

National Association of Clean Air Agencies

Conference Materials for

***Defining the Role of
States and Localities in
Federal Global Warming Legislation***

**February 12-13, 2008
Arlington, VA**

Forward

Welcome to *Defining the Role of States and Localities in Federal Global Warming Legislation*, an innovative two-day conference of local, state and federal government officials, convened by the National Association of Clean Air Agencies (NACAA). Unlike many other conferences, which focus on a series of speakers to whom participants listen, at this conference the focus is on you. Based on a set of four thought-provoking discussion papers provided in this document, you will participate in dynamic, interactive dialogue with your counterparts from across the nation to brainstorm concepts and ideas related to the role states and localities can and should play in federal climate change legislation and programs to combat global warming – including roles states and localities already fulfill for existing programs, as well as potential new roles.

To set the stage for these discussions, we will first hear from congressional staff, who will provide an overview of major legislative climate change proposals. We will then turn our attention to our discussion papers, which address four key issues of major relevance to states and localities:

- 1) Preserving the right of states and localities to set more stringent greenhouse gas (GHG) reduction requirements,
- 2) The role states and localities can play in implementing a federal GHG reduction program,
- 3) The role states and localities can play in a federal allowance program and in determining how funding is distributed and
- 4) The role of states and localities in data management under a federal climate change program.

After a brief introduction to each paper, you will be divided into small groups for facilitated discussion based on a set of questions posed at the end of each paper. Please note that the four papers are intended solely for the purpose of eliciting discussion and do not represent policy positions of NACAA, nor are they intended to limit the scope of possibilities for roles that states and localities can play. We urge you to think broadly and innovatively!

NACAA wishes to thank the session leaders and discussion group facilitators for lending their expertise to this conference. For their substantive contributions to the discussion papers, NACAA also extends its appreciation to the Regulatory Assistance Project – Richard Cowart and Chris James – as well as to Diane Wittenberg of The Climate Registry and Leah Weiss and Allison Reilly of the Northeast States for Coordinated Air Use Management.

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***Defining the Role of States and Localities in
Federal Global Warming Legislation***

**Presented by the
National Association of Clean Air Agencies**

**February 12-13, 2008
Hyatt Regency Crystal City
2799 Jefferson Davis Highway
Arlington, VA 22202
(703) 418-1234**

Final Agenda

Tuesday, February 12, 2008

7:30 a.m. – 8:30 a.m.	Registration and Continental Breakfast	Regency Ballroom Foyer
8:30 a.m. – 8:45 a.m.	Welcome and Overview of Conference Goals <i>Andy Ginsburg, NACAA Co-President</i> <i>S. William Becker, NACAA Executive Director</i>	Regency Ballroom CD
8:45 a.m. – 9:45 a.m.	Federal Legislation: Congressional Staff Discuss Major Legislative Proposals <u>Moderator:</u> <i>S. William Becker, NACAA Executive Director</i> <u>Panelists:</u> <i>Greg Dotson, Chief Environmental Counsel</i> <i>House Oversight and Government Reform Committee</i> <i>Tom Dower, Deputy Chief of Staff and Legislative Director</i> <i>Senator Arlen Specter (R-PA)</i> <i>David McIntosh, Counsel</i> <i>Senator Joseph Lieberman (I-CT)</i> <i>Bettina Poirer, Staff Director and Chief Counsel</i> <i>Senate Environment and Public Works Committee</i> <i>Lorie Schmidt, Counsel</i> <i>House Energy and Commerce Committee</i>	Regency Ballroom CD

Tuesday, February 12, 2008 (continued)

9:45 a.m. – 1:00 p.m.	<u>Session 1: Preserving the Right of States and Localities to Set More Stringent Greenhouse Gas Reduction Requirements than the Federal Program</u>	
9:45 a.m. – 10:00 a.m.	Session 1 – Summary of Discussion Paper #1 <u>Session Leader:</u> <i>Steve Owens, Director</i> <i>Arizona Department of Environmental Quality</i>	Regency Ballroom CD
10:00 a.m. – 10:15 a.m.	Break/Move to Breakout Sessions (Third Floor)	Third Floor Foyer
10:15 a.m. – 11:30 a.m.	Session 1 – Facilitated Small Group Discussions <u>Discussion Group 1</u> <u>Facilitator:</u> <i>Andy Ginsburg, Administrator</i> <i>Oregon Air Quality Division</i> <u>Discussion Group 2</u> <u>Facilitator:</u> <i>James Goldstene, Executive Officer</i> <i>California Air Resources Board</i> <u>Discussion Group 3</u> <u>Facilitator:</u> <i>Adam Kushner, Director</i> <i>U.S. EPA Air Enforcement Division</i> <u>Discussion Group 4</u> <u>Facilitator:</u> <i>Dennis McLerran, Executive Director</i> <i>Puget Sound Clean Air Agency</i> <u>Discussion Group 5</u> <u>Facilitator:</u> <i>Jared Snyder, Assistant Commissioner</i> <i>New York State Department of Environmental Conservation</i> <u>Discussion Group 6</u> <u>Facilitator:</u> <i>Jeff Genzer, Counsel</i> <i>National Association of State Energy Officials</i>	Kennedy Room Jefferson Room Lincoln Room Roosevelt Room Arlington Room Regency Ballroom F
11:30 a.m. – 11:40 a.m.	Return to Plenary	Regency Ballroom CD
11:40 a.m. – 1:00 p.m.	Session 1 – Report Out of Small Group Discussions <u>Session Leader:</u> <i>Steve Owens</i> <u>Facilitators:</u> <i>Andy Ginsburg</i> <i>James Goldstene</i> <i>Adam Kushner</i> <i>Dennis McLerran</i> <i>Jared Snyder</i> <i>Jeff Genzer</i>	Regency Ballroom CD
1:00 p.m. – 2:00 p.m.	Lunch	Regency Ballroom AB

Tuesday, February 12, 2008 (continued)

- 2:15 p.m. – 5:30 p.m. **Session 2: What Role Can States and Localities Play in Implementing a Federal Greenhouse Gas Reduction Program?**
- 2:15 p.m. – 2:30 p.m. **Session 2 – Summary of Discussion Paper #2** **Regency Ballroom CD**
Session Leader:
Gina McCarthy, Commissioner
Connecticut Department of Environmental Protection
- 2:30 p.m. – 2:40 p.m. **Move to Breakout Sessions (Third Floor)**
- 2:40 p.m. – 4:00 p.m. **Session 2 – Facilitated Small Group Discussions**
- Discussion Group 1 **Kennedy Room**
Facilitator: *Tad Aburn, Director*
Maryland Air Management Division
- Discussion Group 2 **Jefferson Room**
Facilitator: *Larry Greene, Air Pollution Control Officer*
Sacramento Metropolitan Air Quality Management District
- Discussion Group 3 **Lincoln Room**
Facilitator: *Judi Greenwald, Director of Innovative Solutions*
Pew Center on Global Climate Change
- Discussion Group 4 **Roosevelt Room**
Facilitator: *Rick Sprott, Executive Director*
Utah Department of Environmental Quality
- Discussion Group 5 **Arlington Room**
Facilitator: *Mary Uhl, Chief*
New Mexico Air Quality Bureau
- Discussion Group 6 **Regency Ballroom F**
Facilitator: *Charles Gray, Executive Director*
National Association of Regulatory Utility Commissioners
- 4:00 p.m. – 4:15 a.m. **Break/Return to Plenary** **Regency Ballroom Foyer**
- 4:15 p.m. – 5:30 p.m. **Session 2 – Report Out of Small Group Discussions** **Regency Ballroom CD**
Session Leader:
Gina McCarthy
Facilitators:
Tad Aburn
Larry Greene
Judi Greenwald
Rick Sprott
Mary Uhl
Charles Gray
- 5:30 p.m. **Adjourn for the Day**

Wednesday, February 13, 2008

7:30 a.m. – 8:30 a.m.	Continental Breakfast	Regency Ballroom Foyer
8:30 a.m. – 12:00 noon	<u>Session 3: What Role Can States and Localities Play in a Federal Allowance Program and in Determining How Funding Is Distributed?</u>	
8:30 a.m. – 8:45 a.m.	Session 3 – Summary of Discussion Paper #3 <u>Session Leader:</u> <i>Doug Scott, Director</i> <i>Illinois Environmental Protection Agency</i>	Regency Ballroom CD
8:45 a.m. – 8:55 a.m.	Move to Breakout Sessions (Third Floor)	
8:55 a.m. – 10:25 a.m.	Session 3 – Facilitated Small Group Discussions <u>Discussion Group 1</u> <u>Facilitator:</u> <i>Stu Clark, Manager</i> <i>Washington Air Quality Program</i> <u>Discussion Group 2</u> <u>Facilitator:</u> <i>Rich Cowart, Director</i> <i>The Regulatory Assistance Project</i> <u>Discussion Group 3</u> <u>Facilitator:</u> <i>Peter Iwanowicz, Director</i> <i>New York State Department of Environmental Conservation, Climate Change Office</i> <u>Discussion Group 4</u> <u>Facilitator:</u> <i>Lisa Jackson, Commissioner</i> <i>New Jersey Department of Environmental Protection</i> <u>Discussion Group 5</u> <u>Facilitator:</u> <i>Art Williams, Director</i> <i>Louisville Metro Air Pollution Control District</i> <u>Discussion Group 6</u> <u>Facilitator:</u> <i>Anthony Eggert, Policy Advisor</i> <i>California Air Resources Board</i>	Kennedy Room Jefferson Room Lincoln Room Roosevelt Room Arlington Room Fairfax Room
10:25 a.m. – 10:40 a.m.	Break/Return to Plenary	Regency Ballroom Foyer
10:40 a.m. – 12:00 noon	Session 3 – Report Out of Small Group Discussions <u>Session Leader:</u> <i>Doug Scott</i> <u>Facilitators:</u> <i>Stu Clark</i> <i>Rich Cowart</i> <i>Peter Iwanowicz</i> <i>Lisa Jackson</i> <i>Art Williams</i> <i>Anthony Eggert</i>	Regency CD

Wednesday, February 13, 2008 (continued)

