that reduce GHG emissions directly or by intermediaries that buy offsets from producers and package them for resale.²⁷ Offsets created by intermediaries are called pooled carbon commodities.²⁸ Selling pooled carbon commodities, however, raises concerns about additionality²⁹ and transparency³⁰ similar to concerns about offsets that come from a single project.

The first step in measuring the reduction in GHG emissions achieved by an offset project is to make a baseline determination of what the emissions would have been without the project.³¹ The baseline determination is the point from which the offset producer measures the amount of GHG emissions avoided by the project.³² An accurate baseline determination is important because if offset sellers overestimate the baselines, they can claim more offsets than they actually generate. This practice would allow sellers to sell offsets for GHG emissions that were not reduced, raising the same concerns as double counting.³³

Offsets are often sold before the project is completed in order to raise money for the project.³⁴ A debate currently exists among market

25. See Kay, *supra* note 7 (explaining how carbon calculators estimate a person's GHG emissions).

26. See Michael P. Vandenberg & Anne C. Steinemann, *The Carbon-Neutral Individual*, 82 N.Y.U. L. REV. 1673, 1736 (2007) (arguing that the government should encourage the carbon offset industry to develop and enforce private standards governing carbon calculators).

27. See CLEAN AIR COOL PLANET, *supra* note 19, at 13 (explaining how the intermediary carbon market functions).

28. Pooled carbon commodities include Renewable Energy Certificates (RECs), which represent GHG emissions reductions achieved during electrical generation, and Carbon Financial Instruments (CFIs), which are the emissions reduction credits traded on the Chicago Climate Exchange (CCX). *Id.* at 11–13.

29. The only additionality requirement of an REC is that the project not be required by law. Often, REC projects develop for reasons entirely independent of the funds from selling the resulting credits. *Id.* at 11.

30. The CCX is a private market, and CCX protocols for offset projects are not made publicly available. *Id.* at 13. Because protocols for offsets are unavailable, it is difficult to judge the quality of the resulting offsets. *Id.*; see also David A. Fahrenthold & Steven Mufson, *Cost of Saving the Climate Meets Real-World Hurdles*, WASH. POST, Aug. 16, 2007, at A1 (reporting the difficulty in tracking consumer funds used to purchase wholesale offsets).

31. See RAMSEUR, *supra* note 13, at 3.

32. The baseline determination is also often referred to as the "business-as-usual" scenario. *Id.*

33. See *id.* (explaining that project developers have an incentive to overestimate the baseline because a high baseline determination means more offsets can be sold).

34. See CLEAN AIR COOL PLANET, *supra* note 19, at 6 (noting that companies may be

participants as to how to properly discount offsets being sold for future projects and whether future offsets should be sold at all.³⁵ Sellers face a challenge because project developers do not want to proceed with projects without guarantees that the resulting offsets will be sold, and consumers do not want to buy offsets created in the future.³⁶ Offsets sold before the project is completed might not be realized.³⁷ The risk that future offsets will not materialize can be mitigated if sellers properly discount their offsets.³⁸

C. Challenges to the Carbon Market's Credibility

Many offset sellers provide little or no transaction-specific information about offset projects, standards used to determine emissions reductions, or criteria for judging additionality.³⁹ As a result, consumers entering the carbon offset market face the difficult task of gathering information by which to judge offsets on their own. Unfortunately, this additional step in purchasing offsets may discourage consumers from market participation.⁴⁰ Information provided by retailers is very important to the credibility of the market because physical verification by consumers is difficult and cost prohibitive.⁴¹

Presenting an additional challenge, very few offset sellers use registries to ensure that offsets are retired after they are sold; thus no mechanism prevents sellers from double counting offsets.⁴² Even though some of the

reluctant to pursue offset projects without a guarantee that they will be able to sell the resulting offsets).

35. See GAO REPORT, *supra* note 6, at 28–29 (discussing concerns of market participants about projects using future value accounting practices).

36. See CLEAN AIR COOL PLANET, *supra* note 19, at 6 (discussing the challenges presented by selling future offsets).

37. *Id.*

38. By keeping some of the offsets expected to result from a project in reserve as a hedge in case all of the anticipated offsets are not achieved, project developers can ensure that consumers get all of the offsets for which they pay. See *id.* (discussing ways that sellers can mitigate the risk that future offsets sold to consumers will not occur).

39. Some offset sellers provide general information regarding the characteristics used to evaluate offset projects. It is often difficult, however, for consumers to link their purchase to a specific project. See GAO REPORT, *supra* note 6, at 29–31 (examining information posted on offset sellers' websites and provided to consumers).

40. See John Simerman, *Following the Carbon Footprints; Skepticism Greets Firms that Promise Offsets*, CONTRA COSTA TIMES, Feb. 5, 2008, at A1 (noting the difficulty that consumers face when tracing an offset to a specific project or determining whether an offset was additional).

41. See CLEAN AIR COOL PLANET, *supra* note 19, at 9 (listing types of information that would be useful to consumers in assessing the quality of carbon offsets); see also Velasquez-Manoff, *supra* note 16, at 13 (noting the lack of a meaningful certification or monitoring system for offsets).

