

5. Cap-and-Trade in the United States – Up in the Air

Sylvia Burks

1. Proposed Federal Cap-and-Trade Legislation

- 1.1 U.S. House of Representatives Waxman-Markey Bill
- 1.2 Coverage
- 1.3 Point of regulation
- 1.4 Allocation of allowances
- 1.5 Banking and borrowing
- 1.6 Offsets
- 1.7 Cost containment
- 1.8 Penalties for non-compliance
- 1.9 Interaction with pre-existing trading programs
- 1.10 Regulation of trading
- 1.11 Senate Deliberations

2. California Cap-and-Trade

- 2.1 Design elements under California's Preliminary Regulation
- 2.2 Coverage
- 2.3 Point of regulation
- 2.4 Allocation of allowances
- 2.5 Banking and borrowing
- 2.6 Offsets
- 2.7 Cost containment
- 2.8 Penalties
- 2.9 Linkage

3. Other Regional Initiatives

- 3.1 Regional Greenhouse Gas Initiative
- 3.2 Midwest Greenhouse Gas Reduction Accord

4. Conclusion

List of Literature

The United States have been slower to regulate greenhouse gas emissions than the European Union, but it seems likely that it will soon take action to reduce its greenhouse gas emissions. While a number of proposals have been advanced, at this point in time it seems most likely that some form of a cap-and-trade system will emerge as the mechanism of choice for the nation, but it is too early to predict exactly when such a program might be adopted and details of an eventual program. In June 2009, the U.S. House of Representatives pass a bill, which is now being considered in the U.S. Senate. If the bill in the form presented to the Senate is passed, it might supersede all existing regional programs. But legislators are struggling with political and jurisdictional issues, and the distractions created by other pressing legislation in the U.S. threaten to delay or derail the climate debate at the federal level.

Meanwhile, California is forging ahead with its own cap-and-trade program. California is keen to maintain its role as a trendsetter for climate change and environmental matters in the United States, and the scope of the state's policy – not to mention the size of the state's economy – make the cap-and-trade program being developed there a bellwether for the rest of the nation. Furthermore, California's broad legislative mandate gives its regulators authority that other nascent programs lack. California's proposed cap-and-trade program will influence the debate at federal, state and regional levels and may well form a template for a national system if legislation in the U.S. Congress is delayed.

In addition to the federal and California cap-and-trade programs now winding their way through the respective legislatures, several regional cap-and-trade programs have already been adopted in the United States. The practices adopted and consensus reached in these regional systems will also play a role in the political debates now taking place at the national level, as these systems give voice to the regional interests in the ongoing national debate.

This chapter provides a summary of the existing and proposed cap-and trade systems in the United States which will influence or finally define the form a national cap-and-trade program in the United States will take.

1. Proposed Federal Cap-and-Trade Legislation

1.1 U.S. House of Representatives Waxman-Markey Bill

On June 26, 2009, the U.S. House of Representatives passed the American Clean Energy and Security Act.¹ The Waxman-Markey bill is much more than a cap-and-trade plan. In addition to creating a national cap-and-trade program, it would include provisions for developing clean energy, improving energy efficiency, creating green jobs, and adapting to a warmer world. The passage of the Waxman-Markey bill by the U.S. House of Representatives was a landmark event, but it passed by

¹ House Resolution 2454, <http://www.govtrack.us/congress/bill/rpt?bill=11-2454>.

only a narrow margin in what was almost a strictly party-line vote. After summer recess, the ²bill was sent to the Senate for consideration, where it must be reconciled with any draft legislation passed by the Senate. Although the passage of the Waxman-Markey bill by the U.S. Senate in the form passed by the U.S. House of Representatives is not at all assured, the bill's provisions still constitute the greatest stride that has been taken to date toward a national cap-and-trade program and, accordingly, a review of its provisions is instructional in predicting the structure of a national cap-and-trade program that might finally be implemented in the United States. The major design elements of the program are described below.

