# CARBON OFFSETS: OPPORTUNITIES AND CHALLENGES FOR STATE CARBON TRADING SCHEMES

## Panel 3: State of the States

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Widespread acknowledgment of the role of anthropogenic sources of global climate change has resulted in nearly all U.S. states taking some form of action to reduce greenhouse gas (GHG) emissions.[1] Thirty-six states have drafted or are in the process of drafting a formal climate action plan.[2] However, the magnitude and success of state initiatives vary widely, as does the manner in which each state defines and incorporates carbon offsets.

State governors and legislatures frequently mention carbon "offsets" as an element of everything from nonbinding climate action plans to sweeping emissions reduction programs. As a consequence, in some circles, the expression has come to stand for any reduction of GHG emissions as compared to the status quo.[3] Despite this lack of uniformity, however, offsets play an important role in conversations about state and regional cap-and-trade programs and GHG registries and are arguably an important element of any politically feasible GHG reduction plan. After a brief survey of how states define offsets, this paper examines how states are incorporating carbon offsets into a variety of plans to address global climate change and the key issues that states face when dealing with offsets.

**How are states using the term *offset*?**

As discussed in Background Paper 1, there is no consistent definition of "offsets." Nevertheless, states usually discuss offsets in connection with market-based GHG reduction mechanisms. Twenty-five states and three regionally-based groups of states have set formal GHG emissions reduction targets, which must be met through state intervention.[4] To this point, cap-and-trade programs have been the most common route proposed to achieve these targets. Within cap-and-trade programs, an offset is "a credit for an emission reduction that is achieved by an entity *outside* of the sectors covered."[5] Depending on the parameters of the program, such reductions could take place within the state or in some other state, region or nation.

States have also adopted the offset terminology outside of the cap-and-trade framework. Most commonly, offsets outside of cap-and-trade frameworks refer to GHG reductions from carbon capture and sequestration (CCS). For example, one goal of a lands preservation program in Connecticut is to "offset carbon dioxide produced through combustion of fossil fuels by preserving lands that naturally absorb it."[6] Delaware touts its forests as a "carbon sink" that will offset statewide emissions. And Vermont is considering an "internal carbon offset program" within its state government, whereby the state would pay into a renewable energy and CCS fund in order to counteract emissions from state activity.[7]

A variety of other state programs are also designed to offset GHG emissions. Montana's Climate Change Advisory Committee, for example, finds that low carbon fuels and biofuels offset emissions from fossil fuel burning; locally-grown food offsets energy use in transportation; and

land management techniques that increase carbon sequestration offset general GHG emissions.[8] Connecticut's committee also refers to Renewable Portfolio Standards as offsetting carbon emissions,[9] while California's urban forestry program treats tree planting as an offset for automobile emissions.[10] Common state programs like net metering (42 states allow individual users to sell electricity to the grid) and green pricing (utility customers in 45 states have an option to pay a premium for cleaner energy) also may be construed as offsets.

**How are states recording, quantifying and verifying offsets?**

One challenge, common to all offset programs, is that of creating an environmentally beneficial, verifiable and measurable system of offsets without excessive administrative burden. A key step in this process is the formation of a standardized, centralized database for offset projects. Such a database provides assurance to offset buyers and sellers and opens up a broader market for offset trading. These databases, usually called registries, have sprung up during the past decade in several states trying to facilitate voluntary private action on climate change.

In the past year, however, these separate efforts have largely congealed into one forum: The Climate Registry (TCR). This nonprofit registry has 39 states as members but remains strictly voluntary.[11] States will encourage their businesses to report emissions to TCR,[12] and given its widespread acceptance, TCR would seem a likely choice for a central database for emissions and offsets under an interstate program.