12:00 noon – 1:15 p.m.	Lunch	Regency Ballroom AB
1:30 p.m. – 4:35 p.m.	<u>Session 4: The Role of States and Localities in Data Management under a Federal Climate Change Program</u>	
1:30 p.m. – 1:45 p.m.	Session 4 – Summary of Discussion Paper #4 <u>Session Leader:</u> <i>Diane Wittenberg, Executive Director</i> <i>The Climate Registry</i>	Regency Ballroom CD
1:45 p.m. – 1:55 p.m.	Move to Breakout Sessions (Third Floor)	
1:55 p.m. – 3:10 p.m.	Session 4 – Facilitated Small Group Discussions <u>Discussion Group 1</u> <u>Facilitator:</u> <i>Vince Hellwig, Chief</i> <i>Michigan Air Quality Division</i>	Kennedy Room
	<u>Discussion Group 2</u> <u>Facilitator:</u> <i>Brad Moore, Commissioner</i> <i>Minnesota Pollution Control Agency</i>	Jefferson Room
	<u>Discussion Group 3</u> <u>Facilitator:</u> <i>Julie Rosenberg, Chief</i> <i>U.S. EPA Climate Protection Partners</i> <i>Division, State and Local Branch</i>	Lincoln Room
	<u>Discussion Group 4</u> <u>Facilitator:</u> <i>Eddie Terrill, Director</i> <i>Oklahoma Air Quality Division</i>	Roosevelt Room
	<u>Discussion Group 5</u> <u>Facilitator:</u> <i>Leah Weiss, Senior Policy Advisor</i> <i>Northeast States for Coordinated Air</i> <i>Use Management</i>	Arlington Room
	<u>Discussion Group 6</u> <u>Facilitator:</u> <i>Chuck Mueller, Planning and Policy Advisor</i> <i>Georgia Environmental Protection Division</i>	Fairfax Room
3:10 p.m. – 3:25 a.m.	Break/Return to Plenary	Regency Ballroom Foyer
3:25 p.m. – 4:35 p.m.	Session 4 – Report Out of Small Group Discussions <u>Session Leader:</u> <i>Diane Wittenberg</i> <u>Facilitators:</u> <i>Vince Hellwig</i> <i>Brad Moore</i> <i>Julie Rosenberg</i> <i>Eddie Terrill</i> <i>Leah Weiss</i> <i>Chuck Mueller</i>	Regency Ballroom CD
4:35 p.m. – 4:45 p.m.	Closing Comments	
4:45 p.m.	Adjourn	

National Association of Clean Air Agencies
Conference on
Defining the Role of States and Localities in
Federal Global Warming Legislation

February 12-13, 2008
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Discussion Paper #1

**Preserving the Right of States and Localities to Set More Stringent
Greenhouse Gas Reduction Requirements than the Federal Program**

This paper addresses reasons why states and localities should have the ability to adopt more ambitious greenhouse gas (GHG) reduction policies or programs than a federal GHG reduction program and go above and beyond any federal requirements, explores the opportunities to do so and asks how the federal program should be structured to preserve this ability.

Reasons States and Localities May Wish to Set More Stringent GHG Reduction Requirements

State and local air pollution control agencies have led the nation for several decades in developing programs that improve local and regional air quality. More recently, these agencies have expanded their leadership efforts to include reducing GHG emissions. As of January 2008, 33 states and many more localities, representing a majority of U.S. GHG emissions, have either completed climate change action plans or will complete them within the year. These state and local plans integrate environmental, energy and economic disciplines to include comprehensive actions that will reduce GHGs significantly over the next 40 to 50 years. State and local agencies have devoted substantial resources to developing their plans, even though there are no federal requirements for reducing GHG emissions. These leading agencies, and many others that are developing plans today, seek to be proactive in addressing global warming and preserving their rights, and the rights of their colleagues who have not yet taken action, to set more stringent GHG reduction requirements in the future. At the same time, the actions of these agencies provide a basis for more rigorous future national policy.

State and local agencies desire to work hand in hand with their federal agency partners and Congress to assure that their ability to be more stringent is protected, and that any national legislation that is developed continues to recognize the strong role of state and local agencies. Following is a discussion of some of the reasons why state and local agencies may wish to set more stringent GHG reduction requirements than a federal program.

Offer Collateral Benefits

A more stringent GHG emission reduction requirement may carry many collateral benefits that help achieve other environmental and energy goals:

1. Significantly, strategies to reduce GHG emissions can also reduce emissions of criteria pollutants, such as nitrogen oxides, fine particulate and volatile organic compounds.
2. In addition, broader reduction requirements on electric generating units (EGUs) could promote the replacement of old coal- and oil-fired units with newer, less-polluting ones (ones that emit fewer GHGs and criteria pollutants).
3. Setting a lower applicability threshold can reduce local air pollution. For example, if the federal program only regulates EGUs of 25 MW or greater, a state or locality could choose to regulate EGUs down to 1 MW. Many smaller units operate during periods of unhealthy air quality, so regulating GHG emissions from these units could also provide criteria pollutant reduction co-benefits, encourage more efficient technologies and decrease peak hourly electricity prices.
4. Setting tougher requirements on industrial, commercial and institutional boilers could enable better integration of energy efficiency and combined heat and power applications. Doing so would also help to reduce local air pollution and improve electric system reliability.
5. Setting more comprehensive requirements overall could help states and localities adopt a multi-pollutant strategy that could be applied to all program areas. A harmonized planning approach will help to minimize pollution transfers (an increase in pollutant X resulting from efforts to reduce pollutant Y).
6. Setting more stringent GHG requirements can complement other state and local environmental and energy efforts, such as renewable portfolio standards (RPS) that promote wind and solar energy development, as well as measures to improve energy efficiency and efforts to promote carbon sequestration.
7. State adoption of California's clean car program, which includes GHG emission standards, will yield substantial reductions in transportation-related GHGs, beyond those to be accrued from recently adopted federal fuel economy standards, as well as reduce pollution caused by other vehicle emissions.

Provide a Basis for Further Action at the Federal Level

As “laboratories of innovation,” states and localities can serve as a proving ground for new ideas and technologies and viable strategies and measures upon which more stringent state and local GHG reduction requirements can be based (for example, an EGU GHG performance standard or a low carbon fuel standard). Once demonstrated on the state or local level, the programs can be incorporated into revised federal legislation, allowing them to be applied nationally, for greater reductions in sector-specific GHGs or the national GHG cap. There is a long history of states taking action to address pollutants before the federal government. Further, since one size usually does not fit all, state and local testing of different options under different conditions and circumstances allows for real-world, practical exposure of various alternatives and sets the stage

for the development of national applications that do not result in unintended negative consequences.

The Energy Independence and Security Act of 2007, recently passed by Congress and signed by the President, reflects state and local leadership. As an example, individual state actions toward banning incandescent light bulbs, which are much less energy efficient than compact fluorescent light bulbs, encouraged Congress to enact provisions to phase out most types of common incandescent bulbs nationwide between 2012 and 2014, thereby extending the benefits of this measure. Assuming a federal cap-and-trade program for GHG emissions is adopted, there are at least two reasons that could drive states and localities to adopt more stringent programs:

1. States and localities may believe the adopted federal program at the outset is insufficient to arrest growth in GHG emissions, does not reduce GHG emissions quickly enough or does not cover enough sources, and by enacting more stringent requirements, states and localities can lay the groundwork for strengthening changes to the national program.
2. States and localities may be satisfied with the federal program when it is enacted, but in the future may decide that it needs to be strengthened based on new science or technological advances. If the federal government does not strengthen the federal program, states and localities may wish to enact more stringent requirements and the federal government may follow suit to strengthen the national program.

Promote Local Economic Development

States and localities may wish to promote economic development by being “more green” in their jurisdictions, thus spurring the founding and flourishing of green technology and other green businesses in their areas. For example, setting a more stringent GHG reduction requirement on EGUs can encourage companies that produce technologies to reduce EGU emissions of GHGs to locate in these jurisdictions. Placing GHG reduction requirements on sectors not included in the federal legislation can spur the development of GHG reduction technologies and practices for those sectors, thus positioning businesses in these jurisdictions to reap the benefits of a federal reduction mandate on these sectors when it occurs.

Protect Human Health and Welfare

States and localities may wish to show leadership in reducing GHG emissions because they feel strongly that tackling global warming is a top priority and critical to protecting their citizens and their welfare. Such areas may have natural resources particularly vulnerable to climate change, such as coastlines, endangered species or water supplies, that they want to protect. They may be concerned that the impacts of climate change will fall disproportionately on their citizens and, therefore, want to take extra steps to lower GHG emissions.

Continue Innovation and Provide Examples for Others

As states and localities test new strategies and technologies for reducing GHG emissions, they will discover strategies and technologies that can be successfully disseminated nationally. For example, at the local level, programs such as the U.S. Mayors Climate Protection Agreement

(under which more than 600 mayors have pledged to reduce their municipalities' GHG emissions to Kyoto Protocol levels) and ICLEI's Cities for Climate Protection Campaign (where cities design and implement GHG emission reduction plans) help to create the vision and framework needed to achieve substantial GHG reductions over the mid- to long-term (10 to 40 years). At the state level, the Regional Greenhouse Gas Initiative (RGGI) has laid the groundwork for a federal cap-and-trade program by establishing a regional EGU-only cap-and-trade program – one of the innovations being tested is 100 percent allowance auctioning by many of the states participating in RGGI. Likewise, the Western Climate Initiative (WCI), a collaboration between a number of U.S. states (and Canadian provinces), is developing a multi-sector, economy-wide cap-and-trade program in the West. Further, in the absence of federal leadership to reduce motor vehicle GHG emissions, California enacted a program targeting GHG emissions from this sector, which 12 other states have since adopted and at least half a dozen more are actively pursuing. These are but a few examples of state and local innovation.

To achieve their GHG reduction goals, state and local agencies will initiate pilots to test the limits of what is technically feasible today, and then apply the lessons learned to what can be economically achieved. This broadens the scope and depth of what can be achieved on a larger scale at the national level.

Opportunities for States and Localities to Adopt More Stringent Requirements

Having laid out the reasons why states and localities may wish to adopt GHG standards beyond any federal requirements, we now turn to specific areas in which states and localities could choose to impose more stringent requirements than a federal program. The following steps could also complement climate change action plans and help to decrease national GHG emissions:

1. Set broader GHG reduction requirements on sources covered by the federal program. For example, if the federal program requires EGUs to reduce emissions by 30 percent, a state or locality could set a 50-percent reduction requirement on EGUs in their jurisdiction.
2. Set accelerated GHG reduction requirements on sources covered by the federal program. If the federal program requires industrial sources to reduce emissions by 30 percent by 2020, a state or locality could require this level of reduction by 2015.
3. Set a lower applicability threshold. If the federal program imposes reduction requirements on factories that emit at least 20,000 tons of carbon equivalent, a state or locality could choose to require reductions from small sources, down to, for example, 10,000 tons.
4. Require that sectors not covered by the federal program reduce GHG emissions.
5. Set stricter standards for offsets. States and localities could restrict the ability of sources in their jurisdictions to use offsets as a way of satisfying their GHG emission reduction requirements. This could be accomplished by limiting the number of offset allowances used by a source (if the federal program allows 15 percent offsets, a state or locality could limit offsets to 10 percent) or by setting more stringent standards for what qualifies as an offset allowance. A variation would be for states to restrict certain categories of offsets from being eligible for use in that state.
6. Address downstream emissions when the federal program addresses upstream emissions. The Lieberman-Warner Climate Security Act of 2008 (S. 2191) allocates allowances to

petroleum refineries, covering fuel consumption, rather than regulating GHG emissions from the users of transportation fuels. States and localities may wish to adopt regulations limiting emissions from downstream sources such as motor vehicles.

