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ACCOUNTING FOR EMISSIONS TRADING: HOW ALLOWANCES APPEAR ON FINANCIAL STATEMENTS COULD INFLUENCE THE EFFECTIVENESS OF PROGRAMS TO CURB POLLUTION

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Abstract: Cap-and-trade programs to curb carbon emissions frequently rely on the use of tradable emissions credits known as “allowances.” To date, companies’ presentations of their usage of these allowances on their financial statements has not been uniform. Cap-and-trade programs will be most effective when presentation of allowances on financial statements is standardized, since all companies will be forced to be transparent about their methods of compliance with carbon emissions trading systems. Therefore, the Financial Accounting Standards Board and the International Accounting Standards Board should implement standards for the presentation of allowances on companies’ financial statements.

INTRODUCTION

Cap-and-trade programs, proposed as a means to regulate air quality,¹ reduce emissions by limiting the total amount of pollution that can be emitted in a given area at a given time.² The government issues entitlements for a certain quantity of pollution, which companies can then trade as needed.³ To be successful, cap-and-trade programs must work efficiently over the long-term with industry and business,⁴ and will only

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¹ See, e.g., 42 U.S.C. § 7651(a)–(b) (2006) (discussing Congress’s intent to reduce sulfur dioxide emissions in the atmosphere through a system of emission allocations and transfers); Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, U.N. Doc FCCC/CP/1997/7/Add.1, 37 I.L.M. 22 (1998) (describing the signatories’ commitment to reducing greenhouse gases through market based mechanisms); Bonnie G. Colby, *Cap-and-Trade Policy Challenges: A Tale of Three Markets*, 76 LAND ECON. 638, 638–40 (2000).

² See CONG. BUDGET OFFICE, *MANAGING ALLOWANCE PRICES IN A CAP-AND-TRADE PROGRAM*, at vii (2010).

³ See *id.*

⁴ See, e.g., Joseph M. Ragan & A. J. Stagliano, *Cap and Trade Allowance Accounting: A Divergence Between Theory and Practice*, 5 J. BUS. & ECON. RES. 47, 48–49 (2007).

be effective if they change the way businesses account for their impacts on the environment.⁵ To date, major accounting standards-setting bodies have not passed concrete guidance on cap-and-trade accounting, giving businesses the ability to only seemingly comply with emissions trading laws by manipulating their financial statements.⁶

In response to this lack of uniform reporting across financial statements, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) placed accounting for cap-and-trade programs on their regulatory agendas.⁷ After a series of preliminary hearings, the two bodies delayed further decision making until opportunities for public comment conclude in the second quarter of 2012.⁸ Despite this delay, uniform guidance from these authorities is necessary.⁹

With the rise in awareness of global warming and increased sensitivity to reducing greenhouse gas (GHG) emissions,¹⁰ accounting for carbon cap-and-trade programs is an increasingly relevant issue.¹¹ Although GHG emissions trading is neither required nor facilitated by federal law in the United States, a future transition to this system is possible.¹² In addition, U.S. companies operating abroad may be required to follow foreign cap-and-trade regulations of GHGs.¹³ Since limitations on GHG emissions will potentially impact many U.S. companies, this Note focuses on accounting for cap-and-trade with specific regard to carbon emissions.¹⁴ This Note draws on U.S. accounting standards and

⁵ See, e.g., Bradford T. Bartels, *Wall Street Walk Dead End for Chesapeake Cleanup?*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 303, 333 (2010).

⁶ See Denise Lugo, *Emissions Trading: Boards Weigh Emissions Trading Liabilities for Allocations in Cap-and-Trade Schemes*, 41 Env't Rep. (BNA) 2066 (Sept. 17, 2010).

⁷ See *FASB Technical Plan and Project Updates*, FIN. ACCT. STANDARDS BD., http://www.fasb.org/cs/ContentServer?site=FASB&c=FASBContent_C&pagename=FASB%2FFASBContent_C%2FProjectUpdatePage&cid=900000011097 (last updated Dec. 6, 2010) [hereinafter *Project Updates*].

⁸ See *Emissions Trading Schemes (Paused)*, IFRS FOUND., <http://www.ifrs.org/Current+Projects/IASB+Projects/Emission+Trading+Schemes/Emissions+Trading+Schemes.htm> (last updated June 29, 2011).

⁹ See David A. Detomasi, *International Regimes: The Case of Western Corporate Governance*, 8 INT'L STUD. REV. 225, 240–241 (2006).

¹⁰ See CONG. BUDGET OFFICE, *supra* note 2, at 1.

¹¹ See ERNST & YOUNG, *CARBON MARKET READINESS: ACCOUNTING, COMPLIANCE, REPORTING AND TAX CONSIDERATIONS UNDER STATE AND NATIONAL CARBON EMISSIONS PROGRAMS 2*, 4 (2010), available at [http://www.ey.com/Publication/vwLUAssets/Carbon_market_readiness/\\$FILE/0912-1118264%20Carbon%20market%20Readiness.pdf](http://www.ey.com/Publication/vwLUAssets/Carbon_market_readiness/$FILE/0912-1118264%20Carbon%20market%20Readiness.pdf).

¹² See CONG. BUDGET OFFICE, *supra* note 2, at 1.

¹³ See Scott D. Deatherage, *The SEC Enters the Fray on Climate Risk Disclosure*, 25 NAT. RESOURCES & ENV'T 35, 35 (2011).

¹⁴ See *infra* notes 21–113, 160–265 and accompanying text.

considers international implications of current foreign legislation as well as current and potential U.S. regulations.¹⁵

This Note presents a solution to the issue of ambiguity in accounting practices for cap-and-trade.¹⁶ Part I addresses the structure of cap-and-trade programs, and discusses emissions trading in the United States and abroad.¹⁷ Part II describes the structure of financial statements and addresses the FASB and the IASB rulemaking process.¹⁸ Part III describes current guidance from the Securities and Exchange Commission (SEC) on GHG accounting and discusses voluntary reporting programs.¹⁹ Part IV presents a solution for the lack of uniformity in allowance accounting, and discusses the benefits of such a solution.²⁰

I. CAP-AND-TRADE PROGRAMS AS SOLUTIONS FOR ENVIRONMENTAL PROBLEMS

In the past decade, the world has grown more interested in cap-and-trade initiatives.²¹ Cap-and-trade programs control and limit levels of pollution emitted into the environment,²² thus encouraging businesses to change their operations to reduce pollution.²³ Cap-and-trade legislation holds businesses more accountable for their negative impacts on the environment.²⁴

Both shareholder calls for environmental reform and cap-and-trade regulations force corporations to internalize the costs of pollution.²⁵ Shareholders apply pressure to business leaders of publically

¹⁵ See *infra* notes 52–178, 192–265 and accompanying text.

¹⁶ See *infra* notes 192–265 and accompanying text.

¹⁷ See *infra* notes 21–113 and accompanying text.

¹⁸ See *infra* notes 114–159 and accompanying text.

¹⁹ See *infra* notes 160–191 and accompanying text.

²⁰ See *infra* notes 192–265 and accompanying text.

²¹ See Donald N. Dewees, *Emissions Trading: ERCs or Allowances?*, 77 LAND ECON. 513, 513 (2001). Cap-and-trade schemes are one of several different types of programs that can fall under the rubric of emissions trading, including baseline and credit systems, project-based certificates, and renewable energy certificates. See *Project Updates*, *supra* note 7. Although all such schemes are considered by the FASB, this Note will focus solely on cap-and-trade allowances. See *id.*

²² See ASS'N OF WASH. CITIES, CAP AND TRADE—A PRIMER 1–2 (2008), available at <http://www.awcnet.org/documents/CapTradePrimer.pdf>.

²³ See Dewees, *supra* note 21, at 525 (discussing how emissions limitations may motivate businesses to reduce levels of pollutant-producing activities).

²⁴ See JANET PEACE & ROBERT N. STAVINS, PEW CTR. ON GLOBAL CLIMATE CHANGE, MEANINGFUL AND COST EFFECTIVE CLIMATE POLICY: THE CASE FOR CAP AND TRADE 1–2 (2010).

²⁵ See Bartels, *supra* note 5, at 304.

held companies to take environmental reform measures.²⁶ Additionally, given courts' increased consideration of environmental harms, corporate managers may increase their responsiveness to shareholder environmental concerns.²⁷ Thus, due to the possibility of federal cap-and-trade legislation and shareholder influence,²⁸ corporations may be on the cusp of major environmental reform.

A. *The Structure of Cap-and-Trade*

Cap-and-trade programs center on government distributions of emissions authorizations to regulated entities,²⁹ and cap total emissions across all entities within a given area.³⁰ Generally, the government then distributes a set level of emissions authorizations to regulated entities.³¹ These allowances are authorizations to emit fixed quantities of pollution.³² Companies may trade allowances, thus ultimately performing a cost-benefit analysis of emitting additional pollution.³³ The government may issue emissions allowances for many different types of pollution.³⁴ Governments have notably used the allowance system to curb carbon emissions and reduce acid rain.³⁵ Although there are different designs of cap-and-trade systems,³⁶ this Note focuses on the allowance methodology.

