THE REGULATORY ASSISTANCE PROJECT

Climate Policy and Affordability: Advocacy Opportunities in the Northeast

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Introduction

The University of New Hampshire's Carsey Institute and the Regulatory Assistance Project (RAP) are cooperating in an effort to build capacity in northern New England's non-profit advocacy community. The goal of this endeavor is to strengthen the capability to advocate for both effective and consumer-friendly energy and climate legislation and programs at state and federal levels, linking greenhouse gas (GHG) reduction with affordability and the development of more efficient housing.

On June 29, 2009, RAP hosted a webinar for Carsey Institute participants entitled "A Framework for Understanding Cap-and-Trade Design." RAP provided a follow-up presentation, entitled "Effective Use of Energy and Climate Program Funding," on July 27, 2009. The goal of this memorandum is to encapsulate the materials provided in those presentations. It identifies opportunities where Maine, New Hampshire and Vermont advocates can affect decisions that promote positive environmental outcomes and equitable policies, by:

- Helping decision-makers recognize the extent of available GHG emissions reductions in the housing sector;
- Educating Congressional delegations regarding the advantages of developing a federal GHG program that weds affordability, environmental, and energy goals;
- Helping decision-makers at the state-level implement climate action plans, state Regional Greenhouse Gas Initiative (RGGI) programs, and other energy policies in an integrated manner that best coordinates affordability, environmental, and energy goals;
- Pursuing other state processes – e.g., laying the groundwork for continued operation of weatherization programs beyond the funding horizons envisioned in stimulus legislation – that will promote and preserve the link between energy efficiency investment and affordability; and
- Developing alliances with complimentary advocacy organizations to further this work.

The Challenge

Energy consumers are facing affordability challenges of historic proportions, and poorly-designed or applied climate change and energy policies create the risk of increasing those challenges. The development of climate legislation and the implementation of state-level climate policies provide an opportunity to address that

challenge by putting low- and middle-income consumers on a sustainable, long-term path to reasonable and stable energy prices.

As policy-makers develop programs in response to climate imperatives, they need to recognize the relationship between consumption and efficiency, and incorporate solutions that connect affordability and greenhouse gas mitigation. More specifically, policy-makers need to appreciate that a cap-and-trade program for the electricity sector that adopts features of the Regional Greenhouse Gas Initiative (RGGI) program can auction emissions allowances and provide for the strategic reinvestment of associated revenues into end-use energy efficiency, including new and existing housing stock. This reinvestment of carbon revenues into electric and thermal efficiency can not only significantly reduce emissions and program costs, but can also benefit low- and moderate-income households by limiting exposure to disproportionate and excessive energy costs.

As the US Congress develops federal climate policies, and as states implement climate plans and other energy policies, low-income and other consumer advocates must work together to develop policy positions that will help ensure that decision-makers design and implement programs that connect thermal and electric efficiency with GHG reduction efforts, and do so in a cost-effective manner that serves the needs of low-income families and individuals across northern New England.

Climate Mitigation and Energy Affordability – the Connection

The first step in solving this challenge lies in designing and implementing a cap-and-trade program that will enlist the most affordable solutions first. Most economic models of the costs of CO_2 reductions start with the proposition that the price signal carried by allowances compels CO_2 emissions reductions. This has been shown to be incorrect. This common assumption has also led to erroneous results that indicate a high allowance price and high costs of compliance. These models do not include proven approaches for overcoming market failures through public policies that can reduce large amounts of CO_2 at low cost, largely through investment in energy efficiency.

While adding a carbon price signal to the cost of electricity is directionally correct, a cap-and-trade program that tries to reduce emissions through price alone will be much more costly, per ton abated, than the same program that includes proven techniques to deliver low-cost, clean energy resources. At the consumer level, prices alone will not reduce demand nearly enough to meet carbon goals. Years of experience in delivering programmatic end-use energy efficiency programs have demonstrated that the price elasticity of demand for electricity is very small. People do not reduce their use in response to price increases. Programmatic investments in end-use energy efficiency result in far greater reductions in demand (and in associated emissions).

For decades, the goals of state clean energy policies have been consistent with initiatives that only now are being explicitly described as "climate policies." Recent experience demonstrates that policies such as programmatic end-use, energy efficiency, and greater implementation of renewable energy resources are not merely "complementary" to the price signal established by a cap-and-trade program, but are critical to securing the desired CO_2 emissions reductions.

Instead of relying solely on price to drive emissions reductions, decision-makers should recognize that significant reductions will result from expansion of a wide range of clean energy programs. A cap-and-trade program that allocates allowances for consumer benefit and invests allowance values in clean energy programs has the potential to provide the greatest benefit to all energy consumers. Strategic investment of auction allowance values enables low-cost reductions in CO_2 emissions, and keeps allowance prices and end-user electric rates significantly lower than would be seen from a price signal alone.

An alternative approach, sometimes referred to as "cap-and-dividend" is to rebate program revenues directly to consumers. While, in the short term, this approach could certainly help households that struggle to afford energy bills, it does not address the root of the problem—unnecessarily over-priced carbon controls caused by a poorly-designed cap-and-trade program. A rebate-only approach would also promote the status quo by perpetuating overuse of energy and exacerbating the associated energy affordability challenge. A cap-and-trade policy that improves electric and thermal efficiency will connect climate mitigation with energy affordability, and should be the first step in diminishing consumer exposure to increasing energy prices.

The RGGI Approach

The RGGI program has made this connection. Modeling for RGGI indicates that increasing the region's spending on energy efficiency would significantly lower the overall cost of RGGI's planned carbon reductions to consumers and to the economy in general. RGGI determined that a cap-and-trade program that allocates allowances for the benefit of consumers, and invests proceeds in cost-effective, clean energy resources creates a positive feedback loop resulting in the achievement of GHG reductions at a lower cost than a similar program that relies on allowance prices alone to transform energy practices. A consumer benefit allocation and targeted investment in energy efficiency lower demand for energy. With lower demand come fewer emissions, and consequently, lower demand for allowances. And when demand for allowances drops, allowance prices (and program costs) drop, too.

While recognizing the connection between GHG reduction and affordability, RGGI states vary in their use of RGGI revenues to support further investment in energy efficiency. For example, among other things, Delaware invests in additional

weatherization; New Hampshire, in low-income energy efficiency, and Massachusetts, in low-income boiler replacement. The state of Vermont directs nearly all of its RGGI revenues to be used efficiency on an "all fuels/whole buildings basis" for the benefit of "Vermont consumers, particularly benefits that will result from accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power system, building envelope, and other investments…."

Emissions Reductions Available in the Building Sector

According to the US EPA, the building sector nationwide is responsible for substantial energy use and presents significant potential for GHG emissions reductions. In Maine, New Hampshire and Vermont, especially due to the heavy use of heating oil for space heating, the residential building sector contributes an even greater proportion of GHG emissions than in other states. In 2007, residential CO_2 emissions from these three states were on the order of twenty percent of the states' combined emissions. This figure is roughly equal to the CO_2 associated with the states' combined emissions from electric generation, making this sector an important candidate for transformation.

Federal Activity

The federal government is slowly undertaking the process of developing a climate policy. This includes Congressional passage of "stimulus" legislation—the "American Recovery and Reinvestment Act," and development of cap-and-trade legislation, the most recent example of which is the "American Clean Energy and Security Act of 2009" (ACES). The development of ACES and implementation of ARRA present significant opportunities to housing advocates.

<u>ACES</u>

While ACES is comprehensive energy legislation, it contains two structural features that advocates should recognize and appreciate. ACES provides for (1) the auctioning of emissions allowances, and (2) the recycling of revenues to the states. As designed, ACES reflects an understanding that most of the "heavy lifting" with respect to GHG emission reductions will not come solely from a carbon price, but instead from clean energy programs and policies, a key lesson from RGGI.

ACES has been subject to criticisms, especially for allowance "giveaways" to industry. The reality, however, is better than the criticisms would suggest. Various provisions of the bill provide for the sale of allowances to emitters, with the revenue being applied by the states or by the local (electric or natural gas) distribution companies "for the benefit of consumers," in much the same way as the current RGGI practice. They provide substantial allocations of emissions allowance value for the promotion of clean energy, especially energy efficiency. Sections 785, 784, 132 and 783 all, to varying degrees, would provide revenue to state programs that could not only make great strides in achieving program environmental goals, but also cost containment goals

which could be of significant benefit especially to vulnerable populations. However, there are improvements that advocates could argue should be made to these provisions that would further ensure the reduction of GHG emissions as lower costs.

ARRA

ARRA is designed to provide "stimulus" funding to states over a period of three years, and has been described as

> an effort to jumpstart the weakened economy and to lay the groundwork for developing an economy that will be able to meet the challenges of the 21st century through investment in infrastructure, energy, education, and tax cuts.

ARRA will provide significant, although temporary, support for energy efficiency and clean energy programs whose goals are consistent with programs that stand to receive longer-term funding under a program like ACES. This raises the question: "How will the benefits of programs such as Weatherization continue once ARRA funding is no longer available?"

Part of the answer lies in the likelihood that many of those people who receive training as part of expanded weatherization programs will take their skills to the private sector and continue their work. Another part of the answer may lie in the conscious establishment of a link between the sunsetting ARRA funding and potential revenue streams provided to the states through various efficiency programs outlined in ACES.

Before Congress finalizes cap-and-trade legislation, there is an opportunity for advocates to convey the need to continue funding these clean energy programs. Cap-and-trade design is, therefore, pivotal in ensuring continued funding for the important work being conducted by the programs like Weatherization that were expanded under ARRA.

In focusing on federal activity, advocates could encourage Congressional delegations, and other federal and state decision-makers to recognize that:

1. Significant GHG reductions are available from the housing sector;

2. There are significant advantages to developing a climate program that weds affordability and environmental goals through the use of a consumer benefit allocation of allowances, and a mandate to invest in lower-cost clean energy solutions including energy efficiency;

3. State commissions, with appropriate statutory direction, are well-suited to developing and administering clean energy programs that are responsive to local needs and conditions; and

4. A consumer benefit allocation mechanism in federal cap-and-trade legislation can help maintain funding for clean energy programming started through ARRA funding.

The States: Policies in Maine, New Hampshire and Vermont

Introduction

Climate policy developments at the state level present opportunities for Maine, New Hampshire and Vermont's advocates to promote positive environmental and equitable outcomes. Each of these states is in the process of implementing a climate action plan, and its own RGGI program. Although each of these states has recognized that strategic investment in all-fuels efficiency has the potential to achieve significant cost-effective reductions, advocacy work in each of these states, as they implement climate action plans and their respective RGGI programs, would help ensure follow-through and coordination among various state programs as they go forward.

Climate Action Plans

Maine, New Hampshire and Vermont have developed climate action plans (Plans). They share an emphasis on: (1) the important role of energy efficiency in meeting climate goals, (2) the need for prompt action in order to achieve greater economic benefits, and (3) the need to address climate change in a coordinated manner. As discussed below, each of the three states is at a different stage of acting on those recommendations.

While being implemented differently, Maine, New Hampshire and Vermont's Plans reflect the recognition of the central role to be played by energy efficiency in cost-effectively achieving climate goals, the need for prompt action, and the increased effectiveness to be achieved through better coordination among state agencies. In their climate action plans, these states recognize the value in broadening the electric energy efficiency mandate to include buildings and thermal efficiency. They also recognize the value of operating in a cost-effective manner, and building on the frameworks of existing programs.

Climate Action Plans: Opportunities

Advocates should view their state Plans as the current articulation of state climate policy, and should become familiar with their Plan's major features and policy statements regarding housing and energy efficiency. Advocates should also:

- Participate in implementation discussions;
- Develop a level of comfort in citing to climate plan goals in discussions; and

- Educate decision-makers regarding the Plan policies and mechanisms that will promote a state climate program that weds affordability, environmental, and energy goals.

The Regional Greenhouse Gas Initiative

Climate and energy policy in Maine, New Hampshire and Vermont is also being shaped by participation in RGGI, the first mandatory U.S. cap-and-trade program for carbon dioxide (CO_2). Maine, New Hampshire and Vermont have passed legislation outlining how each state is to participate in RGGI, and implement its respective RGGI program. In each state there are opportunities for advocates to help in improving the delivery of program benefits to ensure greater affordability.

Maine Conclusions

Policies articulated in Maine's Climate Plan and in LD 1485 would support the expenditure of RGGI allowance revenues, and their strategic use beyond electric energy alone to include the thermal efficiency associated with improving building stock. However, they do not provide the explicit policy framework for doing so with unregulated fuels like heating oil, kerosene, and propane. Despite recognizing the value in better coordinating programs to optimize delivery of efficiency benefits, the absence of a sound policy basis for including thermal efficiency low-income housing presents a significant challenge.

Opportunities in Maine

Advocacy opportunities in Maine include:

1. Helping decision-makers like the Efficiency Maine Trust and the PUC to recognize the available greenhouse gas (GHG) reductions available in the housing sector;

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals;

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization; and

4. Participating in Efficiency Maine Trust's "3-year Plan" process to design integrated programs that address both electric and thermal energy needs of customers;

New Hampshire Conclusions

In developing the EESE Board, the New Hampshire legislature is following a trend seen elsewhere in New England, e.g., Connecticut or Rhode Island's use of a stakeholder advisory council process. The creation of the EESE Board as a stakeholder forum and advisory mechanism for the PUC is very promising.

Policies articulated in the New Hampshire Climate Plan and RGGI legislation demonstrate an understanding of the value in directing efficiency investments beyond electric energy use to include the thermal efficiency associated with improving building stock. Ten percent of RGGI funds are specifically set aside to help low-income residential customers reduce their energy use. Administering RGGI revenues through a PUC-directed Request for Proposal (RFP) process also provides electric utilities an opportunity to seek additional funding to develop programs for thermal efficiency. The design of this process allows the EESE Board to make recommendations regarding integration of electric programs with a greater emphasis on a whole buildings approach. With utility company efficiency filings due in the fall, this will present an opportunity for the EESE Board to "review available energy efficiency, conservation, demand response, and sustainable energy programs and incentives;" and to "explore opportunities to coordinate programs targeted at saving more than one fuel resource…" as provided for in RSA 125-O:5.

Opportunities in New Hampshire

Advocacy opportunities in New Hampshire include:

1. Helping decision-makers like the EESE Board and the PUC recognize the available greenhouse gas (GHG) reductions available in the housing sector;

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals[1];

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization;

4. Participating in the EESE Board process, through work with existing members or attendance of periodic meetings, to encourage the continued use of RGGI

[1] The EESE Board is directed by statute to "explore opportunities to coordinate programs targeted at saving more than one fuel resource…."See NH RSA 125-O:5-(e).

allowance revenues (and, potentially, the use of a federal program's revenues) beyond electric energy alone to include the thermal efficiency associated with improving building stock; and

5. Generally, helping the EESE Board fill the role of a "coordinating voice, both within the state and outside the state on all of the issues dealing with the vision of energy policy at all levels of government."[2]

Vermont Conclusions

Vermont's current RGGI statute makes clear that revenues raised from Vermont's participation in RGGI are for the benefit of the state's consumers, and will be directed toward "accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power, or heating system or building envelope investments…."

Opportunities in Vermont

Advocacy opportunities in Vermont include:

1. Helping decision-makers like the Public Service Board, Department of Public Service, and Vermont Energy Investment Corporation to recognize the available greenhouse gas (GHG) reductions in the housing sector;

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals; and

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization.

Conclusion

Climate change programs, both at the national and state levels, face the challenge of mapping a path that achieves deep emissions reductions while minimizing economic disruption. Since one of the principal aims of cap-and-trade programs is to lower the overall societal cost of environmental improvement, it is crucial to design the national

[2] Draft Minutes Energy Efficiency and Sustainable Energy Board, November 13, 2008, Meeting. After his presentation, on November 18, 2008, Jim O'Reilly of the Northeast Energy Efficiency Partnership (NEEP) urged the EESE Board to be the "coordinating voice, both within the state and outside the state on all of the issues dealing with the vision of energy policy at all levels of government." Id.

cap-and-trade system and to implement regional systems to employ the lowest-cost emission reductions available to the economy, and avoid creating unnecessary costs. State clean energy policies provide the essential foundation and should constitute the first step in achieving these goals.

Advocates are in a position to help policy-makers appreciate that a cap-and-trade program for the electricity sector can successfully auction emissions allowances and provide for the strategic reinvestment of associated revenues into end-use energy efficiency, including new and existing housing stock. This reinvestment of carbon revenues into electric and thermal efficiency would not only significantly reduce emissions and program costs, but can also benefit low- and moderate-income households by limiting exposure to disproportionate and excessive energy costs.

I. Introduction

The University of New Hampshire's Carsey Institute and the Regulatory Assistance Project (RAP) are cooperating in an effort to build capacity in northern New England's non-profit advocacy community.[3] The goal is to strengthen the capability to advocate for both effective and consumer-friendly energy and climate legislation and programs at state and federal levels, linking greenhouse gas (GHG) reduction with affordability. The purpose of this memorandum is to identify opportunities where Maine, New Hampshire and Vermont advocates can affect decisions that promote positive environmental outcomes and equitable policies, by addressing the immediate and long-term needs of people with low and middle incomes.

This memorandum identifies opportunities for advocates to pursue, including:

- Helping decision-makers recognize the extent of available GHG emissions reductions in the housing sector;

- Educating Congressional delegations from respective states regarding the advantages of developing a federal GHG program that weds affordability, environmental, and energy goals;

- Helping decision-makers at the state-level implement climate action plans, state Regional Greenhouse Gas Initiative (RGGI) programs, and other energy policies in an integrated manner that best coordinates affordability, environmental, and energy goals;

- Pursuing other state processes – e.g., laying the groundwork for continued operation of weatherization programs beyond the funding horizons envisioned in stimulus legislation – that will promote and preserve the link between energy efficiency investment and affordability; and

- Developing alliances with complimentary advocacy organizations to further this work.

[3] On June 29, 2009, RAP hosted a webinar for Carsey Institute participants entitled "A Framework for Understanding Cap-and-Trade Design." RAP provided a follow-up presentation, entitled "Effective Use of Energy and Climate Program Funding," on July 27, 2009. For the presentations that accompanied these webinars, see Supplement A and B.

II. The Challenge

Energy consumers are facing affordability challenges of historic proportions, and poorly-designed or applied climate change and energy policies create the risk of increasing those challenges. The drop in the price of energy in recent months due to economic recession provides only a temporary reprieve; with economic recovery, higher energy prices are likely to return.[4]

Climate legislation offers an opportunity to put low- and middle-income consumers on a sustainable, long-term path to reasonable and stable energy prices. If not addressed through forward-looking climate initiatives and associated policies, damaging rising price trends are likely to continue. Today, state and federal legislation and proposed legislation offer an opportunity for advocates to promote climate policies that reduce GHG emissions while addressing these social concerns.

As policy-makers develop programs in response to climate imperatives, they need to recognize the relationship between consumption and efficiency, and incorporate solutions that connect affordability and greenhouse gas mitigation. More specifically, policy-makers need to appreciate that a cap-and-trade program for the electricity sector can auction emissions allowances and provide for the strategic reinvestment of associated revenues into end-use energy efficiency, including new and existing housing stock. This reinvestment of carbon revenues into electric and thermal efficiency can not only significantly reduce emissions and program costs, but can also benefit low- and moderate-income households by limiting exposure to disproportionate and excessive energy costs.

As the US Congress develops federal climate policies, low income and other consumer advocates must work together to develop policy positions that will help ensure that Congress designs programs that both avoid imposing unnecessary costs, and incent cost-effective emissions reductions. Likewise, as states implement climate plans and other energy policies, advocates need to ensure that these are developed in a coordinated manner. In this way, regional low income and consumer advocates will be able to ensure that policies connect thermal and electric efficiency with GHG reduction efforts, and do so in a cost-effective manner that serves the needs of low-income families and individuals across northern New England.

[4] On September 16, 2009, the U.S. Bureau of Labor Statistics reported that, on a seasonally adjusted basis, the Consumer Price Index for all Urban Consumers (CPI-U) rose 0.4 percent in August. http://www.bls.gov/news.release/cpi.nr0.htm

How Does Cap-and-Trade Work?

Cap-and-trade is a policy mechanism that places emissions restrictions on a certain class of polluters within a geographic area. Allowances are created in an amount that reflects the total tonnage of emissions within that area. That limit, also known as a "budget," can remain constant or it can change; i.e., it can be lowered over time.