42. See GAO REPORT, *supra* note 6, at 28 (noting that a single registry would foster transparency in the marketplace and prevent double counting).

firms offering offsets use a registry, no single registry allows consumers and sellers to track offsets across the market.⁴³

Some offset providers use third parties to verify emissions reductions and the method for calculating the baseline, but the lack of reliable standards renders third-party verification unreliable.⁴⁴ The problems with third-party verification together with double counting opportunities and the general dearth of information about projects raise concerns as to whether consumers who purchase carbon offsets are getting anything at all.⁴⁵

Due to the limited federal regulation of the carbon market in the United States, consumers must rely mostly on state antifraud laws for protection.⁴⁶ The lack of federal regulation is also problematic because there is no consensus among market actors as to what constitutes an offset and, therefore, which projects provide meaningful reductions in GHG emissions.⁴⁷ This dearth of uniform standards makes proving fraud difficult.⁴⁸ Further, because there is no single agency with centralized regulatory responsibility, various federal agencies split the limited oversight duties.⁴⁹

Nonprofits, environmental advocacy groups, and state governments have developed standards to verify offset projects to compensate for the lack of

43. See *id.* (discussing the lack of communication among registries, which makes it difficult for consumers to determine the quality of offsets).

44. See De Lollis, *supra* note 20 (reporting that even with third-party verification, questions can remain about an offset's quality).

45. See Fahrenthold & Mufson, *supra* note 30 (reporting that the lack of regulation makes it difficult for consumers to know what they are getting when they purchase offsets); see also Editorial, *The Pardoner's Tale*, WASH. TIMES, Apr. 28, 2007, at A12 (attacking the credibility of offsets).

46. GAO REPORT, *supra* note 6, at 19. State regulation of GHG emissions is generally not perceived to be as effective as federal regulation. State regulation has limited effectiveness because states often have limited enforcement resources, lack authority to implement economy-wide policies, and differing state policies can lead to an unpredictable environment for regulated industries. State regulation can also trigger a race to the bottom where industries shift from highly regulated states to those with less regulation. See Randall S. Abate, *Kyoto or Not, Here We Come: The Promise and Perils of the Piecemeal Approach to Climate Change Regulation in the United States*, 15 CORNELL J.L. & PUB. POL'Y 369, 385–86 (2006) (examining the benefits and drawbacks of state and local regulation).

47. See Jennifer Woods, Comment, *Of Selling the Environment—Buyer Beware? An Evaluation of the Proposed F.T.C. Green Guides Revisions*, 21 LOY. CONSUMER L. REV. 75, 85–87 (2008) (discussing the lack of reliable standards by which to judge additionality and evaluate whether projects actually have an environmental benefit); see also GAO REPORT, *supra* note 6, at 26 (noting the disagreement between market participants over what methods should be used to determine whether a project is additional).

48. See Chris Welsch, *Pay as You Go: A Traveler's Guide to Going Green: Simple Choices First, Complicated Offsets Last*, STAR TRIB. (Minneapolis), Apr. 27, 2008, at 16 (noting that since the marketplace lacks standards, it is easy to sell questionable offsets without committing fraud).

49. See GAO REPORT, *supra* note 6, at 19–23 (discussing the role that federal agencies play in the voluntary carbon offset market).

attention from federal regulators, among other reasons.⁵⁰ This fragmented approach to regulation has its own drawbacks, however. First, multiple verification standards cause confusion among both buyers and sellers as to which standards are the most credible.⁵¹ Second, voluntary standards reflect the bias of the group developing them.⁵² Third, standards have divergent criteria because no consensus exists among market participants as to what constitutes an offset.⁵³ Finally, some of these standards include costly reviews that are not viable for small projects.⁵⁴

II. REGULATORY INITIATIVES THAT COULD BE APPLIED TO THE OFFSET MARKET

A. *The Green Guides*

The Federal Trade Commission (FTC) publishes a set of guidelines, called Green Guides, for companies making environmental claims.⁵⁵ These guidelines outline the requirements for avoiding deceptive marketing practices.⁵⁶ Compliance with the Green Guides is voluntary, but companies that violate the recommendations may be subject to enforcement action by the FTC.⁵⁷ The Green Guides, which were last updated in 1998, do not currently address carbon offsets.⁵⁸ The FTC is conducting a regulatory

50. See David Takacs, *Carbon into Gold: Forest Carbon Offsets, Climate Change Adaptation, and International Law*, 15 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 39, 77–81 (2009) (reporting that nongovernmental organizations are developing offset certification standards because they are concerned about the effects of offset projects on local populations in the developing world); see also Sarah Jane Tribble, *Getting Smart About Buying Carbon Offsetting*, SAN JOSE MERCURY NEWS, Aug. 26, 2007, at 1E (reporting efforts by California to develop a registry to track carbon offsets); Vandenberg & Steinemann, *supra* note 26, at 1736–37 (arguing that the federal government should encourage private organizations that are developing certification standards in order to enhance the legitimacy of the carbon offset market).

51. See GAO REPORT, *supra* note 6, at 27–28 (noting that the proliferation of standards governing offsets raises questions about offset quality). Some companies are advocating for greater federal GHG emissions regulation because they fear inconsistent state and local regulations will increase the cost of compliance. Bustillo, *supra* note 10.

52. See Takacs, *supra* note 50, at 79–80 (noting that certification standards for offset projects written by nonprofits reflect the groups' policy goals).

53. See GAO REPORT, *supra* note 6, at 26–27 (describing standards for testing additionality and how they differ).

54. In order to comply with the Gold Standard, a project must go through the Kyoto Protocol's Clean Development Mechanism (CDM) certification process, which entails substantial costs. See CLEAN AIR COOL PLANET, *supra* note 19, at 12 (discussing the problems with current offset standards and why project sponsors may not want to undergo the cost of certification).

