Massachusetts Climate Action Network

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Cambridge Green Decade
Cape Ann Climate Change Network
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Green Decade Coalition/Newton
Groton Local
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Westwood Environmental Coalition
Williamstown COOL

April 2, 2007

Testimony Concerning House 3965, the Green Communities Act of 2007, to the Massachusetts Legislature's Joint Committee on Telecommunications, Utilities, and Energy

Summary

In order to assist utility ratepayers and to cut global warming emissions, Massachusetts needs to greatly accelerate its spending on clean energy, focusing first on energy efficiency and secondly on renewable energy. We support the intentions of House 3965 in this direction. The existing efficiency programs are saving ratepayers on the order of $250 million a year. Projections done in relation to using the proceeds from the Regional Greenhouse Gas Initiative to double spending on efficiency show that doing so could cut the average household electric bill by 12 percent or more annually.

However, we are concerned that the primary vehicle in the bill for accomplishing this goal, the proposed Clean Energy Trust Fund (CETF), does not mandate that efficiency spending rise. In fact, the broad-based nature of the Fund could mean that it will lead to substantially less implementation of efficiency rather than the several-fold increase in spending that is needed.

We agree that creating a fund, as described in the bill, which has responsibility for both efficiency and renewable energy spending, could provide several advantages, including:

- Make it easier to spend money on both efficiency and renewables in the same building or facility, improving effectiveness.
- Issue bonds and create a revolving-loan fund, which could increase the overall pool of capital available for efficiency and renewables.
- Help improve administration of the funds, although they are highly cost-effective at present.

Despite these possible advantages, there are several important concerns that the CETF raises:

Administrative problems and delays - in other states where responsibility for operating efficiency programs has been transferred from the utilities to a state agency, it has caused disruptions and delays, yielding years of lost opportunities, and in some cases a return to utility-based operation.

Possible diversion of funds away from efficiency - between existing and new sources of funds (including RGGI and the ISO's Forward Capacity Market), the CETF could have more than $200 million a year to spend, at least 90 percent of which would derive from funds that should be designated for energy efficiency. But there is no guarantee that the CETF will spend this fraction of its money on efficiency. If substantial portions of the money are diverted to other purposes -- as the Fund's broad mandate appears to allow -- this could result in greatly lessened benefits to ratepayers and smaller reductions in carbon dioxide emissions. It is essential that a specific, high proportion of the available funds be reserved for efficiency programs. This could be done, as in other states that have combined funds, including New York, New Jersey, and Oregon, through a public utility commission proceeding.[1] Alternatively, the legislation could require that all funds deriving from the existing efficiency charges, and from RGGI and the FCM, are spent on efficiency as long as it is the most cost-effective means of meeting electricity needs.

Providing loans is valuable but not the entire answer - Most of the efficiency funding in programs throughout the U.S. is used to provide grants, rebates, or discounts to utility customers. Loan programs are also widely offered, but have been most successful for institutional customers such as government agencies and colleges. The CETF could significantly increase the total pool of funds by offering expanded loan programs in Massachusetts, and we are eager to see how the Cambridge Energy Alliance fares with its loan-oriented effort. But such programs can only partially replace direct cash grants/rebates, and so are not a substitute for increasing the funds that electric and gas utilities devote to cost-effective energy efficiency programs.

Vehicle fuel economy: Section 85 of the bill provides a $2,000 tax deduction for purchasers of hybrid and alternative fuel vehicles. We applaud the intent of this provision, particularly given that transportation is the largest and fastest growing source of greenhouse gas emissions in the state. However, the deduction is only worth about $106, not enough to significantly affect vehicle purchasing decisions. We suggest a larger incentive, but structured to be (1) tax-neutral, (2) based on a vehicle's performance rather than its technology, and (3) for legal reasons stated in terms of reducing carbon dioxide emissions rather than raising fuel efficiency.

Introduction

Massachusetts Climate Action Network (MCAN) is an organization devoted to ensuring that Massachusetts does its part in halting the severe threat posed to our health, environment, and economy by global warming. As recent events and accumulating evidence are showing, such as rising temperatures, increased severity of hurricanes and other storms, and melting of glaciers and polar ice, we must address this threat rapidly if the planet is to be protected from disastrous consequences.