Some individual state registries remain, the most notable of which is the California Climate Action Registry (CCAR), which is considered to be at the cutting-edge of verification and measurement techniques.[13] The CCAR just launched the Climate Reserve, a web-based trading platform for offset trading.[14] Independently, the California Air Resources Board (CARB) is moving forward with a plan to require certain California GHG emitters to report emissions to the board beginning in 2008.[15] Colorado is creating the voluntary Colorado Carbon Fund, through which parties can buy offsets generated from local projects.[16] Illinois and Georgia also have registries specifically targeted to offsets in the agricultural sector.[17]

The registry is one form of verifying that offsets are additional and actually achieved.[18] As discussed below, most states with formal offset programs allow the options of on-site reductions, which are monitored by a state body, or offsite reductions, which are verified by a certified third-party GHG registry. TCR recently drafted an offset verification protocol designed to hold offset providers to internationally-accepted standards.[19] The CCAR and other registries have their own verification protocols.[20]

**How are states using offsets?**

*Purpose of Offset Programs*

A number of states have used offsets as a means of increasing flexibility for emitters to reach a GHG emissions target. An offset program may function as one element of a full cap-and-trade program or as a standalone program.[21] Some programs straddle the line, having some elements of cap-and-trade without the full structure of a carbon market. Most states developing these plans are looking carefully at the plans of their sister states.[22]

*California*

**California** has explicitly rejected the use of offsets to meet its interim GHG emissions standard (limiting power plant emission rates to those of a standard combined cycle gas turbine plant) because it "would compromise the very purpose of establishing a … standard in the first place."[23] The state wants to "ensure that there is no 'backsliding' as California transitions" to a new framework.[24]

However, in looking towards a market-based mechanism to address the strict standards of California's Global Warming Solutions Act (AB 32),[25] offsets have been discussed extensively (see discussion below). No concrete plans have been made, but AB 32 envisions "emissions exchanges, banking, credits and other transactions" as part of a GHG reduction program.[26] Considering California's leadership history in environmental matters, it is likely that other states designing offset programs will pay close attention to its plan.

*Other Developed Programs*

In 1997, **Oregon** became the first state to implement a formal GHG cap-and-trade offset program.[27] As part of regulations capping carbon dioxide emissions from new power plants, the legislature forced plants to offset excess emissions.[28] Plants can choose whether to offset through their own initiatives, which undergo a contested evaluation process, or through direct payment to a qualified organization that locates and coordinates offset programs.[29] The Climate Trust, a nonprofit registry, has long been the only organization qualified to administer offsets using the Oregon Standard.[30]

Under Oregon's plan, offset projects must be new, but there are no geographic or sector limitations. The key criteria for project approval are the certainty of emissions reduction, ease of measurement and verification, and additionality. Dual credit and trading offsets under other programs are forbidden. However, there is no penalty if expected emissions reductions are not achieved.[31]

In May 2007, **Washington** instituted a GHG emissions cap for new power generating facilities.[32] In addition to the cap, the state requires new power-generation facilities to offset 20% of total emissions.[33] As with Oregon's plan, the offset requirement can be met through on-site reductions (cogeneration, CCS, equipment shutdown, etc.) or purchase of third-party offsets from a recognized trading authority or offset exchange.[34] **Illinois** is considering an offset requirement modeled on Washington's.[35]

**Massachusetts**, which is now a member of the Regional Greenhouse Gas Initiative (RGGI) cap-and-trade market, had previously implemented its own carbon dioxide emissions cap.[36] The state trades offsets produced throughout the Northeast and with other approved "carbon constraining" programs.[37] Reductions must be "real, additional, verifiable, permanent and enforceable.[38] Measurement and verification methods are outlined by the state's Department of Environmental Protection. Offset credits from other programs are approved on a case-by-case basis.[39]

In the past year, **Montana** implemented an offset program for new coal-fired power plants,[40] which must sequester 50% of carbon emissions.[41] New natural-gas facilities are required to implement "cost-effective carbon offsets" (which don't increase rates by more than 2.5%) through their own means or through third-party providers.[42] These standards are designed as temporary measures to limit new fossil fuel projects in the pipeline while state or federal regulations are promulgated.[43]

Similarly, **Minnesota** recently passed stringent legislation temporarily halting new applications for power generation facilities and importation of electric power that would increase overall GHG emissions in the state.[44] Projects that offset emissions through direct reductions at another plant or purchase of offsets from an existing domestic cap-and-trade program are exempt from the application freeze.[45] The state is currently developing a plan for GHG reduction, at which time these standards will presumably be relaxed.