7. Establish environmental programs related to climate change, which have the effect of reducing GHG emissions even though they do not specifically target GHG emissions. For example, many states have adopted RPSs, requiring that a certain percentage of electricity be obtained from renewable energy. Since renewable energy sources emit fewer GHGs than fossil-fueled sources, an RPS will reduce GHG emissions even though it does not require GHG emissions reductions. Similarly, energy efficiency requirements also have the effect of reducing GHG emissions.
8. Require applicants for new sources of generation to include energy efficiency measures to assure that no net emissions increases will result from approval of their permit.
9. Specify that permit applicants include carbon dioxide emissions in their Best Available Control Technology and Lowest Achievable Emission Rate analyses.
10. Require that sources retire excess national allowances rather than sell them.

Structure of Federal Program to Preserve State GHG Programs

A national GHG program must preserve and protect the ability of states and localities to set standards above and beyond any federal requirements. The Clean Air Act contains such a savings clause, and several bills (including S. 2191) include language preserving states' rights to enact more stringent provisions.

However, under a cap-and-trade program, a generic savings clause may not be sufficient to ensure that state and local provisions to reduce GHG emissions actually result in reduced overall GHG emissions.¹ States and localities need to have the ability to take allowances off the market if they so choose. Otherwise, sources covered by more stringent state/local reduction requirements could simply sell their "excess" allowances to sources not covered by the more stringent reduction requirements. Two options, among others, for accomplishing this include the following:

1. Federal legislation contains language expressly authorizing states and localities to retire allowances from sources in their jurisdictions.
2. Federal legislation allocates allowances directly to states. States would then have discretion in how to allocate allowances to sources, and with this control over allowances, states could give fewer allowances to sources, thus forcing greater reductions.

A final word on preserving the right of states and localities to set more stringent GHG reduction requirements than the federal program: A fundamental precept of the U.S. Constitution is the

¹ Concerned that the federal Clean Air Act's acid rain program was not strong enough to reduce acid rain in the state, New York enacted a law prohibiting EGUs in New York from selling any excess acid rain allowances to sources located in 14 upwind states. Despite the Clean Air Act's provision allowing states to set more stringent air pollution control standards, a federal appeals court ruled that the state statute was preempted by the acid rain provisions of the Clean Air Act, because it directly conflicted or frustrated the federal cap-and-trade program by restricting the sale of allowances. See *Clean Air Markets Group v. Pataki*.

balance of federal and state/local powers, whereby it is presumed that, unless there is a compelling need for the federal government to completely occupy a particular field, states and localities should be left to freely operate in that field to the extent their actions are not inconsistent with the federal goal. Thus, the burden should be on Congress to justify any federal preemption of state/local authority.

Guidance to Participants and Questions for Consideration

This paper discusses why states and localities should be permitted to set standards above and beyond any federal requirements, provides examples of where states and localities could choose to do so and highlights issues for consideration by Congress concerning how to preserve and protect the rights of states and localities in a national program. The examples provided are, by no means, comprehensive. Reading this paper has, hopefully, prompted you to think of related circumstances in your own state or locality, and how programs you have developed, or are considering, can reduce GHG emissions sooner and more deeply than any national program. This paper may also have evoked thoughts about how your state's or locality's rights to continue to set more stringent standards can be preserved under a future national program. Please make note of these thoughts and bring them with you to the conference. Facilitated breakout sessions will offer an opportunity to share, and expand upon, these ideas. To guide the discussions during the breakout sessions on the paper, participants will be asked to focus on the following specific questions:

1. How do we ensure that the federal program is crafted in a way that will preserve state and local rights to go above and beyond any federal requirements?
2. How do we ensure that more stringent state and local programs have an effect on the national cap and do not just result in GHG emission increases elsewhere?
3. For programs related to climate change but not directly reducing GHG emissions – such as an RPS or energy efficiency program – how can state and local agencies retain the ability to implement these programs within a federal climate program?
4. What other opportunities are there for states and localities to go above and beyond any federal requirements or show climate leadership besides those identified in this paper?

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Discussion Paper #2

**What Role Can States and Localities Play in Implementing
a Federal Greenhouse Gas Reduction Program?**

This paper explores the potential roles states and localities can play in implementing a federal greenhouse gas (GHG) reduction program. It explains why there should be a strong role for states and localities, and identifies potential state and local implementation roles under a federal program that are similar to existing state and local responsibilities under environmental statutes, as well as implementation roles that may require new skill sets.

Why States and Localities Should Play an Important Role in Implementing a Federal Climate Program

State and local agencies have broad and comprehensive experience in implementing environmental and energy programs. This experience will prove critical to smooth implementation of a federal climate program. State and local agencies also serve as laboratories of innovation to test and demonstrate programs locally before expanding them more broadly. There are many convincing reasons to continue to have a strong state and local role in implementing a national climate plan. Following are some examples.

Many States and Localities Already Have Climate Change Action Plans

Thirty-three states and many more localities have already completed, or will complete this year, comprehensive climate change action plans. The interdisciplinary/interagency planning and coordination required for developing such plans should be recognized and integrated into implementation of the federal program. Plans in more than a dozen states have been in effect for more than three years. Steps already taken to implement these plans can help guide implementation of programs in other states and of the national plan.

States and Localities Already Play Important Roles in Implementing Environmental and Energy Statutes and Climate Legislation

Under the Clean Air Act, states and localities write State Implementation Plans that describe how they will attain or maintain clean air, permit new and existing sources, monitor emissions, inspect facilities and pursue enforcement actions against sources that violate Clean Air Act requirements. States have passed legislation to adopt renewable portfolio standards and to require investments in energy efficiency and programs to reduce demand for electricity during peak time periods. Further, several states and localities have passed climate legislation requiring GHG emission reductions and have developed the infrastructure to implement these actions.

Local Knowledge Is Critical

States and localities have a deeper understanding of local circumstances and can, therefore, better tailor programs and policies to suit state and local needs. For example, in planning for the impacts of climate change, states and localities are more familiar with the infrastructure in their jurisdictions (e.g., bridges, roads, public transit, housing), the environment (e.g., parks and wildlife), economic sectors (e.g., the relative importance of tourism and agriculture) and their citizens' needs (e.g., whether a state or locality has a high percentage of people who will be severely affected by higher electricity prices). In addition, since state and local agencies are more familiar with the sources in their respective jurisdictions, they can perform more rigorous compliance inspections.

States and Localities Serve as the Federal Government's Agent or Partner for Many Legislative Provisions

State and local agencies can provide important "backstops" to federal agencies. For example, the dual enforcement role under the Clean Air Act provides that both the federal government and state government can pursue Clean Air Act violations against sources, which serves an important deterrent function. A similar relationship occurs with permitting, where states issue major New Source Review (NSR) permits, often working with regional and headquarters EPA offices.

Potential Roles for States and Localities in a Federal Climate Program That Are Similar to Current State and Local Responsibilities

The section above discusses *why* states and localities should play an important role in a federal climate program. This section discusses *how* state and local experience can be valuable and in what areas the expertise of state and local agencies can be applied to help achieve the level of GHG reductions anticipated by a federal program. Many of the responsibilities are similar to those that states and localities already have in implementing existing environmental statutes. Thus, state and local agencies have directly transferable skills in the following areas.

Permitting of Sources

State and local air agencies have considerable experience issuing permits to sources, including major and minor NSR permits that require technology and economic reviews. The scope of

these reviews could be increased to assure that they include measures to reduce GHG emissions, or that no net increase in such emissions occurs. Energy efficiency, renewable energy and combined heat and power development could be included as part of the Best Available Control Technology or Lowest Achievable Emission Rate criteria.

Enforcement and Compliance Assurance

State and local agencies' inspectors are familiar with inspecting sources in their respective jurisdictions; this experience can be valuable to assure source compliance with GHG reduction requirements and in evaluating the legitimacy of offsets (this latter task may require training in offset protocols).

Monitoring and Verification

State and local air agencies run the monitoring systems that are designed to ascertain attainment of the National Ambient Air Quality Standards and also verify that source-specific monitoring systems are operating properly to ensure that sources are not violating emission limits in permits. In addition, many sources are required to report their emissions to state and local agencies. Thus, state and local agencies could easily add GHG emissions to the emissions they track from sources.

Electric generating units subject to the Clean Air Act's acid rain provisions have been required to install, maintain and operate carbon dioxide (CO₂) continuous emissions monitors (CEMs) since enactment of the 1990 Clean Air Act Amendments. A federal GHG program would expand the purpose of CEMs to also assure compliance. Many states and localities are more stringent than the federal government in how they allow CEMs data to be used for compliance purposes (requiring higher precision and accuracy and higher percentages of data capture than applicable Clean Air Act provisions). This experience will be useful when CEMs CO₂ data must be used to determine compliance with federal GHG emission reduction requirements.

In a new but related area, some states are using nationally and internationally recognized protocols to monitor and evaluate the value of energy efficiency as an energy resource. These protocols are being used to quantify the GHG and criteria emissions benefits of energy efficiency (and renewable energy generation). Implementation of the agreed upon protocols will enable energy efficiency to be considered as an equal resource to generation in these states, helping to displace GHG and criteria pollutant emissions from legacy fossil-fueled generators and reducing the need to operate inefficient peaking generators.

Data Collection and Management

States and the federal government, especially the U.S. Environmental Protection Agency, have worked well together to design and implement the necessary elements to assure the precision and accuracy of the Clean Air Act's acid rain and nitrogen oxide budget trading programs. This history of cooperation should continue in implementation of a federal GHG program and the state and local role should be emphasized. The issue of state and local roles and a discussion of

specific issues related to data collection and management are covered in a separate paper prepared for Session 4 of this conference.

Potential New Roles for States and Localities in a Federal Climate Program

State and local agency roles to implement existing environmental statutes have been defined by Congress and negotiated with applicable federal agencies. In a federal cap-and-trade program limiting GHG emissions, state and local agencies have the opportunity to play new roles that have not traditionally been part of implementing federal environmental statutes. These new roles will require the development by state and local agency staff of enhanced and interdisciplinary skill sets and interagency coordination.