55. See 16 C.F.R. § 260.1 (2009) (stating that the Green Guides apply § 5 of the FTC Act to environmental advertising and marketing practices).

56. *Id.* § 260.2.

57. *Id.*

58. GAO REPORT, *supra* note 6, at 22.

review of the Green Guides with the goal of issuing a new set of Green Guides in 2009.⁵⁹

B. Energy Information Administration

Under the Energy Policy Act of 1992, the Department of Energy (DOE) has the authority to establish guidelines for voluntary emissions reporting.⁶⁰ DOE has also created a program for voluntary reporting of estimates of GHG emissions reduction and sequestration.⁶¹ DOE exercised this authority by establishing guidelines for reporting emissions through its Voluntary Reporting of Greenhouse Gases Program.⁶² Under the guidelines, organizations and individuals can decide to either report or register emissions reductions.⁶³

The benefit of registering emissions versus reporting them is that the registering organization will receive credit under a mandatory emissions reduction scheme in the event that Congress chooses to recognize early action.⁶⁴ An organization can choose to report emissions either on a single source⁶⁵ or an entity-wide basis.⁶⁶ If an organization wishes to register emissions reductions, it must submit an emissions inventory of all GHG-emitting sources.⁶⁷ Organizations registering emissions reductions must measure these reductions using methods prescribed and rated by the Energy Information Agency (EIA).⁶⁸ EIA then reviews the submissions and certifies that the emission reductions were calculated using an acceptable method.⁶⁹

59. The FTC is considering including standards for marketing offsets in the forthcoming version of Green Guides. *FTC Examines Green Building, New Green Guides "Definitely" in 2009*, ENVTL. LEADER, July 16, 2008, <http://www.environmentalleader.com/2008/07/16/ftc-examines-green-building-new-green-guides-definitely-in-2009>.

60. See 42 U.S.C. § 13385 (2006) (directing the Secretary of Energy to issue guidelines for voluntary reporting of information on GHG emissions and GHG emissions reductions).

61. GORTE & RAMSEUR, *supra* note 9, at 9.

62. GAO REPORT, *supra* note 6, at 21.

63. See 10 C.F.R. § 300.1 (2009) (outlining the requirements for reporting and registering emissions reductions).

64. See *id.* § 300.12 ("EIA will notify the entity that reductions meeting these requirements have been credited to the entity as 'registered reductions' which can be held by the reporting entity for use (including transfer to other entities) in the event a future program that recognizes such reductions is enacted into law.").

65. See *id.* § 300.2 (defining a source as "any land, facility, process, vehicle, or activity" that emits GHGs).

66. *Id.* § 300.1(b)(4). An entity is any business that operates and emits GHGs in the United States. *Id.* § 300.2.

67. *Id.* § 300.1.

68. *Id.* § 300.6.

69. *Id.*

C. EPA Climate Leaders Program

The Environmental Protection Agency's (EPA's) Climate Leaders program is a partnership between the EPA and individual businesses, designed to assist companies in finding ways to cut their GHG emissions.⁷⁰ The Climate Leaders program helps companies use offsets to reach their GHG reduction goals.⁷¹ The program allows companies to develop their own offsets or to purchase them.⁷² In order for the companies to use offsets toward reaching their GHG reduction goals, the offsets must meet the Climate Leaders program's verification requirements.⁷³ Additionally, the EPA has developed accounting techniques that verify emissions reductions for a wide variety of offset projects.⁷⁴

D. Private Regulatory Initiatives Underway in the Carbon Market

The Chicago Climate Exchange (CCX) is a carbon exchange comprised of members who have voluntarily made binding commitments to reducing GHG emissions.⁷⁵ The CCX functions like a traditional cap-and-trade program,⁷⁶ and it uses a registry to track offsets purchased and sold on the Exchange.⁷⁷ Nonmembers can register offset projects with the CCX or purchase credits to sell to consumers.⁷⁸ All projects that produce carbon

70. EPA, CLIMATE LEADERS: SETTING THE STANDARD IN GREENHOUSE GAS MANAGEMENT (2009), <http://www.epa.gov/stateply/documents/brochure.pdf>.

71. GAO REPORT, *supra* note 6, at 22.

72. *Id.*

73. In order for offsets to be credible under the Climate Leaders program, the offsets must be real, additional, permanent, and verifiable. *Id.*; accord EPA, CLIMATE LEADERS OFFSET MODULE OVERVIEW 1–4 (2009), <http://www.epa.gov/stateply/documents/resources/OffsetProgramOverview.pdf> (stating Climate Leaders' requirements for using offsets to achieve GHG reduction goals).

74. The standards that the Environmental Protection Agency (EPA) uses to verify offsets differ from those used by the Energy Information Agency (EIA). The EPA standards are project-based, meaning that the different standards apply to different categories of offset projects. Also, the EPA guidelines are offset-specific while the EIA guidelines leave more choice as to how the organization wants to measure the emissions reductions. Compare EPA, *supra* note 73, at app. A (EPA's offset accounting methodologies), with U.S. DEP'T OF ENERGY, TECHNICAL GUIDELINES VOLUNTARY REPORTING OF GREENHOUSE GASES (1605(b)) PROGRAM 252–56 (2007), http://www.eia.doe.gov/oiaf/1605/January2007_1605bTechnicalGuidelines.pdf (outlining the EIA's guidelines for tracking and reporting reductions in GHG emissions).