Polluters acquire allowances, and submit a number allowances to the regulatory authority at the end of each compliance period that reflects their emissions for that period, typically one allowance for one ton of emissions. So, if a polluter emits a thousand tons of pollutant, it must acquire and surrender a thousand allowances at the end of the compliance period.

The "trade" part of a cap-and-trade is designed to encourage emitters to meet their regulatory requirements at the lowest cost possible. The assumption behind this is that some emitters can control their emissions at a lower cost than others. If so, then they will have allowances that they can sell to others who find it more expensive to reduce their emissions. The system encourages the lowest-cost solutions. And, as long as all the polluters in the class and geographic area stay "under the cap," i.e., the total number of allowances does not exceed the budget, then the environmental goal is met.

The distribution or allocation of permits is perhaps the most contentious part of developing a cap-and-trade since allowances monetize the ability to emit pollution. Under the Clean Air Act's Acid Rain Program, allowances were allocated freely, thereby "grandfathering" polluters at their existing levels of pollution. Under that program trading is allowed, but only necessary for emissions beyond individual baseline levels. The Regional Greenhouse Gas Initiative (RGGI) allocates allowances through auctions, thereby requiring emitters to purchase allowances, either from an auction or from a third party that has acquired allowances. RGGI states recycle significant amounts of auction revenues on behalf of consumers into cost-effective programs that promote climate goals and lower program costs.

III. Climate Mitigation and Energy Affordability – the Connection

A potential policy collision is waiting to happen. For many, there is already a significant energy affordability challenge.[5] Now, there is the environmental imperative to lower emissions probably through the imposition of a cap-and-trade program. And, cleaner energy solutions could be even *more* expensive.

The first step in solving this challenge lies in designing and implementing a cap-and-trade program that will enlist the most affordable solutions first. In brief, cap-and-trade can be designed to mobilize low-cost reductions for all consumers through energy efficiency, and those efficiency investments should not be limited to electric efficiency, but should include improvements to the thermal systems of housing stock, thereby lowering GHG emissions and associated housing costs. Advocates that recognize the connection between climate goals and low-income housing goals will be

[5] I.e., advocates see the need for immediate, lower power and heat bills, and there is a risk that energy legislation attempting to address climate change could only make the situation worse. See, e.g., August 5, 2009, letter of advocates to Senator John Kerry at Appendix A.
http://www.consumerlaw.org/issues/climate_change/content/CapTradeLetter080509.pdf

better prepared to help in the development of environmentally-effective and lower-cost climate policies.

There is good news, however, and there is no need to reinvent the wheel. For decades, the goals of state clean energy policies have been consistent with initiatives that only now are being explicitly described as "climate policies." Recent experience demonstrates that policies such as programmatic end-use, energy efficiency, and greater implementation of renewable energy resources are not merely "complementary" to the price signal established by a cap-and-trade program, but are critical to securing the desired CO_2 emissions reductions.[6]

A. Where Will Electric-Sector Reductions Come From?

CO_2 emissions can be reduced significantly in three ways in the power sector:

1. Reducing consumption;
2. Re-dispatching the existing fleet; and
3. Lowering the emissions profile of new generation (including repowering existing generation).

The policy challenge lies in addressing these approaches in the lowest cost manner possible.

Most economic models of the costs of CO_2 reductions start with the proposition that the price signal carried by allowances compels CO_2 emissions reductions. This has been shown to be incorrect.[7] This common assumption has also led to erroneous results that indicate a high allowance price and high costs of compliance. These models do not include proven approaches for overcoming market failures through public policies that can reduce large amounts of CO_2 at low cost largely through investment in energy efficiency.[8]

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[6]For further discussion of this connection, see The National Association of Regulatory Utilities Commissioners' (NARUC)"Climate Issue Brief #4 State Clean Energy Policies: The Foundation for an Electric Sector Cap-and-Trade Program" at Appendix B, http://www.naruc.org/Publications/ClimateIssueBrief4_Jul2009.pdf

[7]This problem has been documented in a variety of studies. One report from the Electric Power Research Institute modeled the effect of various levels of carbon taxes or allowance prices in the upper Midwest, which is highly dependent on coal, and in Texas, which relies heavily on gas. See Victor Niemeyer, The Change in Profit Climate: How Will Carbon-Emissions Policies Affect the Generation Fleet?, Public Utilities Fortnightly, May 2007, at 20, 24. In the upper Midwest (ECAR-Main), a carbon charge of $25/ton would raise wholesale power prices $21/MWh. This would almost double the wholesale price of electricity in that region, but have little impact on emissions. According to the author, "even a CO_2 value of $50/ton would produce only a 4 percent reduction in regional emissions given the current generation mix." Id. In Texas (ERCOT), "when gas is selling for around $8MMbtu, even a CO_2 value of $40/ton produces little emissions reduction" from the existing mix. Id.

[8] With regard to one of these clean energy policies, energy efficiency, ACEEE reports:

While adding a carbon price signal to the cost of electricity is directionally correct, a cap-and-trade program that tries to reduce emissions through price alone will be much more costly per ton abated than the same program that includes proven techniques to deliver low-cost, clean energy resources.

RGGI—The Regional Greenhouse Gas Initiative

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by ten Northeast and Mid-Atlantic States to limit greenhouse gas emissions. RGGI is the first mandatory, market-based CO_2 emissions reduction program in the United States.

The states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont are signatory states to the RGGI agreement. These ten states will cap CO_2 emissions from the power sector, and then require a 10 percent reduction in these emissions by 2018.

RGGI is composed of individual CO_2 Budget Trading Programs in each of the ten participating states. These ten programs are implemented through state regulations, based on a RGGI Model Rule, and are linked through CO_2 allowance reciprocity. Regulated power plants will be able to use a CO_2 allowance issued by any of the ten participating states to demonstrate compliance with the state program governing their facility. Taken together, the ten individual state programs will function as a single regional compliance market for carbon emissions.

RGGI in Brief

- **Start date**: January 1, 2009.
- **Coverage**: fossil-fired electric generating units 25 megawatts and larger in all 10 states.
- **Cap**: based, largely, on historical emissions 2000-2002.
- **Two-phases**: cap starts flat (i.e., stabilized emissions) through 2014; reduces 10% by 2018.
- **Annual budget**: an aggregation of all of these tons of emissions.
- **Allowances apportioned**: to each state, largely, on the basis of its emissions.
- **Allocation**: quarterly auctions.
- **Compliance Period**: three years.

B. Knocking Down Barriers to Lower Cost Carbon Solutions

At the consumer level, prices alone will not reduce demand nearly enough to meet carbon goals. Years of experience in delivering programmatic end-use energy efficiency programs have demonstrated that the price elasticity of demand for electricity is very small. People do not reduce their use in response to price increases.

> Most economic models suggest a significantly negative impact on the economy if U.S. policymakers choose to reduce greenhouse gas emissions to any significant extent. There are a number of reasons for these inappropriate outcomes. Primarily, they are an artifact of the models and not the data.
>
> Based on the available record and the economic evidence to date, energy efficiency is a substantially larger and more cost-effective resource than most economic policy models acknowledge.

The Positive Economics of Climate Change Policies: What the Historical Evidence Can Tell Us, J. Laitner, ACEEE Report Number E095, July 2009 at iii.

Programmatic investments in end-use energy efficiency result in far greater reductions in demand (and in associated emissions).

Instead of relying solely on price to drive emissions reductions, decision-makers should recognize that significant reductions will result from expansion of a wide range of clean energy programs. A cap-and-trade program that allocates allowances for consumer benefit and invests allowance values in clean energy programs has the potential to provide the greatest benefit to all energy consumers. Strategic investment of auction allowance values enables low-cost reductions in CO_2 emissions, and keeps allowance prices and end-user electric rates significantly lower than would be seen from a price signal alone. As explained further below, this has been the case with RGGI, the one operational cap-and-trade program in the U.S.

An alternative proposal to the strategic investment in cost-effective end-use energy efficiency and clean energy programs is to rebate program revenues directly to consumers.[9] While, in the short term, this approach could certainly help households that struggle to afford energy bills, it does not address the root of the problem, unnecessarily over-priced carbon controls caused by a poorly-designed cap-and-trade program. A rebate-only approach would also promote the status quo by perpetuating overuse of energy and exacerbating the associated energy affordability challenge. Instead, a cap-and-trade policy that improves electric and thermal efficiency should be the first step in diminishing consumer exposure to increasing energy prices.

[9] This is an approach currently adopted by some low-income consumer advocates. See, e.g., letter to Senator Kerry at Appendix A. *See also* letter of AARP; Consumer Federation of America; National Consumer Law Center, on behalf of its low-income clients; Public Citizen; Chesapeake Climate Action Network, entitled "Essential Consumer Protections: Critical Improvements to the House Climate Change Bill," July 22, 2009, ("Our clear preference is to provide a greater percentage of allowances for auction with more of the revenues used for direct consumer relief."), http://www.citizen.org/documents/EPWLetter09.pdf

RGGI's Consumer Allocation (aka the "efficiency allocation")

- Auction allowances and recycle revenues back into state clean energy programs like energy efficiency and renewables development.
- Significant departure from previous cap-and-trade regimes (e.g., Acid Rain).
- What amounts of revenue are allocated?
  - States initially agreed in RGGI MOU to, respectively, allocate 25% of allowances for consumer benefit and to leave 75% for discretionary activities.
  - In practice, RGGI states direct a much larger amount — over 65% — of allowance value for consumer benefit.
- Question: Why did they change their minds and exceed the MOU's 25%?
  - Answer: They modeled environmental and cost-containment effects of existing efficiency programs in RGGI by asking: "What happens if we double efficiency spending in the RGGI States?"
  - RGGI found:
    - Allowance prices drop 25%
    - Need for new fossil capacity drops 33%
    - Customer bills drop:
      5% (Industrial),
      8% (Commercial), and
      12% (Residential)
    - Greater EE investments would yield even greater savings.

C. The RGGI Approach

Modeling for RGGI indicates that increasing the region's spending on energy efficiency would significantly lower the overall cost to consumers and to the economy in general of RGGI's planned carbon reductions. RGGI's study found that doubling investments in energy efficiency throughout the RGGI region would lower projected load growth by two-thirds by 2024.[10] In each RGGI state, energy efficiency is the primary target for RGGI allowance proceeds. Across this ten-state region, approximately ninety percent of total allowances will be auctioned, over 65 percent of auction revenues dedicated to investments in end-use energy efficiency.[11]

As depicted in Figure 1, a cap-and-trade program that allocates allowances for the benefit of consumers, and invests proceeds in cost-effective, clean energy resources, can achieve GHG reductions at a lower cost than a similar program that relies on allowance prices alone to transform energy practices. A consumer benefit allocation and targeted investment in energy efficiency lower demand for energy. With lower demand come fewer emissions, and consequently, lower demand for allowances. And when demand for allowances drops, allowance prices (and program costs) drop, too.

[10]William Prindle, et al., Energy Efficiency's Role in a Carbon Cap-and-Trade System: Modeling Results from the Regional Greenhouse Gas Initiative iii (2006), available at http://aceee.org/pubs/e064.pdf?CFID=1812522&CFTOKEN=798299427. (Prindle, et al.).

[11] For updated information on state use of RGGI allowances, see "RGGI Allowance Allocations & Use of Auction Proceeds, Environment Northeast," March 24, 2009, http://www.env-ne.org/public/resources/pdf/ENE_Auction_Tracker_040209.pdf; see also Table "Allowance Allocations, Auction Fractions, and Revenues for Energy Efficiency in the Ten States of The Regional Greenhouse Gas Initiative (as of October 31, 2008)," "Carbon Caps and Efficiency Resources: How Climate Legislation Can Mobilize Efficiency and Lower the Cost of Greenhouse Gas Emission Reduction," Richard Cowart, Vermont Law Review, Vol. 33, page 201, 222.

Figure 1.
Consumer Benefit Allocation & Strategic Investment

As discussed below in the sections on climate action plans and RGGI implementation, the states participating in RGGI vary in their use of cap-and-trade auction revenues to support further investment in energy efficiency, although they recognize the connection between GHG reduction and affordability. For example, Delaware allocates some allowance values to weatherization; New Hampshire, to low-income energy efficiency, and Massachusetts, to low-income boiler replacement. The state of Vermont directs nearly all of its RGGI revenues to be used for the benefit of consumers:

> In order to provide the maximum long-term benefit to Vermont consumers, particularly benefits that will result from accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power system, building envelope, and other investments….[12]

In 2008, legislation in Vermont directed the Vermont Public Service Board to dedicate all of its RGGI auction revenue to energy efficiency in buildings on an all fuels/whole buildings basis.[13] This approach builds upon an existing program that funds a weatherization trust fund designed to support mostly Community Action Partnership "CAP" agency efforts.

D. Emissions Reduction Opportunities

According to the Pew Center on Global Climate Change (Pew), the energy services required by residential, commercial, and industrial buildings in the US produce approximately 43 percent of the nation's CO_2 emissions.[14] Pew further notes that, "[b]ased on energy usage, opportunities to reduce GHG emissions appear to be most significant for space heating, air conditioning, lighting, and water heating."[15] According to the authors of a 2007 McKinsey & Company report, approximately half of the abatement potential in the US can be "attributed to the combination of the buildings-and-appliances and the power sectors," and that a large number of mitigation strategies in the "buildings-and-appliance sectors are negative cost options," meaning that they represent greater savings over the long-term than their initial investment costs.[16]

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[12] 30 V.S.A. section 255(c)(2).

[13] This term refers to the delivery of efficiency in a manner that seeks to address all the efficiency needs within a building rather than discrete categories of efficiency products such as lighting or windows. See, "Affordable Heat: A Whole-Buildings Efficiency Service for Vermont Families and Businesses," Cowart, Sedano, Weston and Hausauer, January 2008. http://www.carseyinstitute.unh.edu/documents/Affordable%20Heat%20RAP%2008%20PLI%20III%20Carsey%20Presentation.pdf.

[14] "Towards a Climate-Friendly Built Environment." Pew Center on Global Climate Change, http://www.pewclimate.org/global-warming-in-depth/all_reports/buildings/ex_summary.cfm. (Pew). The US "building sector accounts for approximately 48% of annual GHG emissions, with 36% of the direct energy related GHG emissions and an additional 8-12% of total GHG emissions related to the production of materials used in building construction." See "Realizing residential building greenhouse gas emissions reductions: The case for a Web-based geospatial building performance and social marketing tool," Hal S. Knowles, III, Program for Resource Efficient Communities / School of Natural Resources and Environment University of Florida, at 2 (Knowles).

[15] Id.

[16] Knowles citing to Creyts, J., et al., Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?, McKinsey & Company, 2007. http://www.mckinsey.com/clientservice/ccsi/greenhousegas.asp.

The EPA indicates that, nationwide, the building sector is responsible for substantial energy use and presents significant potential for GHG emissions reductions.[17] In Maine, New Hampshire and Vermont, especially due to the heavy use of heating oil for space heating, the residential building sector contributes an even greater proportion of GHG emissions than in other states. As shown in the table below, in 2007, residential CO_2 emissions from these three states were on the order of twenty percent of the states' combined emissions, and roughly equal to the CO_2 associated with the states' combined emissions from electric generation.[18] According to a study commissioned by the Vermont Energy Investment Corporation, "[a]n important arena for the transformation to a more energy-efficient economy is in the residential building sector…."[19]

Region / State	Sector	2007
Northern New England		
	Commercial	9%
	Industrial	8%
	Residential	19%
	Transportation	44%
	Electric Power	20%
Maine		
	Commercial	10%
	Industrial	12%
	Residential	20%
	Transportation	45%
	Electric Power	13%
New Hampshire		
	Commercial	7%
	Industrial	5%
	Residential	15%
	Transportation	39%
	Electric Power	39%
Vermont		
	Commercial	9%
	Industrial	8%
	Residential	24%
	Transportation	59%
	Electric Power	0%

[17] US EPA reports that in 2007, GHG emissions associated with the residential sector (including associated electric-related emissions) were 1,229.8 million metric tons Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007, EPA 430-R-09-004, April 15, 2009, US EPA.

[18] In 2007, Maine, New Hampshire and Vermont emitted a total of approximately 45 million metric tons of CO_2. Residential CO_2 emissions (millions of metric tons) by state were as follows: Maine—4.0; New Hampshire—2.8; and Vermont—1.6. Including emissions associated with commercial buildings, emissions increase by nearly one third. For further discussion of these figures, see Appendix C.

[19] See, "Enabling Investments in Energy Efficiency: A study of programs that eliminate first cost barriers for the residential sector," Merrian Fuller August 2008 at 4.

IV. Potential Federal Climate and Energy Policy, and Stimulus Legislation: the American Clean Energy and Security Act of 2009 and The American Recovery and Reinvestment Act

A. Introduction

The federal government is slowly undertaking the process of developing a climate policy. In January, the Obama administration appointed a Special Envoy on climate change.[20] In February, Congress passed "stimulus" legislation, the "American Recovery and Reinvestment Act" which, as explained below, is legislation consistent with climate policies. Also, in the last year and a half Congress has been engaged in developing cap-and-trade legislation, the most recent example of which is the "American Clean Energy and Security Act of 2009" (ACES), a bill that passed in the House at the beginning of the summer, and is slated for review by the Senate this fall.[21]

This next section considers relevant aspects of ACES and ARRA, and potential opportunities associated with each.

B. The American Clean Energy and Security Act

ACES is comprehensive energy legislation. It has four titles:

> (1) a "clean energy" title that promotes renewable sources of energy, carbon capture and sequestration technologies, low-carbon transportation fuels, clean electric vehicles, and the smart grid and electricity transmission;
> (2) an "energy efficiency" title that increases energy efficiency across all sectors of the economy, including buildings, appliances, transportation, and industry;
> (3) a "global warming" title that places limits on the emissions of heat-trapping pollutants; and
> (4) a "transitioning" title designed to protect U.S. consumers and industry and promote green jobs during the transition to a less carbon-intensive economy.

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[20] See, e.g., "Obama Administration starts defining climate policy," January 2009. http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=556&ArticleID=6051&l=en Secretary of State Clinton stated that with "the appointment . . . of a special envoy, we are sending an unequivocal message that the United States will be energetic, focused, strategic and serious about addressing global climate change and the corollary issue of clean energy. . . ." Id.

[21] As of January 2008, there have been over a dozen pieces of legislation proposed in Congress that sought to establish cap-and-trade programs. See S. 309, (Sanders/Boxer); S. 485, (Kerry/Snowe); H.R. 620, (Oliver/Gilchrest); H.R.1590 (Waxman); S. 1766 (Bingaman-Specter); Udall-Petri (Draft, May 2007); S. 280 (Lieberman-McCain); S. 485 (Kerry-Snowe); S. 309 (Sanders-Boxer); S. 317 (Feinstein-Carper); S. 1168 (Alexander-Lieberman); S. 2191 (Lieberman-Warner); and H.R. 2454 (Waxman-Markey).

As discussed below, a number of subsections of Title II of ACES provide for the allocation of emissions allowances to states for the purpose of promoting cleaner energy.[22]

1. *Section 785—Unregulated Fuels*

Section 785 of ACES provides for the distribution of allowances for the benefit of heating oil, propane and kerosene consumers, based upon the carbon content of fuel sold in state. Under this provision, states would receive annual allowance allocations as follows: 1.88 percent for 2012-2013; 1.67 percent for 2014-2015; and 1.5 percent for 2016-2019.

Section 785 requires states to use half of allowance value, i.e., revenues raised by auctioning allowances, to support efficiency programs, with a priority given to existing programs. According to materials developed by Environment Northeast, between 2012-2019 states are projected to receive approximately the following amounts for oil, propane, and kerosene energy efficiency investments:

Maine -- $270 million
New Hampshire – $166 million
Vermont – $96 million

2. *Section 784—Natural Gas Local Distribution Companies*

Section 784 of ACES provides for the distribution of allowances to natural gas local distribution companies (LDCs), like Unitil Energy Systems in New Hampshire and Maine or Vermont Gas Systems, for the benefit of natural gas consumers. Under this section, LDCs would annually receive 9 percent of allowances from 2016-2019.

