

State GHG Registry Emissions Information Programs (“Registry”) Issue Paper

Introduction

Over the past few years, a number of states, including the Northeast states of Maine, New Hampshire, Massachusetts, New York, and New Jersey, have either adopted or are considering the adoption of programs that seek to leverage information on greenhouse gas (GHG) emissions to either encourage voluntary emission reductions in the absence of regulation, or, in the case of Massachusetts, for regulatory compliance. More recently, the New England Governors and Eastern Canadian Premiers (NEG/ECP) have adopted an action plan that includes a GHG registry, and five GHG information bills have been introduced in the U.S. Senate. This activity indicates that these programs, as a general concept, have generated significant interest around the country, particularly within the Northeast.

Differences among these programs and proposals, however, demonstrate that these programs are not uniform. GHG information has been proposed as a vehicle for a number of strategies including: encouraging and/or mandating corporate inventories, positioning for future regulation, fostering emissions trading, garnering public recognition for pro-active entities, improving the existing federal 1605(b) program, and encouraging and documenting projects that offset emissions. Though all of these strategies have a similar aim, to encourage entities to account for and reduce their emissions of GHGs, the different approaches have resulted in a proliferation of structures and rules that often make it difficult to navigate the discussion.

Over the last year, the NESCAUM Greenhouse Gas Early Action Demonstration Project (The Demo Project) has worked towards developing an issue paper on GHG information programs that would provide some traction to stakeholders, particularly state policymakers¹, on the major programs, proposals, and issues. It was hoped that such a paper would provide a valuable resource to states and identify the areas where a state registry program could add the most value. Participants also felt that coordination among states on this issue was critical for not only the goals of the states, but for the entities that would participate in the registry as well. By making specific recommendations on registry design issues, participants hoped to promote at least some coordination among states.

Structure of the Discussion and Project Disclaimer

There is no consensus among Demo Project participants on a single design for state programs. In fact, the discussion below highlights the fact that ***no single strategy for developing a state registry or emissions data program is supported by all project participants***. Rather than attempt to find consensus for promoting specific strategies, this paper looks at the specifics of the different strategies and discusses the major development issues for each. ***Though the paper does not try to promote any specific strategy, it does attempt to provide guidance to states on key issues, should they choose to pursue a specific strategy.*** Though Demo Project stakeholders do not agree that a single approach is superior, there are several points of agreement within the

¹ Though states are the primary target audience for this paper, the discussion can easily be generalized to the regional level. In many instances, the discussion could also apply to a federal program. However, for some issues, states and regions would face uniquely different hurdles than a national policy. Where this is the case, the paper will flag the differences.

specific strategies. *Consensus within this limited context should not be construed as support by all Demo Project Members for registries in general or a specific strategy in particular. The summary matrix (Table 1—following page) should be viewed within this context and readers should be aware that the matrix boxes are often very brief summaries of complex issues that are dealt with more thoroughly within the body of the paper.*

To explore these, the paper is organized as follows:

Section 1. *Overview: Background Narrative of the Registry Discussion:* The registry discussion is often confusing for those just entering. Many people consider registries as a place where to record emission reductions. However, the discussion has become much broader and complex. This section gives an account of how the discussion developed and broadened beyond the initial concept. It lays out the five basic strategies that have been discussed within the “registry” context. Finally, it discusses a couple of key considerations that apply to the registry idea in general.

Section 2. *Strategy Discussion: Definition and Major Issues:* This section focuses in greater detail on each individual strategy to define the state’s role, specific design issues and parameters, and the benefits to/expectations of potential participants.

Section 3. *Cross-Cutting Issue Discussion:* This section discusses several of the key issues within the context of each strategy. The discussion is focused on distinguishing the how the issues apply to public recognition, baseline protection registry, and emission reduction registry strategies.

Section 4. *Overview of current state registry programs and federal bills*

Though the paper tackles a number of issues, it became apparent to the Project Participants that the one strategy that could use additional, focused scrutiny is an emission reduction registry. This discussion will focus on the development of criteria for evaluating emission reductions projects and will thus be useful for the voluntary registry discussion as well as the regulatory discussion. The Project will also use case studies to evaluate criteria emerging from this paper for those states interested in adopting offsets as a component in their regulatory programs or their emission reduction registries. Thus, though this section is intended as an introduction to the issues, as they arose within the broader concept of the register discussion and is not intended as a thorough exhaustion of the topic.

Table 1. Summary of Issues Discussion

Strategy	<u>State Inventories</u>	<u>Corporate Inventory and Risk Management Assistance</u>	<u>Public Recognition</u>	<u>Baseline Protection Registry</u>	<u>Emission Reduction Registry</u>
<p><u>Purpose</u></p> <p>These tracks can be developed simultaneously under one program</p>	<p>States may be interested in developing “bottom-up” emissions inventories from emitting facilities in their states.</p>	<p>States have been interested in developing programs that encourage and assist development and reporting of emissions inventories, risk management strategies, and emissions reductions.</p>	<p>Many entities are interested in receiving public recognition for actions on climate change. Though programs already exist, states may add value by adopting their own programs.</p>	<p>By allowing entities to quantify and record an emissions baseline, baseline protection registries seek to ensure that participants will not be penalized under future regulations for making emission reductions now.</p>	<p>Emission reduction registries record actions taken to reduce emissions that are then quantifiable and fungible.</p>
Primary Issues					
Mandatory or Voluntary?	Mandatory	Voluntary	Voluntary	Voluntary	Voluntary
<p><u>Is the State Making a Specific Commitment to Voluntary Participants?</u></p>	Not Applicable	<p>Under a voluntary program, the state would commit to guide and assist participants. The level depends on a states priorities and resources.</p>	<p>The state commits to publicly recognize a participant’s actions. How it will publicize the actions depends on a state’s resources.</p>	<p>If a state regulation is adopted where baseline protection is applicable, the state should guarantee, to the best of its ability, that the protected baseline will be used.</p> <p>States can only promote (i.e. cannot guarantee) the use of registered baselines under a federal program.</p>	<p>Under a state program, states could guarantee, to the best of its ability, to recognize emission reductions in some way. There is no consensus on how specific a state’s commitment should be.</p> <p>States can only promote (i.e. cannot guarantee) the use of registered reductions under a federal program.</p>
<p><u>Is Reporting at the Corporate, Facility, or Project Level?</u></p>	Facility level	<p>Entity reporting scope should be at the discretion of the participant.</p>	<p>Public recognition programs should require corporate level reporting, if the program seeks to recognize the entire corporation. Facility and project-level reporting could be included within the corporate level reporting.</p> <p>Some participants felt that facility and project level reporting would be appropriate if the scope of recognition was similarly limited.</p>	<p>Reporting should be at the facility level</p> <p>Some participants feel that states should require a corporation (or similar entity) to report for each of its facilities in the state. Other participants felt that this was not necessary, as long as there were other measures to prevent leakage (see below)</p>	<p>Some participants feel that it is necessary to report at the facility level for all the facilities within a state.</p> <p>Others felt that emission reductions were inherently project-based and thus required only project level reporting that properly addressed leakage and other concerns.</p>

Strategy	<u>State Inventories</u>	<u>Corporate Inventory and Risk Management Assistance</u>	<u>Public Recognition</u>	<u>Baseline Protection Registry</u>	<u>Emission Reduction Registry</u>
<u>How should leakage be addressed?</u>	Not applicable	Not applicable	Participants must justify, both quantitatively and qualitatively any emission reductions claim. Only direct actions should be eligible, which excludes production shifts, economic downturns, and plant shutdowns.	Not directly applicable. However, in order to justify the use of the baseline in the future, states may wish to require similar criteria to those used for emission reductions.	Participants must justify, both quantitatively and qualitatively any emission reductions claim. Only direct actions should be eligible, which excludes production shifts, economic downturns, and plant shutdowns.
<u>Should there be an Additionality Requirement?</u>	Not applicable	No	<p>Claimed reductions should be beyond what is required by regulation or the result of regulation (regulatory additionality).</p> <p>Some participants feel that only actions that go beyond some measure of standard industry practice should be included.</p>	<p>Not directly applicable. However, in order to justify the use of the baseline in the future, states may wish to require similar criteria to those used for emission reductions.</p>	<p>Claimed reductions should be beyond what is required by regulation or the result of regulation (regulatory additionality).</p> <p>Some participants feel that only actions that go beyond some measure of standard industry practice should be included.</p>
<u>Who Can Report?</u>	Direct emission sources only	Any entity that meets the requirements		Direct emission sources only	Any entity that meets the requirements
<u>Emissions, Emission Reductions, and/or Offsets?</u>	Emissions only	All three	All three	Emissions only	Emission reductions and offsets. Sequestration should be included, but warrants separate discussion.
Issues of Reporting Scope					
<u>Which GHGs are Required for Reporting?</u>	CO ₂ at a minimum	Participants should be allowed to report emissions for all six gases. States could develop guidance for participants to ensure that all emitted gases are covered.			
<u>What are the Geographic Boundaries for Reporting?</u>	Facilities within the state	Geographic reporting boundaries should be at the discretion of the participant.	Participants should account for emissions within the state and allow reporting of national and international emissions.	Facilities within the state	Some participants felt that only national emission reductions should be reportable. Others felt that international reductions should be eligible as well.