1.2 Coverage

One of the first decisions policy makers must address in crafting a cap-and-trade program is which emissions will be capped by the program. Market-based programs are most cost-effective if they cover all greenhouse gases in all major emitting sectors because including more sources of greenhouse gases offers a broader range of opportunities for low-cost reductions. However, it is difficult to devise a system that can monitor the emissions of all sectors, and the administrative cost and complexity of a plan covering small emitters might not be feasible. The system contemplated by the Waxman-Markey bill is fairly comprehensive in scope, including essentially all fossil fuels, along with certain other measurable greenhouse gases. It also creates a smaller, separate cap-and-trade system for hydrofluorocarbons. The Congressional Budget Office estimates that Waxman-Markey's cap would cover about 72 percent of U.S. emissions in 2012; by 2020 it would cover 86 percent of emissions.

1.3 Point of regulation

The next decision policymakers must make in designing a cap-and-trade program is who is responsible for surrendering enough allowances to match their emissions each compliance period. The Waxman-Markey bill targets approximately 7,400 primarily "upstream" companies, including oil and natural gas suppliers.³ Upstream companies are those which are situated where fossil fuels are first introduced into the economy. The bill would also regulate coal at power plants. Because it targets entities at or near the point where fossil fuel emissions enter the economy, the bill's reporting and permitting requirements would affect few small businesses or individuals.

² Share of emissions covered from Congressional Budget Office, "Cost Estimate: H.R. 2454 American Clean Energy and Security Act of 2009", Washington, DC, June 5, 2009, <http://www.cbo.gov/doc.cfm?index=10262>.

³ Number of affected companies from Congressional Budget Office, "Cost Estimate: H.R. 2454 American Clean Energy and Security Act of 2009", Washington, DC, June 5, 2009, <http://www.cbo.gov/doc.cfm?index=10262>.

1.4 Allocation of allowances

While the manner in which allowances are initially distributed does not affect the emission reductions achieved by the cap-and-trade program, it does affect how the program's costs are distributed. Critics of distributing allowances without charge argue that receipt of the allowances would create a windfall for the recipients, since many of them would receive the allowances for free but could pass on any price increases resulting from the implementation of the cap-and-trade system to their customers. Advocates of auctioning allowances argue that the proceeds from the auction could be used to defray the cost of energy to low- to middle-income energy consumers or to fund research and development. During his candidacy for President, Barack Obama advocated a cap-and-trade system with 100 percent auctioned permits in his proposed budget. However, this area of emissions regulation required compromise in the House. The result is that the Waxman-Markey bill uses a hybrid approach: some permits are auctioned, some given away outright, and others given away but with the requirement that revenue generated when the permits are traded is reimbursed to ratepayers or invested in clean energy and other programs.

Under the Waxman-Markey bill, initially, approximately 15 percent of permits would be auctioned, with that percentage increasing to about 70 percent by 2030.⁴ The revenue raised from auctions would be distributed to consumers through a combination of refundable tax credits and electronic benefit payments to minimize the impact of the scheme on low- and middle-income earners. The bill sets the minimum auction price at \$10 in 2012, and the price increases five percent plus inflation each year thereafter. Preliminary modeling by the Environmental Protection Agency (EPA) estimates that allowances will be worth between \$11 to \$15 in 2012 and \$22 to \$28 million in 2025.⁵ Participation in the auction would not be restricted to energy companies or greenhouse gas emitters, but rather a wide range of organizations would be allowed to participate in the carbon auction. However, no participant (or group of participants acting in concert) is allowed to purchase more than five percent of the allowances offered in a single auction.

Approximately 85 percent of the initial allowances would be allocated free. Of these allowances, approximately one-fifth would be allocated to entities that would be liable under the cap-and-trade program, such as iron, steel, cement and paper companies; coal-fired electricity generators; oil refineries, and electric utilities. These allocations are intended to reduce the impact of the program. Approximately two-thirds of the free permits would be allocated to parties not covered by the pro-

⁴ Auction share in 2030 from Congressional Budget Office, "Cost Estimate: H.R. 2454 American Clean Energy Security Act of 2009", Washington, DC, June 5, 2009, <http://www.cbo.gov/doc.cfm?index=10262>.

⁵ Energy and Commerce Committee report on American Energy and Security Act (H.R. 2454), May 21, 2009, http://www.epa.gov/RDEE/documents/stateforum/06_17_09/background_act_fed_leg_6-17-2009.pdf.

gram, such as electricity distributors, state governments, natural gas distributors and vehicle manufacturers. These are intended to support the development of clean technologies and to reduce the impact of the program on low- and middle-income households. Approximately 10 percent of permits would be allocated to help support the transition to a clean economy, adaptation and international technology transfer.