75. The CCX rules provide for fines and punitive sanctions if members fail to meet their reduction targets or purchase allowances to offset emissions. See Yang, *supra* note 5, at 277–78 (arguing that commitments made by CCX members are enforceable through private contract law).

76. CCX members can meet their reduction commitments either by reducing emissions directly or by buying emissions credits in the exchange. The CCX, however, imposes limits on the purchase of offsets to meet reductions targets. *Id.* at 276.

77. GAO REPORT, *supra* note 6, at 5.

78. *Id.*

reduction credits for the CCX must undergo third-party verification.⁷⁹ The Commodity Futures Trading Commission has limited oversight of the CCX because the CCX operates as an Exempt Commercial Market.⁸⁰

Nonprofit groups have also developed standards to certify offset projects.⁸¹ Some experts consider offset projects following these standards to be high quality because following a third-party standard signals the project's commitment to consumers.⁸² No one set of voluntary third-party guidelines has emerged as a market leader, though, and many offset retailers do not adhere to third-party standards.⁸³

III. REGULATION WILL STRENGTHEN THE VOLUNTARY CARBON OFFSET MARKET

A. Overall Benefits of Regulation

As noted in Part III, the carbon offset market can be regulated through direct regulation, voluntary programs, or private standards and agreements. Regardless of the method used, regulation will strengthen the carbon offset market in the United States. Regulation will benefit the voluntary carbon market through increased credibility.⁸⁴ Regulation will also translate into increased consumer confidence because consumers will know what they are buying.⁸⁵ This confidence, in turn, will translate into higher prices for carbon offsets through increased participation in the market and increased demand from consumers who have demonstrated that they are willing to

79. *Id.*

80. Exempt Commercial Markets (ECMs) may only trade in exempt commodities, which include emissions allowances. Participants in ECMs generally must be large, sophisticated traders with market experience. *Id.* at 19; *see also* 7 U.S.C. § 2(a) (2006) (defining the jurisdiction of the Commodity Futures Trading Commission).

81. *See generally* Takacs, *supra* note 50, at 77–81 (discussing various carbon offset certification standards developed by nonprofits).

82. *See id.* at 78 (noting that project developers believe that using third-party certification standards will lead to credible offsets); *see also* CLEAN AIR COOL PLANET, *supra* note 19, at 12 (arguing that although use of third-party verification does not in and of itself denote quality, it may show a commitment to consumers).

83. *See* CLEAN AIR COOL PLANET, *supra* note 19, at 12 (arguing that some offset characteristics such as additionality are difficult to assess using a single standard).

84. *See* Lesley K. McAllister, *Beyond Playing "Banker": The Role of the Regulatory Agency in Emissions Trading*, 59 ADMIN. L. REV. 269, 282 (2007) (“[W]ithout reliable monitoring there is no confidence in the market . . . Reliable monitoring instills confidence by verifying the existence and value of the traded allowance.”).

85. *See* Eric Reguly, *The European Model: Proceed with Care*, GLOBE & MAIL (Ottawa), July 14, 2007, at F4 (noting that consumers in the voluntary carbon offset market often do not know what they are purchasing); *see also* Simerman, *supra* note 40 (reporting that under the current system, it is difficult for consumers to know exactly what they are getting when they purchase carbon offsets).

pay more for offsets that are seen as credible.⁸⁶

The opportunity for public participation in crafting a regulatory solution for the carbon offset market is important because of the disagreement among market participants over standards. Public participation in any regulatory solution will allow for a thorough review of the entire marketplace.⁸⁷ This process will then help the market become introspective and allow market participants to see what issues are most important.⁸⁸

Market participants using the voluntary carbon market in preparation for a mandatory GHG emissions-reduction program would also benefit from regulation. First, a mandatory GHG reduction program will be highly regulated.⁸⁹ Experience in a regulated voluntary carbon market will help businesses gain experience with the regulations that would likely be enforced in a mandatory carbon market.⁹⁰ Second, if companies that are currently purchasing carbon offsets want to be given credit for early action under a new mandatory scheme, the offsets they have purchased for this purpose must be seen as credible.⁹¹ Regulation would bring more credibility to these voluntary offset purchases, making it more likely that regulators would give purchasers credit for early action.⁹²

86. See Takacs, *supra* note 50, at 78 (noting that sophisticated consumers are willing to pay more for offsets perceived to be higher quality); see also Vandenberg & Steinemann, *supra* note 26, at 1723 (noting that as “more carbon offsets are purchased the price of offsets is likely to rise”).

87. See Nancy Perkins Spyke, *Public Participation in Environmental Decisionmaking at the New Millennium: Structuring New Spheres of Public Influence*, 26 B.C. ENVTL. AFF. L. REV. 263, 267–72 (1999) (noting that project developers hope that public participation can help agencies improve their decisionmaking processes and assure fully informed decisions). Public participation need not take the form of notice-and-comment rulemaking. Negotiations between market participants and the regulatory agency could serve the same purpose. See Janice Gorin, Note, *Caught Between Action and Inaction: Public Participation Rights in Voluntary Approaches to Environmental Policy*, 24 STAN. ENVTL. L.J. 151, 165 (2005) (examining the benefits of “collaborative governance” where the agencies and stakeholders work together to develop policy solutions).