²⁶ See *id.* at 332.

²⁷ See *id.* at 333.

²⁸ CONG. BUDGET OFFICE, *supra* note 2, at 1 (describing the possibility of federal carbon cap-and-trade legislation in the United States and discussing shareholder proposals as "important supplement[s]" to environmental legislation).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² See ASS'N OF WASH. CITIES, *supra* note 22, at 3.

³³ See *id.* at 2 (describing a company's process for determining the number of allowances it needs); see also CONG. BUDGET OFFICE, *supra* note 2, at 2 (describing an allowance trading market).

³⁴ Colby, *supra* note 1, at 638 (describing the use of market mechanisms to control "lead in gasoline, ozone depleting chemicals, nitrogen oxide and sulfur emissions, new vehicle fuel efficiency, urban land development, and retirement of older, heavily polluting vehicles").

³⁵ See *Emissions Trading System (EU ETS)*, EUR. COMM'N, http://ec.europa.eu/clima/policies/ets/index_en.htm (last updated Nov. 15, 2010) [hereinafter *EU ETS*]; *SO₂ Reductions and Allowance Trading Under the Acid Rain Program*, ENVTL. PROT. AGENCY, <http://www.epa.gov/airmarket/progsregs/arp/s02.html> (last updated Apr. 14, 2009) [hereinafter *SO₂ Reductions*].

³⁶ See Dewees, *supra* note 21, at 513 (noting differences between systems based on emission reduction credits and allowances, as well as open and closed trading markets).

In an allowance trading system, a government regulator distributes allowances according to the design of the particular cap-and-trade program.³⁷ The regulator may sell allowances directly to companies through an auction, or may initially allocate allowances to companies at no cost.³⁸ Companies use their allowances when they emit pollution.³⁹ Under some cap-and-trade program designs, if a company has unused allowances during the regulatory period, it may carry them over to future years⁴⁰—a practice referred to as banking. In addition to banking allowances, regulated entities can also trade unneeded allowances.⁴¹ Following each regulatory period, the regulator determines whether the polluter has an allowance to satisfy all units of pollution emitted.⁴² If the entity has released too much pollution, the regulator may impose fines.⁴³

Importantly, emissions trading markets may impact the industrial sector on the whole, as companies can profit from the sale of unused credits.⁴⁴ The initial allocation of allowances by governments to companies, followed by secondary trading in the market, impacts the prices of goods and services to consumers.⁴⁵ For example, companies not impacted directly by allowances may see competitors' prices altered by expenses or profits resulting from allowance trading.⁴⁶ Thus, properly accounting for allowances affects a company's ability to remain competitive in its primary market.⁴⁷

Cap-and-trade programs for GHG emissions impact many different industries. Within each industry the effects of cap-and-trade on business are not limited to profits and losses from the sale and purchase of allowances, but may also have consequences for large-scale business

³⁷ See ASS'N OF WASH. CITIES, *supra* note 22, at 2.

³⁸ *Id.*

³⁹ See CONG. BUDGET OFFICE, *supra* note 2, at 1–2.

⁴⁰ See, e.g., *id.* at 2.

⁴¹ See Richard Sandor et al., *Greenhouse-Gas-Trading Markets*, 360 PHIL. TRANSACTIONS: MATHEMATICAL, PHYSICAL & ENGINEERING SCI. 1889, 1890 (2002).

⁴² See, e.g., CONG. BUDGET OFFICE, *supra* note 2, at 1–2.

⁴³ See, e.g., Acid Rain Program: Notice of Annual Adjustment Factors for Excess Emission Penalty, 62 Fed. Reg. 52,334, 52,334 (Oct. 7, 1997) (discussing penalties for noncompliance under the U.S. Acid Rain Program); see also Colby, *supra* note 1, at 649 tbl.1.

⁴⁴ See ASS'N OF WASH. CITIES, *supra* note 22, at 2. See generally Colby, *supra* note 1 (discussing the wide-ranging impacts that environmental market mechanisms can have on industry).

⁴⁵ ASS'N OF WASH. CITIES, *supra* note 22, at 2.

⁴⁶ *Id.* For instance, under the Acid Rain Program, only larger coal-burning electric utilities in certain locations were initially regulated, leaving smaller non-coal burning plants exempt from complying with the allowance system. See *SO₂ Reductions*, *supra* note 35.

⁴⁷ See ASS'N OF WASH. CITIES, *supra* note 22, at 2; ERNST & YOUNG, *supra* note 11, at 5.

decisions.⁴⁸ Directly affecting business decision making as it relates to the environment is an important aspect of cap-and-trade.⁴⁹ For example, businesses may increase capital expenditures on technology to reduce emissions, thereby requiring fewer allowances.⁵⁰ By changing the way companies operate in the long-term, emissions trading programs seek a steady reduction in carbon in a cost-conscious and effective manner.⁵¹

B. Greenhouse Gas Cap-and-Trade in the United States

1. A Recent History of Federal Cap-and-Trade Programs in the United States

In the last decade, cap-and-trade programs have risen to the forefront of U.S. politics.⁵² Many debate the possibility of using cap-and-trade to combat global warming.⁵³ Global warming occurs when GHGs—most notably carbon dioxide—remain in the atmosphere trapping sunlight, which causes the Earth's temperature to increase.⁵⁴ In recent years, Congress has considered legislation that would establish a trading system to limit U.S. carbon emissions.⁵⁵ Although Congress has not passed such legislation, these proposals and other state laws ensure that carbon cap-and-trade will continue to be an issue for American companies.⁵⁶

⁴⁸ See, e.g., ANDREW G. KEELER, NAT'L REG. RES. INST., STATE COMMISSION ELECTRICITY REGULATION UNDER A FEDERAL GREENHOUSE GAS CAP-AND-TRADE POLICY 23 (2008) (discussing the impact of an allowance system on a utility company's decision to buy or build); TRUCOST, CARBON RISKS AND OPPORTUNITIES IN THE S&P 500, at 17 chart 5 (2009), available at http://www.irtcinstitute.org/pdf/irtc_trucost_0906.pdf.

⁴⁹ See WORLD RES. INST., THE BOTTOM LINE ON CAP-AND-TRADE 1 (2008), available at http://pdf.wri.org/bottom_line_cap_and_trade.pdf.

⁵⁰ See *id.* at 24 (indicating that a company may purchase allowances rather than invest in greener technology).

⁵¹ See CTR. FOR AM. PROGRESS, CAP-AND-TRADE 101, at 1 (2008), available at <http://www.americanprogress.org/issues/2008/01/pdf/capandtrade101.pdf>.

⁵² See Dewees, *supra* note 21, at 513.

⁵³ See WORLD RES. INST., *supra* note 49, at 1.

⁵⁴ See *Global Warming Definition*, GLOBALWARMINGDEFINITION.ORG, <http://globalwarmingdefinition.org/> (last visited May 9, 2012).

⁵⁵ See Kenneth R. Richards & Stephanie Hayes Richards, *U.S. Senate Climate Change Bills in the 110th Congress: Learning by Doing*, 33 ENVIRONS ENVTL. L. & POL'Y J. 1, 3 (2009).

⁵⁶ See Juliet Howland, *Not All Carbon Credits Are Created Equal: The Constitution and the Cost of Regional Cap-and-Trade Market Linkage*, 27 UCLA J. ENVTL. L. & POL'Y 413, 414 (2009).

The proposed cap-and-trade bills are useful for predicting the structure of a future U.S. carbon emissions trading system.⁵⁷ The House of Representatives passed the American Clean Energy and Security Act of 2009 (also known as the Waxman-Markey Bill),⁵⁸ marking the first time a house of Congress supported a firm carbon emissions limitation.⁵⁹ The bill proposed a cap-and-trade system that reduced GHG emissions to 83% of 2005 levels by the year 2050.⁶⁰ The bill recognized market effects of cap-and-trade legislation by giving companies in the energy sector free allowances to maintain a lower cost of energy.⁶¹ To preserve the ability to compete worldwide, the bill also called for government rebates to companies that interact frequently in the global market.⁶² The bill would have created distributions to other companies through the use of government grants or auctions, proceeds of which would be used to fund industry-specific subsidies.⁶³ Despite its merits, the Senate did not pass the proposed legislation.⁶⁴

Prior to the Waxman-Markey Bill, the Lieberman-Warner Climate Security Act of 2007 proposed a cap-and-trade system that also relied on the use of allowances.⁶⁵ The Lieberman-Warner Bill would have reduced GHG emissions to 42% of 2000 levels by the year 2050.⁶⁶ This bill rewarded companies that previously reduced emissions by granting substantial amounts of free allowances.⁶⁷ Industry supported this proposed legislation because companies would receive rather than purchase allowances from the government.⁶⁸ Nevertheless, neither the House nor Senate voted on the bill due to a lack of popular support.⁶⁹

⁵⁷ See Richards & Richards, *supra* note 55, at 3–4.