*More Limited Programs*

Other states have instituted more limited offset programs. In **Connecticut**, the state has the option of requiring polluting applicants to plant trees to (partially) offset carbon emissions.[46] **Colorado** has plans to set up a Western Regional Agricultural Offset Program, which would give carbon credits to farmers in the West for sequestering carbon and reducing emissions through a variety of improved agricultural processes.[47] The credits have the potential to be connected to a larger trading mechanism such as the Chicago Climate Exchange.

Some states have chosen to monitor the emissions produced by state government activity, hoping to lead by example through the introduction of politically-acceptable carbon markets. The governments of **Illinois** and **New Mexico** have joined the Chicago Climate Exchange (CCX), a voluntary but legally-binding GHG emissions trading market.[48] As CCX members, they commit to gradual reductions in GHG emissions of all government operations through on-site reductions or purchase of offset credits in the CCX market. Credits on the CCX are verified by one of several sector-specific approved agencies (including governmental, nonprofit, and for-profit agencies) and continually monitored by the Financial Industry Regulatory Authority.

Following the **Kansas** Department of Health and Environment's denial of permits for two new coal plants,[49] the State legislature passed a bill to impose carbon dioxide emissions limits on new plants (the limit amounts vary by power source).[50] The governor vetoed the bill because of its lax offset provision: the bill would have granted triple credits for specific projects without additional environmental benefits and imposed only a minimal fee for failure to verify actual emissions reductions *post facto*.[51]

*Regional Programs*

Several states have chosen to focus on regional initiatives to reduce GHGs.[52] The **Regional Greenhouse Gas Initiative** (RGGI), a consortium of ten Northeastern states, has passed a Model Rule allowing for some emissions reductions to be met through offsets.[53] State members of RGGI need to pass implementing legislation separately; Maine has been the first to adopt RGGI's rules.[54] RGGI plans to auction its first allowances in September 2008.[55]

The **Western Climate Initiative**, which includes seven Western states and two Canadian provinces, has adopted a regional GHG goal and is in the process of developing a cap-and-trade mechanism using offsets.[56] Other regional bodies considering offsets as part of their climate change strategy include the Western Governor's Association, the Midwestern Regional Greenhouse Gas Initiative, Powering the Plains, the Conference of New England Governors/East Canadian Premiers and the International Carbon Action Partnership.

**What are the key issues that states face in dealing with offsets?**

In addition to the universal recording and verification challenges facing an offset program within a mandatory cap-and-trade regime, there are two main topics that have dominated state-level discussion. First, states must weigh how much to limit the use of offsets in terms of geography, quantity, and origin. Second, states must prepare for the consequences of future integration with other state, regional and federal GHG emissions trading programs.

The following discussion draws heavily on the experience and discussions of the Market Advisory Committee to the California Climate Action Team (MAC). The MAC has spent much time debating the role of offsets in a future California GHG cap-and-trade system, and a number of states now designing programs are looking to the MAC for guidance.[57]

*Scope and Limitations*

*Geographic Limitations on Offsets*

The scope of a market-based offset program may be limited by its geographic area. Market efficiency increases with the size of the offset market, so allowing offsets from other places could improve the welfare of market participants.[58] Relying on this logic, existing state cap-and-trade programs typically allow offsets to be purchased from other existing state programs (after formal Memoranda of Understanding are signed between the programs).[59] The MAC in California agreed that California emitters ought to be able to obtain offsets from other state and regional programs, and most members also favored allowing the Kyoto Protocol's Clean Development Mechanism (CDM) credits to qualify.[60] On the other hand, there are several "co-benefits" to localized reductions (e.g., beautification and reduction of concurrent pollutant levels) that make them more attractive to states.[61] Also, it is much easier to monitor and verify emissions that are close to home.[62]