1.5 Banking and borrowing

Allowances distributed under the Waxman-Markey would have a definite start date but no expiration date. Therefore, any excess allowances could be used in the future or could be sold. Making the allowances bankable is intended to encourage early or over-compliance. The Waxman Markey bill would allow a two-year compliance period (permitting borrowing one year in advance) but would otherwise tightly control firms' ability to borrow allowances which would be issued in a future compliance period for use in a current compliance period. Such a practice of "borrowing" allowances could undermine the emissions reduction goals because the mechanism would not guarantee that emissions would be reduced in a timely manner.

1.6 Offsets

The House of Representatives recognized that offsets – emission reduction projects that are outside the cap-and-trade program, either legally or geographically, but that are counted toward meeting emissions goals – can improve cost-effectiveness of a cap-and-trade program, but they can also undermine the cap by providing a means of circumventing the cap. The final bill would allow for substantial use of offsets. The Waxman-Markey bill would permit liable parties to use up to two billion emission offsets to meet their obligations under the program in any given year. These offsets are split equally between domestic and international projects, but if there is an insufficient number of domestic projects the percentage of international projects may be increased to up to 75 percent. A new Offsets Integrity Advisory Panel would be established by the EPA under the bill to determine the eligibility of offset projects. Domestic offsets would be valued equally with allowances, while international offsets would be discounted until 2018.

1.7 Cost containment

The Waxman-Markey bill contains a number of provisions that are designed to provide flexibility and contain the costs of the cap-and-trade program. As mechanisms that help to control the cost of the program, the Waxman-Markey bill provides for (i) unlimited banking of allowances; (ii) a two-year compliance period, which permits borrowing one year in advance; (iii) the right to borrow up to 15 percent of the allowance for years two to five beyond the current year, but subject to payment

of 8 percent interest; (iv) a strategic reserve of allowances that are available for auction if allowances prices exceed 160 percent of their three-year average; and (v) a minimum price of \$28 in 2012 for allowances auction under the strategic reserve provisions, thereafter rising at five percent plus the rate of inflation up to 2014. Thereafter, the minimum price would be 160 percent of the three-year average price of traded allowances.

1.8 Penalties for non-compliance

The penalty for failure to comply with the emission cap under the Waxman-Markey bill would be a fine of twice the fair market value of the missing allowances.

1.9 Interaction with pre-existing trading programs

The bill would require that pre-existing state and regional emissions trading programs be suspended for the period 2012 to 2017. Allowances issued under these programs before December 31, 2011 would be redeemed or exchanged for federal allowances.

1.10 Regulation of trading

The bill sets out a framework for the regulation of trading in allowances and their derivatives. The Federal Energy Regulatory Commission would be charged with the regulation of the cash market in allowances and offsets, while the Commodity Futures Trading Commissions would have responsibility for the regulation and oversight of the derivatives market.

1.11 Senate Deliberations

The Waxman-Markey bill has now been sent to the Senate for deliberation. In the Senate, several committees will consider the Waxman-Markey bill and develop its own legislation. Several senators have circulated bills. No one believes that the version that will finally emerge from the Senate, if one does emerge, will be in the exact form of the Waxman-Markey bill passed by the U.S. House of Representatives.

In early November 2009, Democrats on the Senate Environment and Public Works Committee ignored a Republican boycott and used their majority to approve legislation that, if passed by Congress, would require U.S. industry to reduce emissions of carbon dioxide and other greenhouse gases 20 percent by 2020, from 2005 levels. Senator John Kerry, who co-authored the committee-approved bill with fellow Democrat Barbara Boxer, is leading an effort with some Republicans and the White House to draft a compromise.

Opponents of the legislation emphasize the real or perceived costs that will result from climate change legislation, and this will make it difficult to pass the legislation

if the economy does not improve significantly. In addition, some senators from Mid-western and Southern states which are heavily reliant on coal will seek their own changes or concessions, which could upset liberals now supporting the bill. Other senators are posturing to include in the bill new government incentives for expanding U.S. nuclear power-generating capacity and offshore oil drilling, along with money to help develop clean ways to burn coal, which is in abundant supply in the United States. It will be difficult to reconcile all of these interests – especially in light of upcoming mid-term elections.