Distributing GHG Allowances and Funding from the Sale of Allowances

Distributing GHG allowances or actively engaging in the sale of such allowances will require fiduciary and accounting expertise as well as the establishment of programs to ensure that the funding is well managed. In addition, state and local officials will need to be knowledgeable about the activities to be funded with resources generated by the sale of allowances.

An example of Congressional intent with respect to this state and local role is seen in the Lieberman-Warner Climate Security Act of 2008 (S. 2191), which recently cleared the Senate Committee on Environment and Public Works. Title III Subtitle C of this bill provides that states receive between 6 and 11 percent of all allowances created under the legislation. But the bill also specifies that 90 percent of these allowances must either be retired or used for certain specified purposes, including, among others, to:

- Mitigate impacts on low-income energy consumers;
- Promote energy efficiency and renewable energy;
- Improve public transportation and encourage mass transit;
- Encourage advances in energy technology that reduces or sequesters GHG emissions;
- Address local and regional impacts of climate change (such as relocation assistance) and of climate change policy (such as assistance to displaced workers); and
- Mitigate impacts on energy-intensive industries.

Adaptation Planning

States and localities will need to adapt to climate change that is already happening or will inevitably happen due to GHG emissions already in the atmosphere, as well as adapt to climate change impacts projected to occur in the future. States and localities will also need to assist their citizens who may be adversely affected by the federal climate program (for example, low-income consumers whose electricity bills increase). Agencies will need to complete comprehensive plans to:

- Identify potential risks and exposure from climate change on flora, fauna, infrastructure and development patterns;
- Assess the potential impacts of these risks;

- Evaluate how to eliminate or mitigate identified risks and impacts; and
- Implement a sustained long-term program to reduce risks where possible and take steps to adapt to those risks that are determined to be more likely to occur.

Development of Climate Plans

States and localities may be required to develop climate plans or may wish to develop these plans in order to coordinate activities required to be implemented under a federal climate program, strategize about how to benefit from policies or the results of a federal climate program (for example, how to attract green technology businesses) and plan for dealing with the impacts of global warming. Such plans will likely need to involve staff with interdisciplinary skills and require interagency planning to address cross-cutting issues. For example, a climate plan should address:

- Energy planning;
- Environmental planning;
- Transportation planning;
- Economic development and
- Infrastructure planning (water supply, bridges, sewers, buildings, etc.).

Program Integration and Skill Development

Implementation of a national GHG emission reduction program will require sustained integration of programs and skills on a large scale, across multiple agencies and responsibilities. State and local agency financial resources are extremely tight and there is a limited supply of skilled staff; substantial increases in both resources and skills will be necessary in order to effectively implement state and local climate change action plans and the federal program. Yet, merely increasing resources and hiring more trained professionals will not be sufficient. To achieve the level of GHG emissions reductions called for in most legislation, energy, environmental and economic issues must be well understood and coordinated, and a decision considered in one discipline must also consider potential effects, including unintended consequences, on other disciplines.

Governance

Technologies and knowledge about the types of programs that can effectively reduce GHG emissions are also rapidly evolving. As part of implementing a national GHG program, two potential levels for governance should be considered. At the federal level, state and local experts could form an advisory body that provides real-time guidance to the implementing federal agency (likely EPA); such guidance would be used to improve program implementation (including by strengthening the federal program or by considering new ways of achieving the goals of the federal program). At the state and local levels, governors, mayors and county executives could develop a high-level steering process to help implement state and local climate programs. Such state/local governance would also help assure cross-agency communications and raise issues that can affect multiple agencies. A robust variation of the state/local structure would also elicit input from stakeholders to frame and shape program implementation.

Implementation of a federal GHG program will be a monumental task. This paper has touched upon what are likely to be the key focal points to successfully reduce GHG emissions. Drawing on the many years of state and local expertise will enable more effective implementation of the federal program and allow innovative state and local ideas to percolate upward to be implemented at the national level.

Guidance to Participants and Questions for Consideration

This paper describes several of the potential opportunities for states and localities to use their expertise to play an important role in implementing a national GHG program. Reading this paper has, hopefully, prompted you to think of related circumstances in your own state or locality, and how programs you have implemented can help achieve the goals of a national program. Please make note of these thoughts and bring them with you to the conference. Facilitated breakout sessions will offer an opportunity to share, and expand upon, these ideas. To guide the discussion during the breakout sessions on this paper, participants will be asked to focus on the following specific questions:

1. Are the implementation roles described in this paper the appropriate roles for states and localities? Are there other potential implementation roles for states and localities?
2. What skill sets will state and local agency staff need to carry out these roles; in particular, what skill sets are needed for the “new” roles?
3. Should federal legislation require the development of state climate plans? What are the pros and cons of such a requirement?
4. What can states and localities do now to plan for the skills, resources and coordination that will be required to implement national GHG legislation?

**National Association of Clean Air Agencies
Conference on
*Defining the Role of States and Localities in
Federal Global Warming Legislation***

**February 12-13, 2008
Arlington, VA**

Discussion Paper #3

**What Role Can States and Localities Play in a Federal Allowance Program
and in Determining How Funding Is Distributed?**

A. Introduction

The creation of a national greenhouse gas (GHG) reduction program perhaps naturally appears to many policymakers, especially those in Washington D.C., as a matter almost exclusively of national policy and federal agency jurisdiction. To date, climate change legislation proposed in Congress has, in almost all cases, been designed as though almost every important decision will be made by Congress directly, or by the Environmental Protection Agency (EPA) on a uniform national basis. Most of these bills assume that there will be a national cap-and-trade program for carbon allowances, dominated by national rules for their creation, allocation, sale and retirement.

Meanwhile, across the nation, a growing number of states and localities are developing carbon management plans, emission reduction policies and even multi-state cap-and-trade programs.² These efforts are leading to a re-examination of the assumption that GHG regulation must be, or even ought to be, dominated by uniform national rules and a centralized national administration. This is true for at least three reasons:

- First, it is apparent that some states or regions may decide to make deeper emission cuts than the overall national goal (see Discussion Paper #1 prepared for this conference), and these efforts need to be respected and supported.

² More than 20 states have developed, or are developing, statewide multi-sector GHG reduction policies. Meanwhile, there are three serious multi-state efforts underway: in the Northeast, 10 states have developed the Regional Greenhouse Gas Initiative (RGGI); six states (and two Canadian provinces) are now working together on the Western Climate Initiative (WCI) and six more states (and one province, also active in the WCI) are beginning work on the Midwest GHG Accord.

- Second, reducing climate change emissions across multiple economic sectors of our entire country is a very complex undertaking, one that could well use the local knowledge and technical expertise of state and local agencies and other governmental officials.
- Third, economic and physical conditions vary across the nation, and policy preferences vary across the states – thus, a national program will be able to meet national objectives at lower cost, and will find greater political acceptance if decision-making is distributed across the states.

Finding the best balance between national uniformity and state and local discretion is not, however, an easy matter. Logically, program designers need to address at least the following questions:

1. Assuming that there is a national emissions cap, what fraction of attainment is subject to a cap-and-trade regime with tradable allowances, and what fraction of reductions will be attained through a “policy portfolio” or management-based reductions? Who should set the goals for individual sectors? And must the goals be uniform nationwide?
2. For those emissions that will be covered by a cap-and-trade regime:
 - a. What sectors are covered and what are their individual caps and trajectories? Are these first-tier decisions federal or state decisions?
 - b. Within covered sectors, how are allowances distributed? There are two main sub-questions here:
 - i. To what degree and to whom should allowances be allocated for free versus sold to regulated entities at auction?
 - ii. Should there be a single national formula for allocations to regulated sources and/or others, or should allowances be apportioned to states, and then allocated or sold according to individual state rules?
3. For those emission credits that are sold, who should receive the funds? Should states or Congress decide how the funds will actually be spent?

These questions are introduced for discussion in the sections below. In each section, the paper identifies concerns and arguments that are, or could be, put forward by proponents of an “active states’ view” and counter-arguments that support a more “nationalist” position on GHG regulation and administration. While this paper attempts to present both sides of the discussion, as a general matter, it is based on the view that a system that embraces a robust state and local policy role is both more desirable and more realistic than a GHG program based on decisions made solely by Congress and administered entirely by federal regulators.

B. Allowance Issue #1: What Fraction of Emissions and What Fraction of Desired Emission Reductions Will Be Controlled Through Tradable Allowances?

The first question on allowances is not “how do we distribute allowances?” but rather, “what sectors are covered by tradable allowances in the first place?” That is, to what degree might

national GHG attainment goals be achieved through a portfolio of state and local environmental policies rather than through reductions in tradable allowances distributed or sold to individual covered sources?

Active States' View: Policies Are Crucial and States Should Make Them

An excellent argument for state/local policy leadership is made by the Center for Climate Strategies as a result of their work in several states to develop a portfolio of state policies that can effectively lower GHG emissions across the most important sectors. The Center observes:

“There is no ‘silver bullet’ for achieving the required GHG reductions. Rather, a ‘Chinese menu’ approach in which 10 to 20 policy choices from each of 6 sectoral columns appears to work best. This comprehensive ‘portfolio’ approach is critical to gaining political support for any action on climate as it provides an enormous range of choice and flexibility by which potential conflicts can be resolved.”³

These authors further note that congressional approaches to date do not take account of the wide array of state-level policies and actions that could improve the depth of GHG mitigation and reduce the cost of action, and conclude that:

“The urgent need for comprehensive action, opportunities presented by state actions, the wide array of public and private reduction programs needed, and the complexity of governance across all levels of governance suggest that the conventional model of developing federal legislation “inside the beltway” is unlikely to address the climate issue adequately without substantial augmentation by state learning and example.”⁴

Advocates of a policy portfolio approach to GHG reductions can point to three main advantages:

- First, many low-cost carbon reduction strategies are not easily susceptible to cap-and-trade approaches for practical reasons. For example, in the agriculture, land use and transportation sectors, it is hard to imagine imposing carbon caps on individual emitters (e.g., farms, subdivisions, personal cars). Rather, reductions will need to come as a result of the application of multi-faceted policies (e.g., crop payments and education for conservation tillage, smart growth strategies for housing projects, emission standards for cars and public transportation initiatives).
- Second, in many cases, policy-based approaches will reduce emissions at lower cost to the public than the costs that would have to be imposed via a cap-and-trade regime to attain the same degree of reduction.
- Third, and most pertinent to questions of federalism, many of the policies that are needed to attain significant reductions at low cost are policies that are best designed and

³ Peterson, et al., “Developing a Comprehensive Approach to Climate Change Policy in the United States: Integrating Levels of Government and Economic Sectors,” *University of Virginia Environmental Law Review* (2007).

⁴ *Ibid.*

implemented at the state and local levels, rather than through national legislation and rulemaking.