[22] In this section discussing ACES allowance allocations, the author is indebted to the work of Environment Northeast. The dollar amounts cited are drawn from their work which uses Congressional Budget Office allowance price projections for 2012-2019 and ACES allocation percentages. In the cases of sections 132 and 783, projected allowance values are based upon assumed amounts directed at energy efficiency. Derek K. Murrow and Peter Shattuck. See http://www.env- ne.org/resources/open/p/id/895. See also Congressional Budget Office
The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2454, June 19, 2009, http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapAndTradeCosts.pdf; and Congressional Budget Office Cost Estimate, June 5, 2009—H.R. 2454 American Clean Energy and Security Act of 2009, As ordered reported by the House Committee on Energy and Commerce on May 21, 2009, http://www.cbo.gov/ftpdocs/102xx/doc10262/hr2454.pdf.

Section 784 requires that at least one-third of allowance value to be used to support cost-effective efficiency programs. Over the 2012-2019, states are projected to receive approximately the following amounts for natural gas efficiency investments:

Maine -- $10 million
New Hampshire – $21 million
Vermont – $8 million

3. *Section 132—Efficiency and Renewables*[23]

Under this section, states receive annual allowance allocations to support efficiency (including building codes) and renewables as follows: 10 percent for 2012-2015; 7 percent for 2016-2017; and 6 percent for 2018-2019. Under these provisions, allowances are distributed to the states one-third equally, one-third based on population, and one-third based on energy use. Section132 requires funds to be distributed according to the following formula:

- At least 12.5 percent of allowance value to be distributed to local governments to support energy efficiency and renewable energy.

- At least 20 percent of allowance value to be used for energy efficiency purposes related to:
  (A) Development of building standards (§ 201);
  (B) Manufactured homes (§ 203);
  (C) Energy performance labeling (§ 204);
  (D) Low-income community efficiency programs (§ 264);[24] and
  (E) The Retrofit for Energy and Environmental Performance, REEP program (§ 202).[25]

[23] Sections 131 and 132 work together.

[24] Section 264, entitled, "Low Income Community Energy Efficiency Program" authorizes DOE to make grants to private, nonprofit, mission driven community development organizations including community development corporations and community development financial institutions to:

1. provide financing to businesses and projects that improve energy efficiency;
2. identify and develop alternative, renewable, and distributed energy supplies;
3. provide technical assistance and promote job and business opportunities for low-income residents; and
4. increase energy conservation in low income rural and urban communities.

[25] Section 202 of ACES includes the Retrofit for Energy and Environmental Performance (REEP) bill, H.R. 1778, sponsored by Rep. Welch of Vermont. The REEP program sets a goal of increasing efficiency 20 percent nationally by retrofitting homes and commercial buildings. The purpose of REEP is to reduce energy bills and GHG emissions.

- At least 20 percent to support renewable energy through other financial mechanisms, such as capital grants, tax credits, production incentives, loans, loan guarantees, forgivable loans, as well as interest rate buy downs for American Recovery and Reinvestment Act-funded manufacturing facilities producing renewable energy and storage systems, and for other renewables development.

- The remaining 47.5 percent for A-E, as well as for a number of other programs including renewable energy and smart grid.

Assuming that one half of the funds are invested in energy efficiency, over the period of 2012-2019, states are projected to receive approximately the following amounts:

Maine – $308 million
New Hampshire – $291 million
Vermont – $246 million

4. *Section 783—Electric Local Distribution Companies*

Section 783 provides for the use of allowance value for the benefit of "electricity consumers" through electric LDCs. Electric LDCs would be allocated the following percentage of program allowances as follows:

38.75% for 2012-2013;
33.89% for 2013-2014; and
35% for 2015-2019.

Unlike the language of Section 784 that requires at least one-third of allowance value to be used to support cost-effective natural gas efficiency programs, the language of section 783 is more permissive:

> Emission allowances distributed to an electricity local distribution company under this subsection shall be used exclusively for the benefit of retail rate payers of such electricity local distribution
>
> To the extent an electricity local distribution company uses the value of emission allowances distributed under this subsection to provide rebates, it shall, to the maximum extent practicable, provide such rebates with regard to the fixed portion of rate payers' bills or as a fixed credit or rebate on electricity bills[26]

[26] Section 784, H.R. 2454.

Environment Northeast notes that, "[i]f the bill were to require that one third of these funds be invested into efficiency" over the period of 2012-2019 – like the natural gas LDC language of section 784 -- states are projected to receive approximately the following amounts:

Maine – $289 million
New Hampshire – $303 million
Vermont – $81 million[27]

5. *Criticism of ACES*

Popular understanding of ACES focuses almost entirely on the cap-and-trade portion of the legislation because of a preoccupation with believing that the cap, and the carbon price signal that it delivers, will be the main tool to achieve reductions. This is not correct. Attempting to reduce emissions through price alone would be very costly.[28] This is especially the case in the power sector due to the structure of wholesale power markets.[29] ACES embodies the understanding that price alone is only part of picture when it comes to reducing GHG emissions. Its drafters recognized that "complementary" energy policies will perform the major emissions reductions required by the program.

[27] See http://www.env- ne.org/resources/open/p/id/895

[28] This problem has been documented in several studies. For example, the Electric Power Research Institute modeled the effect of various levels of carbon taxes or allowance prices in the upper Midwest, which is highly dependent on coal, and in Texas, which relies heavily on gas. See Victor Niemeyer, "The Change in Profit Climate: How Will Carbon-Emissions Policies Affect the Generation Fleet?" Public Utilities Fortnightly, May 2007, at 20, 24. In the upper Midwest (ECAR-Main), the study found that a carbon charge of $25 per ton would raise wholesale power prices $21 per megawatt-hour. That would almost double the wholesale price of electricity in that region, but have little impact on emissions. Even doubling the carbon charge would have little additional impact with the current generation mix. In Texas (ERCOT), modeling a CO_2 value of $40 per ton produced little emissions reduction from the existing mix at natural gas prices around $8 per million Btu. For further discussion of this issue, see Testimony of Richard Cowart, Regulatory Assistance Project, Before the Committee on Energy and Commerce Subcommittee on Energy and Environment, U.S. House of Representatives, April 23, 2009, "The Consumer Allocation for Efficiency: How Allowance Allocations Can Protect Consumers, Mobilize Efficiency, and Contain the Costs of GHG Reduction," at http://energycommerce.house.gov/Press_111/20090423/testimony_cowart.pdf.

[29] See Testimony of Sonny Popowski, Consumer Advocate of Pennsylvania, Subcommittee on Energy and Environment, U.S. House Energy and Commerce Committee, March 12, 2009, at http://www.oca.state.pa.us/Testimony/2009/S.%20Popowsky%20Testimony%20pdf%20version%20%280109944%29.PDF

Policies "Complementary" to Cap-and-Trade

For decades, the goals of clean energy and environmental policies at the state level have been consistent with initiatives that only now are explicitly described as "carbon policies." Recent experience demonstrates that such policies as programmatic energy efficiency provide "complementary" price signals and incentives that can significantly contribute to a cap-and-trade program's goal of reducing GHG emissions.

While one of the essential purposes of a cap-and-trade policy is to deliver a price signal to producers and consumers of energy, such a program is not implemented in a vacuum, but instead, alongside other economic and environmental policies. A climate protection program that attempts to reduce emissions through price alone, and without recognition of complementary policies, will be much more costly than a comprehensive program that includes proven techniques to promote and deliver emissions reductions at low cost to consumers, measured as cost per ton of avoided greenhouse gas emissions.

This is especially true in the power sector, where the marginal generating unit – the last and most expensive power plant to be dispatched in the wholesale power market – sets the market clearing price for all generators during the relevant time period. That includes prices paid to legacy nuclear and hydroelectric units, and other legacy renewable resources, whose costs and operations are largely unaffected by the cap-and-trade program.

As noted above in the discussion of energy efficiency allocation sections, ACES contains two structural features that, at the very least, should be preserved, but could also be improved upon: (1) allowance auctions, and (2) revenue recycling to the states. As designed, ACES reflects an understanding that most of the "heavy lifting" with respect to GHG emission reductions will not come solely from a carbon price, but instead from clean energy programs and policies. This was a key lesson adopted from analyses performed for RGGI and for the State of California through implementation of AB 32.[30] Significant reductions in greenhouse gas emissions during the period of the cap-and-trade program will come about primarily as a result of regulatory programs and policies.[31]

6. *Preserving a Consumer Benefit Allocation in a Federal Program*

One of the biggest criticisms leveled against ACES is that it provides for "giveaways" of allowances to industry.[32] While any bill is going to reflect unwanted compromises, the

[30] I.e., California's cap-and-trade program See http://www.arb.ca.gov/cc/factsheets/ab32factsheet.pdf

[31] See Prindle, et al., at note 7 above, (doubling investments in energy efficiency throughout the RGGI region would (a) lower projected load growth by two-thirds by 2024, (b) reduce carbon emissions, holding them roughly constant during the same period — compared to a 15 percent rise in the base case, and (c) reduce the cost of meeting RGGI's overall carbon objectives). See also AB 32 Scoping Plan, October 2008, at 21 (77 percent of the reductions in the capped sectors are attributable to complementary policies). http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm

[32] See, e.g., Turning Baby Steps into Long Strides in Warming Fight, "The revised bill gives away most of the rights to pollute - the allowances at the heart of cap and trade." John Kassel, President Conservation Law Foundation, at Appendix D. http://www.boston.com/bostonglobe/editorial_opinion/oped/articles/2009/07/06/turning_baby_steps_into_long_strides_in_warming_fight

reality is much better than that criticism would suggest.[33] As shown above, a large fraction of allowances (most of the power sector and gas sector allowances) are not auctioned in the first instance, but are, in fact, given under condition to local distribution companies, LDCs. The bill provides for the sale of allowances to emitters, with the revenue being applied by the states or by the LDCs "for the benefit of consumers," in much the same way as currently practiced under RGGI.

Recognizing that ACES does provide states with money for investment, some have argued for improvements to this approach. Environment Northeast, for example, points out that Section 783 of ACES could be improved by explicitly requiring that electric LDCs spend one-third of their allowances on energy efficiency as provided for in Section 784 which requires gas LDCs to allocate at least that amount.[34]

Another argument for improvement of ACES can be found in a letter that the Secretary of the Massachusetts Executive Office of Energy and Environmental Affairs sent to Congressmen Markey and Waxman which argues for more flexibility in the use of funds provided for under Section 132 of ACES.[35] The section sets out a formula for funding for "other cost-effective energy efficiency programs for end-use customers of electricity, natural gas, home heating oil, or propane." According to the Secretary's letter:

> Providing the greatest amount of flexibility to determine the highest and best uses for the SEED funds…will build on established and constantly improving cost-effective existing efficiency programs for end-use consumers of electricity, natural gas, home heating oil, and propane. In Massachusetts our efficiency programs serve all customer sectors, including residential, low-income, commercial and industrial end-users.
>
> Key to the success of the consumer allocation will be the initial allocation formula, and the formula for updating the allocation over time. We have been working with the Committee on the mechanism, and so far it looks OK, and would incentivize states and utilities to lower consumption and emissions over time. Details matter a lot here.[36]

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[33] Many have argued that the provision of allowances to merchant coal generators and oil refineries under this legislation is counterproductive to bill's emissions reduction goals. See, e.g., NARUC Climate Issues Brief #2, "Allocation and Use of Allowances in a GHG Cap-and-Trade Program," at Appendix E. http://www.naruc.org/Publications/ClimateIssueBrief2_May2009.pdf. The potential confusion lies in equating the allocation of allowances to those groups with the "conditioned" allocation to state clean energy programs and LDCs.

[34] See note 24 above and accompanying text.

[35] See letter of June 10, 2009, to from the Massachusetts Executive Office of Energy and Environmental Affairs to Representatives Waxman and Markey at Appendix F.

[36] Id.

7. *Conclusions—ACES*

As climate legislation moves through Congress, numerous opportunities may present themselves for advocates to convey their concerns to their Congressional delegations or other decision-makers that a climate policy be designed to avoid economic disruption, and benefit not only vulnerable populations but the economy at large. In discussions of federal climate policy, both federal and state policy-makers should understand the relationship between energy consumption and GHG mitigation, and the advantages of incorporating and preserving solutions that connect affordability and greenhouse gas mitigation.

As demonstrated by the examples above, advocates and other interested groups are in a position to help policy-makers appreciate that a cap-and-trade program for the electricity sector can successfully auction emissions allowances and provide for the strategic reinvestment of associated revenues into end-use energy efficiency, including into new and existing housing stock. This reinvestment of carbon revenues into not only electric but also thermal efficiency would not only significantly reduce emissions and program costs, but can also benefit low- and moderate-income households by limiting exposure to disproportionate and excessive energy costs.

In drafting ACES, the House of Representatives approved legislation that provides a substantial allocation of emissions allowance value for the promotion of clean energy, especially energy efficiency. Sections 785, 784, 132 and 783 all, to varying degrees, would provide revenue to state programs that could not only make great strides in achieving program environmental goals, but also cost containment goals which could be of significant benefit especially to vulnerable populations.

These provisions reflect an understanding that most of the "heavy lifting" with respect to GHG emission reductions will come from programs and policies, not from a carbon price itself. As noted, however, there are improvements that might be made to these provisions, such as modifying the broad "for the benefit of consumers" language in Section 783 to more effectively allocate allowance revenue.

C. <u>The American Recovery and Reinvestment Act</u>

1. *Introduction*

The American Recovery and Reinvestment Act (ARRA) was signed into law in February, 2009, and is designed to provide "stimulus" funding to states over a period of three years. ARRA has also been described as "an effort to jumpstart the weakened economy and to lay the groundwork for developing an economy that will be able to meet the challenges of the 21st century through investment in infrastructure, energy,

education, and tax cuts."[37] As explained below, ARRA will provide significant, although temporary, support for energy efficiency and clean energy programs that are similar to programs that stand to receive longer-term funding under a program like ACES.

2. *State Energy Programs*

ARRA funds, in large part, fall into three major categories: State Energy Programs, Energy Efficiency and Conservation Block Grant Program, and Weatherization Assistance Programs.[38] State Energy Program provides (SEP) funding ($3.1 billion) for a wide variety of programs, projects and policies, including energy efficiency and renewable energy. Funding is contingent upon state submission of comprehensive state energy conservation plans to the Department of Energy. The following agencies are responsible for allocating SEP funds: the Maine Public Utilities Commission; the New Hampshire Office of Energy Planning, and the Vermont Department of Public Service.[39]

3. *Conservation Block Grants*

The Energy Efficiency and Conservation Block Grant Program is designed to assist local governments in implementing energy efficiency and conservation programs.[40] Part of the funding ($2.8 billion) will be automatically distributed on the basis of a formula that takes population and other factors into account; the remaining amount ($400 million) will be made available through a competitive grant program.[41] Funding can be used to conduct energy audits, perform energy efficiency retrofits, implement

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[37] EPA's Climate and Energy Technical Forum, State and Local Climate and Energy Economic Recovery Resources
April 15, 2009. http://www.epa.gov/solar/documents/stateforum/04_15_09/background.pdf

[38] ARRA also has provisions related to tax incentives and other program categories, including, loan guarantees, "Green Jobs," "Workforce Investment," "Green Schools," "Assisted Housing," "Urban Development," rebates for energy efficient appliances, smart grid development, and advanced battery design. According to the labor department in Vermont, states can also "expect to new funding for traditional (formula grant) Workforce Investment Act (WIA) programs, as well as for reemployment services and other workforce programs." This ARRA funding is expected to be awarded through competitive grants that are intended for such things as worker training and job placement in high growth and emerging industry sectors. Priority will be given to training and placement in the sectors of energy efficiency, renewable energy and health care. See, http://labor.vermont.gov/Businesses/WorkforceTrainingPrograms/StimulusFunds/tabid/1586/Default.aspx

[39] State Energy Program - Vermont's application for the estimated $21,999,000 in funding for renewable energy and energy efficiency program was submitted to the DOE in May 2009. Once the application is approved and the Vermont Legislature provides statutory language authorizing the use of ARRA energy funds, the state should be able to access up to 50% of the funds; the remaining 50% will be available when Vermont demonstrates that it is obligating the funds in accordance with DOE regulations. Because there are more requests for funds than have been granted, Vermont will use a competitive process to identify the best renewable energy and energy efficiency proposals. Finally, the Department of Public Service reports that it intends to continue to work to obligate 50% of federal funds received, by June 17, 2009.

[40] 42 U.S.C. at Section 17151-58.

[41] Id. at Section 17153.

more efficient energy distribution technologies, develop or install renewable energy technologies and incent energy efficiency improvements in the private sector. Grantees may use the greater of either 2 percent or $250,000 of funds to establish revolving loan funds and the same amount to provide subgrants to assisting non-government organizations.

4. *Weatherization*

The Department of Energy provides grants to states for distribution to low income homes to purchase and install weatherization materials and to implement other measures to improve energy efficiency under the Weatherization Assistance Program.[42] ARRA significantly expands the existing program by (1) increasing the number of households eligible for assistance (expanding eligibility levels to households at or below 200 percent of federal poverty level), and (2) increasing maximum assistance per household to $6,500. States can also receive funding for administrative costs of retaining technical support to further develop weatherization strategies.

D. Conclusions—ACES and ARRA

The ACES legislation reflects an understanding that the key to effective cap-and-trade design for climate purposes is to mobilize low-cost reductions for all consumers through energy efficiency. Efficiency investments should include improvements to housing stock that will lower housing costs and associated GHG emissions. There is room for advocates to support policy options that maximize the development of energy efficiency and other clean energy options as a means of achieving the lowest cost CO_2 emissions reductions. These policies can be counted on to not only deliver the needed reductions, but to deliver them at costs that will be lower than those imposed by price alone. There is also room to improve legislative language to ensure that allowance revenues are used for the benefit of consumers. This could mean more directive language to electric LDCs, as Environment Northeast implies in the case of Section 783, or more flexible language in Section 132, as noted by the Massachusetts Executive Office of Energy and Environmental Affairs in its letter to Congressmen Markey and Waxman.

A significant question is raised by ARRA's expansion of programs such as weatherization: How will the benefits of such a program continue once ARRA funding is no longer available? Part of the answer lies in the likelihood that many of those people who receive training as part of expanded weatherization programs will take their skills to the private sector and continue their work. Another part of the answer may lie in the conscious establishment of a link between the sunsetting ARRA funding and potential revenue streams provided to the states through various efficiency programs outlined in ACES.

[42] Established under 42 U.S.C. sections 6861 et. seq.

Before Congress finalizes climate legislation, there is an opportunity to promote these approaches in the legislation. Given the increase in Weatherization funding through the stimulus bill, there is also an opportunity to build upon the work being performed by community action agencies as they increase their capacity. While ARRA funding can be expected to be very useful, especially in program and capacity development, this funding source is temporary. Cap-and-trade design is, therefore, pivotal in ensuring continued funding for the important work being conducted by the programs like Weatherization that were expanded under ARRA.

E. Federal Legislation and Funding Opportunities

Advocates may want to encourage Congressional delegations, and other federal and state decision-makers to recognize that:

1. Significant GHG reductions are available from the housing sector;

2. There are significant advantages to developing a climate program that weds affordability and environmental goals through the use of a consumer benefit allocation of allowances, and a mandate to invest in lower-cost clean energy solutions including energy efficiency;

3. State commissions, with appropriate statutory direction, are well-suited to developing and administering clean energy programs that are responsive to local needs and conditions; and

4. A consumer benefit allocation mechanism in federal cap-and-trade legislation can help maintain funding for clean energy programming started through ARRA funding.

V. The States—Policies in Maine, New Hampshire and Vermont

A. Introduction

Climate policy developments at the state level present opportunities for Maine, New Hampshire and Vermont's advocates to promote positive environmental and equitable outcomes. Each of these states is in the process of implementing a climate action plan, and its own RGGI program. Although each of these states has recognized that strategic investment in all-fuels efficiency has the potential to achieve significant cost-effective reductions, advocacy work in each of these states, as they implement climate action plans and their respective RGGI programs, would help ensure follow-through and coordination among various state programs as they go forward.

B. Climate Action Plans

Maine, New Hampshire and Vermont have developed climate action plans (Plans). They share an emphasis on: (1) the important role of energy efficiency in meeting climate goals, (2) the need for prompt action in order to achieve greater economic benefits, and (3) the need to address climate change in a coordinated manner. As discussed below, each of the three states is in different stages of acting on those recommendations.

1. *The Maine Plan*

In December 2004, the Maine Department of Environmental Protection (DEP) issued Maine's Plan.[43] The DEP has focused on four sectors of Maine's economy: Transportation and Land Use; Buildings, Facilities, and Manufacturing; Energy and Solid Waste; and Agriculture and Forestry.