Strategy	<u>State Inventories</u>	<u>Corporate Inventory and Risk Management Assistance</u>	<u>Public Recognition</u>	<u>Baseline Protection Registry</u>	<u>Emission Reduction Registry</u>
<u>What Scopes of Emissions are Required: Direct and/or Indirect?</u>	Direct emissions only	Direct facility emissions should be the primary focus. Reporting indirect emissions should be left to the discretion of the participant.	Direct emissions should be required and indirect emissions should be optional. Some participants felt that energy intensive industries with significant indirect emissions from electricity and steam use should be required to report these emissions.	Direct emissions only	States should allow the registration of both direct and indirect emissions as a way to encourage both supply and demand side reductions. However, these should be recorded separately and states will need to deal with the resultant ownership issues (addressed below).
<u>What is the Reporting Metric: Mass Emissions or Output Ratio?</u>	Mass emissions only	Participants should have the option report mass emissions or use a state approved metric, such as CO ₂ tons/MWh, to show improvements in efficiency.	Participants should have the option report mass emissions or use a state approved metric, such as CO ₂ tons/MWh, to show improvements in efficiency.	Mass emissions only	Many participants felt that only mass emissions could be used as the basis for reporting emission reductions. Some participants felt that output ratios and other forms of “business as usual” baselines should be explored as options for determining emission reductions.
<u>Which Years’ Emissions Must an Entity Report?</u>	A specific year will need to be selected.	The choice of years should be left to the participant.	Any year for which an entity has complete information should be allowed.	The choice of years should be left to the participant.	Any year for which an entity has complete information should be allowed.
Specific Issues on Assuring Data Quality					
<u>What Measurement Methods are Used?</u>	States should use existing measurement protocols, such as the WRI/WBSCD GHG Protocol. Where existing protocols or missing or not applicable, states could develop their own.				
<u>How Does the Registry Handle Ownership Issues?</u>	No ownership issues	For developing accurate inventories and strategies, participants should be advised to pro-rate their emissions share of joint projects and assets based on their financial ownership stake.	Though this is less of a concern for recognition programs, emissions and emissions reductions from jointly owned assets should be pro-rated based on financial ownership.	No ownership issues	Any registered reductions should clearly identify the all possible owners of the reductions. If states allow the registration of indirect emission reductions, these should be registered separately from direct reductions to avoid possible double counting issues.

Strategy	<u>State Inventories</u>	<u>Corporate Inventory and Risk Management Assistance</u>	<u>Public Recognition</u>	<u>Baseline Protection Registry</u>	<u>Emission Reduction Registry</u>
<u>What Are the Requirements for Verification?</u>	State should verify inventories in the same way they verify similar emissions reporting requirements	Not applicable.	Either the state or a third party should certify (check that proper methodologies were used and all calculations were made correctly) participants' emissions reports	Either the state or a third party should certify (check that proper methodologies were used and all calculations were made correctly) participants' emissions reports	Participants will need to demonstrate (verify) all emission reduction claims according to state developed rules. This could include stack tests and other direct measurement procedures.

Section 1: Overview: Background Narrative of the Registry Discussion

Why should states be interested in emissions information if they are not regulating GHGs? States' are generally interested in encouraging actions that address climate change in general and GHG emissions in particular. Through a mix of education and incentives, states are looking to leverage emissions information to motivate entities to account for and reduce their emissions. The concept for these programs initially emerged from a national debate that considered, but ultimately rejected, a national policy for creating "early action credit"—credits that could be used in the advent of a GHG regulation that used emissions trading. Such a policy would guarantee that those entities acting now would be compensated under a future regulation. In the absence of a federal policy, many observers saw the value of providing such benefits at the state or regional level. Consequently, some states began to consider policies—emissions registries—that would provide these benefits.

As states and others (including Demo Project Members) deliberated these policies, a number of initial issues and changes in the policy landscape emerged to shape the discussion. As a result, the initial registry discussion became more complex, broad, and often difficult to explicitly define. In order to understand the registry discussion, it became necessary to break the concept into separate "strategies" that were identified throughout the course of the discussion. These strategies are not mutually exclusive—states could and likely will integrate several of them into a program. At the same time, they are different enough that individual discussion is warranted because the rules for effectively designing one strategy may not apply as well to another. A "one rule fits all" approach will likely run into design problems, so understanding the differences will be critical to designing a program that effectively uses multiple strategies.

From the perspective of the multi-stakeholder Demo Project, looking at each strategy individually also helped to focus the discussion. The original goal of the paper was to come up with a multi-stakeholder consensus for a particular registry design. However, from the discussions it became clear that *no strategy has consensus support*. Rather than continue to search for consensus, the project limited itself to considering a different question: if a state decides to pursue a specific strategy, what are the key issues, what are the debates surrounding those issues and where is there consensus within the Demo Project on these issues. Thus, the purpose of the following discussion is not to advocate the adoption of registries or a specific strategy. Rather, it provides background and guidance on particular issues. As such, it is important to note that, while Demo Project Members may reach consensus on a particular issue within a particular strategy, this does not translate into support for the adoption of registries in general or a particular strategy.

Early Action Credit and Registries

The first issue that influenced the discussion was the shift from the federal to the state level. This limited the early credit premise of a registry. States cannot promise that reductions in their registry will be recognized in a federal program. They can only offer to promote these reductions for credit under federal regulation—a less certain benefit. They can, however, promise to recognize the reductions should the state itself regulate GHG emissions. However, states may be reluctant to make such promises. Moreover, many stakeholders oppose such programs as potential giveaways to companies that register reductions that they would have

made anyway. States would need to address the issue of additionality, as well as a host of other criteria and quantification issues (outlined over the next two sections), before such a policy would be broadly supported.

Baseline Protection

Alternatively, states could possibly skirt the issue of emissions reductions and additionality in the short run by focusing the registry on emissions baselines. Many stakeholders have been concerned that entities reducing emissions now will receive a smaller emissions allowance under a future cap and trade scheme that bases allowances on an entity's current emissions level without taking past activities into account. Thus, by acting early, companies receive fewer emissions credits. Recording baselines now gives entities, with the help of the state, the ability to effectively argue for a higher baseline under a future regulation—if they have reduced their emissions below this baseline. Because it only registers an emissions baseline, such a policy would not have to address additionality until a regulation is actually adopted and entities defend their baselines. As a result, some states have been considering such baseline protection options.

Learning From 1605(b)

As a second major issue, states and stakeholders recognized that the federal Voluntary Reporting of Greenhouse Gases Program (known widely as 1605(b)) was an inadequate template for addressing registry issues. 1605(b) was created to simply provide technical assistance and document and promote various voluntary actions. As such, it lacked the rules necessary to adequately document and record either emission baselines or emission reductions for future recognition under a regulation. Among the criticisms of the program was the absence of rules that would:

- create consistent and accurate baselines for quantifying reductions;
- prevent leakage;
- resolve multiple ownership claims and double-counting;
- address additionality concerns; and
- adequately verify reductions.

Besides being a poor mechanism for determining emission reductions, 1605(b) also proved inadequate as a reporting mechanism for corporate public recognition programs. As the public reporting mechanism, 1605(b) was directly linked to national voluntary commitment programs to reduce emissions. In addition to the loose rules for reporting emission reductions, 1605(b) also lacked rules to fully define corporate reporting. The combination could result in a skewed picture of a corporation's activities, as companies with increasing emissions could still publicly report impressive emission reductions into the program and thus garner recognition that could be construed as meeting an overall reduction target. When the voluntary programs failed to meet their goals, 1605(b) was considered a part of this failure because it did not properly account for the entities seeking recognition.

Corporate-Wide Reporting: Benefits and Limits

As states and stakeholders tackled the task of improving 1605(b) through a state registry program, the shortcomings of the program as a mechanism for reporting baselines, emission reductions, or properly accounting for corporate commitments became closely intertwined. This

was partially because 1605(b) was not created to handle any of these problems, so if a state was looking to “fix” 1605(b), they would need to address each of them. Additionally, stronger rules for reporting corporate emissions would not only form the basis for a credible voluntary commitment and recognition program, they would also address leakage, one of the primary emission reduction registry issues. Finally, such rules would insure that only corporations with declining emissions would be able to register reductions for eventual credit. Thus companies with increasing emissions in aggregate would be prevented from registering reductions from facilities or projects that were reducing emissions.

This combination precipitated a shift towards programs that focused on corporate-wide accounting of emissions. This corporate focus allows states to significantly broaden the scope of the program beyond recording baselines and emission reductions, benefits largely focused on companies anticipating a regulatory burden, to general outreach and actions at the corporate or equivalent level. By including both the direct and indirect emissions and activities of a broad entity, states could encourage companies, organizations, and governments to broadly address climate change, GHG emissions and risk management, energy efficiency, and pollution prevention. By focusing on the corporate entity (or equivalent) the programs were also well positioned as general public recognition programs, which is not only a positive benefit to participants, but also creates opportunities for states to showcase actions within the state. The corporate emissions focus also allowed states to effectively use and promote a standardized protocol developed by WRI/WBCSD for determining direct and indirect corporate emissions, which aided states concerned about developing their own protocols and reporting tools.