Nationalist View: We Need Wider Caps and Uniform National Policies

On the other hand, there are many advocates of a more pervasive cap-and-trade approach, perhaps with a backup of nationally applied policies that would support overall program goals.

- Possibly the strongest arguments in favor of the broad application of caps and allowances are based on market economics. Environmental economists argue that from a societal perspective, the most cost-effective path to GHG reduction is to include the cost of emissions in the price of as many goods and services in the economy as possible. This view underlies proposals to impose carbon taxes or caps on GHG sources well “upstream” in the economy – for example, at the wellhead, coal mine or tanker terminal. With a cap (or carbon tax) applied far upstream, carbon regulation becomes a matter of fuel regulation or tax policy much more than it is “source” regulation. At least on the tax incidence side of the market, carbon regulation would be more national and more monetary in nature – and less state-specific and less a matter of air quality regulation.
- In the absence of comprehensive upstream caps or carbon taxes, cap proponents argue that tradable emission credits should be extended to as many major sources as possible on a uniform national basis. Thus, a cement plant or steel mill in Ohio would face the same carbon price and credit regime as a competing plant in Illinois or Arkansas.
- For similar reasons of competitive equality, uniformity advocates might argue that even non-capped sources or sectors should face the same regulatory costs. Thus, for example, a national carbon policy could impose uniform national low-carbon fuel standards and emission rates on mobile sources,⁵ create a national uniform renewable portfolio standard for the power sector and so forth. In some of these cases, advocates make a strong case for national preemption in addition to a national floor (e.g., appliance efficiency standards), but in others it is understood that states might well be permitted to go further (e.g., clean fuels standard, renewable portfolio standard).

C. Allowance Issue #2: Setting Caps and Apportioning Allowances

Nationalist View

Even a quick review of the climate change bills introduced to date in Congress reveals a set of shared assumptions in Washington DC that (a) most GHG reductions will be accomplished via declining caps set at the national level; (b) those caps will be imposed on individual sources regulated through a uniform national administration; and (c) carbon regulation will involve a relationship between individual sources and EPA, rather than between EPA and the states, or individual sources and state regulatory authorities. Table 1, below, is from a Congressional Research Service report on climate change legislation in the 110th Congress. In every case but

⁵ See, e.g., EPA’s recent denial of the California automobile carbon emissions standard waiver.

one the “responsible entity” is EPA, and there is very little discussion in these bills or in Congress about the role that states and localities could play in designing or implementing national GHG regulations.⁶

Table 1. Allocation Schemes and Responsible Agency in Recent Congressional Bills

Topic	S. 280 (Lieberman)	S. 309 (Sanders)	S. 317 (Feinstein)	S. 485 (Kerry)	S. 1766 (Bingaman)	S. 2191 as reported (Lieberman/Warner)	H.R. 620 (Olver)	H.R. 1590 (Waxman)
Emission reduction/limitation scheme	Absolute cap on total emissions from all covered entities in the electric power, transportation, industry, and commercial sectors.	Absolute cap on total emissions economy-wide.	Absolute cap on total emissions from covered electric generators.	Absolute cap on total emissions economy-wide.	Emissions targets for all covered entities that refine petroleum, process natural gas, consume coal, or import petroleum products, coke, natural gas. Includes importers of HFCs, PFC, SF ₆ , N ₂ O, or products containing such compounds.	Absolute cap on total emissions from all covered entities in the electric power, transportation, and industry sectors.	Absolute cap on total emissions from all covered entities in the electric power, transportation, industry, and commercial sectors.	Absolute cap on total emissions economy-wide.
Responsible agency	Environmental Protection Agency (EPA).	EPA.	EPA.	EPA.	To determined by the President.	EPA.	EPA.	EPA.

Active States’ View

Against this apparent prevailing direction is the potential for a much more active state/local role in GHG program design. First, state and local advocates would say, do not forget those sectors where GHG reductions will realistically come from state/local policies rather than from federal caps. And even where national caps are needed, it is not at all clear that in a federal system, those caps should be administered directly from Washington. A wide range of more creative state/local-federal working relationships is possible, and would be consistent with the history of air quality regulation as well as other important economic, resource management and public policy practices in the U.S.

Since GHG regulation focuses on air pollution, the most obvious source of experience on federal-state joint implementation is the Clean Air Act. The basic structure of the original Clean Air Act and its implementation, based on State Implementation Plans that allowed states significant latitude in the manner of meeting national standards, provides a useful model to consider in the GHG context. More recent examples can be found in administration of the NO_x budgets and the Clean Air Interstate Rule (CAIR), which relied on state-level administration and allowed states explicit zones of administrative flexibility.⁷

⁶ Table excerpted from *Greenhouse Gas Reduction: Cap-and-Trade Bills in the 110th Congress* (Congressional Research Service, November 5, 2007) at 5.

⁷ States were given flexibility in a variety of areas, including the option to set aside a portion of allowances for new units, or for energy efficiency and renewable energy, and could permit opt-ins for industrial units to be covered by the same program as utility generators.

Question #1: What sectors are covered and what are their individual caps and trajectories? Are these first-tier decisions federal or state decisions?

As a general matter, it is important to realize that *the nation's* actual objective in GHG regulation will be to lower total emissions in a cost-effective manner that is sustainable and does not imperil fundamental national needs (like national security). Beyond those general objectives, the details of cap-and-trade implementation are not central to the *national* purposes of GHG regulation and could be left to the states. Thinking about the situation in this way allows us to think about a range of potential roles for federal and state governments in GHG program design:

- The strongest state position would be for Congress to create a national system of state-level caps, leaving to each state the requirement and the opportunity to design a suite of state policies to achieve them. In this model, different states could cover different sectors, flexibly cover the same sectors in different ways, etc.
- Alternatively, the national legislation could identify the key sectors and sources that all states must cap, but allow state programs flexibility with respect to the trajectory of reductions applied to different sectors and sources, provided that the overall state emissions cap is met. In this model, State A might decide to focus on achieving more rapid reductions from power plants, while State B might decide to focus on improving transportation emissions and put less pressure on power plants and electric rates.
- From a Nationalist perspective, the strongest national program would be one in which each regulated sector is fixed in federal legislation, and the rate of reduction in each sector is also fixed by federal law or rule.

Question #2: Within covered sectors, how are allowances distributed? To what degree and to whom should allowances be allocated for free versus sold to regulated entities at auction?

There is now a large literature base and an evolving debate on the question of free allowance allocations versus auctions in cap-and-trade programs. The U.S. Acid Rain program, of course, was dominated by free allocations to emitters, distributed by the federal program administrators on a grandfathered basis. Most cap-and-trade proposals in the U.S. have been built on this model, so free allocation and grandfathering have been part of the background of assumptions underlying most program designs. However, this is no longer a valid policy assumption. Credit allocation is a huge issue for state officials, including air regulators, because the financial transfers involved are so high, and because the political consequences are potentially critical to the success of any GHG reduction program⁸.

⁸ The political consequences could flow in either direction. Windfall gains to emitters could lead to a backlash among consumers and voters, undermining the GHG reduction program. On the other hand, requiring emitters to purchase allowances could lead to resistance among affected industries to creation of the program in the first instance.

The evidence from the European Trading System demonstrates that free allocation to regulated sources can confer large windfall gains on emitters and raise prices to consumers without adding to GHG reductions.⁹ The Congressional Budget Office reached similar conclusions for possible free allocation plans in the U.S.,¹⁰ as have a number of academic studies, including modeling done by Resources for the Future for the RGGI program.¹¹

Notwithstanding these studies and conclusions, cap-and-trade stakeholders in the U.S. continue to promote free allocation¹², especially at the outset of the programs, with a variety of policy justifications, including:

- Free allocation is needed to “buy cooperation” from affected industries that would have the political power to block adoption of the entire GHG program; and
- Free allocation is equitable because it helps to moderate the financial consequences of compliance on highly polluting industries that will be most affected by the GHG program, and the workers and communities most affected by those impacts. (This is often termed “transition assistance.”)

For the purposes of this paper, the important issue is not whether free allocation in a particular sector is the “right” public policy, or whether an auction would be more equitable and/or efficient, or whether a tagged transition from one to the other is the best solution. *The crucial issue is whether the allocation versus auction decision should be made by Congress or left, in whole or in part, to the states.*

The **nationalist** argument is that it should be up to Congress to balance the competing claims of consumers versus industry, or citizens versus polluters and thus to come up with detailed decisions on how many allowances should be awarded for free, to whom, when and where. In addition, there is a uniformity argument, at least within individual sectors: if an emitter (steel mill, or oil refinery, or power plant) in State X is going to get 80 percent free allowances, then it is essential that any similar emitter in State Y also gets the same fraction of free allowances.

The **active states’ view** is that these nationalist assertions are untrue. There is no inherent reason that Congress is better suited to making powerful public policy choices than the state legislators, Governors and utility and air regulators who are closer to the industries and consumers affected by these decisions. As the National Governors Association states in its resolution on climate change legislation,

“...In the development and implementation of federal policy options, each state must retain the flexibility to tailor an approach that makes the most sense given its individual socioeconomic and geographic conditions.”¹³

⁹ See, e.g., Jos Sijm, Karsten Neuhoff and Yihsu Chen, *CO₂ Cost Pass Through and Windfall Profits in the Power Sector*, May 2006 CWPE 0639 and EPRG 0617.

¹⁰ See e.g., Mark Lasky, *The Economic Costs of Reducing Emissions of Greenhouse Gases: A Survey of Economic Models*, CBO Technical Paper 2004-4 (May 2003).

¹¹ See Karen Palmer, Dallas Burtraw and Danny Kahn, “Simple Rules for Targeting CO₂ Allowance Allocations to Compensate Firms,” *Climate Policy*, vol. 6, no. 4 (2006), pp. 477-493.

¹² See NCEP allocation proposal, Lieberman-Warner legislation (S. 2191).

Sensitivity to local issues is not the only reason to support state/local and regional flexibility on allocation and auction issues. The history of allocation discussions and decisions within the RGGI process provides an additional lesson with respect to GHG program design: the states are quite likely to be the better avenues for policy experimentation and program development than is the process of developing legislation in Congress.

Question #3: Should there be a single national formula for allocations to regulated sources and/or others, or should allowances be apportioned to states, and then allocated or sold according to individual state rules?

How allowances are allocated and (if any fraction is auctioned) how funds are raised and distributed are critical components of any national GHG program, and the likely source of growing debates among private economic sectors, and between states and the federal government. The issue is crucial for many reasons. First, the manner in which allocation is done will affect the ability of the GHG program to reach its basic environmental and economic goals. Equally important in a democracy, carbon credits represent potential wealth redistribution. Based on an estimated U.S. inventory of over 6 billion tons of GHG emissions per year, annual revenues from the sale of carbon allowances under proposals considered in Congress are estimated at between \$50 billion and \$300 billion per year in 2007 dollars by 2020¹⁴.