*Percentage of Offsets Allowable to Meet Standards*

Another key determination is the extent to which firms may rely on offsets (as opposed to primary reductions like equipment modification or on-site CCS) to meet their emissions reduction requirements. The RGGI Model Rule allows for 3.3% of emissions reductions to be met through approved offset projects. However, if certain "trigger events" (i.e., sustained allowance prices above a level determined by a formula) occur, the percentages may rise to 5% and even 10%.[63] Wisconsin is considering a limitation of 10% with a similar relaxation in the case of price hikes.[64] However, most of the states discussed above have declined to limit offset

quantities on the theory that environmental benefits should be the same regardless.[65] Although they may reduce incentive to move pollution from "hot spot" areas of low environmental quality, some feel that this problem is best addressed through traditional command-and-control regulations.[66]

*Limiting Offsets by Type: Standards v. Projects*

The last decision relating to scope of offsets is whether to limit offsets by type. Once again, the general consensus is that market-based programs are more politically palatable with broader participation.[67] A case-by-case approval process could maintain higher quality standards, but it may be unrealistic from an administrative point of view. For this reason, the MAC favors a standards-based approach.[68] In contrast, RGGI has chosen to begin with a "positive list" of acceptable offset categories, to be expanded in the future.[69] Such a list could also form the basis for an approach based on certainty standards rather than strict typologies.[70] In general, once offset types are approved, states have treated them equivalently (rather than distinguishing between source and sink offsets, for example).

In terms of sector limitations, states have also considered whether certain policies would give them a comparative advantage, particularly in the context of a regional or potential federal program. States with large tracts of forested or otherwise preserved land are looking forward to possible financial rewards from offset programs. Vermont, for example, has referred to its forests as a "Green Bank."[71] The prospect of these rewards may be encouraging states to take actions to reduce GHG emissions early and cash in on the growing offset market.[72] These states would prefer that the market be focused on homegrown credits.

*Linkages*

The final major consideration for any state or regional market-based offset program is the extent to which the program can and will link to similar state and regional programs, international programs like the Clean Development Mechanism, and/or a potential federal program. Unsurprisingly, linkages are easier when the elements of two systems are the same.[73] "Since offsets … are freely transferable, any linkage effectively forces all linked regimes to adopt the most liberal offsets provision."[74] This creates a concern about dilution of the efficacy of offset programs with stricter criteria or verification mechanisms.

The simplest linkages are to preexisting state programs. In general, state plans prioritize integration of market-based offset programs with existing structures.[75] For example, the CARB mandatory reporting regulations incorporate the CCAR reporting requirements as much as possible.[76] By minimizing transition costs for voluntary CCAR participants, California is rewarding their participation and signaling to businesses that getting on board early with voluntary programs will give them a competitive advantage when those programs become mandatory.

The next step is regional linkage. Some states have already made the jump to this level by forming regional GHG-regulating bodies. RGGI members are expected to implement complementary emissions reduction legislation "substantially" based on the RGGI Model Rule.[77]

States that aren't formally connected still have an eye toward regional linkages. Montana, for example, hopes to integrate its GHG reduction program with those of Oregon and Washington.[78] The MAC hopes to eventually link California with RGGI, WCI and the CDM.[79] However, regional linkages present challenges. The MAC feels that linkages to state voluntary cap-and-trade systems would undermine the environmental benefits of its offset program because of the relatively lax verification and additionality requirements in many voluntary systems.[80] The potential for linkages may also prevent states from introducing discounting incentives for in-state offsets that could produce co-benefits, such as reductions in local pollutants that accompany GHG pollutants.[81]