⁵⁸ Patrick Tutwiler, *Climate Change Legislation: Where Does It Stand?*, GOVTRACKINSIDER.COM (Apr. 27, 2010), <http://theperpetualview.wordpress.com/2011/04/15/climate-change-legislation-where-does-it-stand/>.

⁵⁹ See Nadine Etienne, Note, *Should We Go Green for the Waxman-Markey Bill?*, 21 FORDHAM ENVTL. L. REV. 345, 347 (2010).

⁶⁰ *Id.* at 362–63.

⁶¹ *Id.* at 363.

⁶² *Id.*

⁶³ See Tutwiler, *supra* note 58.

⁶⁴ *Waxman-Markey Climate Change Bill*, GOVTRACK.US, <http://www.govtrack.us/congress/bill.xpd?bill=h111-2454> (last visited May 9, 2012). A major concern was that the plan would disadvantage U.S. companies in competition with businesses from developing countries that do not have climate change legislation. See Etienne, *supra* note 59, at 365.

⁶⁵ S. 2191, 110th Cong. § 1201 (2007).

⁶⁶ See Richards & Richards, *supra* note 55, at 11.

⁶⁷ See *id.* at 37.

⁶⁸ See Tutwiler, *supra* note 58.

⁶⁹ See *Lieberman-Warner Climate Change Bill*, GOVTRACK.US, <http://www.govtrack.us/congress/bill.xpd?bill=s110-2191> (last visited May 9, 2012).

Although the federal government has not imposed a cap-and-trade system for carbon emissions, however, it has implemented a cap-and-trade system for acid rain.⁷⁰ Created under Title IV of the 1990 Clean Air Act Amendments, the acid rain cap-and-trade program targets sulfur dioxide, one of the primary causes of acid rain.⁷¹ In this system, the EPA allocates allowances to companies, which can then freely trade the allowances with other businesses.⁷² The Acid Rain Program uses allowances as the primary regulatory methodology, and the EPA implements the program in two phases.⁷³ During the first phase, the EPA distributes allowances to companies—information about the distributions is publicly available.⁷⁴ In phase two, the EPA adopts a broader approach, expanding the group of sources required to use allowances and placing a hard cap on total annual sulfur dioxide emissions.⁷⁵ Thus, acid rain cap-and-trade is a system whose regulatory impacts increase over time.

2. State Regulation of Greenhouse Gases

In lieu of federal action, state and local governments developed laws and regulations regarding GHG emissions—California is the primary example.⁷⁶ In addition to creating a statewide cap on emissions, the California legislature passed the Global Warming Solutions Act of 2006 requiring the California Air Resources Board to pass regulations that mandate the reporting of total emissions from individual sources within the state.⁷⁷ Following California's lead, several other states re-

⁷⁰ See Paul L. Joskow & Richard Schmalensee, *The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program*, 41 J. L. & ECON. 37, 38 (1998).

⁷¹ *Id.*

⁷² See *SO₂ Reductions*, *supra* note 35.

⁷³ *Id.*

Allowances are the currency with which compliance with the SO₂ emissions requirements is achieved. Through the market-based allowance trading system, utilities regulated under the Acid Rain Program decide the most cost-effective way to use available resources to comply with the requirements of the Clean Air Act. Utilities can reduce emissions by employing energy conservation measures, increasing reliance on renewable energy, reducing usage, employing pollution control technologies, switching to lower sulfur fuel, or developing other alternate strategies.

Id.

⁷⁴ See *Acid Rain Program SO₂ Allowance Fact Sheet*, ENVTL. PROT. AGENCY, <http://www.epa.gov/airmarket/trading/factsheet.html#how> (last updated Apr. 14, 2009).

⁷⁵ See *id.*

⁷⁶ See Neil Keenan, Note, *Global Warming Due to Greenhouse Gas Emissions: The Success of State Solutions as a Model for a Federal Solution*, 34 J. LEGIS. 168, 168, 174–76 (2008).

⁷⁷ See *id.* at 174–75.

cently created programs to curb GHG emissions.⁷⁸ Although implementation of these programs proved difficult, they serve as reminders that more serious federal regulations on global warming should be considered.⁷⁹

Various state lawmakers created the Regional Greenhouse Gas Initiative (RGGI) in 2005 in an effort to curb climate change.⁸⁰ As a result of RGGI, ten states in the Northeast and Mid-Atlantic participated in a regional carbon cap-and-trade program.⁸¹ Targeted at companies in the energy industry, the program caps carbon emissions at a declining rate.⁸² Although states have historically refused to collectively address environmental concerns, regional climate change initiatives such as RGGI show that increased cooperation between states is possible.⁸³

The Western Climate Initiative is another regional program that focuses on preventing climate change.⁸⁴ The initiative is a coalition of seven U.S. states and four Canadian provinces committed to reducing GHG emissions.⁸⁵ During the signing of the Initiative, Governor Janet Napolitano of Arizona remarked that “[i]n the absence of meaningful federal action, it is up to the states to take action to address climate change and reduce greenhouse gas emissions in this country.”⁸⁶ Thus, many regional and state programs are perhaps only temporary solutions to the problem, and should be replaced by more permanent federal regulations.⁸⁷

⁷⁸ See *id.* at 173–74.

⁷⁹ See *id.* at 168, 174.

⁸⁰ See Lesley K. McAllister, *Regional Climate Regulation: From State Competition to State Collaboration*, 1 SAN DIEGO J. CLIMATE & ENERGY L. 81, 89 (2009).

⁸¹ *Program Design*, REG’L GREENHOUSE GAS INITIATIVE, <http://www.rggi.org/design> (last visited May 9, 2012).

⁸² See *id.* (stating that “these states have capped and will reduce power sector CO₂ emissions 10 percent by 2018”).

⁸³ See McAllister, *supra* note 80, at 92–93 (identifying and discussing “three reasons for the high degree of state collaboration: to facilitate policy diffusion, to achieve efficiencies in cap-and-trade, and to engage in a regional race to national influence”).

⁸⁴ See Steve Owens, *Climate Change Action in Arizona*, 27 UCLA J. ENVTL. L. & POL’Y 317, 329 (2009).

⁸⁵ See W. CLIMATE INITIATIVE, CLEAN ENERGY: CREATING JOBS, PROTECTING THE ENVIRONMENT 1 (2010), available at [http://www.westernclimateinitiative.org/document-archives/general/WCI-Brochure-\(May-2010\)/](http://www.westernclimateinitiative.org/document-archives/general/WCI-Brochure-(May-2010)/).

⁸⁶ See Owens, *supra* note 84, at 330; Press Release, Ariz. Governor’s Commc’n Office, Five Western Governors Announce Regional Greenhouse Gas Reduction Agreement (Feb. 26, 2007), available at http://www.governor.wa.gov/news/2007-02-26_WesternClimateAgreementRelease.pdf.

⁸⁷ See Howland, *supra* note 56, at 414.

The Midwest Greenhouse Gas Reduction Accord (MGGRA) is another regional program aimed at reducing GHG emissions.⁸⁸ Notable to MGGRA's design is the program's creation of and reliance upon the Greenhouse Gas Advisory Group—a coalition of public, corporate, and non-profit representatives that makes recommendations to state legislators.⁸⁹ Despite the benefits of regional cap-and-trade programs, some debate the value of individual states' participation.⁹⁰ The struggles experienced with implementing regional cap-and-trade programs highlight the need for federal climate change intervention.⁹¹

C. Greenhouse Gas Cap-and-Trade Abroad

1. The European Union's Emissions Trading System

Although the United States does not currently require participation in a carbon cap-and-trade program, emissions trading abroad still impacts U.S. businesses.⁹² In 2005, the European Union (EU) imposed a cap-and-trade system named the Emissions Trading System (ETS).⁹³ Implemented in thirty countries, the system regulates carbon dioxide and nitrous oxide emissions.⁹⁴ The program caps the total amount of the emissions, and program administrators then issue allowances to companies that can buy and sell them on the open market.⁹⁵ By limiting the total number of allowances available, the regulators ensure that each allowance has a value.⁹⁶ As allowances are traded on the emissions market, their values may fluctuate according to bid and offer prices.⁹⁷ Further, the ETS program reduces the number of allowances available

⁸⁸ *Midwest Greenhouse Gas Reduction Accord*, PEW CTR. ON GLOBAL CLIMATE CHANGE, http://www.pewclimate.org/what_s_being_done/in_the_states/mggra (last visited May 14, 2012).