88. See Spyke, *supra* note 87, at 267–68 (noting that public participation is a mechanism for considering a diverse range of views).

89. See generally Victor B. Flatt, *Taking the Legislative Temperature: Which Federal Climate Change Legislative Proposal Is “Best”?*, 102 NW. U. L. REV. 123 (2007) (analyzing congressional proposals for climate change legislation and evaluating each plan based on policy choices); Nordhaus & Danish, *supra* note 14 (identifying issues that need to be addressed in any mandatory GHG emissions-reduction program).

90. See Abate, *supra* note 46, at 386–87 (arguing that corporations that achieve long-term emissions cuts and identify low-cost opportunities to reduce emissions will have a competitive advantage when a mandatory reduction plan is imposed).

91. See Nicholas DiMascio, Note, *Credit Where Credit Is Due: The Legal Treatment of Early Greenhouse Gas Emissions Reductions*, 56 DUKE L.J. 1587, 1596–98 (2007) (noting that emissions reductions must be credible if companies are going to receive credit for early action under a mandatory GHG reduction program).

92. Cf. GORTE & RAMSEUR, *supra* note 9, at 9 (recognizing that problems with reporting programs may make it difficult for firms to get credit for early action under a mandatory GHG emissions-reduction scheme).

B. Responses to Critics of Regulation of the Offset Market

Some market participants have questioned the need for a single standard to judge offsets, because projects differ in complexity and method used to reduce GHG emissions.⁹³ Others have questioned whether the carbon offset market should be regulated at all.⁹⁴

Some commentators have pointed out that increased regulation could lead to higher offset costs which would discourage consumers from buying offsets.⁹⁵ While a higher price for carbon offsets might dissuade some consumers from purchasing offsets, evidence suggests that greater credibility brought by regulation will justify a higher price.⁹⁶

Other critics have charged that regulating the carbon offset market will cause certain projects to be disqualified from providing offsets.⁹⁷ Alternatively, excluding projects from the marketplace would be justified if the projects do not provide additionality and meaningful reductions in GHG emissions.⁹⁸

Others are concerned that regulation that might exclude certain projects would stifle innovation in the carbon offset marketplace.⁹⁹ Regulation, however, may serve to spur innovation in the marketplace by making offsets more lucrative, which would increase incentives for sellers to invent new projects to reduce GHG emissions.¹⁰⁰

IV. REGULATORY SOLUTIONS FOR THE CARBON OFFSET MARKET

A. DOE and Climate Leaders Programs as a Basis for Regulation of the Carbon Offset Market

Using voluntary programs such as the Climate Leaders program or the EIA's voluntary reporting program as the basis for a federal regulatory scheme provides solutions to problems created by the voluntary carbon

93. GAO REPORT, *supra* note 6, at 28. For example, a standard to govern offsets achieved through the use of alternative energy might be different than a standard for projects that reduce GHGs by planting trees.

94. *See id.* at 32 (reporting that some market participants believe that standards to govern the offset market will evolve on their own without federal regulatory action).

95. *Id.*

96. *Compare* Vandenberg & Steinemann, *supra* note 26, at 1723 (noting that a higher offset price may decrease "compliance with the norm" and "raise distributive justice concerns"), *with* Takacs, *supra* note 50, at 77-78 (noting that consumers have been willing to pay a higher price for offsets that are perceived to be of a higher quality).

97. GAO REPORT, *supra* note 6, at 32.

98. *See* Kay, *supra* note 7 (noting that dubious offset projects can create a consumer backlash against the entire voluntary-offset marketplace).

99. GAO REPORT, *supra* note 6, at 32.

100. *Cf.* Vandenberg & Steinemann, *supra* note 26, at 1723 (noting that offset prices may rise as more offsets are purchased).

offset market. Evaluating the strengths and weaknesses of each of these programs provides guidance regarding how to address the regulation of the carbon market in the United States.

Certification by either EIA or Climate Leaders would reassure consumers that they are actually getting something when they purchase offsets.¹⁰¹ Encouraging offset providers to register their projects with EIA under its voluntary reporting program would address credibility concerns about baseline determination and the method used to calculate emissions reductions.¹⁰² EIA also lists emissions reductions on a registry, which could be used to track offsets to prevent double counting.¹⁰³

Since EIA did not design its voluntary reporting program to regulate offsets, the program does not include standards governing additionality or permanence.¹⁰⁴ If policymakers choose to use the EIA's voluntary reporting program to regulate the offset market, EIA will need to amend its current rules to provide offset-specific registration standards.

The Climate Leaders program is better adapted to address offsets because the program already has standards governing additionality and permanence.¹⁰⁵ The EPA already provides technical advice to companies regarding offset projects.¹⁰⁶ The Climate Leaders program could expand to encompass offset sellers, or the EPA could commence another program to provide technical advice to offset sellers and certify that projects have met certain standards governing additionality and permanence.

The problem with these programs currently is that they are voluntary and can do nothing to reach offset providers that do not participate.¹⁰⁷ Consumers would still need to be informed as to which offset sellers participated in each program. Developing a brand or logo that offset sellers could use to denote participation in the programs would serve to inform consumers.¹⁰⁸

101. See GAO REPORT, *supra* note 6, at 28 (reporting that some market participants believe regulation will bring greater credibility to the carbon offset market in the United States).

102. See 10 C.F.R. § 300.6 (2009) (stating that methods used to calculate emissions reductions must be approved by the EIA).