At this point, the most challenging linkage to plan for is the prospective integration with a federally-directed GHG cap-and-trade system. While such legislation has yet to pass in Congress, the real question is not if, but when, regulations will be implemented and what form they will take. Washington state's GHG emissions statute notes that its requirements for GHG mitigation by power plants may be superseded by future federal requirements.[82] Oregon's Energy Department regulations will allow state-level offsets to be used in a comparable future federal plan.[83] And the California Air Resources Board has pledged to promote consistency with eventual federal GHG reporting requirements.[84]

References

[1] For a summary of state action in this area, *see* PEW CENTER ON GLOBAL CLIMATE CHANGE & PEW CENTER ON THE STATES, CLIMATE CHANGE 101: STATE ACTION (Oct. 2006); PEW CENTER ON GLOBAL CLIMATE CHANGE, LEARNING FROM STATE ACTION ON CLIMATE CHANGE (Dec. 2007).
[2] *See* sources, *supra* n.1; U.S. ENVTL. PROTECTION AGENCY., STATE ACTION PLANS, *available at* http://www.epa.gov/climatechange/wycd/stateandlocalgov/state_action.html.
[3] *See* David J. Hayes, Op-Ed., *Junk the term 'offsets' for carbon credits*, SACRAMENTO BEE, Nov. 29, 2007, at B7 (pointing out that "[t]here is no agreement on what [carbon offsets] are").
[4] *See* sources, *supra* n.1; NATURAL RESOURCES DEFENSE COUNCIL, THE RISING TIDE FOR GLOBAL WARMING SOLUTIONS (Feb. 2008). These states include Arizona, California, Connecticut, Delaware, Florida, Hawaii, Illinois, Iowa, Kansas, Maine, Maryland, Massachusetts, Minnesota, Michigan, Montana, New Hampshire, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Utah, Vermont and Washington. The regional groups that have set GHG goals are the Western Climate Initiative, the Regional Greenhouse Gas Initiative, and the Conference of New England Governors/East Canadian Premiers. Six other states (Alaska, Arkansas, Nevada, North Carolina, South Carolina, and Wyoming) are considering mandatory caps as well.
[5] ECONOMICS SUBGROUP OF THE CALIFORNIA CLIMATE ACTION TEAM, UPDATED MACROECONOMIC ANALYSIS OF THE CLIMATE STRATEGIES PRESENTED IN THE MARCH 2006 CLIMATE ACTION TEAM REPORT (Oct. 15, 2007) at 35 (emphasis added).
[6] CONN. GEN. STAT. § 23-74 (2007).
[7] VERMONT GOVERNOR'S COMMISSION ON CLIMATE CHANGE, FINAL REPORT AND RECOMMENDATIONS OF THE GOVERNOR'S COMMISSION ON CLIMATE CHANGE, Oct. 2007, at 6-7.
[8] MONTANA GOVERNOR'S CLIMATE CHANGE ADVISORY COMMITTEE, MONTANA CLIMATE CHANGE ACTION PLAN (Nov. 2007) at 5-6, 6-3, 6-11, 7-7.
[9] CONNECTICUT GOVERNOR'S STEERING COMMITTEE ON CLIMATE CHANGE, CONNECTICUT CLIMATE CHANGE ACTION PLAN (Jan. 2005) at 158-59, 174.
[10] CAL. STR. & H. CODE § 164.56 (2007).
[11] States that have yet to join TCR include Alaska, Arkansas, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, South Dakota, Texas and West Virginia. THE CLIMATE REGISTRY, MAP OF PARTICIPATING STATES (Feb. 1, 2008), *available at* http://www.theclimateregistry.org/The_Climate_Registry_Map_of_States.pdf.
[12] *See, e.g.*, Press Release, Ohio Environmental Protection Agency, "Ohio EPA Encourages Businesses to Use The Climate Registry" (Jan. 14, 2008).
[13] For a description of CCAR's reporting process, see CALIFORNIA CLIMATE ACTION REGISTRY, GENERAL REPORTING PROTOCOL VERSION 2.2 (Mar. 2007) (CCAR PROTOCOL). For a comparison of TCR, CCAR and CARB reporting regulations, see http://www.theclimateregistry.org/CA_Voluntary_Mandatory_Reporting_Matrix.pdf.
[14] Sullivan, Colin, "California Offset Market Primed to Take a Big Step Forward," *Greenwire* (E&E Publishing, Jan. 25, 2008). The online platform, known as the Climate Action Registry Reporting Online Tool (CARROT), is available at http://www.climateregistry.org/CARROT.
[15] Cal. Air Res. Bd., Resolution 07-54 (Dec. 6, 2007).
[16] Preliminary information available at http://www.colorado.gov/energy/resources/ColoradoCarbonFund.asp.
[17] The Illinois credits are tradeable on the CCX. *See* http://illinoisclimate.org. *See also* GA. CODE ANN. § 12-6-220 et seq. (2007) (describing the Georgia Carbon Sequestration Registry).
[18] The CARB, for one, acknowledges the "grave concerns about the state's ability to develop [additionality] standards" and notes that reductions must be monitored "rigorous[ly]." MARKET