⁸⁹ See Keenan, *supra* note 76, at 171.

⁹⁰ See, e.g., Russ Harding, *Time to Abandon Midwest Greenhouse Gas Reduction Accord*, MACKINAC CTR. FOR PUB. POL'Y (May 6, 2010), <http://www.mackinac.org/12692> (arguing that Michigan should withdraw from MGGRA because participation in the program harms the state's economy).

⁹¹ See McAllister, *supra* note 80, at 82.

⁹² See Deatherage, *supra* note 13, at 35.

⁹³ See *EU ETS*, *supra* note 35.

⁹⁴ *Id.*

⁹⁵ See *id.*

⁹⁶ See COGEN EUROPE, A CHP GUIDE TO THE REVISED EU ETS DIRECTIVE 2 (2011), available at http://www.cogeneurope.eu/wp-content/uploads//2011/03/290311-COGEN-Europe-A_CHP_Guide_to_EUETS.pdf.

⁹⁷ See JONATHAN HILL ET AL., *THE EMISSIONS TRADING MARKET: RISKS AND CHALLENGES* 15 (2008).

yearly, with a goal of reducing emissions in 2020 to 79% of 2005 levels.⁹⁸

Some commentators claim that the program is a “complete failure.”⁹⁹ They argue that the cap-and-trade system has not resulted in increased investment in green technology, but has shifted attention away from more effective methods of decreasing carbon emissions.¹⁰⁰ Complying with the ETS, however, remains an important consideration for U.S. companies doing business abroad,¹⁰¹ and any future U.S. emissions trading regulatory regime should contemplate the European experience.¹⁰²

2. The Kyoto Protocol

Although not law in the United States,¹⁰³ the Kyoto Protocol represents a significant attempt at reducing global emissions of GHGs.¹⁰⁴ The Protocol sets emissions targets for thirty-seven countries to reduce GHGs to 1990 levels.¹⁰⁵ The Protocol allows countries to meet their individual targets through a variety of primary market-based mechanisms.¹⁰⁶ Article 17 of the Protocol creates markets for emissions trading.¹⁰⁷ In addition to carbon permits, other regulated substances within the program can be traded as well.¹⁰⁸ Furthermore, the Kyoto Protocol

⁹⁸ See *EU ETS*, *supra* note 35.

⁹⁹ SARAH-JAYNE CLIFTON, FRIENDS OF THE EARTH, *A DANGEROUS OBSESSION: THE EVIDENCE AGAINST CARBON TRADING AND FOR REAL SOLUTIONS TO AVOID A CLIMATE CRUNCH 20* (2009), available at http://www.foe.co.uk/resource/reports/dangerous_obsession.pdf (arguing that the ETS has failed in the industrial sector).

¹⁰⁰ See *id.* at 5.

¹⁰¹ See Deatherage, *supra* note 13, at 35.

¹⁰² See Richards & Richards, *supra* note 55, at 22.

¹⁰³ John M. Broder, *Climate Talks in Durban Yield Limited Agreement*, N.Y. TIMES (Dec. 11, 2011), <http://www.nytimes.com/2011/12/12/science/earth/countries-at-un-conference-agree-to-draft-new-emissions-treaty.html>.

¹⁰⁴ See *Kyoto Protocol*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/items/2830.php (last visited May 9, 2012).

¹⁰⁵ See *id.*

¹⁰⁶ See *id.*

¹⁰⁷ See *Emissions Trading*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/mechanisms/emissions_trading/items/2731.php (last visited May 9, 2012).

¹⁰⁸ See *id.* Other instruments that may be traded under the Kyoto Protocol include removal units based on land use, land use change and forestry activities like reforestation, emission reduction units from joint implementation projects, and certified emission reduction from clean development mechanism project activity. *Id.*

sets out registry systems to track all sales of traded emissions units.¹⁰⁹ The registry ensures that traded emissions units can be tracked to the current owner of the units.¹¹⁰

Like the global experience, the U.S. debate over the implementation of a carbon cap-and-trade program highlights different views on how to make carbon cap-and-trade programs effective.¹¹¹ A successful program must involve a scheme that is workable for businesses and incentivizes true compliance with pollution-reduction goals.¹¹² Accounting regulations are one way to influence businesses operations.¹¹³

II. HOW ACCOUNTING INTERACTS WITH CAP-AND-TRADE

A. *Accurate Accounting Is Necessary to Provide Markets with a True Understanding of Financial Position*

Financial statements are the primary means by which outsiders evaluate a company.¹¹⁴ A company's financial statements impact how others will value the company, which can ultimately affect the price of stock, the ability of the company to receive loans, or its ability to engage in a variety of business transactions.¹¹⁵ With respect to allowances, two financial documents of interest are the balance sheet and income statement.¹¹⁶ The balance sheet values assets, liabilities, and equity, while the income statement presents revenues and expenses.¹¹⁷ The information presented in financial statements should accurately depict a company's financial position in part because stakeholders rely on these documents to make value determinations.¹¹⁸

¹⁰⁹ See *Registry Systems Under the Kyoto Protocol*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/kyoto_protocol/registry_systems/items/2723.php (last visited May 9, 2012).

¹¹⁰ *Id.*

¹¹¹ See Keenan, *supra* note 76, at 171.

¹¹² Cf. McAllister, *supra* note 80, at 95 (discussing the effect of state climate policy on in-state businesses).

¹¹³ See, e.g., Ranjani Krishnan, *The Effect of Changes in Regulation and Competition on Firms' Demand for Accounting Information*, 80 ACCT. REV. 269, 269 (2005).

¹¹⁴ See THOMAS R. DYCKMAN ET AL., *INTERMEDIATE ACCOUNTING* 5 (3d ed. 1995). Annual financial statements include the balance sheet, income statement, statement of cash flows, and statement of retained earnings. *Id.* at 5–6.

¹¹⁵ See CLYDE P. STICKNEY & ROMAN L. WEIL, *FINANCIAL ACCOUNTING: AN INTRODUCTION TO CONCEPTS, METHODS, AND USES* 19 (9th ed. 2000).

¹¹⁶ See ERNST & YOUNG, *supra* note 11, at 6 (discussing the possibility of accounting for cap-and-trade impacting obligations on the balance sheet and also affecting gains on the income statement).

¹¹⁷ STICKNEY & WEIL, *supra* note 115, at 11.

¹¹⁸ See DYCKMAN ET AL., *supra* note 114, at 5.

The balance sheet displays the assets, liabilities, and equity of a company.¹¹⁹ Assets are “economic resources with the ability or potential to provide future benefits to a firm.”¹²⁰ Liabilities represent a company’s future obligations, and equity is the owners’ investment in the firm.¹²¹ Revenues and expenses impact retained earnings, which is part of equity.¹²² As a general rule, the sum of liabilities and equity must equal assets—for every increase or decrease to assets, there must be a corresponding increase or decrease to liabilities or equity.¹²³ Individual assets, liabilities, revenues, and expenses are listed in separate accounts on the balance sheet.¹²⁴

Cap-and-trade programs could also affect the income statement.¹²⁵ The income statement lists revenues and expenses, and the difference between the two is recorded as net income.¹²⁶ Since revenues increase net income, and expenses decrease net income, company managers generally seek to maximize revenue while minimizing expenses.¹²⁷

The income statement must accurately reflect business transactions for the period in which they occur.¹²⁸ When a company’s business operations incur an expense, the company should record the expense on both the balance sheet and the income statement, regardless of whether there was a cash expenditure during the period.¹²⁹ This method of accounting is known as an accrual, and requires both a debit to “Accrued Expenses” and a credit to “Expenses Payable” in the equity and liability sections of the balance sheet, respectively.¹³⁰

¹¹⁹ STICKNEY & WEIL, *supra* note 115, at 9.

¹²⁰ *Id.*

¹²¹ *Id.* at 9–10.

¹²² *See id.* at 10–11.

¹²³ *See id.* at 44. Assets are increased through debits and decreased through credits, while liabilities and equity are increased through credits and decreased through debits. *Id.* at 75.

¹²⁴ *Id.* at 64–67.

¹²⁵ *See* ERNST & YOUNG, *supra* note 11, at 6 (noting that cap-and-trade could impact gains on the income statement).

¹²⁶ STICKNEY & WEIL, *supra* note 115, at 11.

¹²⁷ *See id.* at 12.

¹²⁸ *See* DYCKMAN ET AL., *supra* note 114, at 35.

¹²⁹ *See id.* at 41. GAAP requires accrual basis accounting. *See Chapter 3: Income Measurement*, PRINCIPLESOFACCOUNTING.COM, <http://www.principlesofaccounting.com/chapter3/chapter3.html> (last visited May 14, 2012).

¹³⁰ *See* DYCKMAN ET AL., *supra* note 114, at 73–74.