As these programs were discussed within the Demo Project and other forums, the focus on a corporate entity also raised several concerns. First, many corporations are interstate or international. This raised issues about whether states could require reporting for emissions outside of the state. If states cannot compel corporations to report outside of the state, problems with leakage will remain. Second, many corporations are complex structures that change often and quickly. This makes it difficult to define corporate boundaries and creates reporting difficulties when corporations and assets are bought and sold. Though these problems can potentially be remedied, they underscore the fact that corporate entities can be cumbersome to deal with when higher levels of detail are required. Further, states are accustomed to dealing with and relatively knowledgeable about facilities within the state, not necessarily the corporations that own them. Thus, some stakeholders have suggested that a program with a facility focus might have a better fit.

Third, though necessary and adequate for a corporate public recognition program, corporate reporting may not be adequate for baseline protection. Baseline protection is focused on a specific regulatory design: a cap and trade regulation. Though allocations in a cap and trade could be given to corporations, the standard practice and likely design in the future would base allocations on specific facilities. Thus, the state would need to require corporations to report emissions from every individual facility or emissions source to effectively provide baseline protection. Similarly, corporate accounting would be too broad to effectively evaluate emission reductions for a registry. This is particularly the case if corporations are only reporting their total emissions from year to year. Such accounting could show emissions decreases, but without supporting details. This could result in reporting emissions reductions not only for what the

corporation would have done anyway, but for economic downturns, loss of market share, plant shut-downs and other activities that are unrelated to an explicit effort to reduce GHG emissions. To remedy this, states would have to require corporations to explicitly justify their reductions by reporting what actions and projects they have undertaken to reduce these emissions.

These problems with using corporate-wide reporting as the basis for all strategies are reminiscent of those seen in 1605(b), where one program was stretched, unsuccessfully, to accommodate several others. From this, several Demo Project Participants have observed that “one size fits all” solutions, such as corporate level reporting, are to effectively reach their goals.

Finally, states may not be interested in such broad programs, which are not only difficult to design, but resource intensive. Instead, they may only be interested in the original registry ideas: registering baselines and emission reductions from sources within the state. In fact, many stakeholders and states new to the registry discussion are often surprised to see how complicated the registry discussion has become and have expressed an interest in designing simpler programs that are focused on demonstrating the credibility of specific actions.

State and Regional Action Plans, Federal Legislation, and Power Plant Regulations

The final influences have been changes in the policy landscape. The last two years have seen the widespread adoption or consideration of state and regional action plans that call for developing both accurate inventories and some form of emissions registry. The focus on accurate inventories has prompted states to consider mandatory reporting of GHGs from significant sources. In effect, that would mandate at least the data elements of a baseline protection strategy. This move towards mandatory reporting is also reflected bills at the national level, where the Senate is considering both mandatory reporting of emissions and voluntary reporting of emission reductions.

Two states have gone beyond this to require controls on power plants within the state. Under these rules, the regulated facilities are allowed to offset their emissions by purchasing emission reductions outside of the regulated facilities. This has rekindled the interest in registries that focus on emission reduction projects.

The Five Strategies

From the discussion among Demo Project Members outlined above, five distinct but related strategies emerged. First, states could require mandatory reporting of emissions inventories. This would give both states, the public, and the reporting facilities a better understanding of the scope of GHG emissions and options for reducing these emissions. Such understanding is the first step towards

Goals and Strategies

Primary Goal: Encourage emissions reductions.

Strategies:

1. Require mandatory reporting of emissions inventories.
2. Encourage the development of GHG emissions inventories and management plans through voluntary assistance programs.
3. Develop a public recognition program.
4. Create a baseline protection registry to protect the emissions baselines of early actors
5. Establish an emissions reduction registry focused on recording and gaining regulatory recognition for participants.

action, for both states and entities interested in managing their GHG risk.

Second, states may want to adopt programs that will encourage companies and other entities to voluntarily calculate and report their emissions and any activity the company may have taken to reduce these emissions. For example, states may want to encourage companies to use the WRI/WBCSD GHG Protocol for developing corporate inventories. Again, such inventories are the starting point for further action and states can leverage these resources to encourage the next step: GHG risk management and emission reductions.

A number of programs already serve this function. Moreover, the benefits of assistance may not be substantial enough to spur a critical mass of action. States, therefore, may want to offer additional incentives that are directly targeted at encouraging emission reductions. One way to do this, the third strategy, is through a public recognition program, which would provide entities with the direct benefit of positive public relations on a highly visible environmental issue. In return, an entity would commit to and implement a plan to reduce its emissions.

Finally, states can offer registries that record baselines for baseline protection (the fourth strategy) and/or emission reductions (the fifth) for future credit. These would help entities position themselves for future regulation by specifically focusing on recording information that the entities may be able to use for future compliance.

Before proceeding to the more detailed discussion on specific strategies, three general issues frequently arose within the Demo Project discussions that warrant brief discussion: balancing participation with credibility, developing a lexicon that would keep these different ideas distinct within the discussion, and the importance of state coordination.

The Importance of Credibility over Participation in Attaining the State's Goal

Outside of mandatory reporting and regulation, each of these strategies rely on voluntary participation. Thus, in order to be successful, they must offer a benefit to entities in return for their cooperation. This benefit will have to outweigh the costs of participation. What makes this balancing act difficult is that the benefits of the last three strategies, public recognition, baseline protection, and registration of emission reductions, rely on supplying credible data. Meeting this hurdle will come at a cost to participants, who must supply the data, and the state, which must develop the protocols and insure credibility by carefully monitoring the program. Consequently, there is a seemingly inherent dilemma for a state that wants to use information to promote early actions: how can it create programs that encourage participation while simultaneously maintaining a high level of credibility?

How to properly balance participation versus credibility depends on the strategy. For the three incentive strategies (public recognition, baseline protection, and emission reduction registries), credibility is absolutely critical to delivering the benefit. Thus, states should create rules that insure credibility first. If states are concerned that

Participation vs. Credibility

Providing any level of recognition will require high reporting standards to back any claims. Thus, states need to create rules that insure credibility first if they are pursuing the public recognition, baseline protection, or emission reduction registry strategies.

this will limit participation, they can always use the voluntary assistance strategy, which provides benefits without the requiring the state officially recognize any actions, in addition to the other strategies.

Redefining the Language: Inventory and GHG Management Programs, Voluntary Commitment and Public Recognition Programs, and Registries

Over the past few years, programs have been adopted or proposed that pursue each of these strategies. However, treating each strategy under the same name “registries” often creates misunderstandings, since many observers, particularly entities with experience in emissions trading, assume that registries apply to registering emissions reductions and offsets for future use. To help avoid this confusion, Demo Project participants suggest making clearer distinctions. *Mandatory Inventory Strategies* refer to strategies that require facilities to report emissions to the state. *Corporate Inventory and GHG Risk Management Assistance* will refer to strategies that focus on creating inventories and helping companies manage their emissions; *Voluntary Commitment and Public Recognition Programs* will apply to strategies that primarily use public recognition as an incentive; and *Baseline Protection Registries* will apply to strategies that record and seek recognition of the baselines of participants. Finally, *Emission Reduction Registries* refer to programs that record and seek regulatory recognition for emission reductions.

As the following discussion will show, there is significant overlap among these strategies and most programs will likely pursue more than one of these strategies. For programs that contain more than one of these elements, the Demo Project Participants recommend that all programs be called *State GHG Emissions Information Programs* (referred to as “state data programs” in this paper).

The Importance of State Coordination

Though there is no clear consensus on a single registry model, the Demo Project participants do agree that even though states might choose different strategies, they should still strive to adopt the same reporting rules if they adopt the same strategy. This is particularly important for the registry strategy, which will be significantly damaged if several states develop incompatible rules. Though the registry would still be viable at the state level, its use at the national level would be compromised and states would be passing up an opportunity

Language

Calling all of these strategies “registries” is confusing. To alleviate this, distinct strategies within these should be called:

1. *Mandatory Inventory Strategies*
2. *Corporate Inventory and GHG Risk Assistance*
3. *Voluntary Commitment and Public Recognition Strategies*
4. *Baseline Protection Registries*
5. *Emission Reduction Registries*

Programs with multiple strategies should be called **State GHG Emissions Information Programs**.

Coordination is Critical to Success

If states adopt similar strategies, they should adopt compatible reporting requirements, particularly for registries, since incompatibility among the states compromises the goal. Such coordination also creates efficiencies for states and participants, saving both time and money.

to create a strong precedent. Furthermore, cooperation and sharing ideas and information is far more efficient than each state developing its own program from scratch. Thus, coordination will also save a state money and, more importantly, staff time.² Thus, states should be actively aware of what other states are doing and attempt to coordinate their reporting requirements to the extent practicable.

² For example, one state data program may include an inventory assistance program, a public recognition program, and a registry for baseline protection and offsets. Another state may simply develop a registry for offsets. Though the programs are different in many ways, they do share the common element of needing to set rules for the offsets. If states set different rules, then it becomes more difficult for future regulators to sort through the offset projects to determine which should be recognized. Coordination and uniform rules would not only solve this problem, it would help to generate momentum and set a clear precedent for using these criteria.

Section 2. Strategy Discussion: Definition and Major Issues

As states will likely choose multiple strategies, program designers will need to ensure that these strategies and their benefits are clearly identified and that adequate rules and systems are created to develop and manage the information necessary to meet each. As each strategy ultimately requires different levels of reporting, states pursuing a hybrid approach may likely need to develop multiple protocols and keep the information separate. This section focuses in greater detail on each individual strategy to define the state's role, specific design issues and parameters, and the benefits to/expectations of potential participants.