ADVISORY COMM., CAL. CLIMATE ACTION TEAM, RECOMMENDATIONS FOR DESIGNING A GREENHOUSE GAS CAP-AND-TRADE SYSTEM FOR CALIFORNIA (June 30, 2007) (CAL. MAC RECOMMENDATIONS) at 62-63.

[19] THE CLIMATE REGISTRY, GENERAL VERIFICATION PROTOCOL, DRAFT 4 (Feb. 1, 2008). TCR modeled its draft regulations to conform to the International Organization for Standardization's GHG verification standard (currently used by the EU ETS, among others). *Id.*

[20] *See* CCAR PROTOCOL, *supra* n.13.

[21] States considering new programs weigh the advantages and disadvantages of stand-alone v. integrated programs. *See, e.g.*, WISCONSIN TASK FORCE ON GLOBAL WARMING, CARBON CAP-AND-TRADE/TAX WORK GROUP POLICY OPTION: STANDALONE CARBON OFFSET PROGRAM (Dec. 14, 2007); WISCONSIN TASK FORCE ON GLOBAL WARMING. CARBON CAP-AND-TRADE/TAX WORK GROUP POLICY OPTION: CARBON OFFSET AS PART OF A CAP-AND-TRADE PROGRAM, (Dec. 14, 2007).

[22] *See, e.g.*, Illinois Climate Change Advisory Group (using economic analyses of California's climate change policies), *available at* http://www.epa.state.il.us/air/climatechange/documents/index.html#090607mtg; Wisconsin's Task Force on Global Warming working group papers, *supra* n.21.

[23] Interim Opinion on Phase I Issues, D.07-01-039, Cal. Pub. Util. Comm'n (Jan. 25, 2007), at 169.

[24] Interim Opinion on Phase I Issues, D.07-01-039, Cal. Pub. Util. Comm'n (Jan. 25, 2007), at 171.

[25] A.B. 32, 2006 Reg. Sess., 2006 CAL. STAT. CH. 488 (2007).

[26] CAL. HEALTH & SAFETY CODE § 38505(k) (2007).

[27] H.B. 3283, 69th Leg. Assem., Reg. Sess., 1997 Or. Laws Ch. 428.

[28] Base-load fossil fuel plants have a cap of 17% below the most efficient combustion-turbine plant in use in the United States. OR. REV. STAT. § 469.503 (2007).

[29] OR. REV. STAT. § 469.503 (2007). Power plant emitters pay up-front based on predicted emissions output, while non-generating facilities make periodic deposits in an offsets account and are subject to regular emissions monitoring. The cost of offset payments to third parties is set biennially by the Oregon Energy Facilities Siting Council. OR. ADMIN. R. 345-24-500 et seq. (2007).

[30] Program details available at http://www.climatetrust.org/offset_projects.php. The Climate Trust has expanded operations to include offsets from private individuals and businesses; it will also administer offsets under the Regional Greenhouse Gas Initiative. Per the Oregon Standard law, a seven-member board governs the organization: three members selected by the Oregon Energy Facility Siting Council, three from the environmental community, and a non-voting member selected from among the regulated power generators.