Should these decisions all be made in Congress, or should they be made, at least in part, by the states?

It's a Big Country

While the effects of GHGs are global, how reductions can best be achieved and impacts best mitigated will vary by state and region due to differing demographics, politics and economics. Whether the issue is buildings efficiency (coal-derived air conditioning drives emissions in one region, oil heat drives emissions in another region), transportation policy (rural areas have fewer opportunities for useful investments in public transit) or industrial policy (some states will want transition assistance to “old” industry, others will want jump-start assistance to “new” green industries) it is just not likely that a one-size-fits-all federal allocations policy will be able to find the optimum result for the nation as a whole.

In addition to the examples given above, it is instructive to take a close look at the electric power industry, which is one of the central foci of any GHG program. Across the country:

- Electricity rates differ by at least 100 percent;
- The regulatory system in about half of the states is rooted in the historic pattern of vertical integration and cost-based rates, while in the other half there is a much greater role for wholesale markets and unregulated independent power plants;

¹³ National Governors Association Policy on Federal Climate Change, NR-11 Global Climate Change, revised August 2006 at the Annual Meeting.

¹⁴ Congressional Budget Office, *Trade-Offs in Allocating Allowances for CO₂ Emissions* (April 25, 2007) at 2.

- Some states have highly developed policies promoting efficiency and renewable power, and other states have almost no experience with such resources; and
- States vary enormously in their reliance on coal for generation and to support growth.

These wide differences in local and regional conditions can lead to quite different program design choices for cap-and-trade programs. For example, in the states where utilities participate in regional day-ahead and short-term power markets,¹⁵ there is growing concern that carbon policies driving up the price of high-emitting generation like coal will also drive up the market clearing price of low-emitting resources like nuclear and hydro. The cost to ratepayers of this carbon policy is quite different from the cost in the type of vertically integrated, rate-regulated system that characterized the power sector when the Acid Rain program was created, and which is still operating in many U.S. states.

RGGI's Evolution on Allocations: A Useful Lesson on State Authority and Flexibility.

When the RGGI program began, there was almost uniform agreement that allocations would have to be handled as they were in the Acid Rain program – that is, free allocation to emitters on a grandfathered basis. However, the RGGI State Working Group (SWG) set up a stakeholder consultation process and a Resource Panel of national experts to review program designs, discuss options and provide a forum for examining new ideas. With the help of those groups, the SWG was able to examine the pros and cons of different allocation schemes, including the idea that credits should be auctioned, with the proceeds used by the states to support low-carbon policies in the power sector.¹⁶

Based on this work, the RGGI Principals adopted a provision in the RGGI Model Rule committing each state to at least a 25-percent credit allocation for public purposes, but permitting broad state-by-state flexibility beyond that point.¹⁷ Individual states then began to examine the question, with slightly different results in different states. Nearly all have adopted a complete auction of RGGI credits. A policy choice that would have been very difficult for the region to take as a whole was able to succeed because state-level decision-makers were permitted by the RGGI Model Rule to make their own decisions as to how credits would be allocated in their states. More importantly, the debates over allocations have been occurring on a state-by-state basis, which has permitted Governors, legislators and citizens to engage on these issues, with a focus on what would be best for individual states.

Can the RGGI Model Be Extended to the Nation?

While the RGGI example is instructive, allocation issues become much more complex when multiple sectors are involved. What are the options for effective working relationships between state and federal authorities on allocations as part of a national GHG program?

¹⁵ Those markets now include Texas, the New York ISO, New England ISO and the PJM Interconnection, which together greatly affect sales and dispatch of power across more than a dozen states. Market expansions are also being planned for the Midwest and California.

¹⁶ See, e.g., R. Cowart, *Allocating to Power Resources: Economic and Environmental Options* (RGGI Allocations Workshop, October 14, 2004), D. Burtraw and K. Palmer, *Initial Allocation of CO₂ Allowances in the Regional Greenhouse Gas Initiative: Preliminary Observations* (RGGI Stakeholder Group Meeting, June 24, 2004).

¹⁷ RGGI Model Rule.

The good news for policymakers is that there are a lot of models to look at. The genius of American federalism, as it has worked out in different issue areas in different time periods, is that it is highly flexible. For example, consider the intersection of state and federal authorities and priorities in such areas as:

- The network of interstate and state highways nationwide, with a combination of funding sources, policies, priorities and cooperative arrangements, but with the vast majority of implementation work supervised by state highway agencies; and
- Federal housing assistance, administered on the ground by a myriad of state and local housing authorities.

It is obvious from these examples alone that attaining an important national goal does not necessarily require the creation of an army of regulators or administrators working out of a central federal authority. The model for GHG management in the U.S. does not have to be the Homeland Security Agency. Indeed, there are useful lessons to be drawn from the experience of state, local and federal air regulators with program designs like RGGI, and with the Clean Air Act itself.

Once an overall emissions cap and cap trajectory are set, a central question is the apportioning of allowances. In the context of national GHG legislation, options include:

- 100 percent auction by the federal government;
- Allocation to regulated emitters (covered sources);
- Allocation to third parties who can sell to covered sources;
- Apportioning allowances among states who can either sell them or allocate them freely; and
- Combinations of the above.

Since RGGI consists of a collection of states without a regional government, the RGGI program, by necessity, began with an assumption that allowances “belong” to states. The program was designed to permit state flexibility with respect to the treatment of individual sources, the interplay of policy initiatives and cap rules and the distribution of allowances, so long as one state’s actions would not undermine the value of the RGGI carbon “currency.” To accomplish these goals, RGGI needed to apportion the regional cap among the states, sanctioning the issuance of a certain number of allowances by those states and allowing them to trade freely with the RGGI-eligible allowances issued by other RGGI states.

Apportioning Allowances among States: The Basic Choices

What should each state’s apportionment be based on? RGGI designers and advocates considered a variety of alternatives. Leading options were:

- Historic in-state emissions – giving more credits to historic polluters, less to states with cleaner resource mixes;

- Historic in-state generation – which would reward states with clean in-state generation by giving more allowances at the outset than needed by in-state facilities;
- Electric power consumption – which would recognize the fact that in the RGGI region, with pervasive wholesale power markets, rate impacts of carbon regulation would not be confined to the states in which particular generators sit; and
- Population – recognizing that carbon allowances are a public property resource and effectively belong to everyone.

Table 2, below, provides a concrete example of how the use of different apportionment rules would have changed the allocation of carbon credits among the initial RGGI states.¹⁸

Table 2. Examples of Impacts of Various Apportionment Alternatives

State	Emissions	Heat Input	Fossil Generation	All Generation	Total Consumption	Population	Gross State Product
	RGGI Units 2000	RGGI Units 2000	RGGI Units 2000	1999-2001 Avg.	1999-2001 Avg.	2000	1999-2001 Avg.
Connecticut	9.6%	9.2%	8.3%	9.6%	8.9%	8.1%	9.1%
Delaware	5.8%	4.8%	3.1%	2.0%	3.2%	1.9%	2.1%
Massachusetts	17.6%	19.4%	18.1%	12.2%	15.1%	15.1%	15.8%
Maine	3.0%	3.2%	2.3%	4.8%	3.5%	3.0%	2.1%
New Hampshire	4.2%	3.3%	2.7%	4.8%	3.0%	2.9%	2.6%
New Jersey	10.3%	8.7%	15.7%	18.1%	20.9%	20.0%	20.1%
New York	46.7%	47.2%	46.1%	44.5%	41.5%	45.1%	45.1%
Rhode Island	2.4%	4.0%	3.6%	2.1%	2.2%	2.5%	2.0%
Vermont	0.4%	0.3%	0.2%	1.8%	1.6%	1.4%	1.0%

Across many criteria, apportionment does not change much for most states, but for some it really matters. For example, Massachusetts had almost 18 percent of the emissions in RGGI, but only 12 percent of total generation. New Jersey, on the other hand, had just 10 percent of the emissions, but 18 percent of total generation and 21 percent of total consumption. If allowance allocation to states was intended to compensate emitters, Massachusetts should get 18 percent and New Jersey should get 10 percent. On the other hand, if allowance allocation is intended to compensate ratepayers for the higher prices they will pay in power markets, or to reflect each citizen's *pro rata* share of the region's carbon entitlement, New Jersey would get 21 percent and Massachusetts only 15 percent.

Since the RGGI program design evolved over time there is something of an irony in the way this worked out. At the time apportionment decisions were made, most RGGI Principals figured that allowances should be given to states on behalf of emitters, so state allocations for the most part aligned with historic in-state emission levels. Later, most states decided to auction allowances by selling them to emitters generally, and to use the revenue to advance the state's clean energy

¹⁸ From Derek Murrow, *Apportioning the Regional Cap Among States: Allocation Options and Equitable Solutions* (RGGI Allocation Workshop, October 14, 2004).

goals. Since covered RGGI sources can buy and use allowances from any RGGI state, and the power from RGGI sources is sold in interstate power markets, there is no one-to-one correspondence between a source's physical location and the economics of the RGGI program. Using the examples above, New Jersey will receive only 10 percent of the income from credit sales for state public purposes even though it has closer to 20 percent of the region's population, generation and power consumption.

There are two lessons here for the design of national GHG programs:

- First, it would be possible to extend the RGGI example and to apportion a national pool of allowances to the states for distribution or sale by them in accordance with state policies.
- Second, if states were to receive allocations directly, the rules for apportionment really matter, and it is crucial to think through the purposes for which credits and credit sales will be used when creating apportionment criteria.

D. Allowance Issue #3: When Allowances Are Sold, Who Gets the Revenue and How Is it Spent?

Building on the RGGI example and the European experience, some congressional climate bills now contain provisions that require at least some portion of allowances to be auctioned from enactment. To whom the allowances are allocated freely, and the glide path for increasing the percentage of allowances auctioned differs by bill, but recent trends have been towards higher percentages auctioned, regardless of the sector.

Although the most recent leading bills (such as Feinstein and Lieberman/Warner) represent an important step toward auctioning allowances rather than merely allocating them to covered sources, the role of the states is still relatively small. Most of the funds received from auctions are to be deposited to federally administered funds like the Climate Action Trust Fund (Feinstein), the Climate Reinvestment Fund (Kerry) or six different funds – for Worker Training, Adaptation, National Security, Energy Assistance and Emergency Firefighting (two funds) – (Lieberman/Warner). Table 3, located on the last page of this paper, provides a summary of the public sale and auction provisions of key legislative proposals.