Mandatory Inventory Strategies

States may want to use bottom-up inventories provided directly by entities as a way to improve their understanding of emissions within the state. Supplying emissions data could also encourage companies to reduce emissions, either because of public pressure or because of the potential regulatory risk. Accurate and detailed emissions information at the source level could serve a number of purposes, such as:

- Calculating bottom-up inventories of emissions that would validate and improve existing national, state, and/or local inventories;
- Providing climate change policymakers with source and sector specific emissions information,
- Helping governments and other entities track and demonstrate progress towards sector specific and aggregate emission reduction goals;
- Providing the public with specific information on facilities direct impact on climate change (similar to the Toxic Release Inventory compiled by the US EPA); and
- Provide the basis and regulation.

Unless every major emitter submits an inventory, the state's accounting will be incomplete. Thus, the only effective way for states to obtain this information would be through mandatory reporting. The disadvantages of mandatory reporting are 1) requiring emissions information imposes costs and 2) it could be seen as the first step towards regulation.

At this time, at least one state, Wisconsin, requires some GHG reporting and New Jersey has proposed reporting requirements for CO₂ and methane.³ Other states have shown interest in improving their inventories and the New England states have committed to creating a comprehensive region-wide inventory in which mandatory reporting could be useful. Further, three of the bills currently before the U.S. Senate have mandatory inventory requirements as well as voluntary options for reporting emission reductions. Essentially, these bills require

Mandatory Reporting Issues

1. Should states require mandatory reporting of inventories?
2. If yes, what should be mandatory?
 - Direct and/or indirect emissions
 - Facility or corporate level
3. What is the emissions threshold for reporting?
4. What are the penalties for non-compliance?

³ Some of this information can also be found from the reporting requirements to the Energy Information Administration (DOE) and in the Acid Rain trading program, which reports CO₂ emissions from the participating facilities.

reporting of emissions inventories for significant emitters, while leaving the registration of emissions reductions and offsite projects to up to entities. This illustrates an important point: some elements of state data program could be mandatory and others voluntary. States will need to decide if and whether to draw a distinction based on the benefits of the information versus the costs of imposing specific requirements.

If a state does choose mandatory reporting, it would need to decide what emissions, direct and/or indirect, it was interested in collecting and the scope for collecting those emissions. As the primary goal of the state is developing accurate inventories, states should only require direct emissions, since reporting indirect emissions would be redundant. However, if states are also interested in using a mandatory program to supply public information, similar to the TRI program, then some indirect emissions, such as electricity and steam use, could also be included.

States should require reporting on a facility basis, which could then be aggregated to the corporate level, if necessary. Further, states would also need to establish an emissions threshold for what triggers the mandatory reporting that covered enough sources to account for the majority of emissions without creating an unnecessary burden on smaller emitters and develop penalties for non-compliance.

Consensus on Key Issues: There is no consensus within the Demo Project on whether or not states should mandate inventories. Many participants felt this would be a useful first step that falls short of regulation. Other participants felt that it could imposed an unnecessary burden to both facilities and state agencies.

If states do require mandatory reporting, the Demo Project participants suggest that they only require direct emissions at the facility level. There is no consensus on a threshold or penalties for non-compliance.

Assistance Programs: Corporate Inventories and GHG Risk Management

Inventories—annual emissions data—are useful tools for entities that are interested in fully understanding their GHG emissions and trends. Inventories are also a necessary starting point for evaluating GHG risk. As such, some states have been interested in developing programs that encourage entities to develop and report emissions inventories, develop risk management strategies, and then make emissions reductions.

Many entities are realizing the value of managing their GHGs as a possible regulatory risk. This requires, at a minimum, a comprehensive inventory of an entity's emissions. This could also include specific actions, such as emissions reductions, taken to minimize the risk. Many entities have yet to engage in these actions. For some, it is possible that understanding the magnitude of their emissions and the opportunities for cost-effective reductions will induce them to act voluntarily to reduce emissions. However, they need programs to assist them. States that are not interested in a mandatory program, but are interested in collecting emissions and emissions reduction information as a way to promote action, can create assistance programs that define what information an entity should gather and assist entities determine the most cost effective

ways to reduce emissions. In return for the assistance, states could request that entities report their inventories and any emission reductions, using specific protocols established by the state.

Some assistance and guidance programs already exist. States can leverage and add value to these existing programs by:

Current Assistance/Guidance Programs

1. Energy Information Agency: 1605(b) program
2. WRI: GHG Protocol
3. EPA Climate Leaders

- **Clearly defining information parameters.**

As will be discussed below, there is a lot of data that an entity could potentially collect and report. By defining what should be reported and giving clear justifications for these guidelines, states would help entities eliminate some of the uncertainty they face in inventorying and managing emissions.

- **Coordinating activity between programs.** Programs already exist. What is missing is explicit coordination or a group that can help entities find the best fit. A state data program could do this by becoming familiar with the programs and matching interested entities with the right organization. At a minimum, states could provide a comprehensive listing that would give interested entities a place to start.

- **Filling in gaps.** This could include sector specific guidance that is missing in the other programs, a comprehensive referral service for entities that specialize in one or more aspects of corporate inventories and cost-effective reduction measures.

Specific Voluntary Assistance Issues

1. Is reporting mandatory in return for assistance?
2. How much guidance and assistance should the state provide?

The need for specific requirements under a state program depends largely on whether the state's desire for quality information supercedes its desire to assist entities. If this is the case, states will want to set some specific requirements, such as reporting direct emissions, to ensure that it both receives the data it seeks and that the data

is uniform and comparable. However, because this is a voluntary program, states will need to make sure that the benefits of participating are the costs of not only reporting specific information, but reporting any informational at all—many entities may want keep the information private. Thus, unless it provides unique benefits that an entity cannot find on its own, the program will likely fail. On the other hand, if the goal is simply to assist entities, states should provide strong guidance as to what an entity should include in its inventory or pursue as a strategy, but leave ultimate choices up to the participant.

Consensus on Key Issues: There was no consensus on whether states should develop separate assistance programs, as these already exist. If states are only interested in assisting companies and other develop inventories, GHG risk reduction strategies, or act to reduce their emissions, Members suggest strong guidance from states on each of these issues but the ultimate choices should be left to the entity. This includes whether or not to report emissions or reductions.

The Demo Project Members agreed that states should include an assistance strategy as part of a public recognition or registry strategy. Members suggest that states make it clear to participants

that in order to receive public recognition or participate in a registry, participants will need to follow a strict set of protocols. In terms of guidance and assistance, states should leverage existing sources. To the extent they need to add value to these services, states will need to determine costs in terms of budgets and staff time.

Voluntary Commitment and Public Recognition Strategies: Immediate, Tangible Benefits for Voluntary Actions

Existing Recognition Programs

- Climate Neutral/Climate Cool
- EPA Climate Leaders
- Environmental Defense
- World Wildlife Fund
- Pew Center on Climate Change
- Clean Air-Cool Planet

In the absence of regulation, some entities face mounting public pressure to voluntarily reduce their impact on climate change. As a result, many entities are interested in not only understanding and quantifying their emissions, but taking active measures to reduce them and receive public recognition for these actions. Though programs already exist, states may add value by adopting their own formal recognition programs, based on specific criteria, that would encourage participation from entities interested in the state legitimizing their claims. However, the fact that so many of these programs already exist at several different

levels, some Demo Project Members question the value of adding yet another to the mix.

The benefits and expectations of public recognition are straightforward: states induce voluntary reductions and participants receive a public relations benefit. This benefit could be as simple as awards, listings on a state website, and using entities that have particularly strong submissions as case studies for public outreach. States could also launch a more intensive effort, such as press conferences, op-ed articles, and advertisements in trade publications or newspapers. The more the state offers, the greater the benefits and the more it can ask from participants, in terms of both reporting requirements and reduction commitments. At the same time, greater benefits will likely incur greater direct costs to the state, which the state will need to balance against the public value of encouraging voluntary reductions.

In terms of reporting requirements, designers will want to insure that the entity seeking recognition is clearly defined and its emissions properly quantified. For corporations, this will require corporate-wide reporting, which could use existing protocols, such as those developed by WRI/WBCSD. States could also limit recognition to specific facilities, which could also use the same protocols to establish emissions, as long as the scope of the recognition were explicitly limited to the participating facility. States will also want to

Major Issues for a Public Recognition Program

1. What resources can the state expend on the program?
2. What are the specific forms of recognition?
3. Reporting will likely need to be on the corporate level, since the corporation is receiving the recognition.
4. Claims need to be credible, i.e. quantifiable, verifiable, and surplus.
5. What must a participant commit to in order to participate?

ensure that any claimed reductions are real, surplus, quantifiable, and verifiable, since the state's reputation will be on the line. The state can do this by applying the same corporate reporting protocols each year to show reductions. They could also go beyond this by requiring participants to qualitatively or quantitatively demonstrate what measures were taken to reduce emissions in order to give the actions greater context and ensure that the state is recognizing legitimate emission reduction activity. The specific issues for demonstrating these reductions will be discussed in greater detail in the next section.

Finally, states need to decide what participants must commit to in order to participate. For example, an entity could commit to reducing its emissions, direct and indirect, to 1990 levels. Or it could commit to offsetting 50 percent of its emissions. States will need to decide if every participant must meet the same commitment, or if the commitment level will be decided on an individual basis.