[31] OR. ADMIN. R. 345-24-680 (2007).

[32] S.B. 6001, 60th Leg., Reg. Sess., 2007 Wash. Sess. Laws Ch. 307. The cap is 1,100 lbs. GHGs/MW-hr, to be adjusted with technological advances.

[33] WASH. REV. CODE § 80.70.020(4) (2007).

[34] WASH. REV. CODE § 80.70.020(3) (2007); WASH. ADMIN. CODE 173-407-020 (2007); WASH. REV. CODE § 80.70.040 (2007) (emitter-driven projects are subject to approval and monitoring); WASH. REV. CODE § 80.70.050 (2007) (third parties must have "proven experience" in the offset field).

[35] ILLINOIS CLIMATE CHANGE ADVISORY GROUP, FINAL RECOMMENDATIONS TO THE GOVERNOR (Sept. 6, 2007) at 2.

[36] MASS. CODE. REGS. CH. 310, 7.29(5) (2007).

[37] MASS. CODE. REGS. CH. 310, 7.00, Appendix B(7) (2007).

[38] MASS. CODE. REGS. CH. 310, 7.00, Appendix B(7)(e)(5)(a) (2007).

[39] The Massachusetts Department of Environmental Protection recently proposed incorporating allowances from the European Union's Emissions Trading Scheme and the Clean Development Mechanism of the Kyoto Protocol at a discounted rate. MASS. DEP'T OF ENVT'L PROTECTION, BUREAU OF WASTE PREVENTION, PROPOSED AMENDMENTS TO 310 CMR 7.00, APPENDIX B(7): "EMISSION

BANKING, TRADING AND AVERAGING" (Feb. 2007). This proposal is currently in the public comment phase.
[40] H.B. 25, 60th Leg., Reg. Sess., 2007 Mont. Laws Ch. 491, Sec. 15.
[41] MONT. CODE ANN. § 69-8-421(8) (2007).
[42] MONT. CODE ANN. § 69-8-421(6) (2007).
[43] MONT. CODE ANN. § 69-8-421(8) (2007).
[44] S.F. 145, 85th Leg. Sess., 2007 Minn. Laws Ch. 136.
[45] MINN. STAT. § 216H.03(4) (2007).
[46] CONN. GEN. STAT. § 22a-174d (2007).
[47] OFFICE OF GOV. BILL RITTER, JR., COLORADO CLIMATE ACTION PLAN (Nov. 2007) at 13.
[48] Press Release, State of New Mexico, Office of the Governor, "Governor Bill Richardson Makes New Mexico First State to Join National Climate Change Effort," Sept. 16, 2005; Exec. Order No. 2006-11, 30 Ill. Reg. 16,664 (Oct. 5, 2006).
[49] Press Release, Kansas Department of Health and Environment, "KDHE Denies Sunflower Electric Air Quality Permit," Oct. 18, 2007.
[50] S.B. 515, 2008 Leg. (Kan. 2008).
[51] Press Release, State of Kansas, Office of the Governor, "Governor Weighs in on Energy Bills Proposed in the Legislature," Jan. 31, 2008; S.B. 515, *supra* n.50, sec. 12.
[52] *See, e.g.*, MAINE DEPT. OF ENVT'L PROTECTION, SECOND BIENNIAL REPORT ON PROGRESS TOWARD GREENHOUSE REDUCTION GOALS (Jan. 2008) at 6 (Maine will not bother with state offset provisions, instead choosing to follow RGGI).
[53] REGIONAL GREENHOUSE GAS INITIATIVE MODEL RULE, REGIONAL GREENHOUSE GAS INITIATIVE (Jan. 5, 2007) (RGGI MODEL RULE).
[54] H.B. 1290, 123rd Leg., Reg. Sess., 2007 Maine Pub. L. No. 317.
[55] DESIGN ELEMENTS FOR REGIONAL ALLOWANCE AUCTIONS UNDER THE REGIONAL GREENHOUSE GAS INITIATIVE, REGIONAL GREENHOUSE GAS INITIATIVE (Mar. 17, 2008).
[56] WESTERN CLIMATE INITIATIVE OFFSETS SUBCOMMITTEE, SUMMARY OF MAJOR OPTIONS FOR A GHG OFFSETS SYSTEM TO SUPPORT THE WCI PROGRAM (Jan. 3, 2008) (providing an extensive discussion of advantages and disadvantages of different offset program features). *See also* H.B. 2815, 60th Leg., Reg. Sess., 2008 Wash. Sess. Laws Ch. 14, Sec. 4 (directing the Washington State Dep't of Ecology to work with the WCI to develop matching offset standards for a future market-based cap-and-trade system).
[57] *See* CAL. MAC RECOMMENDATIONS, *supra* n.18.
[58] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 70; ECONOMICS SUBGROUP, CAL. CLIMATE ACTION TEAM, *supra* n.5, at 35 (stating that lower overall costs can be achieved in a broader market).
[59] *See, e.g.,* N.H. REV. STAT. ANN. § 125-O:4 (IV-C) (2007).
[60] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 63-64.
[61] *Id.*
[62] *Id.* at 64.
[63] RGGI MODEL RULE, *supra* n.53, XX-6.5(a)(3).
[64] WISCONSIN TASK FORCE ON GLOBAL WARMING, CARBON CAP-AND-TRADE/TAX WORK GROUP POLICY OPTION: CAP-AND-TRADE (Dec. 17, 2007) at 6. This cap was heavily influenced by the analysis of Illinois.
[65] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 64-65.
[66] *See Id.*
[67] *See, e.g.*, UTAH GOVERNOR'S BLUE RIBBON ADVISORY COUNCIL ON CLIMATE CHANGE, REPORT TO GOVERNOR JON. M. HUNTSMAN, JR. (Oct. 3, 2007) at V-9.
[68] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 63.
[69] RGGI MODEL RULE, *supra* n.53, XX-10.5.
[70] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 63.
[71] VERMONT GOVERNOR'S COMMISSION ON CLIMATE CHANGE, *supra* n.7, at 3-4.