103. See GAO REPORT, *supra* note 6, at 21 (noting that the EIA uses a registry to record GHG-emissions reductions).

104. Cf. 10 C.F.R. § 300.1 (stating the purpose of the voluntary reporting program, which does not include any mention of offsets).

105. See GAO REPORT, *supra* note 6, at 22 (describing the EPA's standards for using offsets).

106. See *id.* (explaining the EPA's current role in providing technical assistance for companies using offsets to reduce emissions).

107. See Guy Gugliotta & Eric Pianin, *Bush Plans on Global Warming Alter Little: Voluntary Programs Attract Few Firms*, WASH. POST, Jan. 1, 2004, at A1 (reporting that many companies refuse to participate in voluntary programs because participation would be costly or because they view the program as a precursor to future mandatory regulation).

108. See CLEAN AIR COOL PLANET, *supra* note 19, at 12 (arguing that a third-party seal

B. *Regulating the Carbon Offset Market with the Green Guides*

One of the biggest problems with the carbon offset market is the disagreement among market participants over standards.¹⁰⁹ Green Guides that cover offsets could define additionality and regulate claims by offset sellers. A clear definition of what constitutes an offset and terms like additionality would make the market more comprehensible to consumers and commentators.¹¹⁰

Critics have pointed to the lack of information provided by offset sellers as a major impediment to transparency in the offset marketplace.¹¹¹ By recommending that sellers provide more information about sponsored projects to consumers, the FTC could bolster the credibility of the marketplace.¹¹²

Since many market participants argue that a single set of standards may not be effective or desirable for the carbon offset market, regulation that defines terms and requires disclosure might be a better fit.¹¹³ By creating guidelines for offsets, the FTC would be able to help educate consumers about the offset marketplace and help them understand what makes a quality offset.¹¹⁴ While some critics argue that the FTC's traditional method of enforcement does not foster consumer education, a uniform set of regulations would help consumers understand what they are buying and assess the quality of offsets they are purchasing themselves.¹¹⁵

C. *Hybrid Public–Private Regulatory Scheme*

A hybrid regulatory model based on the CCX could address many of the concerns present in the carbon offset market.¹¹⁶ A regulatory scheme in

of approval would be valuable to consumers).

109. See Fahrenthold & Mufson, *supra* note 30 (reporting that the lack of agreement over standards is hampering offset sellers).

110. See Simerman, *supra* note 40 (reporting that consumers do not know the value of the offsets they are buying).

111. See GAO REPORT, *supra* note 6, at 29 (noting the dearth of information provided by offset sellers on their websites).

112. See *id.* (noting that it is difficult for consumers to verify the quality of carbon offsets because they lack information).

113. See *id.* at 28–29 (noting that the variety and complexity of offset projects would make it difficult to apply a single standard to the carbon offset market).

114. See Woods, *supra* note 47, at 87–88 (pointing to the success of the EPA's Energy Star program in educating consumers and arguing that the Federal Trade Commission (FTC) should adopt a regulatory solution that models that program).

115. See *id.* (arguing that regulation of the offset market by the FTC will lead to consumers policing offset sellers themselves).

116. An exchange-based voluntary carbon market would function much like the CCX in the sense that sellers would register offsets for sale on the exchange, but sellers would not be required to commit to reducing GHG emissions. A voluntary carbon exchange would be open to all buyers and sellers who meet the regulatory requirements. Cf. Jonathan

which sellers sell offsets on a central exchange like stocks would be a possible solution. Sellers would obtain offsets under the current format by either sponsoring projects or buying offsets wholesale.¹¹⁷ Individual sellers would register their offsets with the regulating agency and, much like financial stocks auditors, would verify the underlying asset and report it to the regulating body.¹¹⁸ Consumers and sellers would then trade the offsets based on the information provided to the regulatory body.¹¹⁹ The exchange would use a registry to track ownership of offsets.¹²⁰ This approach would address concerns about third-party verification, double counting, and methods used to calculate reductions.¹²¹

The exchange would operate privately much like the CCX, but a regulatory agency would be responsible for setting standards used to verify the offsets and reviewing reports submitted by auditors in order to police compliance.¹²² It is possible that the EPA could serve as the regulatory agency because the EPA already has experience setting accounting standards for offsets under the Climate Leaders program.¹²³

D. Benefits and Drawbacks of Regulatory Solutions

While using the DOE's emissions-reduction registration program or the Climate Leaders program as a regulatory template would address some of the problems that plague the voluntary carbon market, the FTC Green

Donehower, Comment, *Analyzing Carbon Emissions Trading: A Potential Cost Efficient Mechanism to Reduce Carbon Emissions*, 38 ENVTL. L. 177, 202-05 (2008) (describing how the CCX functions and noting that the CCX has created a successful emissions trading market).

117. See GAO REPORT, *supra* note 6, at 10-11 (analyzing current practices for creating offsets).

118. The regulatory framework would look much like the securities laws that govern the sale of stocks and the reporting of information on corporations' financials. See generally LOUIS LOSS & JOEL SELIGMAN, *FUNDAMENTALS OF SECURITIES REGULATION* (5th ed. 2004) (describing how stock and securities exchanges are regulated).

119. See *id.* at 150 (noting that under the efficient-market hypothesis, information disseminated to the public will be reflected in the price of the commodity that the information is about).