The income statement may also impact management's incentives when executives are paid using incentive-based compensation.¹³¹ Under this compensation structure, when the company is performing well in the stock market, managers' compensation will be higher than when the company is performing poorly.¹³² Incentive-based compensation structures can therefore provide managers with a direct personal incentive to increase profitability.¹³³

Financial statements include both quantitative disclosures, such as the income statement and the balance sheet,¹³⁴ and qualitative disclosures, such as written discussions of financial performance in the financial statement footnotes.¹³⁵ Various methods may be used to measure the value of assets, liabilities, equity, revenues, and expenses in these documents.¹³⁶ For example, an asset may be valued at its purchase price or at fair market value.¹³⁷ When the value of an asset is measured at fair market value, companies must make year-end adjustments to increase or decrease the value of the asset based on fluctuations in the market price.¹³⁸ To increase the value of an asset, an asset account is debited and an equity account—"Unrealized Gain on Asset"—credited.¹³⁹ Unrealized gain and loss accounts are listed in a special section of the income statement called "Other Comprehensive Income," and do not impact net income.¹⁴⁰ Gains and losses do not impact net income until they are realized¹⁴¹—meaning that the asset has actually been sold and the company has received cash.¹⁴² When a company sells

¹³¹ See Sudarshan Jayaraman & Todd Milbourn, Financial Misreporting and Executive Compensation: The *Qui Tam* Statute 2 (Jan. 2011) (unpublished manuscript), available at http://apps.olin.wustl.edu/faculty/milbourn/Quitam_Jan2011.pdf.

¹³² See *id.*

¹³³ See Jin-Chuan Duan & Jason Wei, Executive Stock Options and Incentive Effects Due to Systematic Risk 2 (Mar. 2002) (unpublished manuscript), available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.20.4538&rep=rep1&type=pdf>.

¹³⁴ See STICKNEY & WEIL, *supra* note 115, at 11.

¹³⁵ See William E. Shafer, *Qualitative Financial Statement Disclosures: Legal and Ethical Considerations*, 14 BUS. ETHICS Q. 433, 434 (2004).

¹³⁶ See DYCKMAN ET AL., *supra* note 114, at 37.

¹³⁷ See *id.*

¹³⁸ See STICKNEY & WEIL, *supra* note 115, at 673–74.

¹³⁹ See DYCKMAN ET AL., *supra* note 114, at 659. To decrease the value of an asset, an asset account is credited and the equity account "Unrealized Loss on Asset" is debited. See *id.*

¹⁴⁰ STICKNEY & WEIL, *supra* note 115, at 674–75.

¹⁴¹ See *id.* at 674.

¹⁴² See, e.g., *More About Realized and Unrealized Gains and Losses*, VANGUARD, <https://personal.vanguard.com/us/content/Funds/FundsVGFundsAboutGainsLossesJSP.jsp> (last visited May 15, 2012).

an asset, “Unrealized Income” is debited and “Realized Gain” or “Realized Loss” is credited,¹⁴³ thereby impacting net income.¹⁴⁴

To illustrate the need for uniformity in accounting methods,¹⁴⁵ consider two identical companies that have excess allowances to sell. If the first company recognizes the allowances as assets while the second company merely mentions the extra allowances in the footnotes to its financial statements, the first company may appear financially stronger when compared to the second.¹⁴⁶ This discrepancy would result in inefficient valuation by the market. Uniformity in accounting standards could prevent such an outcome.¹⁴⁷

B. *Uniform Accounting Standards Are Promulgated by the FASB and the IASB*

To prevent misleading financial statements, all publicly-traded U.S. companies must follow Generally Accepted Accounting Principles (GAAP), a set of rules promulgated with help from the Financial Accounting Standards Board (FASB)¹⁴⁸ under the regulatory authority of the SEC.¹⁴⁹ Due to the need for a common global conceptual accounting framework, efforts to align GAAP with the international accounting standards known as International Financial Reporting Standards (IFRS) have increased in recent years.¹⁵⁰ The International Accounting Standards Board (IASB) promulgates IFRS, which companies throughout the world follow.¹⁵¹

Neither IFRS nor GAAP provides clear guidance on accounting for cap-and-trade allowances.¹⁵² As a result, companies disclose greenhouse

¹⁴³ See *id.*

¹⁴⁴ See STICKNEY & WEIL, *supra* note 115, at 674–75.

¹⁴⁵ See *id.* at 20 (discussing the need for uniformity in selecting accounting methods across firms).

¹⁴⁶ See *id.* at 9 (stating that assets have the potential to provide benefits to a firm). The dollar value of assets held by the first company will be higher than the assets of the second. *Id.* Thus, even though both companies are identical, one will be deemed to be in a stronger financial position than the other. *Id.*

¹⁴⁷ See *id.* at 20 (discussing the benefits of uniformity in accounting methods).

¹⁴⁸ See *FASB Accounting Standards Updates*, FIN. ACCT. STANDARDS BD., <http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176156316498> (last visited May 15, 2012).

¹⁴⁹ See *Facts About FASB*, FIN. ACCT. STANDARDS BD., <http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176154526495> (last visited May 15, 2012).

¹⁵⁰ See *Convergence with the International Accounting Standards Board (IASB)*, FIN. ACCT. STANDARDS BD., http://www.fasb.org/intl/convergence_iasb.shtml (last visited May 9, 2012).

¹⁵¹ See INT'L ACCOUNTING STANDARDS BD., WHO WE ARE AND WHAT WE DO 4, 5 (2011), available at <http://www.ifrs.org/NR/rdonlyres/F9EC8205-E883-4A53-9972-AD95BD28E0B5/0/WhoWeAreEnglishMay2011.pdf>.

¹⁵² See Lugo, *supra* note 6.

gas emissions in varying manners,¹⁵³ highlighting the need for an accounting framework companies can apply consistently.¹⁵⁴ Even when commentators agree that allowances should be presented in financial statements, determining how to measure allowances still remains open to debate.¹⁵⁵ Not only do companies vary in whether they display allowances quantitatively or qualitatively, but they also differ in their methods for listing and quantifying disclosures.¹⁵⁶ In a study of 125 financial statements filed between 2000 and 2004, 61 companies (or 49%) did not disclose allowances at all, while 47 (or 37%) qualitatively disclosed allowances, and only 17 (or 14%) had some form of quantitative disclosure.¹⁵⁷

Because methods of accounting for allowances are diverse both internationally and in the United States, the IASB and the FASB recognize the need to set concrete regulations for allowance accounting.¹⁵⁸ The FASB and the IASB are currently in the process of developing these standards.¹⁵⁹

III. AUTHORITATIVE AND VOLUNTARY REGULATIONS FOR ALLOWANCES ACCOUNTING

A. *Current Authoritative Regulations on Accounting for Greenhouse Gas Emissions*

During debate over accounting for allowances at the Financial Accounting Standards Board (FASB),¹⁶⁰ the SEC issued an interpretive release titled *Commission Guidance Regarding Disclosure Related to Climate Change* in response to increased public discussion of the topic.¹⁶¹ The release clarifies the SEC's views on proper accounting for climate change under existing law,¹⁶² and provides qualitative guidance, sug-

¹⁵³ See Ragan & Stagliano, *supra* note 4, at 55 tbl.4.

¹⁵⁴ See ERNST & YOUNG, *supra* note 11, at 5.

¹⁵⁵ See Lugo, *supra* note 6 (discussing differences between the IASB's and FASB's approach to allowance accounting).

¹⁵⁶ See Ragan & Stagliano, *supra* note 4, at 52-55.

¹⁵⁷ *Id.*

¹⁵⁸ See *Project Updates*, *supra* note 7.

¹⁵⁹ See Lugo, *supra* note 6; *Project Updates*, *supra* note 7.

¹⁶⁰ See Lugo, *supra* note 6.

¹⁶¹ Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6290 (Feb. 8, 2010).

¹⁶² See *id.* Accounting standards are generally governed by Regulation S-K, Regulation S-X, the Securities Act Rule 408, and Exchange Act Rule 12b-20. *Id.* The SEC guidance considers how non-financial statement disclosure rules should be applied to climate change issues. *Id.*

gesting reporting locations, descriptions, and methods for describing assessments of risks.¹⁶³

In its release, the SEC suggests that companies include environmental considerations in the description of their business.¹⁶⁴ For example, companies should note the costs of compliance with environmental laws, and report costs related to capital expenditures required to bring them into compliance with regulations.¹⁶⁵ In addition, the SEC encourages companies to describe legal proceedings related to non-compliance with environmental laws, unless the proceedings are considered “ordinary routine litigation incidental to . . . business.”¹⁶⁶

Further, the SEC discusses the relevance of the “Management Discussion and Analysis” section of financial statements, stating that companies should disclose known trends likely to have a material impact on financial position.¹⁶⁷ In this section, management must disclose information about the quality and variability of the company’s earnings so external users can evaluate the degree to which current financial statements predict future financial position.¹⁶⁸ Management may need to reveal potential impacts of a cap-and-trade system on future financial position.¹⁶⁹

In its release, the SEC also notes that financial statements should present potential risks related to climate change.¹⁷⁰ In the footnotes to the financial statements, a section titled “Risk Factors” should discuss significant issues that could put the company’s financial position at

¹⁶³ See *id.* at 6293–94 (noting a list of non-quantitative disclosures).