Consensus on Key Issues: There was no consensus on whether states should create their own public recognition programs. Some Members questioned the value of another program in a crowded field that would require substantial resources from the state if it were to be successful. Others felt that the state could reach a different audience and provide distinct benefits.

If states choose to include a public recognition program, they should require corporate-wide accounting, unless the program is specifically geared towards and limited to facilities and/or projects. For reporting emissions, states should use the WRI/WBCSD protocols, which could also be used to track emission reductions over time. In order to publicly recognize reductions, states should require more detailed reporting to explain what actions were taken to reduce emissions.

Baseline Protection and Emission Reduction Registries: Providing Future Regulatory Recognition for Current Actions

This idea to provide regulatory recognition started with the efforts of the 106th Congress, particularly S. 547 (the “Chafee bill”), to provide entities that could demonstrate early reductions with a guarantee for future emissions credits. Providing these direct incentives would have helped promote early reductions of GHGs in anticipation of the requirements of the Kyoto Protocol. They would have also addressed the concerns of some stakeholders that early actors would be hurt in future emissions trading schemes because action now meant a lower emissions baseline, and thus fewer emissions allowances, in the future (see Box 3 for an explanation). By guaranteeing emissions credits, early actors would be compensated up front for their actions.

When these initiatives failed to pass, states began to consider measures that they could take to promote voluntary reductions and help protect the interests of entities that were already acting. One avenue identified by states was to register information according to a specific set of rules, thus creating a uniform, public record of an entity's emissions and emissions reductions. These “registries” could then be leveraged for recognition under a future, emissions trading regulation.⁴

⁴ Emissions trading regulations are the only types of regulation that could accommodate the registry concept. For example, there would be no point in registering emissions in preparation for a tons/Btu regulation—either a facility meets it, or it doesn't. However, the allowances or credits in an emissions trading program easily accommodate the

Registries are therefore seen by many as a way to increase the likelihood that early actors will be compensated in some way for their pre-regulatory reductions: under baseline protection, they will receive a larger annual allowance; under emissions reductions, they will be compensated up front for demonstrated reductions. Either way, participants will hope to eventually receive additional emissions credits in an emissions trading program. This is a step beyond programs that assist entities design and implement management plans, because the state is moving from a passive role where it assists an entity take action, to a pro-active role, where the state is effectively proclaiming, “These actions deserve credit if GHGs are regulated.”

Without a definite regulatory context, these programs are difficult to devise. There is little clarity about whether GHGs will be controlled and, if they are, how they will be controlled. In the Northeast, this is quickly changing: both Massachusetts and New Hampshire are regulating CO₂ emissions from some of their power plants; New Jersey has taken an active steps (though not regulatory) to reduce emissions in the state; New York is developing a potentially aggressive action plan to address climate change; and the New England Governors and Eastern Canadian Premiers have signed an action plan calling for significant GHG reductions over the next twenty years. Nationally, multi-pollutant power plant regulations that would include CO₂ have been proposed in the current Congress and the Bush administration has proposed a number of voluntary measures, including the possibility of substantially improving the federal emission reduction registry. However, despite this flurry of activity, there is little regulatory certainty and no regulatory guidance. Thus, devising registries that will apply to future, undefined regulations will remain difficult.

Because of these and other concerns (as outlined below), many stakeholders participating in the Demo Project do not support registries for either baseline protection or as a means to record and eventually credit emission reductions.

Key Registry Issues

1. The aim of registries is future regulatory credit for actions taken today. Thus, registries are focused on emission reductions.
2. As the focus of registries is future regulation, the information reported should anticipate, as well as possible, what will be required in future regulations.
3. States must explicitly qualify their commitment to back the claims of participants in a registry. States can make specific guarantees under future state regulation, but not for federal regulations, under which states could only promote recognition.
4. The credibility of the registered reductions is critical if they are to be credited. Therefore, they must be quantifiable, verifiable, surplus, and eventually enforceable.
5. The state must choose what it will register:
 - Baselines for baseline protection
 - Emissions reductions from the participants facilities and projects
 - Offsets

notion of early preparation. This is why the state early action programs carry the name “registries,” which in the lexicon of emissions trading is the regulatory market where sellers can post emissions credits and buyers can use them for compliance. In this case, companies are registering in hopes of using them for future compliance.

What is the State's Level of Commitment?

One critical feature of state registries distinguishes them from what an entity could do on its own: the state can back the claims of participants in a way that increases the likelihood of receiving emissions credits, particularly if the state ultimately regulates emissions. A state must therefore explicitly declare its level of commitment. In the context of a future state regulation, the state can increase certainty by promising to consider registered baselines and reductions. More powerfully, the state can provide greater certainty under state regulation by committing to recognize registered baselines and explicitly state how registered emission reductions would be credited—i.e. how many emissions credits would be given in the advent of regulation.

If a state chooses the weaker commitment, observers will likely wonder why the state is unwilling to back its own registry and this will cast doubt on the veracity of the program. Making explicit promises would back the state's credibility. Thus, many Demo Project Participants feel that if states are going to create registries, they should create programs that they have confidence in and back this assertion by promising state credit.

Other participants feel that it is much too soon to make specific promises, particularly for emissions credits. Doing so could tie a state's hands when considering future regulations. There is also a concern that promises made now could simply be overturned by future administrations. Thus they cannot be characterized as promises, but only current intentions.

A state cannot make any guarantees under a federal program. Thus, if regulation is ultimately federal in scope, states can only commit to *promoting* recognition of registered reductions. This is certainly a weaker benefit. It could be substantially strengthened if several states adopted the same program, creating a strong precedent and large group of interests aligned in favor of recognition.

Despite state commitments, state GHG registries will remain speculative, even at the state level. First, the states ability recognize or promote the actions of registrants will ultimately depend on the shape and specifics of the regulation. Regulation itself is only certain in Massachusetts and New Hampshire and even the specifics of these programs as they relate to emissions trading are undefined. Consequently, some aspects of a registry may be useless under any number of regulatory programs, even ones that include emissions trading. Second, as noted above, states cannot guarantee recognition in federal programs. No matter how accurate, credible, and relevant it may be, the registry may be completely ignored. Therefore, a state will also need to temper expectations.

Finally, and most importantly, the data itself must be credible. Thus, all claims in a registry must meet the criteria for creating emissions credits: they must be quantifiable, verifiable, surplus, and eventually enforceable. They must address a number of other specific reporting issues that seek to ensure credibility. These issues are covered in more detail in the next section.

Consensus on General Issues: There is no consensus on whether states should adopt voluntary registries. If states do adopt registries, Project Members suggest that states guarantee to recognize the emissions reductions in their own registries under future state regulations and promise to promote regulation under future federal programs. Members also suggest that states

clarify the fact that there are no absolute guarantees that registration will translate into emissions credits at some point, as this depends on the shape of future regulation, the government entity that regulates, and the position of future administrations on whether to recognize the registries.

What Will the State Register: Baselines and/or Emission Reductions?

The last specific issue is what will the state register? This focus on emissions trading leaves registries with two avenues for recognition: baseline protection and emission reductions. States will need to choose which of these to include and develop reporting protocols accordingly.

Baseline Protection Strategies

The concept of baseline protection is relatively straightforward: essentially a participant registers an emissions inventory for a particular year. This baseline could then be used by future policy makers to “protect” the entity’s allocation under a cap and trade program if it has lowered its emissions. The goal of baseline protection is to remove a disincentive to early action and thus promote fairness. To evaluate how a baseline protection policy reaches this goal, consider the following example:

There are three entities in a sector, A, B, and C with the following emissions profile:

	1995 Emissions	2001 Emissions
Entity A	100	80
Entity B	100	100
Entity C	100	140

Thus, some entities have reduced their emissions, some have remained constant, and some have increased their emissions. These entities are then regulated in 2002 through a cap and trade system. The goal of regulation is to reduce 1995 emissions by 50 percent. Through a top down inventory, it is estimated that emissions were 300—so the cap is set at 150 tons. If the state had bottom-up information, it could allocate each entity 50 tons and the compliance burdens would be 30, 50, and 90 tons respectively. However, because the state does not possess bottom-up data for 1995, it uses 2001 emissions as the basis for the allocation and the entities receive a pro-rated share of the cap. Thus, A receives an allocation of 38 tons, B gets 47, and C has 65. From an allocation perspective, A and B are “punished” and C is “rewarded,” a clearly perverse outcome at face value. However, the actual compliance burden mitigates this unfairness somewhat: the entities must reduce 42, 53, and 75 tons respectively. Thus, A and B retain advantages in terms of compliance, though this advantage is less than what it could have been.

Under a baseline protection program, in which Entity A participated after it made a 20 ton reduction in 1996, total 2001 emissions are adjusted for A’s new baseline and the pro-rated shares are 44, 44, and 62 respectively and the compliance burden is 36, 56, and 78, respectively. Thus, baseline protection does not achieve a fully equitable outcome, but does improve it.

The example in the above establishes the premise for baseline protection. It also exposes a number of shortcomings. First, baseline protection is very limited in its application. It only applies if 1) there is a cap and trade regulation; AND 2) allowances are based on historical emissions; AND 3) the year chosen to determine historical emissions post-dates actions taken by

an entity. As such, there are numerous regulatory scenarios, both command and control and emissions trading where baseline protection would be valueless. Nevertheless, this might be a justifiable hedge for entities willing to meet the protocols necessary for developing an accurate baseline. However, several stakeholders in the Demo Project cited these shortcomings as reasons to object to the institutionalization of baseline protection because baseline protection could be seen as reinforcing either emissions trading or using historical emissions allocation, both undesirable outcomes for different groups of interests. The limited application has caused others to dismiss baseline protection as a waste of time.