Maine's Plan recognizes that "[m]any of the electricity demand management options, such as energy efficiency measures, will save Maine people and businesses significant dollars, while contributing to Maine's energy security."[44]

Maine's Plan contains a number of recommendations related to the role of efficiency. For example, Option 23, entitled "Fossil Fuel Efficiency Measures," recognizes the need to "[i]ncrease public expenditures for fossil fuel efficiency measures for the residential, commercial and industrial sectors." This Option also identifies a policy approach that would involve developing mechanisms that raise public funding for fossil fuel efficiency measures, and enhance existing programs to promote weatherization and insulation measures.[45] Similarly, Option 35, entitled "Efficient Use of Oil and Gas: Home Heating," recognizes the need to "develop energy efficiency programs for heating and hot water systems of all fuel types," and to "replace inefficient boilers/furnaces with Energy Star rated" equipment.[46]

Participation in RGGI is identified by Maine's Plan as one of the most important actions Maine could take to reduce emissions of GHGs, and includes the following benefits:

- Helping reduce Maine's dependence on foreign sources of energy and promote cleaner forms of electric generation such as renewable energy;
- Achieving lowest cost reductions of CO_2 emissions;

[43] A Climate Action Plan for Maine: A Report to the Joint Standing Committee on Natural Resources of the Maine Legislature Pursuant to PL 2003 Chapter 237, Maine Department of Environmental Protection, December 1, 2004 (Maine Plan).
[44] The Maine Plan also contains recommendations regarding appliance efficiency standards (Option #26 at 66) and building codes (Option #30 at 69).
[45] Maine Plan at 63.
[46] Id. at 74.

- Encouraging new investment in alternative energy and energy efficiency projects;
- Establishing the cost of reducing GHG emissions; and
- Establishing a model for an anticipated national CO_2 cap-and-trade program.[47]

2. *The New Hampshire Plan*

New Hampshire issued its Plan in March of 2009.[48] It states that the Plan presents an opportunity to:

• Spur economic growth through investment in the state's economy of monies currently spent on energy imports;
• Create jobs and economic growth through development of in-state sources of energy from renewable and low emitting resources, and green technology development and deployment by New Hampshire businesses; and
• Avoid the significant costs of responding to a changing climate on the state's infrastructure, economy, and the health of citizens.

In order to attain these goals, the New Hampshire Plan contains various recommendations including actions to:

• Reduce greenhouse gas emissions from buildings, electric generation, and transportation;
• Support regional and national initiatives to reduce greenhouse gases; and
• Develop an integrated education, outreach and workforce training program.

The New Hampshire Plan recommends continued implementation of the Regional Greenhouse Gas Initiative.[49]

The New Hampshire Plan also emphasizes the general need for prompt action; "the sooner reductions are accomplished, the greater the economic benefit." "Delays in achieving reductions," according to the Plan, "would result in increased implementation costs," and reduce the expected economic benefits.[50]

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[47] See, e.g., The Regional Greenhouse Gas Initiative: Profile of Maine's Experience, Jim Brooks, Director, Maine DEP Bureau of Air Quality, February 18, 2009, Association of Professional Foresters of New Brunswick 2009 Annual General Meeting, University of New Brunswick. See RGGI discussion below.
[48] New Hampshire Climate Change Policy Task Force The New Hampshire Climate Action Plan: A Plan for New Hampshire's Energy, Environmental and Economic Development Future, March 2009. (New Hampshire Plan).
[49] EGU Action 2.2.
[50] Id.

3. *The Vermont Plan*

In October of 2007, Vermont's Commission on Climate Change (Commission) issued its Final Report (Report), and in its first recommendation, urged the Governor and Legislature to:

> [E]xplore together ways to continue and expand the state's nationally recognized demand-side management (DSM) practices for electricity and natural gas. [51]

The Report further urged the Governor to:

> Cost-effectively enhance energy efficiency by developing mechanisms to extend Vermont's existing and highly effective DSM efforts to include additional fuels beyond electricity and natural gas, especially heating oil used in residential, commercial, and industrial establishments.[52]

The Commission also acknowledged the "inadequacy" of what it termed "stovepipe" approaches to public policy as it addresses climate change. It emphasized the need for Vermont to "comprehensively integrate its efforts to address climate change, just as climate change comprehensively threatens the state's traditional character and its extraordinary quality of life."[53] The Commission further urged the Governor to lead by example and "coordinate climate change efforts across all agencies …."[54]

In December 2007, the Vermont Agency of Natural Resources developed a Climate Change Transition team (Climate Team) to further respond to proposals in the Report. The Climate Team was directed to review the Report's recommendations, and develop work plans for their implementation. The Climate Team is currently undertaking that task.

4. *Conclusions—Climate Action Plans*

While being implemented differently, Plans in Maine, New Hampshire and Vermont reflect the recognition of the central role to be played by energy efficiency in cost-effectively achieving climate goals, the need for prompt action, and the increased effectiveness to be achieved through better coordination among state agencies. In their climate action plans, these states recognize the value in broadening the electric energy efficiency mandate to include buildings and thermal efficiency. They also

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[51] Final Report and Recommendations of the Governor's Commission on Climate Change, October 2007 at 3.
[52] Id.
[53] Id. at 6.
[54] Id. "Central to seizing the opportunity before us is a strategic partnership among the State of Vermont, including all its agencies, departments, the General Assembly, and the Office of Governor; the University of Vermont . . .; and the private business and nongovernmental sectors." Id. at 7 (emphasis in the original).

recognize the value of operating in a cost-effective manner, and building on the frameworks of existing programs.

5. *Opportunities—Climate Action Plans*

Maine, New Hampshire, and Vermont advocates should view their state Plans as the current articulation of state climate policy, and should become familiar with their Plan's major features and policy statements regarding housing and energy efficiency. Advocates should also:

- Participate in implementation discussions;
- Develop a level of comfort in citing to climate plan goals in discussions; and
- Educate decision-makers regarding the Plan policies and mechanisms that will promote a state climate program that weds affordability, environmental, and energy goals.

C. <u>The Regional Greenhouse Gas Initiative (RGGI)</u>

1. *Introduction*

Climate and energy policy in Maine, New Hampshire and Vermont is also being shaped by participation in RGGI. On December 20, 2005, the governors of seven Northeastern states announced the creation of RGGI. The governors of Maine, New Hampshire and Vermont, as well as Connecticut, Delaware, New Jersey, and New York signed a Memorandum of Understanding (MOU) agreeing to implement the first mandatory U.S. cap-and-trade program for carbon dioxide (CO_2).[55] RGGI sets a cap on CO_2 emissions from power plants, and allows sources to trade emissions allowances. The program has begun by capping emissions at current levels, and plans to reduce emissions by 10% by 2019.

RGGI states participate in a regional auction in which they sell their respective apportionments of emission allowances. RGGI has already concluded four auctions, in September and December of 2008, and March and June of 2009. In the first three auctions, Maine, New Hampshire and Vermont raised approximately $8.8, $8.4 and $2.0 million dollars respectively. RGGI states have been investing approximately 65 percent of the auction proceeds on behalf of consumers.[56] Investments have been directed at, among other things, increased energy efficiency, renewable energy, and other clean energy technologies.

[55] In January 2007, Massachusetts and Rhode Island joined RGGI, bringing the total number of participating states to nine. Maryland became the 10th official participating state in April 2007.

[56] This amount is an estimate, and is based upon a conversation with Environment Northeast analyst, Peter Shattuck. See also footnote 8 below.

In planning the implementation of RGGI, Maine New Hampshire and Vermont have recognized the economic, environmental and social advantages of investing in clean energy resources such as energy efficiency and renewables. For example, the New Hampshire Legislature directed the University of New Hampshire (UNH) to conduct a study regarding the benefits and feasibility of New Hampshire's joining RGGI. According to the New Hampshire Department of Environmental Services (DES) and UNH, a key finding of the UNH study centers on the environmental and the affordability roles to be played by clean energy:

> [O]ver the long term, New Hampshire electric rate payers' costs will decrease if New Hampshire participates in RGGI, auctions allowances, and invests the auction revenues in energy efficiency.[57]
>
> A consumer benefit allocation approach is also critical to the success of the RGGI program. No cost-effective end-of-stack controls are currently available to limit CO_2 emissions. As a result, a CO_2 cap-and-trade program will benefit from having strong energy efficiency or technology development programs integrated into its design. A consumer allocation approach allows RGGI to adopt both a supply-side (electricity generation) and demand-side (electricity use) focus, thus facilitating the achievement of emissions reductions at least cost.[58]

As further explained below, Maine, New Hampshire and Vermont have passed legislation outlining how each state is to participate in RGGI, and implement its respective RGGI program.[59] In each state there are opportunities for advocates to help in improving the delivery of program benefits to promote greater energy affordability.

2. *RGGI in Maine*

By statute, Maine is required to use nearly all of its RGGI allowance value for energy efficiency.[60] Maine's proceeds from the RGGI auctions are deposited in the "Energy and Carbon Savings Trust Fund." These funds, by law, are held "for the purposes of

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[57] Regional Greenhouse Gas Initiative (RGGI) Frequently Asked Questions on the Economic Analysis, Prepared by New Hampshire Department of Environmental Services with the assistance of the University of New Hampshire January 10, 2008; see also Gittell, R. and Magnuson, M. (2008). Economic Impacts in New Hampshire of the Regional Greenhouse Gas Initiative (RGGI): An Independent Assessment, at 69. http://des.nh.gov/organization/divisions/air/tsb/tps/climate/rggi/documents/unh_rggi_study.doc.

[58] Id. at Question 3.1

[59] The following laws implementing RGGI were adopted in Maine, New Hampshire and Vermont, respectively, Maine: LD 1851, "An Act to Establish the Regional Greenhouse Gas Initiative Act of 2007"; Chapter 156, "CO_2 Budget Trading Program"; New Hampshire: HB 1434, "An Act Relative to the Regional Greenhouse Gas Initiative and Authorizing Cap-and-Trade Programs for Controlling Carbon Dioxide Emissions"; and Vermont: Title 30, Chapter 5, §255, "Regional Coordination to Reduce Greenhouse Gases"; Chapter 22, "Vermont CO_2 Budget Trading Program."

[60] "Nearly" all because Maine, like all but one other RGGI state, developed a "set aside" account of a maximum of two percent of Maine's RGGI allowances for the purpose of enabling the continued purchase of voluntary renewable resources. To the degree that these resources are purchased, RGGI allowances (up to two percent) will be permanently retired. The balance of its allowance value is used for investment in energy efficiency.

benefitting consumers."[61] Using a solicitation process, the trustees of the Energy and Carbon Savings Trust, with the advice of the Maine Energy Conservation Board, distribute the proceeds toward residential, commercial and industrial energy efficiency improvements that achieve the greatest greenhouse gas reductions.[62] Because RFPs are judged, in part, on the basis of the highest potential savings per trust dollar that a project can deliver, cost sharing is a highly valued facet of any project proposal.

According to the Maine RGGI statute, no less than eighty-five percent of RGGI program funds are to be targeted to electric efficiency programs, and no more than fifteen percent can go toward reducing emissions associated with fossil fuel.[63] This approach leaves open the question of how to provide additional support for investment in all fuels efficiency.

Currently, there are three entities that deliver energy efficiency in Maine: the Maine State Housing Authority (MSHA), Efficiency Maine, and the RGGI Trust. However, in June, the Maine legislature restructured the management of these programs by passing LD 1485, "An Act Regarding Maine's Energy Future."[64] LD 1485 contains the goal of reducing the state's heating oil consumption 20 percent by 2020. It also establishes the new, "Efficiency Maine Trust" (Maine Trust) for the purpose of administering programs for energy efficiency, alternative energy resources, and to help individuals and businesses in Maine "meet their energy needs at the lowest cost."[65]

Over the next year, current Efficiency Maine programs will be moved from the Maine Public Utilities Commission (PUC) and merged with the existing Energy and Carbon Savings Trust programs. The new Maine Trust will be governed by an independent, 9-member board and subject to PUC oversight.

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[61] The Energy and Carbon Savings Trust and Trust Fund were established to support the goals and implementation of RGGI. The trust fund is a non-lapsing fund administered by the trust. The trust is authorized to receive, deposit, and expend revenue resulting from RGGI's allowance sales, and also any forward capacity market or other capacity payments from the regional transmission organization that may be attributable to projects funded by the trust. The trust fund may not be used for any other purpose, and money in the trust fund is considered to be held in trust for the purposes of benefiting consumers.

[62] The Maine Energy Conservation Board was created to assist the Maine PUC and the trustees of the Energy and Carbon Savings Trust in the development, coordination and integration of planning for the State's energy conservation efforts, and to provide advice and counsel to the PUC and the Energy and Carbon Savings Trust on energy conservation and CO_2 reduction matters.

[63] Climate Change and Energy and Efficiency in Maine, Stephen Ward, Maine Center for Economic Choices, March 2009.

[64] This bill was signed into law by Governor Baldacci in June, 2009. The description of LD 1485 relies upon the summary prepared by Environment Northeast. See: http://www.env-ne.org/public/resources/pdf/ENE_Summary_MaineEnergyFuture_Act(June_15_2009).pdf

[65] Id.

Among other things, the Maine Trust is tasked with developing:

> a 3-year plan providing integrated planning, program design and implementation strategies for all energy efficiency and alternative energy resources programs in the state, for all customer classes, for all fuels, except that Maine State Housing Authority's energy programs are exempted from coverage by the 3-year plan.[66]

The purpose of the 3-year plan is to encourage the achievement of various energy-related targets including:

- The weatherization of all Maine residences and half of Maine businesses by 2030;
- Energy savings in the form of 30% reductions of electric consumption, and of natural gas consumption, and 20% heating fuels consumption, by 2020;
- The capture of all cost-effective energy efficiency resources available for electric and natural gas utility ratepayers; and
- The statewide reduction of GHG emissions from heating and cooling buildings in a manner that is consistent with statewide goals of reducing such emissions least 10% below 1990 levels by 2020 and ultimately 75-85% below 2003 levels.

The plan must be developed through an open and consultative process, and is to be presented to the legislature for input, and then to the PUC for final approval.

Section 10119 of LD 1485 explicitly directs the Maine Trust to design programs that address both electric and thermal energy needs of customers at the same time, through an integrated set of programs. However, according to Environment Northeast, "[p]roposals to establish a reliable funding stream to help middle income customers and businesses reduce their consumption of heating oil, kerosene or propane were eliminated from the bill."[67] While ARRA funding and existing Weatherization funding, in the short term, will be available for this, there is no program for energy efficiency associated with the use of unregulated fuels.
Environment Northeast reports that:

> By 2012, there will be no assured funding for programs to help non-low income homes or businesses reduce costs of heating with oil, propane or kerosene. In lieu of a reliable funding stream, the bill (a) directs the Trust to submit a report to the legislature, by January, 2011, recommending appropriate levels and mechanisms of funding ongoing programs sufficient to capture cost-effective thermal efficiency resources, including heating oil, kerosene and propane and

[66] Id. It should also be noted that LD 1485 authorizes the issuance of revenue bonds to support the new construction or rehabilitation of multifamily affordable rental housing units and replacement of substandard manufactured housing.
[67] Id.

(b) directs the first $50 million of any future sale or lease of state-owned lands used for energy infrastructure to go into the Trust to promote energy independence.[68]

Maine Conclusions

Policies articulated in Maine's Climate Plan and in LD 1485 would support the liberal use of Maine RGGI allowance revenues for programs that extend beyond electric energy efficiency to include broader, thermal efficiency programs. However, LD 1485 does not provide the explicit policy framework for doing so with unregulated fuels like heating oil, kerosene and propane. Despite recognizing the value in better coordinating programs to optimize delivery of efficiency benefits, the absence of a mechanism for funding thermal efficiency today—beyond the current 15 percent limit—presents a significant challenge for advocates.

Opportunities in Maine

Advocacy opportunities in Maine include:

1. Helping decision-makers like the Efficiency Maine Trust and the PUC to recognize the available greenhouse gas (GHG) reductions available in the housing sector;

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals;

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization; and

4. Participating in Efficiency Maine Trust's "3-year Plan" process to design integrated programs that address both electric and thermal energy needs of customers.

3. *RGGI in New Hampshire*

New Hampshire's RGGI statute, HB 1434, created the Energy Efficiency and Sustainable Energy Board ("EESE Board"), and the "Greenhouse Gas Emissions Reduction Fund" ("RGGI Fund").[69] The Legislature directed RGGI funds to be "used to

[68] Id.

[69] Energy Efficiency and Sustainable Energy Board RSA 125-O:5-a First Annual Report, December 1, 2008 (EESE Board 2008 Annual Report); see also New Hampshire RSA 125-O:5-a.

support energy efficiency, conservation and demand response programs to reduce greenhouse gas emissions generated within the state," and to reduce energy bills for New Hampshire electric customers.[70] The EESE Board is required to "provide recommendations at least annually to the public utilities commission on the administration of energy efficiency and renewable energy funds under the commission's jurisdiction."[71] In its annual report, the EESE Board wrote:

> Another purpose for establishing the EESE Board was the increasing awareness that energy efficiency is the cleanest and least expensive energy resource, and that New Hampshire must do much more to take advantage of it. To this end, the EESE Board was directed to develop a plan for energy efficiency and sustainable energy that builds on existing successful programs, increases awareness of energy efficiency and sustainable energy, and improves coordination of these programs.[72]

The EESE Board has developed workgroups to address its various statutory duties. One of these, the "Outreach and Coordination Work Group,[73] acknowledges that its role in supporting the EESE Board will be to respond to the following Board duties:

- Review available energy efficiency, conservation, demand response, and sustainable energy programs and incentives, and compile a report of such resources in New Hampshire;

- Explore opportunities to coordinate programs targeted at saving more than one fuel resource, including conversion to renewable resources and coordination between natural gas and other programs which seek to reduce the overall use of nonrenewable fuels;

- Develop tools to enhance outreach and education programs to increase knowledge about energy efficiency and sustainable energy among New Hampshire residents and businesses; and

- Work with community action agencies and the office of energy and planning to explore ways to ensure that all customers participating in programs for low-income customers and the Low Income Home Energy Assistance Program (LIHEAP) have access to energy efficiency improvements, and where appropriate, renewable energy resources, in order to reduce their energy bills.[74]

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[70] NH RSA 125-O:23.
[71] NH RSA 125-O:5, I (d).
[72] EESE Board 2008 Annual Report. For a complete list of the EESE Board's statutory duties, see Appendix G.
[73] For a description of the Work Group members and relevant statutory duty, see, http://www.puc.state.nh.us/EESE%20Board/WorkGroups/Outreach%20and%20Coordination%20Work%20Group.pdf
[74] NH RSA 125-O:5-(a),(e),(e),(f), and (i), respectively.

Embodied in the requirements, among other things, is the recognition of the need to take stock of programs and incentives, to consider more effective ways to coordinate programs and to reach beyond a single fuel resource, and expand access to the benefits of efficiency to a great number of people.

New Hampshire Conclusions
In developing the EESE Board, the New Hampshire legislature is following a trend seen elsewhere in New England, e.g., Connecticut or Rhode Island's use of a stakeholder advisory council process. The creation of the EESE Board as a stakeholder forum and advisory mechanism for the PUC is very promising.

Policies articulated in the New Hampshire Climate Plan and RGGI legislation demonstrate an understanding of the value in directing efficiency investments beyond electric energy use to include the thermal efficiency associated with improving building stock. Ten percent of RGGI funds are specifically set aside to help low-income residential customers reduce their energy use.[75]

Administering RGGI revenues through a PUC-directed RFP process also provides electric utilities an opportunity to seek additional funding to develop programs for thermal efficiency.[76] The design of this process allows the EESE Board to make recommendations regarding integration of electric programs with a greater emphasis on an all fuels approach. With utility company efficiency filings due in the fall, this will present an opportunity for the EESE Board to "review available energy efficiency, conservation, demand response, and sustainable energy programs and incentives;" and to "explore opportunities to coordinate programs targeted at saving more than one fuel resource…" as provided for in RSA 125-O:5.

Opportunities in New Hampshire
Advocacy opportunities in New Hampshire include:

1. Helping decision-makers like the EESE Board and the PUC recognize the available greenhouse gas (GHG) reductions available in the housing sector;

[75] RSA 125-O:23; see also Presentation to NHOEP Spring Planning & Zoning Conference, Jack Ruderman, Director Sustainable Energy Division, New Hampshire PUC, May 2, 2009; http://www.nh.gov/oep/programs/MRPA/conferences/spring2009/documents/ruderman.pdf
[76] According to PUC Interim Rule number 2604.03(a)(1), as it considers RFPs, the PUC must consider the degree to which the proposal would reduce GHGs from "all fuels used to provide electricity, heating and cooling…." Id.