Nationalist View

It is easy to see that if allowances are viewed as entitlements created by the federal government, then receipts from the sale of allowances will be viewed as U.S. Treasury receipts and their disposition will be governed by Congress. In the context of national GHG legislation, this structure is not easily avoided. Moreover, those taking a strong central government view would argue that since air resources belong to the nation as a whole, income from the sale of credits should be directed to purposes chosen by Congress. Among other benefits, congressional oversight will ensure that carbon credit income is assigned to the nation's highest priorities, and is not used to create unwelcome competition among the states via subsidies to favored industries in those states.

Active States' View

The active states' view of this situation would be quite different. A single national GHG program inherently affects different states differently, and it is entirely reasonable for states to want to moderate local effects and/or to accelerate progress by focusing expenditures more effectively than Congress is able to do. Moreover, Congress is fundamentally constrained by the power of national lobbies and the traditions of congressional decision-making, and so is much less able than the states to try new policies that could reduce GHG emissions at low cost. By way of example, states representing a large fraction of total U.S. auto sales were able to adopt California's tailpipe emission standards for automobiles before Congress was able to even marginally improve CAFE standards. More than 20 states have adopted Renewable Portfolio Standards, a topic on which Congress has not acted. Many states have robust utility-sector energy efficiency programs, adopted with no federal counterpart and very little federal support. State advocates can argue that national GHG programs should be designed so that carbon credit revenues are directly available to the states for investments in activities of this sort.

What are the structural options? Policymakers will need to evaluate at least the following possibilities, along a continuum from greater state control to greater national control:

- Direct allocation of credits to the states, for sale or allocation by them;
- Direct allocation to state-level public interest or state-regulated entities, so that sales can be supervised by the states in accordance with state policy. (For example, direct allocation of the power sector portion of the national cap could be made to regulated distribution utilities or load-serving entities, with revenues invested in efficiency and renewable power¹⁹);
- Auction of credits by a federal agency with proceeds distributed automatically to the states in accordance with revenue-sharing formulas;
- Auction of credits by a federal agency, with proceeds deposited into federal funds that could be distributed to states via grant-making procedures; and
- Auction of credits by a federal agency with proceeds deposited into the federal Treasury, subject only to appropriations by Congress over time.

In addition to these structural approaches, it is important for policymakers to establish standards and priorities for the expenditure of carbon credit revenue. Some advocates of carbon taxes have long proposed that carbon revenues be used to displace general taxes and to support the overall functions of government. Many environmental advocates take a more targeted view, arguing that carbon credit revenues should be spent in a strategic fashion to advance the purposes of the

¹⁹ Direct allocation to local distribution utilities is included along with direct allocation to states in the Lieberman/Warner bill, the first bill to contain this feature.

GHG program itself – that is, lowering overall emissions more quickly and at lower cost to citizens and the economy.

This latter view has been evident in those RGGI states that have enacted carbon credit sales statutes. The first state to do was Vermont, where the legislature determined that RGGI credit sales revenues should be devoted primarily to enhanced energy efficiency investments, which it understood would both help to attain the goals of the RGGI program by reducing demand, and help to lower the cost of the RGGI program by lowering consumers' energy bills.²⁰ Other RGGI states have adopted much the same approach. Other states, however, might take a broader view, and under a national program choose to assign carbon credit revenues to a wider set of ends. The broader list might include:

- Accelerated energy efficiency investments (low-carbon and low-cost);
- Accelerated deployment of renewable resources, combined heat and power, fuel cells, etc. (low-carbon, not necessarily low cost);
- Demonstration efforts to promote needed new resources like carbon capture and sequestration, plug-in hybrid vehicles, smart grid technologies;
- Investments in broad-based pattern and practice improvements in sectors or end uses where GHG avoidance is needed but explicit caps are not likely, such as agricultural practices;
- Impact mitigation in industries and communities that are expected to be most negatively affected by the GHG program; and
- Adaptation assistance where the effects of climate change are unavoidable and state officials see the need to invest in mitigating their effects on communities, natural systems or key industries.

In order to compete with the centrist tendencies and interest-group politics that drive federal legislation – and therefore the allocation of the huge sums of money likely to flow from eventual national GHG legislation – state and local government officials will need to address both the structural options that could give them a stake in decision-making, and the priorities for expenditures that would justify their claims on the credits or on the funds.

Guidance to Participants and Questions for Consideration

Efforts to craft national climate legislation have, thus far, focused almost exclusively on congressional choices and federal rules to administer GHG regulations and/or cap-and-trade

²⁰ “In order to provide the maximum long-term benefit to Vermont electric consumers, *particularly benefits that will result from accelerated and sustained investments in energy efficiency and other low-cost, low-carbon [resources]*... the public service board ...shall allocate 100 percent of [Vermont’s] tradable power sector carbon credits and the proceeds from the sale of those credits through allocation to one or more trustees acting on behalf of consumers.” H.860 (enacted 2006) (emphasis added).

markets through EPA on a uniform, national basis. This approach bears close examination, because it tends to overlook the crucial role of state and local decision-making and administration in many areas of public policy, including the regulation of the electric power and natural gas sectors, and administration of the Clean Air Act itself. Against the assumption of a highly “nationalist” approach to GHG reduction is the potential for a more creative and more flexible system that would involve a more active role in both decision-making and implementation by active state and local regulators.

Reading this paper has, hopefully, evoked many thoughts with respect to the allocation of carbon credits, the sale of allowances and the use of credit revenues. Please make note of these thoughts and bring them with you to the conference. Facilitated breakout sessions will offer an opportunity to share, and expand upon, these ideas. To guide the discussions during the breakout sessions on the paper, participants will be asked to focus on the following specific questions:

1. To what degree is attainment of national GHG goals dependent on cap-and-trade mechanisms, which might be implemented through a single national market, and to what degree will the nation need to rely on policies and programs developed and administered directly by state and local governments?
2. Should Congress mandate the GHG reduction targets assigned to each major sector, or could Congress assign an overall reduction target for individual states and allow the states to design a carbon reduction implementation plan more responsive to individual state priorities?
3. Within any covered sector, or within a state’s apportioned cap, should allowances be distributed for free to covered entities, or should they be auctioned to those who must have and retire them? Should Congress make these decisions, or could states make them for that portion of the national allowance pool attributable to a state?
4. If carbon credits are sold at auction, who should receive the revenue and what should it be used for? To what extent should these be decisions left to the discretion of states, as opposed to a highly nationalist approach that leaves both the decision on sales and all of the revenue in the hands of the national government?

Table 3. Summary of Public Sale/Auction Provisions in Recent Congressional Bills²¹

Topic	S. 280 (Lieberman)	S. 309 (Sanders)	S. 317 (Feinstein)	S. 485 (Kerry)	S. 1766 (Bingaman)	S. 2191 as reported (Lieberman/Warner)	H.R. 620 (Olver)	H.R. 1590 (Waxman)
						by 2036 and thereafter.		shall implement it.
Public sale/auction of allowances	<p>EPA shall determine the number of allowances allocated to the Climate Change Credit Corporation (CCCC) (established by the bill).</p> <p>EPA shall allocate to the CCCC allowances before 2012 to auction to raise revenue for technology deployment and dissemination.</p> <p>The CCCC may buy and sell allowances, and use the proceeds to reduce costs borne by consumers and other purposes. (See "Revenue recycling" below.)</p>	<p>EPA may choose to provide for trustees to sell allowances for the benefit of entities eligible to receive assistance under the proposal (see above).</p>	<p>From 2011 on, an increasing percentage of all allowances are to be auctioned, with 100% of allowances auctioned in 2036 and thereafter.</p> <p>Revenues from the auction are to be deposited in the Climate Action Trust Fund created by the Department of the Treasury.</p>	<p>The President shall determine the number of allowances to be auctioned. The proceeds of the auction to be deposited with the Climate Reinvestment Fund created by the Department of the Treasury. (See "Revenue recycling" below.)</p>	<p>Beginning in 2012, 24% of available allowances are auctioned to fund low income assistance, technology, and adaptation activities. The percentage auctioned increases steadily, reaching 53% by 2030; after that it increases 1 percentage point annually through 2043.</p> <p>Revenues from the auction are to be deposited in one of three funds created by the Department of the Treasury: The Energy Technology Deployment Fund, The Climate Adaptation Fund, and The Energy Assistance Fund.</p>	<p>Beginning in 2012, 18% (plus 6% from an early auction of 2012 allowances) of allowances are auctioned to fund the activities of the CCCC. This percentage increases steadily to 73% by 2036 and thereafter.</p> <p>Revenues from the auction are to be deposited in one of six funds created by the Department of the Treasury: the Climate Change Worker Training Fund, the Adaptation Fund, the Climate Change and National Security Fund, the Energy Assistance Fund, and two Emergency Firefighting Funds.</p>	<p>EPA shall determine the number of allowances allocated to the Climate Change Credit Corporation (CCCC) (established by the bill).</p> <p>The CCCC may buy and sell allowances, and use the proceeds to reduce costs borne by consumers and other purposes. (See "Revenue recycling" below.)</p>	<p>The President shall determine the number of allowances to be auctioned. The proceeds of the auction to be deposited with the Climate Reinvestment Fund created by the Department of the Treasury. (See "Revenue recycling" below.)</p>

²¹ Table excerpted from *Greenhouse Gas Reduction: Cap-and-Trade Bills in the 110th Congress* (Congressional Research Service, November 5, 2007) at 5.

**National Association of Clean Air Agencies
Conference on
*Defining the Role of States and Localities in
Federal Global Warming Legislation***

**February 12-13, 2008
Arlington, VA**

Discussion Paper #4

**The Role of States and Localities in Data Management
under a Federal Climate Change Program**

What Is the Role of a Greenhouse Gas Registry and What Is The Climate Registry?

A greenhouse gas (GHG) registry helps create a common carbon currency and standardized accounting standards for reporting GHG emissions. A registry is necessary infrastructure to support programs aimed at reducing the emissions that contribute to climate change. A registry documents a baseline for participating entities, tracks GHG emissions over time and enables the monitoring of program success. A registry may be used to help set program goals, benchmarks and compliance mechanisms, as well as support and encourage voluntary emissions reductions.

In the absence of a federal program, The Climate Registry (TCR) was created by a consortium of states to uniformly measure, inventory and report GHG emissions. Currently, 39 U.S. states, three Mexican states, six Canadian Provinces and three Indian Tribes comprise TCR. TCR is a policy-neutral registry with a charter to support both voluntary and mandatory GHG programs. When fully operational in spring 2008, it will provide protocols and a database for reporting entities (referred to as “reporters”) to calculate, verify and publicly report GHG emissions data. TCR establishes no requirements for emissions reductions. By requiring comprehensive data reporting, the goal is to serve as the reporting platform for various programs.