2. California Cap-and-Trade

California is not the only state to have passed a law aimed at reducing greenhouse gas emissions, but its program was the first statewide program in the United States that caps all carbon emissions from major industry and includes penalties for non-compliance. On September 27, 2006, Governor Arnold Schwarzenegger signed into the Global Warming Solutions Act of 2006 (often referred to as AB 32)⁶, which mandates as law that greenhouse gas emissions be reduced to 1990 levels by 2020. Since AB 32 was signed, an increasing number of states have passed laws capping their greenhouse gas emissions or setting goals for greenhouse gas emissions monitoring or reduction.⁷ However, AB 32 delegates broader authority to California than the legislation passed by other states. Given the scope of California's proposed cap-and-trade program, the size of the state's economy, and its linkage (once passed) to the Western Climate Initiative, which includes seven U.S. states (and an additional six observer states), it is likely that California's cap-and-trade program may well serve as a template for federal legislation and influence programs adopted by other states and regions.

AB 32 directed the California Air Resources Board (CARB) to begin developing early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. In December 2008, the CARB approved a Scoping Plan⁸ which, among other things, provides a framework for implementing a cap-and-trade program pursuant to AB 32. The Scoping Plan provides direction for CARB to develop regulations by January 1, 2011, and to implement the cap-

⁶ Assembly Bill 32, <http://www.arb.ca.gov/cc/ab32/ab32.htm>.

⁷ Among these states are Arizona (see http://www.azclimatechange.gov/download/EO_2006-13_090806.pdf), Connecticut (<http://cga.ct.gov/2008/ACT/PA/2008PA-00098-R00HB-05600-PA.htm>), Hawaii (for a summary see <http://hawaii.gov/dbedt/info/energy/greenhouse/ghg-brochure08.pdf>), Maryland (see http://www.mde.maryland.gov/assets/document/Air/ClimateChange/GreenHouse_Gas_Reduction_Act_Bill_2009_Summary.pdf), Massachusetts (see <http://www.mass.gov/legis/bills/senate/185/st02/st02540.htm>), Minnesota (see <http://www.revisor.mn.gov/statutes/?id=216H&view=chapter>), Oregon (see <http://www.leg.state.or.us/07reg/measpdf/hb3500.dir/hb3543.en.pdf>) and New Jersey (<http://www.nj.gov/globalwarming/home/documents/pdf/20081031inventory-report.pdf>).

⁸ Scoping Plan, December 2008, <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>.

and-trade program beginning January 1, 2012. The reduction measures to meet the 2020 target are to be adopted by the beginning of 2011.

On November 24, 2009, the CARB issued its preliminary draft regulation for creating a cap-and-trade program (Preliminary Regulation).⁹ The Preliminary Regulation is still incomplete, and public comment is being sought on some of its provisions through January 11, 2010. The proposed regulation incorporating comments will be circulated in Spring and Summer of 2010, and the CARB intends to consider the final draft in October 2010.

The Preliminary Regulation was formulated after 21 public meetings and extensive consultation with a wide variety of industry groups and nongovernmental organizations. The cap-and-trade program California is considering covers about 600 of the state's largest greenhouse gas emitting sources – primarily electric utilities and industrial plants. When fully implemented, the program would cover 85 percent of California's greenhouse gas emissions, including emissions from electricity generation, large industrial sources, transportation fuels, and residential and commercial use of natural gas. It is one of the major building blocks of California's far reaching plan to address the state's contribution to climate change. This program will help put California on the path to meet its goal of reducing greenhouse gas emissions to 1990 levels by the year 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050.

2.1 Design elements under California's Preliminary Regulation

The Preliminary Regulation covers the full range of elements for the cap-and-trade program outlined in the Scoping Plan. Following are some of the major design elements of the California draft cap-and-trade program as set forth in the Preliminary Regulation.