Second, baseline protection is limited by potential comparability problems. Baselines in a regulation will be created under specific rules that a baseline protection program may or may not accurately mirror. For example, if baseline protection is based on corporate-wide data that is not disaggregated to the facility level, but a cap and trade distributed allowances on a facility basis, it would not be applicable. Consequently, baseline protection policies must attempt to mirror the likely baseline scope of a cap and trade regulation that hasn't been defined.

Third, baseline protection over the long term is very similar to providing early action emissions credits, as both ultimately affect allowances/credits and an entity's compliance burden. In fact, baseline protection policies can potentially produce much greater rewards than emissions credits, since it gives an entity acting early additional allowances every year for the life of the regulation. From the example in the box above, under baseline protection Entity A is allocated an additional 6 tons per year. Alternatively, if the emissions reductions are credited, the entity would receive 120 tons up front and no more once the regulation began. Thus, if the regulation lasts for more than twenty years, baseline protection results in more emissions credits/allowances than an early emissions crediting scheme. Though this would meet the goal of giving incentives for early action, the example should make it clear that baseline protection does not skirt the emissions reduction and credit questions over the long term. Consequently, these programs should require considerable care in terms of carefully establishing the baseline and documenting reductions over time so that the reporting company can adequately demonstrate that their actions justify a larger allocation.

Finally, the example shows that baseline protection may ultimately be unfair. The policy works well if all three entities are identical. In reality, however, this will not be the case. It could be that A has several cost-effective options for baseline protection, while B does not. If this is the case, then is it fair that B should receive a lower allocation, which happens due to the zero-sum effect of the cap, because A protected its baseline? Alternatively, it could be the case that C has taken the same measures to reduce emissions, but it is a more efficient company in other ways and thus its output has grown substantially. Should C be disadvantaged for being a more successful company? States will need to address these issues before adopting a baseline protection policy.

Major Concerns for Baseline Protection

1. Applicability to a limited context lowers value as an incentive.
2. Comparability—will scope of the protected baseline directly relate to the scope of baselines used in an eventual cap and trade regulation?
3. Baseline protection does not avoid the emissions credit issue, it just delays it.
4. Baseline protection may actually be unfair.

Early Emissions Reductions

Registration of early reductions for use as future emissions credits provides another method for encouraging early action: if an entity can demonstrate emission reductions, they position themselves to potentially receive emissions credits in a future trading regulation. These could be for reductions the entity has made from its own sources or it could be from investments in emissions offset projects. As discussed in the Chafee example, this both promotes fairness and provides a direct incentive to act early. It also has the potential to provide a fungible commodity that would be the basis for providing a direct incentive. Such a registry would also be useful for the current power plant regulations in Massachusetts and New Hampshire, which allow for the purchase of offsets—emission reductions made outside the regulated facility. For these reasons, numerous stakeholders and states have been interested in developing such a registry.

The discussion below and in Section 3 highlights the fact that this is the most contentious and complex of the registry strategies. At the same time, it is the strategy that seems to generate the most interest—both positive and negative—from nearly every stakeholder. Though this paper touches on many of the major issues surrounding emission reductions, Demo Project Participants have suggested that the project focus on the issues surrounding emission reductions in greater detail in a separate paper. This discussion will focus on the development of criteria for evaluating emission reductions projects and will thus be useful for both the voluntary registry discussion and the regulatory discussion. The Project will also use case studies to evaluate criteria emerging from this paper for those states interested in adopting offsets as a component in their regulatory programs or their emission reduction registries. Thus, though this section is intended as an introduction to the issues, as they arose within the broader concept of the register discussion and is not intended as a thorough exhaustion of the topic.

Major Concerns with Emission Reduction Registries

The major concern about providing early emissions credits is that, unless the rules are credible, governments will be squandering credits and therefore incentives. What is needed, then, is a demonstration of credibility—that an entity has made a real, quantifiable, verifiable, surplus emission reductions.

A second concern is that early emissions credits could overwhelm a future regulation. If it takes ten years to adopt a regulation, and entities register a significant amount of emissions every year, then when the regulation is enacted, it will flood the market with extra allowances. For example, a cap could be set at 10 million tons, but if 5 million tons had built up in the registry, then it could take some time to exhaust those tons and actually meet the cap. Thus, early emissions credits would delay compliance with the cap.

Major Concerns for Recognizing Emission Reductions

1. Registries that lack credible reductions will squander incentives.
2. Registries that lack credible reductions will delay compliance
3. Recognizing emission reductions at the facility or project level risks rewarding companies whose overall emissions may be increasing

Alternatively, this can just be seen as spreading compliance over time. Since GHGs remain in the atmosphere for a number of years, there should be little difference if an entity reduces them to day or in five years, as long as the reduction is made. In fact, in terms of addressing climate change, the sooner the reductions, the better. This difference in perspective will depend, again, on the credibility of the emissions reductions. If they are not credible, then they will essentially delay compliance. If they are credible, then they will smooth compliance over time and emphasize early reductions.

Third, many stakeholders on the Demo Project feel that companies do not deserve credit, including the chance for future emission credits, unless the company can demonstrate that all of its emissions are declining. Partially, this is a concern about leakage, which is addressed in the next section. However, even if leakage can be addressed and emission reductions demonstrated on the project or facility level, many stakeholders oppose the possibility of rewarding companies with emission credits when the companies emissions have increased. Thus, unless corporate-wide reporting is included to give the reductions context, these strategies will fail to gain broad support.

Offsets: Buyers, Sellers, and the Impact on Registry Rules

Some stakeholders have suggested that offsets be treated as a separate issue from emission reductions. Offsets could be included in two different ways. First, buyers could register their offsets. Many entities have found that cost-effective reductions are difficult to find within their normal operations. To overcome these economic restraints, entities interested in reducing their GHG impact may offset their emissions by investing in emission reduction projects outside their operations. For many entities offsets are the primary strategy for carbon management. As such, many entities would like to see states help protect and these investments through a registry program. States are interested in encouraging these investments as a way to promote early reductions.

The second way is to allow sellers to register. Companies that have begun to invest or are looking to invest in creating offsets as a business venture. These companies are not interested in reducing their own emissions. Rather, they are interested in creating an emission reduction commodity for entities that are interested in offsetting their emissions. A state registry that explicitly creates and defines the rules for an offset market increases the likelihood that these investments will eventually have value. Thus, companies attempting to sell offsets would benefit from a state registry that accepts their projects. A registry that includes offset projects could, therefore, increase investment in these projects, which would result in emissions reductions.

The final offset issue is whether to include sequestration. Most Project Participants felt that sequestration projects should be included. However, they suggest that these issues be treated in a separate discussion.

There is little consensus on what is a how to determine credible emission reductions, particularly for offsets and other projects. International guidance exists for developing offset projects for the Kyoto Protocol (Joint Implementation and Clean Development Mechanism) and private domestic programs, like the Climate Neutral Network, have also established guidelines. In addition, WRI

has begun an international stakeholder effort to develop rules for developing and approving offset projects.

Consensus: Buyers and sellers should be able to register offset reductions, as long as they are registered separately. Some participants felt that only domestic projects should qualify. Others felt that international projects should qualify as well. Sequestration should be included, though it requires further scrutiny.

A Note on Emissions Trading:

There is a natural tendency to jump from passive registries to a more active emissions trading program in which information is not only registered, but traded. Because states and others have expressed an interest in such a program, it is important to address this possibility. However, as emissions trading (particularly in the voluntary context) brings up additional questions and concerns, it will be treated in a separate issue paper.

Section 3. Cross-cutting Issues: Inventory Scope, Data Quality Assurance, and Administration

No matter what the goals are, the heart of a state data program is the emissions information. Resolving issues on what information is necessary versus what should be purely optional depends on the goals. Specifically, each goal requires some type of emissions inventory, either as a starting point for management and action or as a baseline for demonstrating emissions reductions. Within a specific strategy, issues surrounding the proper scope of inventories within the context of a specific strategy form the core of the discussion. Other important issues include data quality assurance and administration.

Lessons from the past should guide these decisions. The possibility of crediting some of the poorer, more unreliable emissions reduction data housed in the federal 1605(b) program was one reason the Chafee bill was unsuccessful. Thus, addressing the additionality, leakage, and verification concerns of 1605(b) will be critical for gaining support for the program.

Section 2 provided a detailed discussion on the five strategies and highlighted some of the major issues. This section discusses a number of these and other issues in the comparative context of all five strategies. Because mandatory reporting issues are relatively simple and pure assistance programs will have few or no rules, most of this discussion will focus on how the issues should be treated within the context of public recognition, baseline protection, and emission reduction registry strategies.

Primary Issues

Is Reporting at the Corporate or Facility or Project Level? Tackling Leakage and Additionality

One of the primary criticisms of 1605(b) was that it allowed selective reporting. This meant that an entity could report parts of its operations that demonstrated emissions reductions, while leaving out operations that resulted in an emissions increase. Entities could also claim reductions from “leakage”—if a plant shut down or decreased production in Area A while another opened or increased production in Area B, the entity would be able to register the emissions reduction in A but not B, showing a paper reduction but not a real reduction. This undermined the credibility of the system, even for those entities that accounted for all their emissions.