¹⁶⁴ See *id.* at 6293.

¹⁶⁵ See *id.*

¹⁶⁶ *Id.* The legal proceedings may or may not need to be disclosed in the financial statements. See *id.* The SEC states that litigation is not to be considered ordinary or incidental, and hence must be disclosed, when: 1) the proceeding is material to the business’ financial position; 2) the potential amount of liability exceeds ten percent of current assets; or 3) the government is a party to the litigation and monetary sanctions will likely exceed \$100,000. See *id.* at 6293–94.

¹⁶⁷ See Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6294 (Feb. 8, 2010).

¹⁶⁸ See *id.*, at 6293. The SEC acknowledges that a company may be uncertain about how environmental issues will affect the business in the future. See *id.* Management need only report environmental concerns in the “Management Discussion and Analysis” section if the issue is considered material to financial position. See *id.* In evaluating the materiality of a future environmental concern, management must first consider whether the event is reasonably likely to occur. See *id.* at 6295. Second, if management cannot come to a conclusion about the likelihood of occurrence, it must consider the consequences of the event assuming that it will occur and whether or not those consequences will be material to the company’s financial position. See *id.*

¹⁶⁹ See *id.* at 6290–91.

¹⁷⁰ See *id.* at 6290–94.

risk.¹⁷¹ The risk of a potential impact of future environmental legislation or regulation on the company's financial position should be disclosed if it is reasonably likely to be enacted, or assuming it is enacted, is reasonably likely to materially affect the company's financial position.¹⁷² Possible consequences of cap-and-trade regulation include expenses or profits related to sales of allowances,¹⁷³ costs to improve facilities for compliance with emissions limitations,¹⁷⁴ and changes in demand resulting from alterations in prices for goods and services.¹⁷⁵ The SEC even suggests that the physical effects of climate change, if particularly significant to a business, should be noted in the financial statements.¹⁷⁶ These physical effects include "the severity of weather . . . sea levels, the arability of farmland, and water availability and quality."¹⁷⁷ The SEC's interpretive release serves as valuable guidance on federal securities laws and regulations to the business community.¹⁷⁸

B. *Voluntary Reporting Regimes*

In addition to authoritative guidance, companies may also look for accounting guidance from independent bodies that support voluntary environmental reporting standards.¹⁷⁹ Optional compliance may be in the best interests of a company that wishes to avoid a reputation for causing environmental harm.¹⁸⁰ One such program is The Climate Registry, which implements standards in North America "to calculate, verify and publicly report . . . [businesses'] carbon footprints in a single, unified registry."¹⁸¹ The Registry's goal is to provide transparency to the public regarding greenhouse gas (GHG) emissions.¹⁸² Public reports on each participating company include information about direct and

¹⁷¹ See *id.* at 6294.

¹⁷² See *id.* at 6296.

¹⁷³ See Lawrence H. Goulder et al., Impacts of Alternative Emissions Allowance Allocation Methods Under a Federal Cap-and-Trade Program 2 (Aug. 18, 2009) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1457155.

¹⁷⁴ See *id.* at 3.

¹⁷⁵ See ASS'N OF WASH. CITIES, *supra* note 22, at 2.

¹⁷⁶ See Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6296–97 (Feb. 8, 2010).

¹⁷⁷ *Id.*

¹⁷⁸ See SEC Interpretive Releases, SEC. & EXCH. COMM'N, <http://www.sec.gov/rules/interp.shtml> (last updated Oct. 4, 2010).

¹⁷⁹ See Deatherage, *supra* note 13, at 39.

¹⁸⁰ See *id.*

¹⁸¹ About, CLIMATE REGISTRY, <http://www.theclimateregistry.org/about/> (last visited May 15, 2012).

¹⁸² See *id.*

indirect emissions, geographic area impacted, and presentation of emissions over multiple years.¹⁸³

A similar institution, the Carbon Disclosure Project, works with more than 650 institutional investors to gather GHG emissions data.¹⁸⁴ The Project seeks to curb global warming by making information about emissions available to large investors, potentially impacting investment decisions.¹⁸⁵ Reporting to the Project can help companies gain a reputation as leaders in GHG emissions reductions.¹⁸⁶

A third voluntary regulatory body, the Global Reporting Initiative, publishes sustainability reports on participating companies.¹⁸⁷ The Initiative establishes metrics by which participating entities can compare and measure their “economic, environmental, social, and governance performance.”¹⁸⁸ It focuses on reporting information relating to environmental practices of companies throughout the world.¹⁸⁹ Voluntary reporting regimes can be an important source of public information on environmental compliance.¹⁹⁰ True transparency, however, only comes with nondiscretionary disclosures.¹⁹¹

IV. ACCOUNTING FOR ALLOWANCES: AN ANALYSIS

Although the United States does not have a federal climate change program,¹⁹² recent proposals for regulations that would limit greenhouse gas (GHG) emissions show that such federal legislation may be forthcoming.¹⁹³ One can make predictions about the potential features of a future federal carbon cap-and-trade program based on analogous

¹⁸³ See *Public Reports*, CLIMATE REGISTRY, <http://www.theclimateregistry.org/public-reports/> (last visited May 15, 2012).

¹⁸⁴ See *CDP Investor Initiatives*, CARBON DISCLOSURE PROJECT, <https://www.cdproject.net/en-US/WhatWeDo/Pages/investors.aspx> (last visited May 15, 2012).

¹⁸⁵ See *id.*

¹⁸⁶ See *Leadership Indexes and the CDP 2011 Disclosure and Performance Scores*, CARBON DISCLOSURE PROJECT, <https://www.cdproject.net/en-US/Results/Pages/leadership-index.aspx> (last visited May 15, 2012).

¹⁸⁷ *About GRI?*, GLOBAL REPORTING INITIATIVE, <https://www.globalreporting.org/information/about-gri/Pages/default.aspx> (last visited May 15, 2012).

¹⁸⁸ See *id.*

¹⁸⁹ See *id.*

¹⁹⁰ See Deatherage, *supra* note 13, at 39.

¹⁹¹ See REPUTEX, THE EMISSIONS DISCONNECT: EMISSIONS REPORTING DISPARITIES BY MARKET 2 tbl.1 (2010), available at <http://www.reputex.com/wp-content/uploads/2011/01/RepuTex-Emissions-Disconnect-Paper-171210.pdf>.

¹⁹² See Howland, *supra* note 56, at 414.

¹⁹³ See Richards & Richards, *supra* note 55, at 3–4.

state and regional programs.¹⁹⁴ Potential cap-and-trade systems are likely to revolve around both allowance requirements for emissions and an emissions trading market with ready buyers.¹⁹⁵

Despite the lack of a federal emissions trading system, foreign cap-and-trade regulations will continue to apply to U.S. companies operating abroad.¹⁹⁶ The European Union Emissions Trading System demonstrates that such programs can be implemented successfully on a large scale,¹⁹⁷ while the Kyoto Protocol highlights a global trend towards using permits and other market mechanisms to regulate pollution.¹⁹⁸ Even if Congress does not pass GHG cap-and-trade legislation, accounting for allowances within an emissions trading framework will still be a relevant issue for U.S. companies facing existing foreign and state cap-and-trade regulations.¹⁹⁹

The underlying policy goals of cap-and-trade legislation are to control pollution²⁰⁰ and incentivize businesses to implement greener, more environmentally friendly methods of operation.²⁰¹ Generally, the government reduces emissions limits over time until emission targets are met.²⁰² When the government reaches its target, it has achieved its ultimate goal of creating a more sustainable environment.²⁰³ The current system of accounting for allowances does not facilitate accomplishment of this goal.²⁰⁴

Currently, no system exists for accounting for, and reporting on, cap-and-trade programs.²⁰⁵ Additionally, there are no comprehensive regulations imposing uniform accounting standards for cap-and-trade

¹⁹⁴ See Keenan, *supra* note 76, at 169 (describing states as laboratories for experimenting with new ideas for emissions reduction programs).

¹⁹⁵ See *id.* at 187–88.

¹⁹⁶ See Deatherage, *supra* note 13, at 35.

¹⁹⁷ See *EU ETS*, *supra* note 35.

¹⁹⁸ See *Emissions Trading*, *supra* note 107.

¹⁹⁹ See Deatherage, *supra* note 13, at 35.

²⁰⁰ See ASS'N OF WASH. CITIES, *supra* note 22, at 1–2.