2.2 Coverage

Covered entities include operators of large point sources of greenhouse gas emissions (such as refineries, electricity generators, cogeneration plants and cement manufacturers), electricity deliverers and fuel deliverers which emit 25,000 metric tons of CO₂ equivalent (CO₂e) per year or more. The cap is set for each compliance period. The Preliminary Regulation proposes a compliance period of three years, but the CARB is considering requiring entities to surrender a portion of their reported emissions each year during the three year compliance period. The CARB is also considering a one-year compliance period.

The CARB is also considering how to phase sectors into the program. Under the staggered approach outlined in the Scoping Plan, entities in the electricity gen-

⁹ Preliminary Draft Regulation for a California Cap-and-Trade Program, November 24, 2009, <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>.

eration and large industrial sources and processes at above 25,000 metric tons (MT) CO₂e would start in the first compliance period (2012), and transportation fuels, industrial fuel combustion at facilities with emissions below 25,000 MTCO₂e, and all commercial and residential fuel combustion of natural gas and propane would start in the second compliance period (2015). If the staggered approach is not adopted, all sectors identified above would be subject to the cap-and-trade program on January 1, 2012.

2.3 Point of regulation

For large stationary sources of greenhouse gas emissions (those that meet the 25,000 MTCO₂e threshold), the covered entity would be the facility operator. For generators of electricity within California, the covered entity would be the facility operator, and for emissions associated with imported electricity, the covered entity would be the first entity to place power onto the California grid. The appropriate point of regulation for emissions associated with fuel combustion other than those discussed above (such as California Reformulated gasoline, California diesel fuel, liquid biofuels, natural gas, and natural gas liquids) is still under consideration.

2.4 Allocation of allowances

The Preliminary Regulation does not state how the allowances will be distributed. CARB is seeking input from economic, financial and policy experts as it considers different approaches for allocation and auction design and use of the proceeds (including compensation to those disproportionately impacted by the imposition of the cap-and-trade program, per-capita rebates, and public investments necessary to achieve the requirements of AB 32). The Preliminary Regulation summarizes different allocation options being considered. To date, deliberation has focused on free allocation of allowances and auction. The Scoping Plan stated that implementation of a 100 percent auction (with auction proceeds going to further the policy objectives of California's climate change program) was a worthwhile goal, but it is likely that a hybrid system, incorporating an auction of a portion of the allowances, and gratis allocation of a portion, will be implemented in the end.

The Scoping Plan also discussed the potential of setting aside allowances from the initial compliance period to reward covered entities that make voluntary reductions prior to 2012. It is likely that the final program will also implement such a mechanism, or some other mechanism that will incent entities to early action.

2.5 Banking and borrowing

Like allowances distributed under the Waxman-Markey bill, allowances issued under California's cap-and-trade program would have a definite start date but no expiration date. Allowances issued for a current or previous compliance period could

be held or used to meet a surrender obligation if it has been issued from an allowance budget year within a current or previous compliance period. CARB is considering whether borrowing of allowances from future compliance periods might be used as a cost containment mechanism.

2.6 Offsets

CARB recognizes that the topic of offsets involves complex legal, enforcement, and administrative issues, and is seeking public comment on the conceptual approach and regulatory structure in order to ensure the environmental integrity of the offset program. Depending upon comments received by CARB, and the weight CARB ascribes to the comment, the provisions relating to offsets in the final plan could differ significantly from those contained in Scoping Plan and in the Preliminary Regulation.

The Preliminary Regulation calls for CARB to become a credit issuing body that will also approve offset credits that are issued by external programs. CARB recognizes that the type of credits it issues (e.g., credits for projects only inside of California, only in the United States or credits for projects out the United States) will have a definite impact on its composition and needed resources. CARB is requesting comment on whether the role of CARB described in the Preliminary Regulation is an appropriate role for CARB.

The Scoping Plan called for a limited use of offsets. Under the Preliminary Regulation, a covered entity may be allowed to use offsets for up to 4 percent of what it surrenders at the end of a compliance period. Offsets would need to meet rigorous criteria that demonstrate that the emissions reductions are real, permanent, verifiable, enforceable, and quantifiable. To be credited as an offset, the projection must also be additional to what is required by law or regulation or would otherwise have occurred. CARB would issue or approve an offset credit that would be used by a covered entity instead of turning in an allowance of the equivalent amount of CO₂e emitted.