120. This registry would function in the same way as the registry that CCX market participants use to track the ownership of offsets sold on the exchange. See GAO REPORT, *supra* note 6, at 5 (discussing the CCX's method for participants to track the ownership of offsets).

121. Auditors would serve as the third-party verifiers and apply standards developed by the regulating agency. See LOSS & SELIGMAN, *supra* note 118, at 191-208 (noting the role that auditors play in regulating the financial markets).

122. The agency would set accounting standards to measure additionality, baseline determination, and the amount of GHG emissions reduced. See *id.* at 149-208 (explaining the SEC's role in regulating information disclosure and accounting practices).

123. See GAO REPORT, *supra* note 6, at 22 (noting that the EPA has developed accounting standards for offset project types, such as landfill, gas, and boiler replacement projects).

Guides provide a better regulatory solution. The Green Guides represent a more traditional form of regulation and can be enforced by the FTC or another implementing agency.¹²⁴ The Climate Leaders program and the DOE's reporting program are voluntary programs, so they would only reach sellers that choose to participate.¹²⁵ The Green Guides are voluntary in the sense that companies can choose whether to follow the Guides' recommendations. Unlike the Climate Leaders program or DOE voluntary reporting program, however, the FTC could still prosecute companies for unfair trade practices if they do not follow the Green Guides.¹²⁶ In this sense, the Green Guides represent more of a "safe harbor" provision than a voluntary program.¹²⁷

Developing a regulatory model in which the carbon market functions like a stock exchange would bring the most credibility to the market.¹²⁸ This approach is not without its own drawbacks, however. Setting standards and auditing offset projects would require substantial resources from both the regulatory agency and private offset sellers.¹²⁹ Costly audits may prevent many smaller, worthwhile projects from being able to sell offsets.¹³⁰ Eliminating projects in this manner could mean that additional projects may not occur because they will not qualify for offset funds.¹³¹ Further, the offset market may not currently be sophisticated enough to require this high level of regulation.¹³²

124. See Gorin, *supra* note 87, at 163–68 (noting that an agency might choose to use voluntary programs because it does not have the statutory authority to issue regulations).

125. See Gugliotta & Pianin, *supra* note 107 (discussing how few U.S. companies have volunteered under the Climate Leaders program and how the heaviest polluters have an incentive not to volunteer in order to avoid paying the heavy cost of cleaning up).

126. See 16 C.F.R. § 260.1 (2009) (stating that while compliance with the Guides is voluntary, practices inconsistent with the Guides' principles may lead to enforcement action by the FTC).

127. 16 C.F.R. § 260.3.

128. Such a regulatory model would be imposed on the market and would address all of the controversies surrounding the marketplace. A regulatory program under the DOE or the EPA using the Climate Leaders program would be voluntary. FTC regulation would not require third-party verification or use a registry.

129. See GAO REPORT, *supra* note 6, at 32 (concluding that increased oversight might increase transaction costs in the offset market); see also Nordhaus & Danish, *supra* note 14, at 117 (observing that the cost of a regulatory program to the regulatory agency is a function of the complexity of the regulatory program).

130. See CLEAN AIR COOL PLANET, *supra* note 19, at 12 (recognizing that some offset project developers may not want to incur the transaction cost of third-party verification).

131. Requiring audits may serve to eliminate some additional offset projects because the developer needs the money from selling the offsets in order to pay for the project and would not be able to afford the registration costs. Cf. CLEAN AIR COOL PLANET, *supra* note 19, at 6 (discussing the difficulty in obtaining up-front financing for truly additional projects).

132. Because the industry is not regulated, there is little available data on the size and scope of the voluntary market in the United States. See RAMSEUR, *supra* note 13, at 2 (conceding that the exact scope of the voluntary market in the United States is unknown because there is no registry or tracking system for offsets). Policymakers may want more

Because a regulatory solution for the offset market based on a stock exchange would require creating a new regulatory structure and impose significant costs on the market, addressing the carbon market through the Green Guides might be the best solution.¹³³ Under this plan, regulation by the FTC would be less costly because it would not require audits or extensive submissions to the regulating agency.¹³⁴ The Green Guides would be enforceable to a certain degree and would address the market's biggest concerns: credibility, lack of information, and disagreement over standards.

V. THE IMPORTANCE OF THE VOLUNTARY CARBON OFFSET MARKET TO REDUCING GHG EMISSIONS

Even if Congress passes a form of mandatory GHG reduction legislation such as a cap-and-trade system, the voluntary carbon offset market will still provide a useful tool for addressing GHG emissions. Any mandatory GHG reduction legislation will likely include a transition period during which binding GHG emissions limits will be phased in gradually. Working with a regulated voluntary carbon offset market could help regulators transition to a mandatory cap-and-trade system.¹³⁵

The voluntary offsets market could be used to fill gaps left in any mandatory GHG reduction plan.¹³⁶ Further, some commentators have argued that GHG legislation proposed by Congress is not robust enough to prevent climate change.¹³⁷ A regulated voluntary carbon offset market

comprehensive data on the market before undertaking such costly regulatory measures.

133. See Nordhaus & Danish, *supra* note 14, at 117 (suggesting that regulatory schemes that build upon existing programs impose smaller implementation costs than new regulatory programs).

134. See Floyd Norris, *Reasons Some Firms Left the U.S.*, N.Y. TIMES, Aug. 8, 2008, at C1 (asserting that the high cost of financial audits has driven companies from the United States).