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals[77];

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization;

4. Participating in the EESE Board process, through work with existing members or attendance of periodic meetings, to encourage the continued use of RGGI allowance revenues (and, potentially, the use of a federal program's revenues) beyond electric energy alone to include the thermal efficiency associated with improving building stock; and

5. Generally, helping the EESE Board fill the role of a "coordinating voice, both within the state and outside the state on all of the issues dealing with the vision of energy policy at all levels of government."[78]

4. *RGGI in Vermont*

Vermont's RGGI statute, 30 V.S.A. § 255, has divided the implementation of the program between Vermont's Agency of Natural Resources and the Vermont Public Service Board (Board). The Agency is primarily responsible for air regulation and the Board is responsible for representing Vermont in the auction, and for seeing that allowance values are allocated according to law. Under current law, proceeds from allowance sales go into a "fuel efficiency fund" that is used to support "energy efficiency services delivered pursuant to an RFP process overseen by the Vermont Department of Public Service (Department), and approved by the Board.[79] The statute further requires the Board to:

> ensure that carbon credits allocated under this program and revenues associated with their sale remain public assets managed for the benefit of the

[77] The EESE Board is directed by statute to "explore opportunities to coordinate programs targeted at saving more than one fuel resource…."See NH RSA 125-O:5-(e).

[78] Draft Minutes Energy Efficiency and Sustainable Energy Board, November 13, 2008, Meeting. After his presentation, on November 18, 2008, Jim O'Reilly of the Northeast Energy Efficiency Partnership (NEEP) urged the EESE Board to be the "coordinating voice, both within the state and outside the state on all of the issues dealing with the vision of energy policy at all levels of government." Id.

[79] 30 V.S.A., section 255(d) states that "[p]roceeds from the sale of carbon credits shall be deposited into the fuel efficiency fund established under section 203a of this title." Section 203a(b) of title 30 states that the fund shall be used to support energy efficiency services delivered by the provider selected by the Department under section 235.

> state's consumers, particularly benefits that will result from accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power, or heating system or building envelope investments....[80]

Under this structure, the Department submitted a plan to the Board which received final approval on August 26, 2009.[81]

The Legislature, however, in passing H. 313 in May 2009, has changed how RGGI funds will be distributed. Starting in 2010, half of the RGGI revenues will go to the electric efficiency fund, which is regulated by the Board and administered by Efficiency Vermont. The other half is to go to the fuel efficiency fund, which is administered by the Department via an RFP process. In addition to making this division, the legislature specified that Efficiency Vermont will use its portion of RGGI revenues to serve non-residential customers, and residential customers above 80 percent of median income. The DPS-administered portion will go to residential customers at or below 80 percent of the median.

Vermont Conclusions
Vermont's current RGGI statute makes clear that revenues raised from Vermont's participation in RGGI are for the benefit of the state's consumers, and will be directed toward "accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power, or heating system or building envelope investments...."[82]

Opportunities in Vermont
Advocacy opportunities in Vermont include:

1. Helping decision-makers like the Public Service Board, Department of Public Service, and Vermont Energy Investment Corporation to recognize the available greenhouse gas (GHG) reductions in the housing sector;

2. Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement the state's climate action plan, RGGI program, and other energy policies in a manner that best coordinates these goals; and

3. Helping decision-makers understand, generally, how cap-and-trade can be designed in such a way to continue supporting the important work being conducted by ARRA-funded programs such as State Energy Programs, Community Block Grants, and Weatherization.

[80] Id. at section 255 (c)(2)(F).
[81] See Docket 7495, Orders of February 26, 2009, and August 26, 2009..
[82] Id. at section 255 (c)(2)(F).

VI. Conclusion

Climate change programs, both at the national and state levels, face the challenge of mapping a path that achieves deep emissions reductions while minimizing economic disruption. Since one of the principal aims of cap-and-trade programs is to lower the overall societal cost of environmental improvement, it is crucial to design the national cap-and-trade system and to implement regional systems to employ the lowest-cost emission reductions available to the economy, and avoid creating unnecessary costs. State clean energy policies provide the essential foundation and should constitute the first step in achieving these goals.

Advocates are in a position to help policy-makers appreciate that a cap-and-trade program for the electricity sector can successfully auction emissions allowances and provide for the strategic reinvestment of associated revenues into end-use energy efficiency, including new and existing housing stock. This reinvestment of carbon revenues into electric and thermal efficiency would not only significantly reduce emissions and program costs, but can also benefit low- and moderate-income households by limiting exposure to disproportionate and excessive energy costs.

August 5, 2009

Senator John Kerry
United States Senate
218 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Kerry:

Given the significant leadership role you are playing on climate change, we are writing with concerns about how this legislation will affect low and moderate income consumers in Massachusetts. The anticipated consideration of climate legislation by the Senate is a crucial step in controlling greenhouse gas emissions and encouraging the development of renewable energy technologies. With well-designed policies in place, we believe that the important long term goals of the legislation can be achieved without inflicting harm on low and moderate income families (e.g. those with incomes in the lowest two quintiles who otherwise will suffer a significant loss in purchasing power as a result of higher energy prices).

We recognize that you have long been a champion of combating the negative effects of global warming in the earth's climate and are pleased that you will be helping to guide the Senate in crafting climate change legislation this fall. We are confident that you will draft legislation that will lower greenhouse emissions while also protecting our more vulnerable households.

The cap and trade system, which the Senate is considering, will increase prices of energy and a broad range of consumer goods as a result of trying to reduce emissions of greenhouse gasses and encourage energy conservation and the long-term development of alternative energy sources. The relative impact of these increased prices will be greatest on low and moderate income consumers who spend a disproportionate share of their income on energy and goods for which costs will rise with increasing energy costs (such as food). The Congressional Budget Office (CBO) estimates that under the legislation passed by the House, had the House not included provisions to protect low income consumers by including provisions that would ensure that there was no net increase for those in the bottom quintile, that consumers in the lowest quintile would have seen their costs increase by an average of $425 per year.

Thanks to the House's commitment to low income consumer relief, its bill ensures that, on average, households in the bottom quintile are not made worse-off by the legislation. It is critically important that the Senate maintains this commitment to protect the lowest income people from net cost increases. Similar protections should be extended to people in the second quintile. Unless these costs are offset in your legislation, the purchasing power and living standards of these lower income consumers could fall significantly over time. Accordingly, as you consider climate change legislation, we urge you to include some key elements:

First, we urge the Senate to join the House in committing to holding low income Americans harmless from increased costs associated with curbing greenhouse emissions. While there have been proposals to provide consumer relief through utilities, we believe they are insufficient. Providing benefits through utilities will only help households pay for increased costs of their

natural gas and electricity. These proposals will not offset the costs of other necessities such as gasoline, food and clothing, which represent more than half of the increased costs associated with climate legislation. The best way to hold these families and individuals harmless is to incorporate the same direct assistance measures included in the House bill that would compensate for increases in both energy costs as well as other necessities. The most efficient and effective way to make sure that direct benefits reach all families and individuals in the lowest income quintile (those with incomes at about 150 percent of poverty) is to include a combination of the following two mechanisms:

- Provide direct and timely energy refunds to low-income families through state human service agencies that already use an electronic benefit transfer system – a debit card – to deliver food stamps and other assistance to a broad range of low-income people, including those who are not part of the tax system. The program should be as simple as possible for families to access and states to administer. Information about those who already participate in various benefit programs such as food stamps, SSI, Medicaid, and the low-income subsidy for the Medicare prescription drug benefit should be provided to the new energy refund in as automatic and hassle-free manner as possible.

- Provide a refundable energy tax credit to low and moderate income households that are already in the tax system, including low income childless workers.

It is essential that both of these mechanisms be used. If only a tax credit is adopted, many low income households that are not required to pay taxes will be left out while using the EBT system alone means that more moderate income households who may not participate in or qualify for food stamps will not be protected.

Second, expand direct assistance benefits to income earners in the second quintile (earning roughly $56,000 for a family of four). While we are pleased that the House bill holds the earners in the lowest income quintile harmless, we believe that earners in the second quintile also need real help. These households receive little direct assistance in the House bill and must rely on whatever relief they receive on their utility bills. A refundable tax credit can efficiently deliver consumer relief to moderate income families and individuals. Although expanding relief to this second quintile will cost money we believe there is a ready funding source in the House bill. Much of what is defined as consumer relief in that legislation will result in windfall profits to businesses receiving relief on their utility bills. The CBO found that high income households are likely to be the main beneficiaries of this relief directed at businesses. The Senate could reduce the amount of relief going to utility companies to lower their business customers' bills and redirect those resources to provide targeted assistance to moderate income households.

Third, the legislation should provide help to low and moderate income families, in addition to the direct assistance mentioned above, by increasing funding for the Low Income Home Energy Assistance Program (LIHEAP) and providing these households with assistance in reducing their energy consumption. LIHEAP will help low and moderate income households living in older, very poorly insulated homes, whose energy costs will increase by significantly more than the amount of direct relief they would receive. Direct funding could also be provided to agencies that help low income families to reduce their energy use with conservation programs such as energy retrofitting and weatherization.

Not only will investment in these programs benefit consumers who are bearing increased energy costs, but it will reduce energy demand over the long run. Moreover, investment in weatherization and energy retrofitting programs will create much-needed, well-paying jobs. We support specific language be added to the legislation requiring that 15 percent of the jobs created using funds from this legislation for energy retrofitting go to lower-wage and disadvantaged workers, long-term unemployed and out-of-work young adults aged 18-24. While the House bill includes a demonstration program that adopts the principles outlined above we urge the Senate to take a step further and expand the employment benefits of this legislation to help those in all income groups.

Finally, we do not believe it is wise to give allowances away to local distribution companies that could be auctioned and used for direct relief or other public purposes. The purported purpose of giving away these allowances is to reduce the burden on energy consumers of price increases that will result from a cap-and-trade program. But it will be exceedingly hard, if not impossible, for Congress to ensure that the benefit of these free allowances will fully flow through to consumers. If the Senate decides to give away allowances, as the House bill does, it is important to include stronger language than the House bill to require that savings are passed along to residential customers to reduce the bill's impacts and to promote energy efficiency for those customers. We urge the Senate to include sufficient mechanisms to make sure that low and moderate income consumers and ratepayers receive direct relief, as we lay out in our first point, for the increased energy and energy-related costs that the cap and trade system will impose. To the extent any additional relief is provided through utilities, we also urge that any such free allowances be provided only as a transition mechanism that would be phased out as quickly as possible.

We applaud you for taking up this critical legislation and thank you in advance for listening to our concerns.

Sincerely,

George Bachrach
President
Environmental League of Massachusetts

Noah Berger
Executive Director
Massachusetts Budget and Policy Center

Deborah Fastino
Director
Coalition for Social Justice

Lew Finfer
Director
Massachusetts Communities Action Network

Melissa Gilbarg
Director
Coalition Against Poverty

Charlie Harak
Staff Attorney
National Consumer Law Center, on behalf of its low-income clients

Elliot Jacobson
Director
Action Energy

Juan Leyton
Executive Director
Neighbor to Neighbor Massachusetts

Sam Krasnow
Policy Advocate and Attorney
ENE (Environment Northeast)

Allan Rodgers
Executive Director
Mass Law Reform Institute

cc: Kathy Kerrigan, Legislative Assistant
Karena Neubauer, Legislative Assistant
Kathleen Frangione, Legislative Assistant

Climate Issue Brief

Task Force on Climate Policy
July 2009

Climate Issue Brief #4

State Clean Energy Policies: The Foundation for an Electric Sector Cap-and-Trade Program

As the U.S. Congress contemplates legislation to address the threat of global climate change, much of the pressure to reduce emissions is being placed upon the electric sectors, which is responsible for approximately 40 percent of the nation's emissions of carbon dioxide (CO2). Legislative initiatives, such as the American Clean Energy and Security Act, passed by the U.S. House of Representatives, would impose a price on emissions of carbon arising from energy activity via a cap-and-trade mechanism.

In a November 2007 resolution, NARUC expressed its support for a well-designed, economy-wide federal program to limit carbon emissions, which we conclude is necessary in order to remove uncertainty regarding new energy industry investment.

For decades, the goals of State clean energy investment have been consistent with initiatives that only now are being explicitly described as "carbon policies." Recent experience demonstrates that such policies as programmatic end-use energy efficiency and renewable portfolio standards are not merely "complementary" to the price signal established by a carbon policy, but could constitute the primary means for reducing CO2 emissions in the energy sector. This issues brief explains why these policies should be considered a foundation upon which an effective electric and gas sector carbon program can be built, and how they can be counted on to (1) deliver the needed reductions; and (2) deliver them at costs that will be lower than those imposed by price alone.

Sources of Electric-Sector Emission Reductions. Power-sector CO2 emissions can be reduced in three ways:

1. re-ordering the dispatch the existing portfolio of generation;
2. replacing or modifying existing generation with lower-carbon generation or technology[1] ; and
3. reducing consumption of electricity by end users.

Is a Price Signal Enough? In many parts of the country, only a very high carbon price would produce a meaningful change in the dispatch of the existing generation fleet, and incent the development and operation of low-carbon technologies such as carbon capture and storage. While pricing carbon sends a necessary price signal to consumers and electricity markets, a policy that tries to reduce emissions through price alone will be much more costly per ton abated than such a program that also includes proven techniques to deliver low-cost, clean energy resources.[2]

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Task Force on Climate Policy July 2009

At the consumer level, prices alone will not reduce demand nearly enough to meet carbon goals. However, years of experience in delivering programmatic end-use energy efficiency demonstrate that programmatic investments in end-use energy efficiency are likely to result in significant reductions in demand (and in associated emissions).[3] The efficiency savings potential in electricity markets has been shown to be on the order of 25% of total electricity usage at a levelized cost of about three cents per kilowatt-hour (kWh).[4] This is much less than the average national retail price of electricity, currently more than 8 cents per kWh.[5] It is also far less than the marginal cost of new generation which, depending on the technology, is estimated to cost 5 to 10 cents per kWh or more.[6]

Affecting the Generation Mix. At the generator level, there are a number of reasons why policies, rather than price alone, will be more effective in securing cost-effective emissions reductions. Analyses conducted by the Electric Power Research Institute (EPRI) indicates that carbon prices as high as $50 a ton would not affect the generation mix and CO2 emissions in the Midwest ISO, a coal-heavy region.[7] In modeling similar allowance prices in gas-dominated ERCOT, EPRI reached similar conclusions.

State Programs. Instead of relying solely on price to drive emissions reductions, policymakers can facilitate significant reductions through expansion of a wide range of State-level clean energy programs and support for demonstration projects in new technologies. Carbon programs that allocate allowances for consumer benefit and invest allowance values in clean energy programs have the potential to provide the greatest benefit to energy consumers. Strategic investment of auction allowance values through expanded State clean energy programs will enable low-cost reductions in CO2 emissions and will keep allowance prices and end-user electric rates significantly lower than would occur from a price signal alone.

Modeling for the Regional Greenhouse Gas Initiative (RGGI) in ten Northeast States indicates that increasing the region's spending on energy efficiency would significantly lower the overall cost to the economy of RGGI's planned carbon reductions. RGGI's study found that doubling investments in energy efficiency throughout the ten-state region would lower projected load growth by two-thirds.[8]

Conclusion. National climate change policy faces the challenge of achieving deep emissions reductions while minimizing economic disruption. Since one of the principal aims of a cap-and-trade program is to lower the overall societal cost of environmental improvement, it is crucial to design a national carbon policy that taps the lowest-cost emission reductions available to the economy and avoids creating unnecessary costs. As a source of substantial low-cost carbon emission reductions, State clean energy policies should provide an essential foundation for an energy sector cap and trade program.

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1 This includes renewables and fossil generation with carbon capture and storage, as well as supply-side efficiency improvements.

2 McKinsey & Company, in its study *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?*, concluded that CO2 emission reductions could be achieved at a far lower cost to the economy if the nation can capture sizable gains from energy efficiency, but that achieving these low-cost reductions will require strong, coordinated, economy-wide action in the near future. http://www.mckinsey.com/clientservice/ccsi/greenhousegas.asp

3 Rate designs and rebate programs, like those associated with critical peak pricing, demonstrate this because the rebates or the prices have to be very high relative to the average price of electricity

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in order to produce the desired consumer response.

4 *See* J. Laitner and V. McKinney, *Positive Returns: State Energy Efficiency Analyses Can Inform U.S. Energy Policy Assessments* (2008) (A review of 48 different assessments shows "an average 23 percent efficiency gain with a nearly 2 to 1 benefit-cost ratio); *see also* Martin Kushler et al., *Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies*, 29, 30 tbl.5 (2004), *available at* http://www.aceee.org/pubs/u041.htm (stating that the efficiency programs in the aggregate are very cost-effective, with savings ranging from $0.023 to $0.044/kWh).

5 Energy Information Administration, *Total Electric Power Summary Statistics* (Aug. 25, 2008), http://www.eia.doe.gov/cneaf/electricity/epm/tablees1a.html.

6 *Lazard, Levelized Cost of Energy Analysis – Version 2.0 at 2* (2008), *available at* http://www.narucmeetings.org/Presentations/2008%20EMP%20Levelized%20Cost%20of%20Energy%20-%20Master%20June%202008%20(2).pdf.

7 *"The Change in Profit Climate: How will carbon-emissions policies affect the generation fleet?"* Victor Niemeyer, (EPRI) -- Public Utilities Fortnightly May 2007.

8 William Prindle, et al., *Energy Efficiency's Role in a Carbon Cap-and-Trade System: Modeling Results from the Regional Greenhouse Gas Initiative iii* (2006), available at http://aceee.org/pubs/e064.pdf.

Task Force on Climate Policy July 2009

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Emissions from the Building Sector in New England

In deriving figures related to buildings sector CO_2 emissions in the northern New England states, the following data from the EIA's State Energy Data System was utilized and simplifying assumptions were employed.

First, state-level emissions estimates were obtained from the EPA's Climate Change website. http://www.epa.gov/climatechange/emissions/state_energyco2inv.html The emissions estimates for the northern New England states are shown in the table below.

Northern New England CO_2 Emissions from Fossil Fuel Combustion 2005-2007 (Million Metric Tons CO_2)

State	Sector	2005	2006	2007
Maine	**Total**	**22.90**	**20.47**	**19.93**
	Commercial	1.92	1.68	1.95
	Industrial	3.04	2.61	2.39
	Residential	4.75	4.13	4.03
	Transportation	9.36	9.36	8.96
	Electric Power	3.83	2.69	2.59
New Hampshire	**Total**	**21.12**	**19.21**	**19.02**
	Commercial	1.93	1.30	1.33
	Industrial	0.97	1.12	0.88
	Residential	3.17	2.81	2.81
	Transportation	7.35	7.24	7.36
	Electric Power	7.70	6.74	6.63
Vermont	**Total**	**6.78**	**6.63**	**6.49**
	Commercial	0.66	0.62	0.59
	Industrial	0.59	0.58	0.51
	Residential	1.66	1.56	1.56
	Transportation	3.85	3.87	3.82
	Electric Power	0.01	0.01	0.01

Note: These estimates do not include emissions from sources other than fossil fuel combustion (i.e. Wood, Industrial Processes, Solvents, Agriculture, Waste, and Land-Use, Land-Use Change, and Forestry) "due to a lack of data availability, higher level of uncertainty in quantification methods, and smaller contribution to total emissions." (EPA, http://www.epa.gov/climatechange/emissions/state_energyco2inv.html) The omission of wood combustion emissions is often justified on the basis of inclusion in the active carbon cycle. (See: Notes from Table 1.4.2 of the DOE's State Energy Data Book at http://buildingsdatabook.eren.doe.gov/TableView.aspx?table=1.4.2) "EPA developed these state-level CO2 estimates using (1) fuel consumption data from DOE/EIA State Energy Data 2007 Consumption Tables and (2) emission factors from the Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2007." (EPA, http://www.epa.gov/climatechange/emissions/state_energyco2inv.html) Finally, electric power emissions include only those generated within the state and do not include emissions associated with electricity transfers among states. (See the EIA's explanation of State Energy-related Carbon Dioxide Emissions Estimates at http://www.eia.doe.gov/oiaf/1605/ggrpt/pdf/statemethod.pdf)

Next, these estimates are combined at the regional level and converted to percentages for the most recent year. The table below shows the sector-related emissions estimates for the northern New England region and the individual states, expressed in percentages.