While the Scoping Plan committed California to working at the international level to reduce greenhouse gas emissions globally, precisely what that would entail was not detailed, and CARB continues to consider what form its international cooperation will take. The Scoping Plan proposes to allow covered entities to use a limited number of offset credits to meet their surrender obligations under the cap-and-trade program, and allowing offset credits internationally will both foster greenhouse gas emission reductions in developing countries and control the costs of compliance. California will be following the progress of the international negotiations leading up to the fifteenth Conference of the Parties to the United Nations Framework Convention on Climate Change in Copenhagen in December 2009, as well as the development of the European Union Emissions Trading Scheme Phase 3, and it will consider the outcomes in these discussions for the use of international offsets in the California cap-and-trade program.

2.7 Cost containment

The discussion of cost containment in the Preliminary Regulation shows that CARB is focusing on maintaining the integrity of the cap-and-trade system by not including safety valves and other mechanisms that will undermine the operation of the program. CARB is not considering the inclusion of maximum and minimum price controls in the final cap-and-trade program. However, it is considering four ways of adjusting supply of allowances once price triggers have been reached. The mechanisms being considered are: (i) creation of a reserve account from which additional allowances may be released when prices are high; (ii) relaxation of the quantitative usage limit on offsets; (iii) expansion of the list of acceptable offset project types beyond what is currently contemplated; and (iv) borrowing of allowances from the next compliance period.

2.8 Penalties

In exploring options for penalties and enforcement, CARB continues to consider its existing penalty setting authority, options for setting penalties, and penalty systems used in other emissions trading programs. It is to be expected that CARB will expand on the existing provisions, specifying particular enforcement provisions for separate requirements in the Preliminary Regulation.

2.9 Linkage

Once adopted, a California cap-and-trade program would link with the Western Climate Initiative (WCI). WCI is one of three regional programs in the United States coordinating efforts of its members to reduce greenhouse gas emissions, and it is the largest regional agreement, both in terms of area and in population. WCI was launched in February 2007 by the governors of Arizona, California, New Mexico, Oregon and Washington as a collaboration to develop a regional strategy to address climate change. The WCI now includes the states of Arizona, California, Montana, New Mexico, Oregon, Utah, and Washington, as well the Canadian provinces of British Columbia, Manitoba, Ontario and Quebec.¹⁰ The states of Alaska, Colorado, Idaho, Kansas, Nevada and Wyoming, and the Canadian provinces of Saskatchewan and Nova Scotia, are observers.

California is working closely with WCI to design a regional cap-and-trade program that will result in reductions of greenhouse gas emissions throughout the region. The WCI leadership council, composed of representatives of the member states, developed a cap-and-trade plan in 2008.¹¹ WCI's collective goal is reducing

¹⁰ <http://www.westernclimateinitiative.org>.

¹¹ <http://www.westernclimateinitiative.org/history>.

overall emissions to 15 percent below 2005 levels by 2020.¹² The WCI program calls for economy-wide emissions reductions, covering nearly 90 percent of the region's emitters, rather than focusing on only the largest industry emitters. The WCI participants will begin reporting emissions for certain sectors of industry in 2011 for 2010 emissions. The first three-year phase of the program will begin on January 1, 2012, and the second phase, which will expand the scope of the program to cover certain fuels not covered in the first phase, will begin in 2015.

Each WCI partner jurisdiction will set goals consistent with the regional goals, and all such goals will decline to 2020. Once California links with the other WCI partner jurisdictions, allowances could be traded across state and provincial boundaries. The overall number of allowances issued in a given year by each WCI partner jurisdiction will set a limit on emissions from sectors covered by the program for the region. Details of distribution of allowances will be established by each partner within the general guidelines set forth in the WCI program design framework.

California's cap-and-trade program as set forth in the Preliminary Regulation is consistent with the framework of the WCI program. The Scoping Plan enumerates a number of benefits for California of participating in a regional system, including the creation of a larger market which, in turn, creates greater opportunities for reduction of emissions with fewer chances for leakage and which will increase the liquidity of the allowances; retention of local businesses within California by harmonizing the approach within the region; and ability of California to play a leadership role in preparation for future federal and international climate action.