How Do Inventories and a Registry Interact?

States and localities may develop GHG inventories for various policy uses. Top-down inventories use average emissions factors and energy production data to calculate total emissions for a given locality or state. Top-down inventories provide a general picture of aggregate or sector-specific emissions, but usually only account for direct emissions (called “scope 1” emissions in the World Resources Institute (WRI) GHG Protocol and by TCR). Direct emissions may include stationary combustion emissions, mobile combustion emissions, process emissions

and/or fugitive emissions. State and national top-down inventories are best used for higher-level planning and setting overarching program goals.

Bottom-up inventories disaggregate total emissions by associating emissions with particular sources or entities. Bottom-up inventories may include indirect emissions (called “scope 2” and “scope 3” emissions by WRI and TCR). Indirect emissions are caused by the actions of an entity (e.g., purchase of energy for lighting or running machines) but occur offsite. Scope 2 emissions are the indirect emissions associated with consuming purchased electricity, heating, cooling and steam resources. Scope 3 emissions are the remaining emissions not owned by the entity (e.g., emissions resulting from disposal of an entity’s office and electronic waste, transportation of goods to and from the entity’s site and employee commuting). Under TCR, scope 1 and 2 emissions reporting is required and scope 3 emissions reporting is optional. All three scopes are inventoried separately to avoid double-counting.

A registry is a type of bottom-up inventory in which each entity is responsible for calculating its own emissions and submitting a report for inclusion in a central database. Regulators may use data from a registry to set high-level as well as more sector-specific program goals, and also monitor overall and entity-specific program success. A comprehensive and well designed national GHG emissions registry could obviate the need for most states and localities to continue to produce their own GHG inventories; or a federal registry may not be complete or rigorous enough for some states’ needs, and the states may want to retain or establish their own registries, either individually or collectively.

How Should a Federal Registry Support Federal, State and Local Programs?

GHG registries are often held up to the core principles described in the WRI and World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol, that is:

- Relevance
- Completeness
- Consistency
- Transparency
- Accuracy

TCR meets these core principles, and, ideally, any federal registry should also comport with these principles.

TCR requires North American reporting of all six GHGs in five different categories: direct stationary, mobile, indirect electricity use, process and fugitive. This is likely to cover the vast majority of GHG emissions from a reporting entity. A federal registry should cover the same six gases and categories, or more if new GHGs are identified in the future. Such a centralized database can support policy-making and comparisons of program performance.

Reporting protocols assure accuracy and completeness of data, maintain consistency across sectors and state boundaries and help to avoid double or undercounting. In a federal registry, a uniform approach should be developed for protocols, regardless of sector, in:

- Defining the organizational boundaries of the reporters,
- Assigning emissions to particular facilities, states and regions,
- Determining which gases should be reported and which sources should report,
- Distinguishing between direct and indirect emissions (i.e., scope 1, 2 and 3 emissions),
- Uniformly calculating emissions that cannot be directly measured (e.g., electricity usage) and
- Certifying/verifying emissions reports

Once a centralized database and reporting protocols are adopted, a federal registry could then simultaneously support national, state and local programs. These programs may choose to have participants report directly to the registry or maintain separate databases that might have the ability to transfer applicable data into the federal registry. For example, TCR is currently working with a number of states and provinces that will soon mandate reporting of GHG emissions. The goal is to use TCR's protocols and software so that data reported to those mandatory state/provincial programs can be easily transferable between states, regions, provinces and TCR for reporting and tracking.

What Might the Role of a State-run Registry (Such as TCR) or a Locality-run Registry Be in Tandem with a Federal Registry?

If a federal registry overlaps in most respects with the reporting breadth and requirements of TCR, TCR may well be a transitory organization useful in supporting action at the local, state, regional and individual reporter level in the breach. However, states and localities may set up their own registries (either state- or locality-specific registries, or regional registries like TCR) for several reasons. For example, a federal registry may turn out to be less rigorous and/or comprehensive – either at the outset or in the future – than desired by states and localities. Also, states may have regulatory or voluntary programs that require the reporting of data elements that differ from federal requirements. The federal registry may be created solely to support specific legislation, such as the Lieberman-Warner Climate Security Act of 2008 (S. 2191). As currently written, S. 2191 creates a regulatory program to reduce direct emissions of GHGs through a cap-and-trade program. Because the bill currently contains language instructing EPA to create a registry that primarily accounts for the direct emissions resulting from combustion of fossil fuels during energy production (and possibly some mobile source emissions), a registry that is established *solely* in response to this bill would not account for all GHG emissions.

For a federal GHG registry to meet current state and local needs (to support GHG emissions reporting and reduction programs), the following programmatic provisions are necessary:

- Uniform reporting by all sectors,
- Single reporting database/software that allows for data analysis and can house additional, state-required or voluntary data or sync-up with other databases,
- Reporting of GHG emissions from all sources, both separately and as aggregates of carbon dioxide equivalents,
- Reporting of North American emissions,
- Reporting of all six GHGs,

- Entity-wide reporting at the facility level (with the option to report at the unit or activity level) and
- Reporting of both direct and indirect emissions to support bottom-up and top-down programs to reduce GHG emissions.

Depending on the inclusion or exclusion of these above-mentioned provisions, the following scenarios (among others) could be conceivable:

Scenario 1: If the federal registry incorporates the above provisions and in the future adapts to meet registry needs for state and local mandatory/voluntary programs, states or localities may not need to set up separate GHG registries. TCR could either significantly redefine its role with the federal registry and states or become moot.

Scenario 2: If a federal registry is established that does not contain the programmatic provisions mentioned above (for example, it only requires reporting of direct emissions or excludes reporting of some sources/sectors) or otherwise does not meet state/local needs, TCR would likely need to continue as a voluntary registry and as a base for state mandatory or voluntary reporting that is different or more comprehensive than federal requirements. States and localities should be free to choose to use TCR as a registry or set up their own registries.

What Data Management Roles and Responsibilities Might States and Localities Want Within a Federal Registry?

Creating a Federal Registry. States and localities could play a significant role in creating the federal GHG registry, either on their own or through TCR. For example, TCR has developed principles, a general reporting protocol, a verification protocol and software. To date, over 50 entities have enrolled as reporters, including small businesses, state governments, manufacturing operations and fuel production and energy companies. In the coming months, TCR will commence developing sector-specific protocols. During development of the federal registry, TCR intends to work closely with EPA to minimize duplication of effort, ensure consistency of reporting and allow for appropriate transfer of data from TCR to the federal registry. The goals are to ensure that the federal program:

- is designed to support existing and planned state and local voluntary and mandatory greenhouse gas programs,
- builds upon the structure and protocols established by TCR,
- is consistent with and no less rigorous than TCR and
- ensures transparent and uninterrupted migration of reporters to the federal registry to the extent possible²².

²² This recognizes that EPA may establish more rigorous data reporting requirements within a mandatory framework, thus necessitating a transition strategy between TCR and federal data reporting requirements.

Data Management for a Federal Registry. The role of states and localities in data management under a *federal registry*²³ depends significantly on the current and future ability of the federal registry to meet the needs of states and localities and, subsequently, which of the above scenarios occurs.

If Scenario 1 were to occur, and the federal program fully meets the current needs and can meet the future needs of states and localities, options for states and localities in data management for the federal registry could include (but are not limited to):

Option 1. The federal registry performs all data management tasks (no role for states and localities in the federal program).

Option 2. The federal registry warehouses data, while states and localities (through TCR possibly) perform defined collection and management tasks.

Option 3. States and localities provide specific programmatic services, such as third party verification and sector-specific protocol development.

If Scenario 2 were to occur, and the federal program is not comprehensive enough to meet the states' and localities' needs, options include the ones identified above and could also include (but are not limited to):

Option 4. States and localities, either through TCR or some other registry, collect and manage data within their databases and allow for transfer of data to the federal database.

Option 5. States and localities, either through TCR or some other registry, collect subsets of data that are necessary for state and local programs (e.g., indirect emissions) to supplement the federal registry.

(In either scenario, states and localities would preserve their ability to set up their own GHG registries if they determined the federal registry, either now or in the future, did not meet their needs.)

Guidance to Participants and Questions for Consideration

This paper discusses the role of states and localities in data management under a federal climate change program. Reading this paper has, hopefully, prompted you to think of related circumstances and experiences in your own state or locality. Please make note of these thoughts and bring them with you to the conference. Facilitated breakout sessions will offer an opportunity to share, and expand upon, these ideas. To guide the discussion during the breakout sessions on this paper, participants will be asked to focus on the following specific questions:

1. In what situations would a state/locality/region establish its own registry to accommodate data that a centralized (TCR or federal) registry cannot/does not collect?
2. How can states and localities ensure that data elements not initially established through a federal registry program can subsequently be captured to meet states' and localities' needs?

²³ Meaning the role of states and localities in implementing the federal registry program, as opposed to their role in setting up a separate local, state or regional GHG registry.

program needs? Could such data still be captured by a federal registry for access by states and localities? Or would states and localities need to develop other means?

3. What specific tasks might states/localities take on in terms of data management issues under the various scenario options?
4. What kind of relationships/forums would be able to accommodate states' and localities' role in terms of data ownership and involvement within a federal registry framework?

Resources

Following, for your information, is a list of documents and web sites that provide background information on global warming issues and current legislation:

Chart of State Greenhouse Gas Actions (NACAA)

<http://www.4cleanair.org/Documents/StateGHGActions-chart.pdf>

Side-by-Side Comparison of State Global Warming Bills (NACAA)

http://members.4cleanair.org/rc_files/4193/GW_legislation_side-by-side.pdf

Carbon Emissions Targets of Congressional Climate Change Bills (World Resources Institute)

<http://www.wri.org/press/2007/10/wri-analyzes-carbon-emissions-targets-congressional-climate-change-bills#>

“Climate Change 101: Understanding and Responding to Global Climate Change” (Pew Center on Global Climate Change)

http://www.pewclimate.org/global-warming-basics/climate_change_101

Global Warming Basics Web Page (Pew Center on Global Climate Change)

<http://www.pewclimate.org/global-warming-basics>

Global Warming Web Site (Environmental Defense)

<http://www.environmentaldefense.org/page.cfm?tagID=1085>

Committee on Energy and Commerce Climate Change Web Site (U.S. House of Representatives)

http://energycommerce.house.gov/Climate_Change/index.shtml

Thomas – Legislative Information Web Site (Library of Congress)

<http://thomas.loc.gov/>

Cap and Trade Resources (EPA Clean Markets Division)

<http://www.epa.gov/airmarkt/resource/cap-trade-resource.html>

Climate Change Web Site (EPA)

<http://www.epa.gov/climatechange/index.html>