[72] *See, e.g.*, NEXTENERGY CENTER, A STUDY OF ECONOMIC IMPACTS FROM THE IMPLEMENTATION OF A RENEWABLE PORTFOLIO STANDARD AND AN ENERGY EFFICIENCY PROGRAM IN MICHIGAN (Apr. 2007) at xii (encouraging Michigan to act now).
[73] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 69.
[74] *Id.* at 71.
[75] *See, e.g.*, STATE OF GEORGIA, GOVERNOR'S ENERGY POLICY COUNCIL, STATE ENERGY STRATEGY FOR GEORGIA (Dec. 14, 2006) at 108.
[76] CAL. HEALTH & SAFETY CODE § 38530(b)(3) (2007).
[77] MEMORANDUM OF UNDERSTANDING, REGIONAL GREENHOUSE GAS INITIATIVE (Dec. 20, 2005) at 2. In particular, the RGGI Model Rule has mandatory guidelines as to the percentage of emissions offsets. *See* RGGI MODEL RULE, *supra* n.53. *See also* WISCONSIN TASK FORCE ON GLOBAL WARMING, *supra* n.64, at 6 (attempting to integrate Wisconsin's program with the guidelines of the Midwestern Greenhouse Gas Accord).
[78] MONTANA CLIMATE CHANGE ACTION PLAN, *supra* n.8, at 4-12.
[79] CAL. MAC RECOMMENDATIONS, *supra* n.18, at 72.
[80] *Id.* at 71.
[81] *Id.* at 64.
[82] WASH. REV. CODE § 80.70.040(6) (2007).
[83] OR. ADMIN. R. 345-024-680(12) (2007).
[84] CAL. HEALTH & SAFETY CODE § 38530(c)(2) (2007).