California would also link its cap-and-trade program to other trading systems through agreements with other programs having equally rigorous controls as its own. Such controls would include verification of emissions; certification of offsets based on approved protocols; tracking, registration and reporting systems; and related infrastructure that records and tracks emissions, allowances and offsets, along with verification of compliance in a given compliance period.

When and if a federal cap-and-trade system is adopted, California will work to link and/or transition to the national program.

3. Other Regional Initiatives

In recognition of common regional interests in controlling greenhouse gases, groups of states have joined together, and a number of regional cap-and-trade programs have been formed. As mentioned above, the Western Climate Initiative is the largest of these programs both in terms of area and pollution. However, states in the Midwest and Northeast are also cooperating on carbon emissions reduction through the Midwestern Greenhouse Gas Reduction Accord, and the Regional

¹² Design Recommendations to WCI Regional Cap-and-Trade Program, September 23, 2008, http://www.arb.ca.gov/cc/scopingplan/document/appendices_volume1.pdf.

Greenhouse Gas Initiative, respectively. The three regional programs cover more than half the population of Canada and the United States.

3.1 Regional Greenhouse Gas Initiative

In the Northeast United States, the Regional Greenhouse Gas Initiative (RGGI), which was formed in 2005¹³, was the first mandatory market-based greenhouse gas emissions reduction program in the United States. This program brings together the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The state of Pennsylvania and the Canadian provinces of Ontario, New Brunswick and Quebec participate as observers. The signatory states have agreed to a regional cap of 188 million tons of CO₂e greenhouse gas emissions from fossil fuel-fired electric power plants that are 25 megawatts or greater in size, with a goal of reducing greenhouse gas emissions by 10 percent by 2018. Two auctions were conducted in late 2008 in anticipation of the commencement of the first compliance period on January 1, 2009. The first auction took place in September 2008, and demand for the credits was four times the number of credits. The auction resulted in proceeds of \$39 million, which are being used to promote energy efficiency and renewable energy technologies. Auctions are conducted quarterly, with the sixth auction to be conducted in early December 2009.

3.2 Midwest Greenhouse Gas Reduction Accord

In November 2007, Illinois, Iowa, Kansas, Michigan, Minnesota and Wisconsin, and the Canadian province of Manitoba, entered into the Midwestern Greenhouse Gas Reduction Accord (MGGRA),¹⁴ which had as its goals the setting of greenhouse gas emission reduction targets and timetables, development of a cap-and-trade mechanism to assist in achieving the emission reduction goals, and joining the Climate Registry, a nonprofit organization which has established a program for measuring and reporting greenhouse gas emissions, to enable the tracking and management of carbon credits. The states of Indiana, Ohio and South Dakota are observers to the accord. Preliminary target recommendations were for greenhouse gas emission reductions to be 15–25 percent of 2005 levels by 2020 and 60–80 percent of 2005 levels by 2050. The MGGRA Advisory Group finalized their recommendations in October 2009. The governors are now reviewing the recommendations to offer their input on next steps to be taken in the region and at the federal level.

¹³ <http://www.rggi.org>.

¹⁴ [www.midwesterngovernors.org/Pulblicationsn?Greenhouse%20 gas%20accord_Layout%201.pdf](http://www.midwesterngovernors.org/Pulblicationsn?Greenhouse%20gas%20accord_Layout%201.pdf).

4. Conclusion

Environmental activists have been disappointed that the Congress and Obama Administration have not been able to deliver a national climate change program prior to the Copenhagen climate summit in December 2009. Climate change legislation has bogged down in the Senate behind health care reform and other urgent legislative initiatives. President Obama will nevertheless attend the Copenhagen climate summit, and he has publicly stated that he will personally commit the United States to a goal of substantially cutting greenhouse gases. Skeptics of what might be accomplished at the climate summit point to similar actions taken by President Bill Clinton, who signed a similar bill at Kyoto in 1997, but the treaty was never ratified. But even if climate change legislation continues to be bogged down in Congress, the efforts of California and others states bode well for a near-term adoption and implementation of cap-and-trade program in the United States, on a regional if not a national level.

List of Literature

Preliminary Draft Regulation for a California Cap-and-Trade Program, November 24, 2009, <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

Design Recommendations to WCI Regional Cap-and-Trade Program, September 23, 2008, http://www.arb.ca.gov/cc/scopingplan/document/appendices_volume1.pdf