The sensitivity of a program to these issues depends on the strategy. Demo Project Members suggest that states interested in requiring inventories require facility level emissions only. Entities trying to establish an inventory and manage their emissions through an assistance program should be encouraged to make a full corporate accounting of emissions, but the full choice should be left to the participant.

Leakage is a major concern in public recognition programs and the two registries, all of which rely on the credibility of claimed emission reductions. There are two solutions. Corporate-wide reporting will prevent leakage and ensure that an entity’s total emissions are accounted for, not just a portion. However, this does create additional issues for states, such as defining a corporation, dealing with corporate emissions outside of the state’s boundaries, and addressing corporate restructuring (acquisitions, divestitures, and joint investments). It is also a potentially enormous reporting burden for participants. Demo Project Members suggest that, despite these

difficulties, such a standard is necessary for any public recognition program that specifically recognizes the actions of a corporation. Weaker accounting would hurt credibility, unless the state explicitly stated that the recognition was limited to a facility or a project. Members suggest that any corporate public recognition program use the WRI protocols to resolve specific, corporate level reporting issues.

Because the registries are more focused, corporate level reporting may not be necessary. If baseline protection is the goal, then facility level reporting is adequate, since future cap and trade regulations would likely be based on facility emissions. However, if these baselines are to be used, participants will need to prove that they deserve a larger allocation. Thus, participants in a baseline protection registry must eventually demonstrate what actions caused the reductions in order to satisfy both leakage and additionality concerns.

In order to demonstrate emission reductions for registration, entities will need to report at the project level—that is, participants will need to show and quantify what specific actions they have taken to reduce emissions. To address leakage, states could require participants to explain, qualitatively and quantitatively, the reason behind changes in emissions each year. Reductions not attributable to direct actions to reduce emissions, such as shifts in demand, economic downturns, and plant shutdowns will not be registered.

This solution will not address the concern that companies with emissions increasing elsewhere will be able to position themselves for credit. In the end, this is a moral question for states to decide: do states want to recognize, and thus encourage, actions to reduce emissions on a project level basis, even if emissions from other assets in an entities control are increasing? To put it another way, states should decide whether it is better to have entities take some action to reduce their emissions rather than no action at all. If a state does not wish to compensate an entity with overall increasing emissions, they could allow project based reporting (which includes purchased offset projects) as long as the overall emissions from the facility or a corporate entity were included for context.

Should there be an Additionality Requirement?

Few issues spark more heated debate than additionality. But if potential recognition is on the line, then additionality will need to be addressed. This is particularly applicable to registry strategies, as potential emissions credits may be on the line and public recognition, where the states reputation is on the line. At a minimum, Demo Project Members agree that these strategies should require regulatory additionality, which would demonstrate that the reductions are not the result of regulatory requirements. Members also agree that financial additionality, proving that the prospect of emissions credits or publicity made the project financially viable, is too difficult to apply in practice. Where participants disagree is whether there should be an “environmental” additionality standard where participants would need to demonstrate that their actions were beyond standard practice in their industry. Defining standard practice for each individual could create an enormous burden for a state. However, including such as standard will increase support for the programs, particular emission reduction programs that allow project level reporting.

Consensus on Entity Scope and Additionality: Project members suggest that public recognition programs should require corporate level reporting, unless the program is specifically designed for recognition individual facilities or projects. For baseline protection, registries should require facility level reporting and encourage participants to specifically justify, both qualitatively and quantitatively, any emission reductions made in the after the established baseline.

There is no consensus on emission reduction registries. Some Project Members suggest that states allow project level reporting as long participants justify registered reductions, both qualitatively and quantitatively. Only direct actions would be eligible, which excludes production shifts, economic downturns, and plant shutdowns.

In order to ensure that companies do not game the system, others feel that reporting should at least be on the facility level for projects undertaken at facilities with multiple emission sources. Still others feel that reporting should be at the corporate level, to ensure that no company with increasing emissions earns credits.

These project and facility level concerns would be mitigated with a strong additionality standard. Members agree that all three strategies looking to provide recognition of reduction activities should require regulatory additionality. If environmental additionality were also included, this would increase support for emission reduction registries, even those at the project level.

What Information Can Participants Report-Emissions and/or Emissions Reductions?

Mandatory state inventory reporting will only require emissions. States will likely want entities that participate in a corporate inventory and risk management assistance strategy to report all three. In order to establish a baseline and show what the entity has done to reduce its GHG footprint, public recognition strategies will also need to include all three. Baseline protection strategies will initially require only the reporting of only emissions baselines, though at some point participants will need to justify those baselines by demonstrating reductions. Finally, emission reduction registries would include emission reductions made by entities, including offsets they have purchased.

Consensus: Mandatory reporting should only include emissions. Corporate inventory and risk management assistance strategies should allow all three. Public recognition strategies should include all three. Baseline protection strategies should only allow emissions baselines. Finally, emission reduction registries should include emission reductions made by entities, including purchased offsets.

Who Can Report?

For mandatory reporting programs, the state will define which sources are required to report. Demo Project Members suggest that this should be limited to direct emission sources only, in order to avoid double counting.

For the voluntary strategies, Demo Project Members agree that all strategies should encourage the broadest possible group of parties to participate in a program without creating the administrative burden that would result if each individual automobile driver flooded the registry with a cumbersome volume of data. By requiring somewhat rigorous reporting requirements, program designers are likely to limit spurious participation, obviating the need for any proscriptive limitation. Imposition of a registration fee would similarly limit participation, while providing revenue for the program. Such costs may also encourage smaller sources to aggregate their emissions into one set of data. Demo Project Participants also suggest that baseline protection registries be limited to direct emission sources only, since these are the only sources that will need to protect a baseline under regulation.

Consensus: Mandatory inventories and baseline protection registries should only allow direct emission sources. All other strategies should allow any entity to participate, since reporting requirements will likely limit participation to those with a serious interest.

Issues of Scope

What GHGs are Required and Which are Optional in Reporting?

This issue has two related components. The first is which GHG gases the registry should require. The second is whether low quantities of emissions can be left out of the submission.

The following greenhouse gases are covered by the Kyoto Protocol:

- Carbon dioxide (CO₂)
- Hydrofluorocarbons (HFCs)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

In addition to this, other gases have been identified over the last few years that should also be considered. Which of these the registry should require depends on both the particular strategy and whether or not entities can calculate these emissions without adding significantly taxing their resources. Demo Project Participants suggest that mandatory strategies include CO₂ emissions at a minimum. For corporate inventory and risk management assistance programs, Demo Project Participants suggest that the choice be left to participants. Demo Project Members also suggest the same discretion for both registry programs, since there is uncertainty about what might be regulated and, therefore, relevant. This places the burden on registry participants to choose the scope. If participants only register a CO₂ baseline but a future regulation is more comprehensive, the participant will have to assume the risk that their baseline will not be protected. On the other hand, if they report all emissions, their baseline will likely be secure. However, Members do suggest that states not allow entities to report emission decreases of one gas that lead to increased emissions of another.

For public recognition programs, leaving this question open to the choice of the entity brings out the issue of credibility once again, particularly if an entity leaves out a gas that comprises a significant portion of its emissions. One way to handle this concern is to place a de minimus

limit on what must be reported. For example, if the emissions from the gas comprise less than 5% of the entities entire emissions (based on CO₂ equivalence), they would not be required to report it. With this rule, the state could require that all listed GHGs be reported that exceeded the 5% threshold, thus answering both questions.

The difficult question is where to place the boundary: what is considered insignificant, particularly for large entities with large emissions inventories? Another question is that, in order to show that the emissions are insignificant, an entity will have to know with at least some precision what the emissions are. If the entity must do this anyway, then what is the value of giving them the option to leave this information out of the registry?

Consensus: Mandatory strategies should require CO₂ emissions at a minimum. Public recognition strategies should require all significant GHG emissions. All other strategies should leave reporting to the discretion of the participant. However, registries should not allow entities to report emission decreases of one gas that lead to increased emissions of another.

What are the Geographic Boundaries for Reporting?

Consensus: This is mostly an issue for strategies that require corporate-wide reporting. Demo Project Participants felt that any geographic requirements should be kept at the state level, while national and international reporting should be encouraged. For emission reductions, some participants felt that offsets should be limited to domestic projects in order to improve the ability to verify the projects. Others felt that international projects should be included.

What Types of Emissions are Required or Allowed: Direct, Indirect, or Both?

The WRI/WBSCD GHG Protocol breaks an entity's emissions into three scopes: direct emissions, indirect emissions from energy use (electricity and steam), and all other indirect emissions. States will need to decide how much of an entity's GHG footprint is necessary for accurate accounting and what information will be optional for an entity to report. At a minimum, direct emissions will be needed to develop any type of inventory or to develop bottom-up state inventories.

The benefit of requiring the other two will depend on the specific strategy. Understanding and managing these emissions may be smart from an overall strategic point of view, particularly for energy intensive industries that do not create their own electricity or steam. This is why they were included in the WRI protocol. However, that decision should be left to individual entities in a program that focuses on assistance. Broader information may be necessary for a public recognition program, particularly for entities with little or no direct emissions. But these requirements are not necessary for registries, unless states allow entities to register indirect emissions reductions. If this is the case, states will need to address the potential ownership issues of an allowing registration of both direct and indirect emission reductions.