Northern New Engalnd CO2 Emissions from Fossil Fuel Combustion 2007
(Percentage of Region/State Total)

Region / State	Sector	2007
Northern New England		
	Commercial	9%
	Industrial	8%
	Residential	19%
	Transportation	44%
	Electric Power	20%
Maine		
	Commercial	10%
	Industrial	12%
	Residential	20%
	Transportation	45%
	Electric Power	13%
New Hampshire		
	Commercial	7%
	Industrial	5%
	Residential	15%
	Transportation	39%
	Electric Power	39%
Vermont		
	Commercial	9%
	Industrial	8%
	Residential	24%
	Transportation	59%
	Electric Power	0%

Finally, a simplifying assumption is made to yield a percentage estimate for the buildings sector in the region and each state. By combining the Commercial and Residential sector emissions estimates, a buildings-related contribution to the region/state's emissions may be found. This is a reasonable assumption given the Department of Energy's Buildings Energy Data Book's use of this assumption. (See http://buildingsdatabook.eren.doe.gov/TableOfContents.aspx) The table below shows the emissions estimates from the buildings sector in northern New England.

Northern New Engalnd CO2 Emissions from Attributed to the Buildings Sector 2007

State	Buildings Sector Emissions (% of State Total)
Northern New England	28%
Maine	30%
New Hampshire	22%
Vermont	33%

JOHN KASSEL

Turning baby steps into long strides in warming fight

By John Kassel | July 6, 2009

ADDRESSING GLOBAL warming requires a dramatic departure from business, and politics, as usual. Whether our elected representatives can continue the process of rising to this most fundamental challenge is far from clear - and time is running out.

Signals from the White House are encouraging. President Obama has appointed prominent scientists, deeply steeped in climate science, to key posts.

And Congress is on the move. The American Clean Energy and Security Act is the first legislation seriously addressing global warming pollution to ever pass the House - a step that required a massive effort. New Englanders owe our hometown climate champion, Representative Edward Markey, thanks and congratulations.

But the details of the bill matter - and some of those details are ugly. When first introduced, the bill plotted a course consistent with what science tells us is needed to avoid catastrophe: a course toward lower emissions and a new clean economy. But legislators doing the bidding of coal interests (mining companies and power plant owners), big agribusiness, and their allies held the bill hostage, extracting major concessions in exchange for support - damaging and diluting the bill.

Climate protection advocates and businesspeople trying to build a new economy around clean energy are focused on fixing these problems. Some key issues are:

The emissions cap in the cap-and-trade portion of the bill must truly limit emissions, decreasing over time. At this point it is really no cap at all. The Environmental Protection Agency estimates that the revised bill would not require any emissions reductions until after 2020. By contrast, sound science tells us to reduce greenhouse gas emissions to at least 80 percent below 1990 levels by 2050 as a key step toward stabilizing our climate. Emissions have increased significantly since 1990 and we must cut them nearly 40 percent from current levels by 2020 in order to be on track for meeting our 2050 target. The revised bill - with a weakened cap and heavy reliance on dubious offsets - will not get us there.

The revised bill gives away most of the rights to pollute - the allowances at the heart of cap and trade. As Obama accurately pointed out in February, “If you’re giving away carbon permits for free, then basically you’re not really pricing the thing and it doesn’t work - or people can game the system in so many ways that it’s not creating the incentive structures that we’re looking for.’’

Here in the Northeast we have learned that auctioning allowances and investing the auction proceeds in energy efficiency reduces both utility bills and pollution. Unfortunately, the revised bill gives allowances to coal plant owners, creating the largest cash giveaway to coal plants in history. It's a giveaway all the more egregious because the revised bill fails to limit the number of dirty new coal-fired power plants that can be built between now and 2015. We need to shut down coal plants, not pay them to pollute.

The bill also provides windfalls to big agriculture - including undermining existing laws regarding greenhouse gas emissions associated with ethanol.

Although the bill would establish a national requirement that a rising percentage of electricity come from renewable sources (as states in New England do), the version in the bill is weaker than existing state standards and will not spur development of new projects. A separate, powerful Energy Efficiency Resource Standard was also eliminated during the revision process. Instead, a weaker version was consolidated into the renewable energy standard. Efficiency is entirely different from renewable energy, and the revised bill errs when it considers these distinct clean energy tools to be interchangeable.

The bill has created deserved excitement, even more so since it passed the House. Critical provisions promoting investment in clean energy technology, like strong building codes and appliance standards, must be preserved as the bill moves forward. And the fundamental ideas behind the bill are sound.

The bill needs to be returned to full strength by restoring a real cap and bulking up the tools to foster renewable energy and efficiency - fixing the flaws inflicted during the legislative process. A restored bill can put us on a path toward climate protection and lay the foundation for a new economy.

John Kassel is president of the Conservation Law Foundation. ■

Climate Issue Brief

Task Force on Climate Policy
May 2009

Climate Issue Brief #2

Allocation and Use of Allowances in a GHG Cap-and-Trade Program

NARUC supports the use of market mechanisms to reduce greenhouse gas (GHG) emissions in an economy-wide effort through a well-designed federal policy. A cap-and-trade program is one option for achieving this goal. This issue paper lays out NARUC's position on the key questions of how CO2 allowances should be allocated and how allowance value should be used if a cap-and-trade system were to be adopted for GHG reduction.

Auction vs. Free Allocation

NARUC believes an auction is the most efficient means of distributing emissions allowances, but we support free allocation of some allowances during a transition period. In particular, we support a transitional allocation of allowances at no cost to the electric sector in order to provide a funding source for energy efficiency programs and to allow some cushioning of economic disruption caused by increased costs of meeting GHG limits.

Allocation of CO2 Allowances to the Electric Sector: Who Should Receive Them?

In order to prevent windfall profits, any no-cost allowances for the electric sector should be allocated exclusively to regulated Local Distribution Companies (LDCs) on behalf of consumers, rather than to generation owners or load-serving entities (LSEs). State public utility commissions are obligated to account for the receipt of valuable allowances as utility income. Only allocation to LDCs ensures that allowance value will be used for public purposes rather than to enhance the profits of some generation owners or LSEs, which may operate in unregulated markets. Furthermore, only allocation to LDCs brings about equitable treatment of electricity consumers in States with different regulatory structures.

Windfall Profits

In States where the wholesale price of electricity is determined by an organized market process, generation owners will be able to pass on climate-related costs to end use customers. If generation owners receive emissions allowances at no cost, this would create windfall profits. These profits would go to utility investors, and not to public investment in energy efficiency programs or to restraining customer electricity rates.

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Task Force on Climate Policy
May 2009

Equity

In States where public utility commissions determine wholesale prices based on generation cost and a reasonable return on equity, commission regulation can ensure that allowance value does not simply add to investor profits, regardless of whether allowances are given to generation owners or LDCs. In States where price is determined in competitive wholesale markets, windfall profits will result when allocations are made to generators.

Allowances allocated to LDCs are subject to price regulation in all 50 States and the District of Columbia, so commissions have the same ability and authority to determine how rates and public programs are affected by allowance prices in all jurisdictions. This creates a much more equitable result among States with different regulatory structures. In receiving free allowances, LDCs would serve as a proxy for end-use customers and would not be permitted to keep the value of these allowances for their shareholders.

Allocation to LDCs: How Should Allowance Value be Used?

There are three distinct uses of allowance value in the electric sector that all meet the test of contributing to the public interest: funding energy efficiency programs, limiting price increases, and targeted assistance to vulnerable consumers and businesses. NARUC supports giving States latitude to determine the optimal balance of these uses, but we believe that funding energy conservation programs in particular should be a top priority for States to efficiently and effectively reduce GHG emissions.

Funding State-managed energy efficiency programs – NARUC strongly supports state-level programs in energy conservation and alternative energy development as the foundation of cost-effective GHG reduction. Allowance value is an important source of funding for such programs. How much of available allowance value is used for this purpose depends on other available funding sources and the level of new programs that different States can implement and evaluate efficiently.

Limiting price increases – Some portion of the value of free allowances could go to defray the total costs of electricity provision that LDCs must recover from end users. Thus, during the transition to auctioning of allowances, consumers would pay lower electricity rates than if the full cost of allowances were included. For consumers and businesses vulnerable to price increases, such a result could provide valuable time to adjust to new energy realities without undue economic hardship.

Targeted assistance to vulnerable consumers and businesses – Some part of the value of allowances could go to lowering rates for low-income consumers and/or electricity-dependent industries. Allowance value could also be used to fund a LIHEAP-type program of direct financial assistance that does not affect electricity rates.

Conclusion

The allocation of transitional no-cost allowances to regulated LDCs therefore offers a potential mechanism for returning some of the revenues associated with pricing greenhouse gases directly to the very consumers who will be required to pay resulting higher energy prices. This approach could help minimize any potential economic dislocation for consumers during the transition to 100-percent auctioning of allowances, while generation decisions would still be influenced by the full effects of pricing GHG emissions.

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June 10, 2009

The Honorable Henry A. Waxman
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Edward J. Markey
Chairman
Subcommittee on Energy and Environment
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairs Waxman and Markey:

I want to again commend you for your clear and forward looking vision demonstrated in the momentous piece of energy reform embodied in the American Clean Energy and Security Act of 2009 (ACES) legislation. I am writing also to recommend a subtle but significant change to Section 132 of ACES, which delineates the uses to which State Energy and Environmental Development (SEED) funds received from sale of allowances from the cap and trade program, may be used. This includes a number of excellent new initiatives as well as subparagraph (G), which provides funds to be used generally for "other cost effective energy efficiency programs for end-use customers of electricity, natural gas, home heating oil, or propane."

In paragraph (5) which states the purposes to which 47.5% of the SEED funds may be used, it excludes subparagraph (G) as an eligible use. This exclusion would have a significant impact on the efficiency program infrastructure we have been building here in the Commonwealth. To address this concern, I recommend that Section 132(c)(4) be amended to include subparagraph (G) within the uses allowed for that 47.5% of SEED funds:

"The remaining 47.5 percent shall be used exclusively for any of the purposes described in subparagraphs (A) through (G) of paragraph (2) and in paragraphs (3) and (4)..."

Providing the greatest amount of flexibility to determine the highest and best uses for the SEED funds, including sub-paragraph (G), will build on established and constantly improving cost-effective existing efficiency programs for end-use consumers of electricity, natural gas, home heating oil, and propane. In Massachusetts, our efficiency programs serve all customer sectors, including residential, low-income, commercial, and industrial end-users. In addition, they are comprehensively designed to achieve savings for multiple fuels through lighting measures,

incentives for efficient motors and appliances, programs for building envelopes, air sealing, and insulation, and lost opportunity and market transformation programs

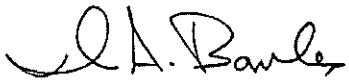
Our efficiency programs have continually served the Commonwealth's energy users for several decades and provide a strong foundation for the substantial expansion we are in the process of undertaking through the utilization of the Regional Greenhouse Gas Initiative (RGGI) funds. Currently our existing efficiency programs provide the equivalent of 8% of our energy needs and have dramatically reduced our peak load growth. Overall, our efficiency programs save more than $3 for every $1 invested.

Our programs are carefully designed to overcome four critical market barriers to energy efficiency, awareness, availability, accessibility, and affordability. Our plans are to ramp-up to reach more than 100,000 homes per year to provide comprehensive energy efficiency programs and achieve significant overall savings.

In light of the federal pre-emption of RGGI included in the ACES legislation, the SEED program funding is essential to achieving these important energy savings for Massachusetts' consumers and requires the flexibility to spend a portion of the remaining 47.5% for these purposes. I request that the committee include subparagraph (G) as an eligible use for that remaining 47.5% to ensure the optimal use of these funds in achieving the legislative goals of this bill.

Thank you for your consideration and I am available to discuss this matter with your staffs in greater detail.

Sincerely,



Ian A. Bowles
Secretary

cc: Carol Browner, Assistant to the President for Energy and Climate Change
Speaker Pelosi
Minority Leader Boehner
Ranking Member Barton
Ranking Member Upton
Majority Leader Reid
Minority Leader McConnell
Chair Boxer
Chair Bingaman
Ranking Member Inhofe
Ranking Member Murkowski

EESE Board Duties [1] FOOTNOTE Energy Efficiency and Sustainable Energy Board RSA 125-O:5-a First Annual Report, December 1, 2008.

Reviewing available energy efficiency, conservation, demand response, and sustainable energy programs and incentives and compiling a report of those resources in New Hampshire;

Developing a plan to achieve the state's energy efficiency potential for all fuels, including setting goals and targets for energy efficiency that are meaningful and achievable;

Developing a plan for economic and environmental sustainability of the state's energy system including the development of high efficiency clean energy resources that are either renewable or have low net greenhouse gas emissions;

Providing recommendations at least annually to the public utilities commission on the administration and allocation of energy efficiency and renewable energy funds under the commission's jurisdiction;

Exploring opportunities to coordinate programs targeted at saving more than one fuel resource, including conversion to renewable resources and coordination between natural gas and other programs which seek to reduce the overall use of nonrenewable fuels

Developing tools to enhance outreach and education programs to increase knowledge about energy efficiency and sustainable energy among New Hampshire residents and businesses;

Expanding upon the state government's efficiency programs to ensure that the state is providing leadership on energy efficiency and sustainable energy including reduction of its energy use and fuel costs;

Encouraging municipalities and counties to increase investments in energy efficiency and sustainable energy through financing tools, and to create local energy committees;

Working with community action agencies and the office of energy and planning to explore ways to ensure that all customers participating in programs for low-income customers and the Low Income Home Energy Assistance Program (LIHEAP) have access to energy efficiency improvements, and where appropriate, renewable energy resources, in order to reduce their energy bills; and

Investigating potential sources of funding for energy efficiency and sustainable energy development and delivery mechanisms for such programs, coordinating efforts between funding sources to reduce duplication and enhance collaboration, and reviewing investment strategies to increase access to energy efficiency and renewable energy resources.

[1] Energy Efficiency and Sustainable Energy Board RSA 125-O:5-a First Annual Report, December 1, 2008.

A Framework for Understanding Cap-and-Trade Design

Carsey Institute
Webinar One
29 June 2009
David Farnsworth

The Regulatory Assistance Project

Vermont ♦ Maine ♦ New Mexico ♦ California

Website: *http://www.raponline.org*

The Regulatory Assistance Project

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David Farnsworth is a Senior Associate of the Regulatory Assistance Project. From 1995 to 2008, he served as a Hearing Officer and Attorney on the staff of the Vermont Public Service Board. He served as a staff member of the NARUC Task Force on Climate Policy from 2007 to 2008. From 2003 to 2008, Mr. Farnsworth was a member of the Regional Greenhouse Gas Initiative Staff Working Group. Mr. Farnsworth received his J.D. and Master of Studies in Environmental Law from Vermont Law School, and his B.A. from Colby College.

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Introduction

In this webinar, participants will be introduced to a framework for understanding cap-and-trade design, consider potential economic effects of several program design options, briefly review the status of current relevant federal legislation, and start a discussion of potential opportunities for advocate action.

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Topics to be covered

- Part One: Cap-and-Trade – A Primer
- Part Two: *Regional Greenhouse Gas Initiative* and the Consumer Allocation
- Part Three: A quick look at some of the *American Recovery and Reinvestment* Act and the *American Clean Energy and Security Act*
- Part Four: Some Conclusions and Discussion

4

I. Cap-and-Trade A Primer

- Cap-and-trade
  - A policy mechanism that places emissions restrictions on a certain class of polluters within a geographic area.
  - Allowances are created in an amount that reflects the total tonnage of emissions within that area.
  - That limit, also known as a "budget," can remain constant or it can change; i.e., it can be lowered over time.
  - Polluters acquire allowances, and submit a number allowances to the regulatory authority at the end of each compliance period that reflects their emissions for that period, typically one allowance for one ton of emissions.
  - So, for example, emitting a thousand tons of pollutant would require the surrender of a thousand allowances.

5

I. Cap-and-Trade A Primer

- The trade" part of a cap-and-trade is designed to encourage emitters to meet their regulatory requirements at the lowest cost possible.
- The assumption: some emitters can control their emissions at a lower cost than others, and if so, then they will have allowances that they can sell to others who find it more expensive to reduce their emissions.
- The system encourages the lowest-cost solutions. And, as long as all the polluters in the class and geographic area stay "under the cap," i.e., the total number of allowances does not exceed the budget, and the environmental goal is met.

6

I. Cap-and-Trade A Primer

- Allocation: the distribution or "allocation" of permits is perhaps the most contentious part of developing a cap-and-trade since allowances monetize the ability to emit pollution.
- Under the Clean Air Act's Acid Rain Program, allowances were allocated freely, thereby "grandfathering" polluters at their existing levels of pollution.
- Under that program, trading is allowed, but generally only necessary for emissions beyond individual baseline levels.
- The Regional Greenhouse Gas Initiative (RGGI) allocates allowances through auctions, thereby requiring emitters to purchase allowances, either from an auction or from a third party that has acquired allowances.

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I. Cap-and-Trade A Primer

- Two other things to consider:
  - A cap-and-trade program is a **transitional** device. So, where do you want to be in 10, 20, 50 years?
  - It is **geographic** in nature. So this is less about individual smokestacks and more about overall emissions.
- Let's consider an example: controlling pollution on a lake
  - Carrying capacity of 20 units/yr. of pollutant X;
  - Cap set at 16 units/ yr;
  - 3 companies with outfall pipes located on its shores (A, B, and C).
  - One political jurisdiction
  - Compliance period – one year

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I. Cap-and-Trade Examples Scenario 1 – Free Allocation

Emitters	Emissions	Allowances	$/unit	Cost
A	4	4	?	?
B	6	6	?	?
C	6	6	?	?
TOTAL	**16**	**16**	**?**	**?**

Allocation: free.
Compliance Period Emissions: 16
Compliance Period Direct Program Costs: 0 Other costs?
Cap Status?

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I. Cap-and-Trade Examples Scenario 2 – Lower the Cap

Emitters	Emissions	Allowances	$/unit	Cost
A	~~4~~ 3	4	?	?
B	~~6~~ 4	6	?	?
C	~~6~~ 4	6	?	?
TOTAL	**~~16~~ 11**	**11**	**?**	**?**

Allocation: free
Transition: in year 10 the cap is reduced by 5 units (A-25%, B,C 30%)
Compliance Period Emissions: 11
Cap Status?
Compliance Period Direct Program Costs: ? Other costs?

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I. Cap-and-Trade Examples Scenario 3 – Plant Closure

Emitters	Emissions	Allowances	$/unit	Cost
A	0	4	?	?
B	6	6	?	?
C	6	6	?	?
TOTAL	**12**	**16**	**?**	**?**

Allocation: free
Cap: 16 units
Compliance Period Emissions: ~~16~~ 12
"A" closes down, freeing up 4 allowances (for sale?).
Cap Status? Compliance Period Direct Program Costs: ? Other costs?
Possible Results: B,C can increase production/emissions; a new entrant, D.

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I. Cap-and-Trade Examples Scenario 4 – Auction (RGGI)

Emitters	Emissions	Allowances	$/unit	Cost
A	4	4	5	$20
B	6	6	5	$30
C	6	6	5	$30
TOTAL	**16**	**16**	**5**	**$80**

Allocation: auction ($5.00 clearing price)
Compliance Period Emissions: 16
Compliance Period Direct Program Costs: $80 Other costs?
Cap Status?
The Program raises $.

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I. Cap-and-Trade

- Who Administers the RGGI funds?
  - Maine – the Energy and Carbon Savings Trust (the Efficiency Maine Trust)
  - New Hampshire – the EESE Board
  - Vermont – the PSB

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I. Cap-and-Trade – Some Observations

- Geographic in scope
- A Transitional mechanism
- Potentially, many moving parts
- Cap-and-trade is a "sensitive thing," i.e., its **environmental integrity** and **costs** are easily affected by such things as
  - allocations,
  - change in amount of emissions
  - change in number of emitters,
  - time, etc.