²⁰¹ KEELER, *supra* note 48, at 24 (indicating that a company may purchase allowances rather than invest in greener technology). For example, businesses may take meaningful steps towards reducing GHGs in the environment by investing in cleaner technologies or by redesigning distribution systems to reduce the need for transportation. *E.g., id.* (discussing the decision to buy allowances or develop green technology).

²⁰² See CTR. FOR AM. PROGRESS, *supra* note 51, at 1.

²⁰³ See WORLD RES. INST., *THE BOTTOM LINE ON CLIMATE POLICY TERMINOLOGY I* (2008), available at http://pdf.wri.org/bottom_line_climate_policy_terminology.pdf.

²⁰⁴ See Ragan & Stagliano, *supra* note 4, at 56 (stating that the current accounting model may simply be “inadequate to deal with the matter of cap-and-trade permits”).

²⁰⁵ See ERNST & YOUNG, *supra* note 11, at 5.

related issues.²⁰⁶ Accordingly, businesses use a variety of accounting methods and reporting techniques.²⁰⁷ When companies do not use the same accounting methods, businesses' cap-and-trade compliance levels may be difficult to compare, and thus police.²⁰⁸

Furthermore, market participants may not realize which businesses consistently purchase large quantities of allowances or pay fines for noncompliance.²⁰⁹ Although companies that pay fines or purchase large numbers of allowances comply with cap-and-trade laws,²¹⁰ such behavior is not consistent with the purpose behind the legislation—to promote a greener and more sustainable environment.²¹¹ Because businesses do not provide clear and uniform disclosures of cap-and-trade impacts to the market, market participants will not be able to police such companies.²¹² Changes in business behavior will not occur unless shareholders understand the business's attitude toward pollution.²¹³

Ultimately, the lack of information available to market participants results in a lost opportunity for increasing the effectiveness of cap-and-trade regulation in relation to its underlying policy goals.²¹⁴ Market participants may be helpful in pressuring companies to develop operations that reduce emissions, consistent with the spirit of cap-and-trade legislation.²¹⁵ Although cap-and-trade regulators can ensure compliance with the law,²¹⁶ market participants may help to promote the internalization of the cost of pollution to companies.²¹⁷ Such market pushback against

²⁰⁶ See *id.*

²⁰⁷ See Ragan & Stagliano, *supra* note 4, at 54–55.

²⁰⁸ See *id.* at 56.

²⁰⁹ See *id.* at 55 (indicating that forty-nine percent of firms fail to account for cap-and-trade allowances); Robert Freehling, *Carbon Markets: Buying and Selling the Right to Pollute*, IOWA SIERRAN (Sierra Club Iowa Chapter, Des Moines, Iowa), Summer 2009, at 1, available at <http://iowa.sierraclub.org/Summer09IaSierran.pdf> (discussing a company's ability to "buy their way out of reducing emissions" by purchasing many allowances).

²¹⁰ See, e.g., ERNST & YOUNG, *supra* note 11, at 2 (noting that entities emitting more than allowed limits must buy permits or pay a penalty).

²¹¹ See WORLD RES. INST., THE BOTTOM LINE ON CLIMATE POLICY TERMINOLOGY 1 (2008), available at http://pdf.wri.org/bottom_line_climate_policy_terminology.pdf.

²¹² See STICKNEY & WEIL, *supra* note 115, at 20 (describing the need for uniformity in selecting accounting methods to provide clarity to financial statements).

²¹³ See Bartels, *supra* note 5, at 333 (describing shareholders' ability to influence environmental reform).

²¹⁴ See *id.*

²¹⁵ See *id.*

²¹⁶ See CONG. BUDGET OFFICE, *supra* note 2, at vii.

²¹⁷ See Bartels, *supra* note 5, at 333.

excessively polluting corporations could have a real impact on decreasing emissions.²¹⁸

For markets to police companies, however, there must be uniform and transparent disclosure of cap-and-trade's impact on businesses' financial statements.²¹⁹ The Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) initiative will hopefully provide a solution to this issue.²²⁰ In evaluating any system of allowance accounting, one must keep the ultimate goals of GHG cap-and-trade in mind.²²¹

The next section presents a proposal for balance sheet disclosure of cap-and-trade allowances, illustrating a method of transparent disclosure that would accomplish this goal. The proposal involves classifying allowances as assets, measured at fair market value.²²² It also suggests classifying emissions that exceed currently-held allowance thresholds as "Accrued Expenses" until fines are paid or allowances are purchased.²²³

A. A Transparent System: Allowances as Assets, and Pollution over Allowance Amounts as Accrued Expenses

Companies should classify currently held allowances as assets on the balance sheet.²²⁴ A company will derive future benefits from holding an allowance because the allowance will enable it to produce a certain amount of GHGs in the production of goods and services.²²⁵ When the production process necessarily involves the emission of GHGs, the allowance benefits the company by letting it bring products to the market.²²⁶ Such an allowance can be categorized as an asset. Further, many cap-and-trade programs let companies freely trade allowances, such that a company could gain from selling an allowance at a different price from when it was purchased.²²⁷ Therefore, allowances not only

²¹⁸ See *id.*

²¹⁹ See STICKNEY & WEIL, *supra* note 115, at 20 (describing the need for uniformity in selecting accounting methods to provide clarity to financial statements).

²²⁰ See *Project Updates*, *supra* note 7.

²²¹ See ASS'N OF WASH. CITIES, *supra* note 22, at 1–2 (stating that “[c]ap and trade sets the limit for emissions and lets the market work out the costs of hitting that limit”).

²²² See *infra* notes 224–249 and accompanying text.

²²³ See *infra* notes 224–249 and accompanying text.

²²⁴ See Lugo, *supra* note 6 (stating that the FASB and the IASB have “tentatively agreed that purchased and allocated allowances . . . should be recognized as assets”).

²²⁵ See CONG. BUDGET OFFICE, *supra* note 2, at 1; see *also id.* (stating that “[a]llowances are certificates, similar to a currency, that can be used to settle scheme liabilities”).

²²⁶ See STICKNEY & WEIL, *supra* note 115, at 9 (describing assets as having potential to provide benefit to a firm).

²²⁷ See ERNST & YOUNG, *supra* note 11, at 6.

provide value to a company by enabling it to continue to produce goods and services, but also by serving as quasi-investments which can be traded when not needed.²²⁸

When a company purchases an allowance on the emissions trading market, it should increase its “Allowance Asset” account and decrease the “Cash” or “Payable Account.”²²⁹ The company should value the initial purchase at acquisition cost, fixing the dollar amount of the “Allowance Asset” account at the dollar amount of the cash outlay required to purchase the allowance.²³⁰ Furthermore, when a company uses an allowance by emitting the quantity of pollution authorized, the “Allowance Asset” must be decreased to reflect the reduction in the asset.²³¹ Recording a corresponding allowance expense will decrease net income, forcing companies to list the costs of pollution on the income statement.²³²

Financial statements are most useful when they present accurate information.²³³ Accordingly, companies should make year-end adjustments to the carrying value of “Allowance Asset” accounts to fair market value.²³⁴ When the price of an allowance increases in the emissions trading market over the prior year’s value, the “Allowance Asset” should increase by the difference between the prices, with a corresponding increase in the equity account “Unrealized Gain on Allowance.”²³⁵ Making these adjustments will ensure companies record allowances at fair market value.²³⁶

When a company sells an allowance, the “Allowance Asset” account must be decreased by the dollar amount of the sale to reflect the

²²⁸ See *id.* at 18.

²²⁹ See, e.g., DYCKMAN ET AL., *supra* note 114, at 568 (describing accounting procedures for the purchase of an asset).

²³⁰ See STICKNEY & WEIL, *supra* note 115, at 45.

²³¹ See DYCKMAN ET AL., *supra* note 114, at 550 (indicating that assets can be viewed as “economic service[s] . . . to be consumed over time in the earning of revenues”). This can be accomplished by debiting the “Allowance Expense” account and crediting the “Allowance Asset” account. See *id.* at 75 (describing the process for reducing the carrying value of an asset and the corresponding expense).

²³² See STICKNEY & WEIL, *supra* note 115, at 11 (indicating that expenses decrease net income and must be reported on the income statement).

²³³ See *id.* at 790 (discussing the benefits of accurately presenting financial information).

²³⁴ See *id.* at 600 (describing adjustments of investment assets to market value).