135. Current GHG reduction legislation before Congress is very complex with different standards for different industries. See Rich Lowry, *The Waxman–Markey Travesty*, NAT'L REV. ONLINE, June 30, 2009, <http://article.nationalreview.com/?q=Mdc3OWI1NjJjYWZmNmE4NjQ4Y2ZINDMxNzgyYmI5ZDI=> (criticizing the Waxman–Markey bill as a capitulation to special interests). Experience gained from developing standards for additionality, calculating baseline emissions, and establishing permanence for the voluntary carbon offset market would prove useful to regulators.

136. A large industrial-source, downstream cap-and-trade program would cover around 40% of CO₂ emissions in the United States, leaving large sources of GHG emissions, such as the transportation and residential sectors, uncovered. Nordhaus & Danish, *supra* note 14, at 128.

137. See Editorial, *Waxman–Markey; Action on Climate Change Is Overdue. But Is This the Best We Can Hope for?*, WASH. POST, June 26, 2009, at A24 (arguing that the Waxman–Markey bill is too riddled with loopholes to be effective). Some reports maintain proposed climate change legislation will do nothing to reduce GHG emissions before 2020. Lowry, *supra* note 135.

could help the United States play a greater role in addressing climate change by reducing GHG emissions below reductions required by a mandatory GHG reduction program.¹³⁸

Some commentators also do not believe that offsets are a useful tool for addressing climate change. Some go so far as to compare selling offsets to the papal indulgences of the Middle Ages.¹³⁹ Others argue that offsets allow people to feel better about their lifestyle while contributing little to reducing GHG emissions.¹⁴⁰ Critics charge that offsets take the focus away from conservation and dissuade people from making simple lifestyle changes that would produce meaningful reductions in GHG emissions.¹⁴¹

While carbon offsets have endured much criticism, they can serve as an educational tool to inform consumers about their contribution to climate change.¹⁴² By marketing carbon offsets, companies could increase awareness of measures that individuals could take to easily limit their GHG emissions.¹⁴³ Further, the offset market could be used to educate consumers about the dangers of increasing GHG emissions and climate change.¹⁴⁴ A credible offset market with accepted standards could also serve as a tool for increasing support for legislation and regulation reducing GHG emissions.¹⁴⁵ If individuals feel that they are helping to reduce GHG

138. Even in an economy-wide cap-and-trade program, such as the one proposed in Waxman–Markey, H.R. 2454, 111th Cong. (2009), individuals and organizations that could not further reduce their GHG emissions might want to buy offsets to become carbon neutral. See Vandenberg & Steinemann, *supra* note 26, at 1720–21 (arguing that carbon neutrality is attractive because it allows individuals to take personal responsibility for their contribution to climate change).

139. See Takacs, *supra* note 50, at 83 (“[V]oluntary offsets illustrate ‘moral deflection devices,’ instruments that allow us to feel better about ourselves while continuing to live lives that harm people far from our sights.”); see also Kay, *supra* note 7 (reporting that buying offsets could be similar to buying indulgences if individuals do not take other steps to minimize their GHG emissions).

140. See Fahrenthold & Mufson, *supra* note 30 (reporting that in return for feeling good about themselves by buying offsets consumers sometimes receive nothing of any value).

141. See Vandenberg & Steinemann, *supra* note 26, at 1722 (noting concerns that the availability of offsets may distract people from supporting government regulation and undertaking individual behavior changes that reduce GHG emissions); see also De Lollis, *supra* note 20 (reporting that critics fear selling offsets may distract the public from supporting stricter GHG emissions legislation); Keith Bradsher, *Outsized Profits, and Questions, in Effort to Cut Warming Gases*, N.Y. TIMES, Dec. 21, 2006, at A1 (arguing that cheap, profitable offset projects will encourage short-term solutions at the expense of fundamental, long-term climate change policy).

142. See CLEAN AIR COOL PLANET, *supra* note 19, at 10 (arguing that the voluntary offset market’s ability to educate consumers is more important than the market’s role in reducing GHG emissions).

143. See Vandenberg & Steinemann, *supra* note 26, at 1720–21 (arguing that the carbon offset market will open the minds of more individuals to environmental awareness).

144. See CLEAN AIR COOL PLANET, *supra* note 19, at 10 (emphasizing that while awareness of the dangers of climate change has increased, these concerns have not translated into policy initiatives to address global warming).

145. See *id.* (arguing that greater participation in the offset market could lead to greater

emissions, it is likely that they will be supportive of government efforts to compel others to do so.¹⁴⁶ For these reasons, the voluntary carbon offset market will complement mandatory GHG emissions-reduction legislation.

CONCLUSION

The current disagreement in the market over a set of standards by which to judge offsets subjects the market to criticism and undermines consumer confidence. Regulation could help the industry in resolving these internal disagreements. Federal regulation will benefit the voluntary carbon offset market by increasing transparency and giving the market more credibility. Increased credibility and transparency will likely lead to greater market participation.

Additionally, the carbon offset market could serve as a useful tool for fostering public awareness about climate change. The market can only serve this purpose if it is comprehensible to consumers and commentators. Regulation could be used to provide a single standard by which to judge offsets, which would remove much of the confusion surrounding the market.

awareness of the need for policy implementation to address climate change).

146. See Vandenberg & Steinemann, *supra* note 26, at 1723 (contending that when individuals take steps to reduce their contribution to social harms, they expect reciprocity from others, including the government).