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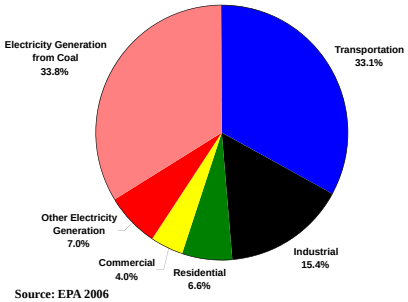
Part Two: The Regional Greenhouse Gas Initiative and "Consumer Allocation"

- Background:
  - Where electric sector GHG emissions come from.
  - Ways to get rid of them.
  - An earlier model
    - The Acid Rain Program
      - Scrubbers and fuel switching
    - Suitability of the Acid Rain Model for regulating CO_2
- RGGI
  - The Program and Process
  - Consumer Benefit Allocation

15

II. Power sector is 40% of CO_2

Sources of U.S. Energy Related CO_2 Emissions: 2004



Source: EPA 2006

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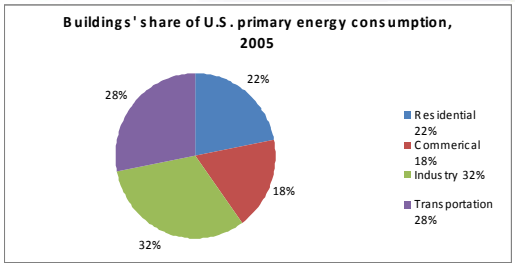
II. Why buildings matter so much: Buildings use 43% of US total energy



Source: US DOE 2007 Buildings Energy Data Book (industrial *buildings* share is about 3%)

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II. Getting Electric Sector GHG Reductions

Power-sector CO_2 emissions can be significantly reduced in three ways:

- Reducing consumption;
- Re-dispatching the existing fleet; and
- Lowering the emissions profile of new generation (including repowering existing generation).

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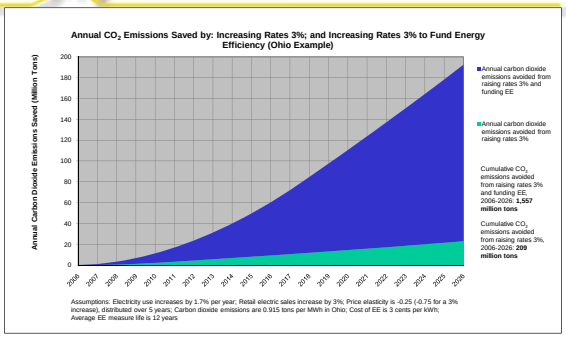
II. Efficiency programs can save 7x more carbon per consumer $ than carbon taxes or prices



II. RGGI – General Description

- **Start date:** of January 1, 2009
- **Coverage:** fossil-fired electric generating units 25 megawatts and larger in all 10 states
- **Cap:** based, largely, on their historical emissions 2000-2002
- **Two-phase cap**: flat (i.e., stabilized emissions) through 2014; reduce 10% by 2018
- **Annual budget**: is an aggregation of all of these tons of emissions
- **One allowance per ton**
- **Allowances apportioned** to each state, largely, on the basis of its emissions
- **Allocation** of allowances **via** quarterly **auction**
- **3-year compliance period** (i.e., 12 auctions

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II. Description cont.

- The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by **ten Northeast and Mid-Atlantic states** to limit greenhouse gas emissions. RGGI is the first mandatory, market-based CO_2 emissions reduction program in the United States.
- The states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont are signatory states to the RGGI agreement. These ten states will cap CO_2 emissions from the **power sector**, and then require a 10 percent reduction in these emissions by 2018.
- RGGI is **composed of individual** CO_2 Budget Trading **Programs in each of the ten participating states.** These ten programs are **implemented through state regulations,** based on a RGGI Model Rule, and are linked through CO_2 allowance **reciprocity**. Regulated power plants will be able to use a CO_2 allowance issued by any of the ten participating states to demonstrate compliance with the state program governing their facility. Taken together, the ten individual state programs will function as a **single** regional compliance **market** for carbon emissions.

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II. RGGI Timeline

- Sept. 2003: PUC and Environmental Staff from 9 northeastern states meet in NYC
- Dec. 2005: MOU signed by 7 states
- Mar. 2006: Draft model rule released to stakeholders and public for comment
- Aug. 2006: Staff Issue Model Rule
- Feb. 2007: MA and RI sign MOU
- April 2007: Maryland signs MOU
- Sept. 2006 - December 2008: Parallel State Program implementation processes
- First Auction September 2008
- Second Auction December 2008
- Third Auction March 2009
- Fourth Auction – This Month

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II. Consumer Benefit Allocation

- The formal ***consumer allocation*** **of carbon credits** (also referred to as "**efficiency allocation**"):
  - **Take** auction **revenues** and **recycle them**; turn them back into **state clean energy programs like energy efficiency and renewables development**.
  - So the **economic pressure** is felt in via the cap imposing prices, but also by virtue of the cap's making available money for investment in clean resources.
- Significant **departure from previous cap-and-trade regimes** (e.g., Acid Rain).
- **How much is allocated?**
  - RGGI States initially agreed in MOU to allocate **25% of allowances for consumer benefit** and to leave 75% for discretionary activities.
  - **In practice**, states have directed a much **larger amount of allowance value to efficiency and clean energy**.
- **Question:** Why did they change their minds ?

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II. Answer: Some Modeling by RGGI

- What happens if we **double** efficiency **spending** in the RGGI States?
- RGGI found:
  - Allowance **prices drop 25%**
  - **Need for new** fossil **capacity drops 33%**
  - **Customer bills drop** 5%(Industrial) to 12%(Residential)
  - And – even **greater** EE **investments** would yield **greater savings**

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II. Consumer Benefit Allocation Significance?

- This approach to program design calls for **auctioning allowances** and **strategically using revenue** to reduce electricity demand resulting in significant additional benefits
- RGGI states recognized that the **price** (**alone**) created by capping emissions (the top-down view of the world) **does not get the job done;** but that
- Strategic **investment** of revenues that will **improve company "portfolios"** (i.e., the company's collection of supply-side and demand-side resources) via programs like EE and RE (more of a bottom-up approach) is **necessary**.

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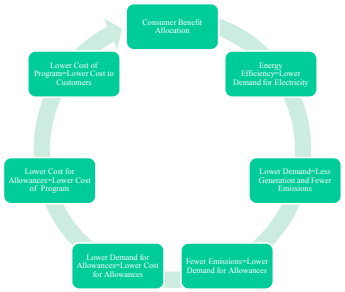
II. In other words

- The RGGI cap-and-trade does two complementary things. It will:
  - **Impose costs** on emissions, and
  - **Create value** in emissions reductions.

II. Consumer Benefit Allocation Significance cont.



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II. Regional Allowance Auctions (Quarterly)

RGGI Auctions	9/25/08 6 states	12/17/08 10 States	3/18/09 10 States	Total Revenue
Clearing Price	$3.07/ton	$3.38/ton	$3.51/ton	
TOTAL	$38, 575,766	$106,489,935	$117,248,630	$262,314,331

Based on *RGGI Allowance Allocations and Use of Auction Proceeds*, Environment Northeast

II. State Allocation of Allowance Revenues

	Revenues	Energy Efficiency Funding	Energy Efficiency Allocation
Auction I	$38, 575,766	$18, 872, 220	49%
Auction II	$106,489,935	$76,442,433	72%
Auction III	$117,248,630	$90,059,036	76.8%
Total to Date	$262,314,331	$185,373,689	71%

Based on *RGGI Allowance Allocations and Use of Auction Proceeds*, Environment Northeast

II. How ME, NH, and VT Are Using RGGI Revenues

Source: Environmental Northeast

ME: **Auctioning 88%**
$ 85% EE;
15% fossil-fuel EE;
10%, CHP;
2% Voluntary Clean Energy

NH: **Auctioning min. 69%**
$ 10% low-income EE;
90% EE
1% Voluntary Clean Energy

VT: **Auctioning 99%**
$ 95% all fuels EE
1% Vol. Clean Energy;

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II. So what are the implications of RGGI for federal legislation?

- Getting utility sector reductions requires the identification of programs that focus on **energy company portfolios**, e.g., EE and RE; this is in addition to simply expecting a carbon price to change behavior.
- Remember consumers pay bills they don't pay rates. So in order to lower the cost-per-ton-avoided: **auction allowances** or allocate them to **distribution utilities** (i.e., to power buyers, not sellers), and dedicate auction revenues strategically to investments in **end-use efficiency and other clean energy resources**.

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Part Three: Federal Activity

- In this section we will briefly consider:
  - The *American Recovery and Reinvestment Act* (ARRA); and
  - The *American Clean Energy and Security Act* (ACES)

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III. The American Recovery and Reinvestment Act (ARRA);

- Like cap-and-trade, ARRA is about transitioning
- Purpose: "an effort to jumpstart the weakened economy and to lay the groundwork for developing an economy that will be able to meet the challenges of the 21st century **through investment** in infrastructure, energy, education, and tax cuts."
- Three categories of ARRA funds considered here:
  - State Energy Program,
  - Energy Efficiency and Conservation Block Grant, and
  - Weatherization Assistance Program.

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III. ARRA – State Energy Program

- SEP provides funding ($3.1 billion) for a wide variety of programs, projects and policies, including, energy efficiency and renewable energy.
- The following agencies are responsible for administering SEP funds:
  - the Maine Public Utilities Commission;
  - the New Hampshire Office of Energy Planning, and
  - the Vermont Department of Public Service.

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III. ARRA – Block Grants

- The Energy Efficiency and Conservation Block Grant Program is designed to assist local governments in implementing energy efficiency and conservation programs.
- Part of the funding ($2.8 billion) will be automatically distributed on the basis of a formula that takes population and other factors into account;
- Remaining amounts ($400 million) will be made available through a competitive grant program.
- Funding can be used to conduct energy audits, perform energy efficiency retrofits, implement more efficient energy distribution technologies, develop or install renewable energy technologies and incent energy efficiency improvements in the private sector.
- Grantees may use the greater of either 2 percent or $250,000 of funds to establish revolving loan funds and the same amount to provide subgrants to assisting non-government organizations.

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III. ARRA and Weatherization

- Grants to states for distribution to low income homes to purchase and install materials and to implement other weatherization measures to improve energy efficiency.
- ARRA expands the program by increasing:
  - Number of households eligible for assistance (expanding eligibility levels to households at or below 200 percent of federal poverty level), and
  - Maximum assistance to $6,500.
- States can also receive funding for administrative costs of retaining technical support to further develop weatherization strategies.

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III. The American Clean Energy and Security Act (ACES)

- Currently, this bill:
  - Establishes a GHG cap-and-trade GHG program,
  - Establishes a combined RE and EE standard,
  - Develops a strategy for promoting CCS,
  - Imposes performance standards on new coal-fired power plants,
  - Promotes investment in EE, e.g., building retrofits, and adoption of advanced building codes.

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III. ACES

- Our focus: Energy Efficiency
- Some sections of the bill are specific in stating that allowance value should be used for EE.
- Other sections authorize the use of allowances for funding EE, but do not necessarily dedicate the funding.

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III. ACES – Section 131

- SEED Fund
  - States and DOE develop create a SEED Fund for managing and accounting for federal financial assistance to states designated primarily for clean energy, energy efficiency, and climate change purposes.
- Allowances are provided to the SEED accounts according to the following schedule:
  - 2012 thru 2015 -- 9.5 percent of total allowance value
  - 2016 thru 2017 -- 6.5 "
  - 2018 thru 2021 -- 5.5 "
  - 2022 thru 2025 -- 4.6 "
  - 2026 thru 2050 -- 4.5 "

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III. Section 132 -- Support of State Renewable Energy and Energy Efficiency Programs

- Allowances allocated to states under section 782(g)(1) of the Act (i.e. SEED Accounts) shall be distributed to the states as follows: 1/3rd equally among states; 1/3rd based on population; 1/3rd based on energy use.
- At least **12.5%** of allowance value shall be distributed to **local governments.**
- At least **20%** of allowance value to be used for **EE** purposes related to (A) building **codes** (section 201); (B) **manufactured homes** (section 203); (C) energy performance **labeling** (section 204); (D) low-income **community energy efficiency programs** (section 264); and (E) the Retrofit for Energy and Environmental Performance, **REEP** program (section 202).
- At least **20%** shall support renewable energy through **other financial mechanisms**, e.g., capital grants, tax credits, production incentives, loans, loan guarantees, forgivable loans, and interest rate buy downs for (ARRA-funded manufacturing facilities producing RE and storage systems, and for other RE development.
- The remaining **47.5%** for A-E, plus other things, including RE and smart grid.

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III. ACES – Section 264

- Section 264 Low Income Community Energy Efficiency Program
  - DOE authorized to make grants to private, nonprofit, mission driven community development organizations including community development corporations and community development financial institutions to provide financing to businesses and projects that improve energy efficiency; identify and develop alternative, renewable, and distributed energy supplies; provide technical assistance and promote job and business opportunities for low-income residents; and increase energy conservation in low income rural and urban communities.

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III. ACES – Section 202

- **Building Retrofit Program: Retrofit for Energy and Environmental Performance Program (REEP).**
  - Federal financial assistance to states to retrofit existing buildings for improvements in energy efficiency, water use, and other environmental attributes.
  - The program will include detailed descriptions of funding options for state and local governments, along with model forms, accounting aids, agreements and guides to best practices; and will support up to 50% of the costs of retrofits, with funding increasing in proportion to efficiency achievement.
  - As a condition of receiving funding for REEP, states must adopt the standards for training, certification of contractors, certification of buildings, and post-retrofit inspection developed by DOE for residential and commercial buildings; and establish fiscal controls and accounting procedures sufficient to ensure proper accounting.

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III. ACES – Section 203

- **Energy Efficient Manufactured Homes.**
  - States may provide owners of pre-1976 manufactured homes with rebates to use towards purchases of new Energy Star-qualified manufactured homes.

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III. ACES – Section 782

- Natural Gas Utilities receive allowances according to the following schedule:
  - 2016-2025 -- 9 percent of total allowance value
  - 2026 -- 7.2 "
  - 2027 -- 5.4 "
  - 2028 -- 3.6 "
  - 2029 -- 1.8 "
- Gas Utilities must spend at least 1/3 of their allowances on EE

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III. ACES – Sections 783, 784, 785, and 721

- Allocations for the benefit of consumers:
  - allocations to electricity local distribution companies (Sec. 783),
  - natural gas local distribution companies (Sec. 784),
  - and states for the purpose of mitigating home heating oil and propane cost increases (Sec. 785).
  - In addition, a total of 15% of allowance value will be distributed to low- and moderate-income families (Sec. 721(a)).
- Question: How can consumers most benefit from allowance value?

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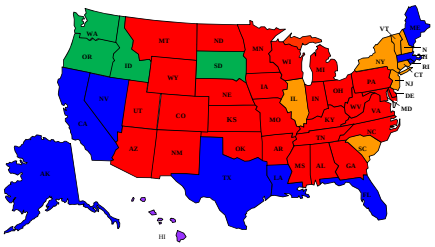
III. Current political reality

- Coal state support is essential to passing national GHG legislation.



Legend: Coal, Gas, Nuclear, Petroleum, Hydroelectric

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Part Four: Some Conclusions

- It's **a two-way relationship**:
  - Today EE is a cornerstone of successful climate policy
  - Climate policy can accelerate/deepen EE delivery
- In RGGI, **the role of EE has evolved** from "ancillary policy," to "complementary policy," to "cornerstone."
- One **key** for a successful federal carbon policy is carbon "**revenue recycling**" via allowance auction, and **investing** proceeds **in end-use measures**
- **Design** EE **programs** to reduce emissions & design cap-and-trade to deliver EE:
  - Focus EE on carbon, e.g.,
    - Take advantage of an **all-fuels, deep-dive approach to efficiency in homes**
    - **Explore other examples**

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IV. Conclusions (cont)

- Identify
  - Venues in ME, NH, and VT where RGGI and ARRA are being implemented, e.g.,
    - Maine PUC, Efficiency Maine Trust, other?
    - New Hampshire PUC, EESE Board, other?
    - Vermont PSB, DPS, Efficiency Vermont, other?
  - Members of Congressional delegations and National Organizations that can affect outcomes your organization seeks
  - The key provisions in these programs or proposed programs that will affect the outcomes you seek.

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"Identifying Opportunities for Effective Use of Energy and Climate Program Funding."

Carsey Institute
Webinar Two
27 July 2009
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Goals of this Webinar

- **This webinar is a follow up** to our June 29, 2009, webinar entitled: "A Framework for Understanding Cap-and-Trade Design."
- Taking what we have learned about cap-and-trade, we will **identify opportunities** of importance to low income advocates in the context of federal and state activity on energy and climate issues;
- **Articulate strategy** for use of federal stimulus funds, RGGI funds, and other funding sources associated with upcoming energy and climate legislation; and
- **Facilitate a coherent conversation** to further explore relevant issues, including:
  - Identifying common challenges shared among states;
  - Sharing information about various state approaches, focusing on transferable lessons and mechanisms among participating states and programs;
  - Sharing best practices and winning strategies among states, to leverage advances in specific areas across the region; and
  - Recognizing potential connections between federal, state, and local programs.
- **This is about "transition" and getting results at lower costs**.

3

Topics to be covered

- **Part One**: Cap-and-Invest—a brief review of RGGI allowance allocation and the reasoning behind it.
- **Part Two**: Consider the Opportunities – Climate Action Plans, RGGI Implementation and Administration, and Where the Consumer Allocation Dollars are Going.
- **Part Three**: Consider the Opportunities (cont.) – the *American Recovery and Reinvestment* Act and the *American Clean Energy and Security Act*
- **Part Four**: Discussion

4

I. Getting Electric Sector Greenhouse Gas (GHG) Reductions

Power-sector CO_2 emissions can be significantly reduced in three ways:

- Reducing consumption;
- Re-dispatching the existing fleet; and
- Lowering the emissions profile of new generation (including repowering existing generation).

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- The system encourages the lowest-cost solutions. And, as long as all the polluters in the class and geographic area stay "under the cap," i.e., the total number of allowances does not exceed the budget, and the environmental goal is met.

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- Under that program, trading is allowed, but generally only necessary for emissions beyond individual baseline levels.
- The Regional Greenhouse Gas Initiative (**RGGI)**
  - **allocates allowances through auctions**, thereby requiring emitters to purchase allowances, either from an auction or from a third party that has acquired allowances; and
  - **enables strategic investment** of a large amount of allowance revenues for clean energy programs.

8

I. Consumer Benefit Allocation

- **Recycle auction revenues** and turn them back into improved state clean energy programs like energy efficiency, weatherization, and renewables development.
- **How much is allocated?**
  - RGGI States initially agreed in MOU to allocate **25% of allowances for consumer benefit** and to leave 75% for discretionary activities.
  - **In practice**, i.e., at their discretion, states have directed a much **larger amount of allowance value to efficiency and clean energy – > 70%**.
- **Question:** Why did they change their minds ?
- **Answer:** Modeling programmatic efficiency

9

I. Cap-and-*Invest*

- What happens if we **double** efficiency **spending** in the RGGI States?
- RGGI found:
  - Allowance **prices drop 25%**
  - **Need for new** fossil **capacity drops 33%**
  - **Customer bills drop:**
    - 5% (Industrial),
    - 8% (Commercial), and
    - 12% (Residential)
  - And that even **greater** EE **investments** would yield **greater savings**

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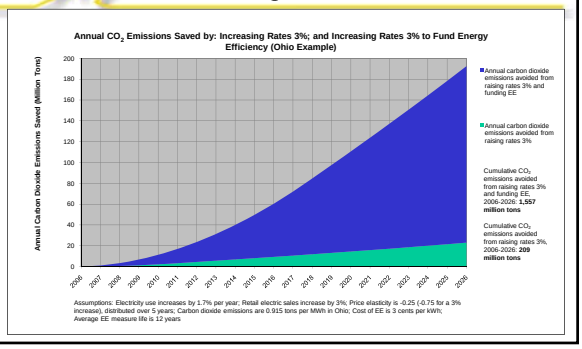
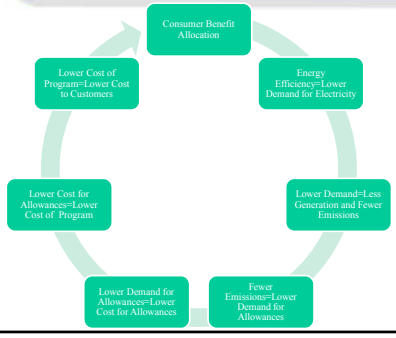
Efficiency **programs** can save 7x more carbon per consumer $ than carbon taxes or prices



I. Why cap and invest?



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I. Consumer Benefit Allocation: Conclusions

- RGGI states recognized that:
  1. price (alone) created by capping emissions does not get the job done. This is due, in part, to lack of abatement technology, barriers to deployment of energy efficiency etc. and
  2. auctioning allowances and strategically investing revenue to reduce electricity demand overcomes significant barriers and will result in significant additional benefits.