²³⁵ See *id.* Alternatively, if the price of an allowance has decreased, an “Unrealized Loss on Allowance” account should be debited and the “Allowance Asset” should be credited. See *id.*

²³⁶ See *id.*

change in benefits held by the company.²³⁷ If adjustments have been made to mark the “Allowance Asset” account to fair market value, the “Unrealized Gain on Allowance” account should be decreased and a “Realized Gain on Allowance” recognized instead.²³⁸ Realized gains and losses on allowance assets will impact net income, whereas unrealized gains and losses will affect other comprehensive income on the income statement.²³⁹

A company should recognize an accrued expense in situations where the company emits more carbon than its current allowance holdings will permit.²⁴⁰ The financial statements would then accurately present a company’s true financial position at year end because the cap-and-trade regulator will force the company to either pay a fine or purchase more allowances on the market.²⁴¹ Recognition of an accrued expense will enable the company to record this required future cash outlay in the period in which the event causing the need for the expense actually occurred.²⁴² The company would recognize in the present that it will need to purchase allowances in the future.²⁴³

Accordingly, a company that exceeded emissions levels authorized by its currently held allowances should record an increase to a “Pollution Fine Expense” account and a decrease to a “Pollution Fine Payable” account.²⁴⁴ The accounts should be valued at the cost of the fine the company would be required to pay to the regulator should it not be

²³⁷ *Id.* at 56. In addition to decreasing an asset account, a cash or receivable account should be increased to reflect the money that the firm has received from purchasers. *See id.*

²³⁸ *See* STICKNEY & WEIL, *supra* note 115, at 600. Alternatively, if the “Allowance Asset” account has been adjusted down to fair market value, a “Loss on Allowance” account should be debited and the “Unrealized Loss on Allowance” account should be credited. *See id.*

²³⁹ *See id.* at 674–75.

²⁴⁰ *See* DYCKMAN ET AL., *supra* note 114, at 72–74 (describing accrued expenses); *cf.* ERNST & YOUNG, *supra* note 11, at 6 (“[T]he entity generally does not record an obligation to deliver emissions credits to the regulatory agency until the actual level of emissions for a given period exceeds the credits held on the balance sheet.”).

²⁴¹ *See* DYCKMAN ET AL., *supra* note 114, at 72 (describing the importance of accruals to the accuracy of financial statements); ERNST & YOUNG, *supra* note 11, at 2 (describing the company’s need to either purchase allowances or pay a fine, should emissions exceed the limits corresponding to currently held allowances).

²⁴² *See* DYCKMAN ET AL., *supra* note 114, at 72–73.

²⁴³ *See id.* at 73.

²⁴⁴ *See id.* at 72–74 (describing accrued expenses); ERNST & YOUNG, *supra* note 11, at 6. The “Pollution Fine Payable” account is a liability, because it represents the company’s future obligation to pay the fine resulting from its current excess pollution. *See* STICKNEY & WEIL, *supra* note 115, at 66 (indicating that payable accounts are liabilities).

able to secure needed allowances.²⁴⁵ If the company purchases allowances to cover its excessive pollution, it can reverse its original accounting entry by decreasing “Pollution Fine Payable” and increasing “Pollution Fine Expense.”²⁴⁶ If the company ultimately decides to pay the fine instead of securing more allowances, it may record that loss as a decrease in “Pollution Fine Payable” and “Cash” to represent payment of the fine.²⁴⁷ Pollution fine expenses will immediately decrease net income,²⁴⁸ while cash outlays related to purchasing allowances will not impact the income statement until the allowances are used.²⁴⁹

B. A Solution to the Problem: The Transparent System

The proposed transparent accounting system will increase the effectiveness of cap-and-trade legislation. Providing a uniform method of accounting that brings transparency to cap-and-trade financial information²⁵⁰ gives market participants increased ability to evaluate a company, potentially increasing the private policing of polluting businesses.²⁵¹ With this information, analysts may easily compare usage of allowances between companies,²⁵² and will be able to identify companies that must pay fines for violations of cap-and-trade laws.²⁵³ Market actors will be able to hold polluting companies accountable for their actions and will have a concrete basis to demand change.²⁵⁴

²⁴⁵ See ERNST & YOUNG, *supra* note 11, at 6. I posit that valuing the expense at the cost of a future fine, as opposed to the cost of purchasing allowances, is most in keeping with accounting’s commitment to conservatism, since companies cannot guarantee that they will be able to purchase allowances from either the government or a private seller in the future. See DYCKMAN ET AL., *supra* note 114, at 45 (describing conservatism).

²⁴⁶ See STICKNEY & WEIL, *supra* note 115, at 66 (indicating that payable accounts are liabilities).

²⁴⁷ See *id.* at 52 (indicating that most liabilities require payment of cash).

²⁴⁸ See *id.* at 11 (indicating that expenses decrease net income).

²⁴⁹ See *supra* notes 240–241 and accompanying text. When allowances are used, the allowance asset is decreased and an allowance expense is recognized on the income statement. See *supra* notes 240–241 and accompanying text.

²⁵⁰ See STICKNEY & WEIL, *supra* note 115, at 20 (describing the need for uniformity in selecting accounting methods to improve clarity in financial statements).

²⁵¹ See Bartels, *supra* note 5, at 333 (describing shareholders’ ability to push for environmental reform).

²⁵² Cf. Ragan & Stagliano, *supra* note 4, at 56 (describing problems with the adequacy of financial statements when identical companies make different disclosures).

²⁵³ See *supra* notes 244–249 and accompanying text (describing the impact of fines on the income statement).

²⁵⁴ See Bartels, *supra* note 5, at 333 (describing shareholders’ ability to push for environmental reform).

In addition to facilitating market access to information, the accounting system itself may impact the company because it may change its operations to appear financially sound.²⁵⁵ Foremost, forcing companies to recognize and separately disclose pollution fine and allowance expenses will have a direct impact on net income.²⁵⁶ While a decrease in net income itself is likely to draw the attention of shareholders,²⁵⁷ incentive-based compensation to executives will also decrease.²⁵⁸ Thus, when corporate decision makers stand to lose significant portions of their compensation, they may be more likely to ensure compliance with the spirit of cap-and-trade laws.²⁵⁹ Management response may include investment to reduce the amount of allowances necessary, thus avoiding fines and related expenses on their income statement.²⁶⁰

Moreover, because this accounting methodology calls for quantitatively displaying allowances on financial statements,²⁶¹ it forces companies to internalize the costs of GHG emissions.²⁶² By assigning a dollar amount to the emitted pollution, even companies that pollute within their allowance range may be forced to recognize the extent to which they harm the environment.²⁶³ If allowance expenses substantially decrease a company's profits, then the company may be polluting more than the total social utility of its goods.²⁶⁴ Companies that must purchase large quantities of allowances may be unable to remain competitive as a result.²⁶⁵ In this way, allowance accounting can help market actors take into account the social utility of an enterprise and its impact on the environment.

²⁵⁵ See STICKNEY & WEIL, *supra* note 115, at 21 (describing efficient capital markets as reacting quickly to financial information when valuing stocks).

²⁵⁶ See *supra* notes 233–255 and accompanying text.

²⁵⁷ See generally STICKNEY & WEIL, *supra* note 115, at 12 (discussing net income as indicating a firm's accomplishments relative to expenses).

²⁵⁸ See *supra* notes 131–147 and accompanying text.

²⁵⁹ See *supra* notes 131–147 and accompanying text.

²⁶⁰ See *supra* notes 131–147 and accompanying text.

²⁶¹ See *supra* notes 224–249 and accompanying text.

²⁶² See Bartels, *supra* note 5, at 304 (discussing the goal of holding “management accountable for their actions”).

²⁶³ See *supra* notes 233–262 and accompanying text.

²⁶⁴ See CONG. BUDGET OFFICE, *supra* note 2, at 6 (noting that “higher allowance prices could lead to greater-than-expected reductions in profits”).

²⁶⁵ See ASS'N OF WASH. CITIES, *supra* note 22, at 2.

CONCLUSION

As cap-and-trade programs increase in popularity around the world, pressure on the U.S. government to pass federal greenhouse gas emissions trading legislation continues to build. Whether the United States implements such a system, emissions trading abroad has become an accepted part of international business. With several recent proposals for a federal cap-and-trade program and new regional emissions trading initiatives, it appears that wide-scale emissions trading regimes may be law in the United States in the near future. Furthermore, the interdependent nature of the global economy ensures that U.S. businesses will face accounting for emissions in foreign emissions trading regimes.

The accuracy of accounting information is essential to uphold the integrity of global financial systems, and therefore non-voluntary, non-discretionary accounting standards must be established. Although current SEC regulations describe procedures for reporting locations, descriptions, and assessments of risk, they do not specify a standard measurement methodology. Voluntary reporting regimes provide some guidance on accounting methods, but ultimately do not create the uniform, authoritative standards needed.

Cap-and-trade regulations will be most effective when allowances appear as assets on the balance sheet, and pollution in excess of allowances appears as accrued expenses. Presenting a company's financial position according to this method will hold companies most accountable to the investing public. Under this proposal, allowance trading may impact net income, potentially incentivizing increased manager responsiveness to the goals of cap-and-trade programs. This method would also cause companies to internalize the costs of pollution. Requiring companies to accurately account for emissions trading is one of the best ways to ensure true compliance with any cap-and-trade system.