Consensus: Mandatory programs should allow direct emissions only. Assistance programs should leave it to the discretion of participants. Public recognition should include direct

emissions and leave indirect emissions as optional. Some Project Members felt that sectors which consume significant amounts of purchased electricity or steam should be required to report indirect emissions as well. Baseline protection should allow only direct emissions. Emission reduction registries should allow the registration of both, as long as indirect emissions are recorded separately from direct emissions.

What is the Reporting Metric: Mass or Output?

There are two possible options for reporting emissions. One is an unadjusted, “real” calculation that is based on what was actually emitted each year. The second is a performance ratio, which includes both emissions and some type of output. Each calculation system has distinct benefits and problems. Using the actual annual emissions would likely be the simplest, most straightforward approach. A state need only establish the rules for which year or years an entity must register and entities can take it from there.

This simplicity of the unadjusted calculation may also be its biggest liability, particularly if baseline protection is a major concern. Such a calculation fails to adequately recognize economic growth and the environmental benefits of efficiency. Since slow emissions growth is preferable to rapid emissions growth (it would be preferable if an entity increased emissions by 10 tons a year rather than 100 tons), energy efficiency should be encouraged and states may want to recognize entities that have increasing emissions but improved efficiency. Additionally, many entities may be able to register emissions reductions based on decreased activity. Requiring participants to report a measure of output would guard against this.

However, the performance ratio has one obvious shortcoming: selecting the right output for different activity sectors. The choice is relatively easy for some industries, such as electricity generation (MWh), but not as easy for others, such as manufacturing, which might have numerous outputs. Thus, requiring a performance metric from all participants is likely beyond the scope of an emissions registry. However, states may want to consider allowing industries that can establish a clear performance ratio to record their output to enhance the total information housed in the registry.

Consensus: Mandatory programs should require only mass emissions. Participants in assistance programs should be encouraged to develop an output ratio as a way to gauge energy efficiency improvements. Participants in public recognition programs should have the option to use a state approved ratio to show efficiency improvements. Baseline protection should allow mass emissions only.

There was no consensus on emission reduction registries. Most Demo Project Participants felt that only decreases in total emissions should be eligible for registering reductions. Others felt that entities that have improved their efficiency, and therefore reduced emissions, should be able to register this as a reduction as long as there was an adequate ratio for determining efficiency improvements.

Which Years Must an Entity Report?

Consensus: For mandatory programs, state will select the year. For assistance programs, this should be left to the participant. Public recognition and emission reduction registries should allow participants to claim actions and reductions for any year, as long as they have enough information to meet the protocols. Baseline protection registries should allow participants to choose the year they will “protect.”

Specific Data Quality Issues

What Emissions Factors or Measurement Methods are Used for Calculating Emissions?

A number of programs and guidance documents exist for this question, including EPA, EIA’s 1605(b) Program Guidance, WRI, recommendations from the IPCC, and guidance developed by individual states. States would qualify which of these would be allowed within the program and identify and fill gaps.

Consensus: States should use existing measurement protocols. Where these are missing, states should develop their own.

How Does the Registry Handle Ownership Issues?

There are two potential ownership problems. First, if states require corporate-wide reporting, the situation may arise where an entity has operations or offset reduction projects in which it owns a partial stake. If this is the case, the entity will need to account for the emissions and the registry will need to adopt rules for this. WRI has developed rules for this: pro-rate the emissions based on the share the entity has in the asset. For example, an entity that owns a 30% stake in a facility will report 30% of the emissions asset or liability in their inventory report.

The second issue applies to registering indirect emission reductions, where there is a risk of double counting, either through joint projects, for which the WRI method could be used, or because entities take credit for reductions at different points in the emissions stream. For example, an entity may register its annual emissions as well as project level data showing that the reason it reduced emissions was because of an energy efficiency project that it undertook with partial funding from a demand side management program. The entity running the DSM program may also claim credit, as may the electricity generator. As demand reductions are covered within the rules for facility level reporting, direct emitters will not be able to register these types of emission reductions. To address joint ownership concerns, states should register indirect emissions reductions separately from direct emission reductions and require participants to report any project partners that could also claim the credit. Using the WRI method for joint projects, the participant would only be allowed to register their pro-rated share.

Consensus: For accounting for and/or reporting emissions in a public recognition program, or reporting project-level emission reductions from a jointly owned asset, a participant should pro-rate its share based on its financial ownership stake (the WRI/WBCSD GHG Protocol method). If states allow the registration of indirect emission reductions, states should register indirect

emissions reductions separately from direct emission reductions and require participants to report any project partners that could also claim credit.

What are the Requirements for Verification?

Perhaps the largest criticism of 1605(b) and other voluntary actions that aim to recognize the activities of pro-active entities has been the lack of a strong verification component. Without such a requirement, a registry will lack the credibility it needs to offer believable baseline protection and runs the risk of being considered redundant to programs such as 1605(b).

Verification options for a voluntary registry are limited and the choice is dependent on how a state wants to balance stringency/high transaction costs and simplicity/high participation. On the least stringent end of the spectrum is self-certification, in which the participant certifies that its submission is accurate. In the middle is outside certification, in which a third party certifies that the participant followed all the reporting guidelines and correctly calculated the emissions. On the stringent end of the spectrum, third party verification of an entities operations of both the engineering (on-site verification of emissions) and the accounting (checking the math) would result in the most reliable information. However, such a requirement is costly and would likely discourage many entities from participating.

Consensus: Either state or third party certification (check that protocols were followed and math is correct) should be required for both registries and public recognition programs. If the emissions in a registry are eventually credited, participants will need verify all emission reduction claims according to state developed rules, which could include stack tests and other direct measurements. Though the timing of verification is optional, if participants expect to gain recognition they may need to verify reductions early on in the process.

Administrative Issues

In general, these are issues that states will need to consider, but the Demo Project Participants did not feel that they warranted a consensus discussion.

Who Administers/Managers the Registry?

The first administrative question is who will actually run the registry. One option is to have the state run the program through one of its agencies. Another is to leave the administration up to either a private entity or to an independent group set up by the state. Again, this may be an area where state coordination would be efficient. If states can agree to a common set of rules, then there is the option to create one entity that would administer the program. Absent this solution, a state will need to decide how much control it would like to maintain over the registry and what resources it has to devote to the registry.

How will the State Pay for the Program?

Finally, states will need to come up with a way to finance the registry's development and its administration. This could come from a mix of money from the state, fees paid for registration, or grants from various public and private sources.

What is Included in the Administrative Infrastructure?

Once the goals of the registry are defined and the basic rules developed, the registry itself must be created. This will require, at a minimum, a database, basic reporting forms, and an outreach strategy. As a way to aid participants and meet some of the additional goals of the program, states should also consider developing comprehensive reporting tools, a recognition program, and certification program.

Database and Basic Reporting Forms

The core of the registry's administrative structure will be the database. This will need to be designed in accordance with the decisions made on overall design as well as the quantification protocols. Since the database is meant to provide information, states should work to design a program that will accommodate the information in a way that is easy to query in a number of ways. For example, users should be able generate reports on total emissions and emissions broken down by sector. If project level reporting is allowed, a number of other fields could be designed for different types of projects so that these could be easily queried and reported. In order to facilitate the outreach and education functions of the registry, states should also consider making the database web-based or providing another way for the public to access non-confidential information.

In order to facilitate this, states will need to develop basic reporting forms that conform to the format of the registry. The forms should include all the required information to submit including, to the extent practical, the underlying data that entities used to establish each year's inventories and project level results. The forms should also include support documents to walk entities through the different rules and the quantification protocols. If project level reporting is allowed, the forms will need to provide guidance for this as well, possible by using many of the methodologies already available through 1605(b) and other programs. Though paper forms may be a necessity, states should look into an electronic format in order to ease reporting and their own administrative burdens.

With both a public database and reporting forms, 1605(b) provides one example that states could follow. Information on this system can be found at <http://www.eia.doe.gov/oiaf/1605/frntvrgg.html>.

In addition to the infrastructure, the states will need to develop an outreach program to educate entities about the purpose of the program, and why they should become involved and how they can register. In the end, this is probably the most important element to include since the registry is useless without participation. The outreach could consist of written education materials, presentations that can be given at forums with prospective participants, websites, workshops and conferences. States should also consider creating partnerships with business associations and other stakeholder groups as a way to disseminate the message and encourage participation.

Additional Elements: Comprehensive Reporting Tools, and Certification Programs

States could add a number of other elements to enhance the program. One would be software tools that included the quantification protocols and the reporting forms. This would provide valuable assistance to entities that would like to participate but do not necessarily have the

expertise to do so without technical assistance. It would also provide a tool for corporate strategy development that is directly linked to the registries. Since many entities have already developed these tools, states may want to look into working with one of them to create a specific package for the registry. States will want to insure that these packages are not too complicated and have adequate support documentation.

Finally, states may want to look into setting up a certification program that makes it easier for entities to find an organization that has the established capability and experience to certify submissions. States could do this by setting up protocols that firms must meet to be qualified as certifiers and then listing these resources on a web site. They could also use this oversight to ensure that certifiers charge a common, reasonable price. This service would place a quality check on certification and also lower transaction costs to participants.