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- Part One: Cap-and-Invest—a brief review of RGGI allowance allocation and the reasoning behind it.
- **Part Two**: Consider the Opportunities – Climate Action Plans, RGGI Implementation and Administration, and Where the Consumer Allocation Dollars are Going.
- Part Three: Consider the Opportunities (cont.) – the *American Recovery and Reinvestment* Act and the *American Clean Energy and Security Act*
- Part Four: Conclusions and Discussion

14

Part Two Opportunities – Climate Plans

- Maine, New Hampshire and Vermont have developed climate action plans.
- They have in common an emphasis on:
  - the important role to be played by energy efficiency in meeting climate goals,
  - the need to take actions sooner than later, in order to achieve greater economic benefits, and
  - the need to integrate various efforts and to address climate change in a coordinated manner.

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II. Climate Plans - Maine

- December 2004, Maine DEP issues Plan.
- Focus is on four sectors of Maine's economy:
  - Transportation and Land Use;
  - Buildings, Facilities, and Manufacturing;
  - Energy and Solid Waste; and
  - Agriculture and Forestry.
- Plan recognizes that "[m]any of the electricity demand management options, such as **energy efficiency** measures, will **save** Maine people and businesses **significant dollars**, while contributing to Maine's energy security."
- Plan contains following recommendations regarding the role of efficiency:
  - Option 23, entitled, "Fossil Fuel Efficiency Measures" recognizes the need to **"[i]ncrease public expenditures for fossil fuel efficiency** measures for the residential, commercial and industrial sectors." Notes need to raise public funding for fossil fuel efficiency measures, and enhance existing programs to promote weatherization and insulation measures.
  - Option 35, entitled, "Efficient Use of Oil and Gas: Home Heating," recognizes the need to **"develop energy efficiency programs** for **heating and hot water systems of all fuel types**," and to "replace inefficient boilers/furnaces with Energy Star rated" equipment.
- **Participation in RGGI** is identified by Maine's Plan as one of the most important actions Maine could take to reduce emissions of GHGs.

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II. Climate Plans – New Hampshire

- March 2009, New Hampshire issues its Plan.
- Recognizes that the Plan presents an opportunity to:
  - **Spur economic growth** through investment in New Hampshire's economy with monies currently spent importing energy
  - Create jobs and economic growth through development of in-state sources of energy from renewable and low emitting resources, and green technology development and deployment by New Hampshire businesses.
  - **Avoid the significant costs of responding to a changing climate** on the state's infrastructure, economy, and the health of our citizens.
- In order to attain these goals, the New Hampshire Plan contains various recommendations including actions to:
  - **Reduce greenhouse gas emissions from buildings, electric generation**, and transportation.
  - **Support regional and national initiatives to reduce greenhouse gases**; and
  - Develop an integrated education, outreach and workforce training program.
- The New Hampshire Plan also recommends **continued RGGI implementation**.
- Many of these actions, according to the New Hampshire Plan, can be **implemented "immediately**" and "the sooner reductions are accomplished, the greater the economic benefit." "Delays in achieving reductions," according to the Plan, "would result in increased implementation costs, thus reducing their economic benefit and making it more difficult to reach the long-term goal."

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II. Climate Plans – Vermont

- October of 2007, Vermont's Commission on Climate Change (Commission) issues Final Report.
- Its first recommendation, urges the Governor and Legislature to:
  - [E]xplore together ways to continue and **expand** the state's nationally recognized demand-side management **(DSM) practices** for electricity and natural gas.
- The Report further urges the Governor to:
  - Cost-effectively **enhance energy efficiency** by developing mechanisms to extend Vermont's existing and highly effective DSM efforts to **include additional fuels** beyond electricity and natural gas, especially **heating oil used in residential, commercial, and industrial establishments**.
- Commission acknowledges
  - the "inadequacy" of what it terms "**stovepipe**" approaches to public policy as it addresses climate change, and
  - the need for Vermont to "**comprehensively integrate its efforts** to address climate change, just as climate change comprehensively threatens the state's traditional character and its extraordinary quality of life."
- The Commission further urge the Governor to lead by example and "coordinate climate change efforts across all agencies …."
- December 2007, the Vermont Agency of Natural Resources
  - develops a Climate Change Transition team (Climate Team) to further respond to proposals in the Report.
  - directed Climate Team to review the Report's recommendations, and develop work plans for their implementation.
- The Climate Team is currently undertaking that work.

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II. Climate Plans – Conclusions

- While being implemented differently, these climate plans reflect a recognition of the:
  - central role to be played by energy efficiency in cost-effectively achieving climate goals,
  - need to take quick action, and
  - increased effectiveness to be achieved through better coordinating efforts being made by different state agencies.
- All three states recognize the value in:
  - broadening the electric energy efficiency mandate to include buildings and thermal efficiency
  - operating in a cost-effective manner, and
  - building on the frameworks of existing programs.

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II. Opportunities – **Where** are RGGI Allowance Auction Revenues Going?

ME: **Auctioning 88%**

$ **75% EE**
15% fossil-fuel EE
8%, CHP
2% Voluntary Clean Energy

NH: **Auctioning min. 69%**

$ **10% low-income EE**
89% EE
1% Voluntary Clean Energy

VT: **Auctioning 99%**

$ **95% all fuels EE**
1% Voluntary Clean Energy

Source: Environmental Northeast

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II. Opportunities – **Who** recommends and decides how RGGI and other energy efficiency $ should be used?

- **Maine** – Efficiency Maine Trust, and PUC
- **New Hampshire** – Energy Efficiency and Sustainable Energy (EESE) Board, and PUC
- **Vermont** – the Public Service Board, Department of Public Service and Efficiency Vermont

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II. Maine

- June 2009 – **LD 1485** signed into law (effective immediately upon passage): *An Act Regarding Maine's Energy Future*.
- Establishes the **Efficiency Maine Trust** to administer programs for energy efficiency and alternative energy resources.
- Trust is directed to **develop a 3-year plan** providing **integrated planning**, program **design** and **implementation strategies** for **all energy efficiency** and **alternative energy** resources programs in the state, for all customer classes, for all fuels (**except MSHA's** energy programs).
- Consultative process: to legislature for review, to PUC for approval.

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II. Maine

- **LD 1485 Plan** must advance certain **"targets"**
  - weatherizing 100% of Maine residences and 50% of Maine businesses by 2030,
  - achieving energy savings, at a minimum:
    - 30% of electric consumption,
    - 30% of natural gas consumption, and
    - 20% heating fuels consumption by 2020
- Capture **all cost-effective energy** efficiency **resources** available for electric and natural gas utility ratepayers, and
- **Reduce GHG emissions** from the heating and cooling of buildings **consistent with the statewide goals**:
  - at least 10% below 1990 levels by 2020 and
  - eventually 75-85% below 2003 levels.
- Programs supposed to address **electric *and* thermal** energy needs. However, no state-based funding source for programs directed at unregulated fuels.
- **Cost-effective energy efficiency** and **alternative energy investment** eligible for funding.
- Authorizes MSHA issuance of **revenue bonds** ($30 million annually and $200 million total) to support :
  - **Construction or substantial rehab of multifamily** affordable **rental housing** units and
  - **Replacement** of substandard **manufactured housing** units. (Note comparable Waxman-Markey provision).

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II. Opportunities - Maine

- Climate Action Plan:
  - Participation in implementation discussion
  - Developing comfort in citing to climate plan goals in discussions.
  - Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals.
- Helping decision-makers like the Efficiency Maine Trust and the PUC recognize the available GHG reductions in the housing sector.
- For unregulated fuels:
  - No prospects for a program beyond 2012 (stimulus bill funding horizon)
  - LD 1485 directs Trust to prepare and submit a report to the legislature by January 2011
  - Small *window*: Trust is new; Report due 1/11; and funding beyond 2012 uncertain
    - Participation in development of Trust Report to legislature, including providing recommendations on appropriate levels and mechanisms for continued and improved funding of programs sufficient to capture cost-effective thermal efficiency resources, including heating oil, kerosene and propane.

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II. New Hampshire

- New Hampshire's RGGI statute, HB 1434, created the **Energy Efficiency and Sustainable Energy Board ("EESE Board")**, and the "Greenhouse Gas Emissions Reduction Fund" **("RGGI Fund").**
- RGGI **funds** are to be "used to support **energy efficiency, conservation and demand response programs to reduce greenhouse gas emissions generated within the state**," and to **reduce energy bills for New Hampshire electric customers**.
- The **EESE Board** is required to "**provide recommendations** at least annually to the public utilities **commission** on the administration of **energy efficiency and renewable energy funds** under the commission's jurisdiction."

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II. New Hampshire

- The **EESE Board**, is required to develop various plans, including a plan:
  for **energy efficiency and sustainable energy** that **builds on existing successful programs**, increases awareness of energy efficiency and sustainable energy, and **improves coordination** of these programs.
- The purpose of the plan is to:
  achieve the **state's energy efficiency potential for all fuels**, including setting goals and targets for energy efficiency that are meaningful and achievable.
- The EESE Board is directed to
  Explore opportunities to coordinate programs targeted at **saving more than one fuel resource,** including conversion to renewable resources and coordination between natural gas and other programs which seek to reduce the overall use of nonrenewable fuels.
- It is also directed to:
  Work with **community action agencies** and the **Office of Energy and Planning** to **explore ways to ensure** that all **customers participating in programs** for low-income customers and the Low Income Home Energy Assistance Program (LIHEAP) **have access to energy efficiency improvements**, and **where appropriate, renewable energy resources**, in order to reduce their energy bills.

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II. New Hampshire

- The EESE Board is also tasked with providing:
  - Providing **recommendations to the PUC** on the **administration and allocation of energy efficiency and renewable energy funds** under the commission's jurisdiction.
  - Investigating **potential sources of funding for energy** efficiency and sustainable energy development and delivery mechanisms for such programs,
  - **Coordinating** efforts between **funding sources to reduce duplication and enhance collaboration**, and
  - **Reviewing** investment **strategies to increase access** to energy efficiency and renewable energy resources
  - **Encouraging municipalities and counties to increase investments** in energy efficiency and sustainable energy through financing tools….

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II. Opportunities – New Hampshire

- Climate Action Plan:
  - Participation in implementation discussion
  - Developing comfort in citing to climate plan goals in discussions.
  - Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals.
- Helping decision-makers like the EESE Board and the PUC recognize the available GHG reductions in the housing sector;
- Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals, and helping them implement climate action plans, state Regional Greenhouse Gas Initiative (RGGI) programs, and other energy policies in a manner that best coordinates these goals;
- Generally, helping the EESE Board fill the role of "coordinating voice, both within the state and outside the state on all of the issues dealing with the vision of energy policy at all levels of government."
- Encouraging EESE Board to access funding to enable it to accomplish its goals.

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II. Vermont

- Under current law (30 V.S.A. § 235), proceeds from allowance sales go into a "fuel efficiency fund" that is used to support "energy efficiency services delivered pursuant to an RFP process overseen by the Vermont Department of Public Service (Department), and approved by the Vermont Public Service Board (Board).
- By law, the Board must:
  - ensure that carbon credits allocated under this program and revenues associated with their sale remain public assets managed for the benefit of the state's consumers, particularly benefits that will result from accelerated and sustained investments in energy efficiency and other low-cost, low-carbon power, or heating system or building envelope investments….
- In 2008, under this structure, the Department submitted a plan to the Board which was conditionally approved in February of 2009 in Board Docket No. 7495. The Board indicated that it approves the Department's proposal for one year, and that the Department is required to submit further filings "regarding measures and compensation mechanisms" to address the relevant statutory goals for future years.

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II. Vermont

- H. 313, passed in May, requires:
  - 50% of the RGGI revenues to go to the electric efficiency fund, which is regulated by the Public Service Board and administered by Efficiency Vermont; and
  - 50% to go to the fuel efficiency fund, which is administered by the Department of Public Service via an RFP process subject to PSB approval.
  - Efficiency Vermont will use its portion to serve non-residential customers, and residential customers above 80% of median income; and
  - The Department-administered portion will go to residential customers at or below 80% of median.

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Opportunities - Vermont

- Climate Action Plan:
  - Participation in implementation discussion
  - Developing comfort in citing to climate plan goals in discussions.
  - Educating decision-makers regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals.
- Helping decision-makers recognize the available GHG reductions in the housing sector.
- Consider further participation in Public Service Board
  - Docket 7495, and
  - Workshop re: *Screening of Heating and Process-Fuel Efficiency Measures*.

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II. Climate Action Plans and RGGI Implementation - Conclusions

- With what you know now about the RGGI model, energy efficiency, and cap-and-trade, educate others about wedding affordability with energy and environmental goals.
- Become comfortable with, and rely on, state climate plan goals.
- Participate and assist appropriate organization in planning activities, reporting to legislature, and working within PUC and other decision-making processes.

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Topics to be covered

- Part One: Cap-and-Invest—a brief review of RGGI allowance allocation and the reasoning behind it.
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- Part Four: Discussion

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III. The American Recovery and Reinvestment Act (ARRA);

- Like cap-and-trade, ARRA is about **transitioning**
- Purpose: "an effort to jumpstart the weakened economy and to lay the groundwork for developing an economy that will be able to meet the challenges of the 21st century **through investment** in infrastructure, energy, education, and tax cuts."
- **Three categories** of ARRA **funds** considered here:
  - State Energy Program,
  - Energy Efficiency and Conservation Block Grant, and
  - Weatherization Assistance Program.

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III. ARRA – State Energy Program

- **SEP** provides **funding** ($3.1 billion) for a wide variety of programs, projects and policies, including, **energy efficiency** and **renewable energy.**
- The following agencies are responsible for administering SEP funds:
  - the Maine Public Utilities Commission;
  - the New Hampshire Office of Energy Planning, and
  - the Vermont Department of Public Service.

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III. ARRA – Block Grants

- The Energy Efficiency and Conservation Block Grant Program is designed to assist **local governments** in implementing **energy efficiency** and **conservation programs**.
- Part of the funding ($2.8 billion) - automatically distributed on the basis of a formula that takes population and other factors into account;
- Remaining amounts ($400 million) - a competitive grant program.
- Funding can be used to conduct energy **audits,** perform energy efficiency **retrofits**, implement more efficient energy distribution technologies, develop or install **renewable energy technologies** and incent energy efficiency improvements in the private sector.
- Grantees may use the greater of either 2 percent or $250,000 of funds to establish revolving **loan funds** and the same amount to provide subgrants to assisting non-government organizations.

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III. ARRA and Weatherization

- **Grants** to states for distribution to low income homes to purchase and install materials and to **implement other weatherization** measures to improve energy efficiency.
- ARRA **expands the program** by increasing:
  - **Number of households eligible** for assistance (expanding eligibility levels to households at or below 200 percent of federal poverty level), and
  - Maximum **assistance** to $6,500.
- States can also receive **funding for administrative costs** of retaining **technical support** to further develop weatherization strategies.

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III. The American Clean Energy and Security Act (ACES)

- Currently, this bill:
  - Establishes a cap-and-trade program for GHGs,
  - Establishes a combined RE and EE standard,
  - Develops a strategy for promoting CCS,
  - Imposes performance standards on new coal-fired power plants,
  - Promotes investment in EE, e.g., building retrofits, and adoption of advanced building codes.

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III. ACES

- **Our focus**: Energy Efficiency, Affordability, and Improving Housing Stock
- **Some sect**ions of the bill are **specific** in stating that **allowance value** should be used for EE.
- **Other sections authorize the use** of **allowances** for funding EE, **but do not** necessarily **dedicate** the funding.

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III. ACES – Section 131

- SEED Fund
  - States and DOE develop create a SEED **Fund** for managing and **accounting for** federal financial **assistance to states** designated primarily for **clean energy, energy efficiency**, and climate change purposes.
- Allowances are provided to the SEED accounts according to the following schedule:

  2012 thru 2015 -- 9.5 percent of total allowance value
  2016 thru 2017 -- 6.5 "
  2018 thru 2021 -- 5.5 "
  2022 thru 2025 -- 4.6 "
  2026 thru 2050 -- 4.5 "

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III. Section 132 -- Support of State Renewable Energy and Energy Efficiency Programs

- Allowances allocated to states under section 782(g)(1) of the Act (i.e. SEED Accounts) shall be distributed to the states as follows: 1/3rd equally among states; 1/3rd based on population; 1/3rd based on energy use.
- At least **12.5%** of allowance value shall be distributed to **local governments.**
- At least **20%** of allowance value to be used for **EE** purposes related to (A) building **codes** (section 201); (B) **manufactured homes** (section 203); (C) energy performance **labeling** (section 204); (D) low-income **community energy efficiency programs (**section 264); and (E) the Retrofit for Energy and Environmental Performance, **REEP** program (section 202).
- At least **20%** shall support renewable energy through **other financial mechanisms**, e.g., capital grants, tax credits, production incentives, loans, loan guarantees, forgivable loans, and interest rate buy downs for (ARRA-funded manufacturing facilities producing RE and storage systems, and for other RE development.
- The remaining **47.5%** for A-E, plus other things, including RE and smart grid.

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III. ACES – Section 264

- Section 264 Low Income Community Energy Efficiency Program
  - DOE authorized to make grants to private, nonprofit, mission driven community development organizations including community development corporations and community development financial institutions to provide financing to businesses and projects that improve energy efficiency; identify and develop alternative, renewable, and distributed energy supplies; provide technical assistance and promote job and business opportunities for low-income residents; and increase energy conservation in low income rural and urban communities.

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III. ACES – Section 202

- **Building Retrofit Program: Retrofit for Energy and Environmental Performance Program (REEP).**
  - Federal financial assistance to states to retrofit existing buildings for improvements in energy efficiency, water use, and other environmental attributes.
  - The program will include detailed descriptions of funding options for state and local governments, along with model forms, accounting aids, agreements and guides to best practices; and will support up to 50% of the costs of retrofits, with funding increasing in proportion to efficiency achievement.
  - As a condition of receiving funding for REEP, states must adopt the standards for training, certification of contractors, certification of buildings, and post-retrofit inspection developed by DOE for residential and commercial buildings; and establish fiscal controls and accounting procedures sufficient to ensure proper accounting.

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III. ACES – Section 203

- **Energy Efficient Manufactured Homes.**
  - States may provide owners of pre-1976 manufactured homes with rebates to use towards purchases of new Energy Star-qualified manufactured homes.

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III. ACES – Section 782

- Natural Gas Utilities receive allowances according to the following schedule:
  - 2016-2025 -- 9 percent of total allowance value
  - 2026 -- 7.2 "
  - 2027 -- 5.4 "
  - 2028 -- 3.6 "
  - 2029 -- 1.8 "
- Gas Utilities must spend at least 1/3 of their allowances on EE

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III. ACES – Sections 783, 784, 785, and 721

- Allocations for the benefit of consumers:
  - allocations to electricity local distribution companies (Sec. 783),
  - and states for the purpose of mitigating home heating oil and propane cost increases (Sec. 785).
  - In addition, a total of 15% of allowance value will be distributed to low- and moderate-income families (Sec. 721(a)).
- **Question**: How can consumers most benefit from allowance value?

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- **Part Four: Some Conclusions and Discussion**

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Some Conclusions

- Remember the RGGI model:
  - a successful cap-and-trade program for GHGs should "**recycle revenue"** via allowance auction, and **invest** proceeds **in end-use measures.**
- Maine, New Hampshire and Vermont **climate action plans** and **state RGGI statutes** recognize the:
  - central role to be played by energy efficiency in cost-effectively achieving climate goals,
  - need to take quick action, and
  - increased effectiveness to be achieved through better coordinating efforts being made by different state agencies.
- All three states recognize the value in:
  - **broadening the** electric energy **efficiency mandate** to include buildings and thermal efficiency
  - operating in a cost-effective manner, and
  - building on the frameworks of existing programs.
- The **same lessons apply** to potential **federal climate proposals** like Waxman-Markey:
  - Consider educating Congressional delegations from respective states regarding the advantages of developing a GHG program that weds affordability, environmental, and energy goals.
  - Develop familiarity with federal proposals and be willing to point out need for support (in climate legislation) that would continue support started under state climate action plans, RGGI, and federal stimulus legislation.
- **Other conclusions**

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