We thank the Committee for this opportunity to address the Green Communities Act, and thank the sponsors for putting forth a bill that addresses the crucial area of energy policy in a comprehensive manner. We greatly appreciate that the sponsors are seeking solutions that will expand the use of clean energy in Massachusetts.

Massachusetts has already committed itself to taking action on global warming, through signing on to the New England Governors/Eastern Canadian Premiers Climate Change Action Plan and then through issuing our own Action Plan in 2004. Both documents commit

the state to reducing greenhouse gas emissions (GHGs) to 10 percent below 1990 levels by the year 2020, and eventually by 75 to 85 percent, the reduction that scientists say is necessary to stabilize the climate.

Energy policy and global warming policy are inseparable. The vast majority of greenhouse gas emissions are carbon dioxide, resulting from burning fossil fuels to produce energy. In Massachusetts the largest source of carbon dioxide is transportation, meaning our cars and trucks, following by electricity generation. The Green Communities Act primarily addresses the electricity sector, with one section concerning motor vehicles.

Benefits of energy efficiency and need to expand programs

We believe that our state's needs for affordable, secure, reliable energy supplies, and our need to minimize the environmental consequences of energy production, can be met through a consistent set of policies. These policies mean first, meeting as much of our energy needs as possible through energy efficiency and conservation measures, and second shifting our energy production from fossil fuel generating plants to clean, renewable sources of electricity.

Massachusetts has one of the nation's most advanced and effective set of programs to advance energy efficiency, particularly for electricity. During the years 2003-2005 the programs operated by the state's four electric utilities and the Cape Light Compact cost $504 million, both from utility and program participant spending, and yielded $1,227 million ($1.227 billion) in lifetime savings on electric bills. This means that benefits to ratepayers were about $2.40 for every dollar spent - a terrific benefit-cost ratio, indicating that the state would benefit tremendously from increasing spending on efficiency.

Another way of seeing this is that it costs about 3 cents per KWh to save energy through efficiency, compared to about 10 cents to generate more electricity via adding new power plants -- meaning that efficiency costs about one-third as much as new generation.

Table 1: Benefits and Costs of Energy Efficiency Programs in Massachusetts 2003 - 2005[2]

Program cost (utility and participant spending)	$504 million
Lifetime bill savings to participants and non-participants	$1,227 million
Benefit - cost ratio	2.4 to 1
Average cost of saving energy	about 3 cents/ kWh
Average cost of increasing electricity generation	about 10 cents/kWh

There is tremendous potential to save more money for ratepayers, and to reduce greenhouse gas emissions and other pollutants, through expanding the existing efficiency programs. One major source of possible funding for expanding the programs is proceeds from selling the emissions permits (allowances) from the Regional Greenhouse Initiative (RGGI). In signing the state back into RGGI, and deciding to auction the allowances, Governor Patrick repeatedly cited the gains to consumers from using the auction proceeds to fund efficiency programs.

Analysis performed by consultants for the RGGI state governments, and then converted into retail electric bill impacts by Mass. DOER, shows the dramatic projected savings to electricity consumers -- an estimated 12 percent of the average residential electric bill in 2015 and 19 percent in 2021.[3]

Table 2: Benefits to Massachusetts Consumers from Doubling Energy Efficiency Spending, Using Sales Value of RGGI Allowances

	Ave. bill (2003)	$ saved	% saved
Year 2015			
Residential	$900	$105	11.7%
Commercial	$6,866	$519	7.6%
Industrial	$59,632	$1,416	2.4%
Year 2021			
Residential	$900	$170	18.9%
Commercial	$6,866	$816	11.9%
Industrial	$59,632	$1,273	2.1%

Sources: Summarized by Marc Breslow, Mass. Climate Action Network, from spreadsheets of Mass. Department of Energy Resources, December 2005. Based on modeling by ICF, Inc. using their IPM model (Integrated Planning Model) on behalf of the RGGI State Working Group; and on efficiency scenarios designed by NYSERDA and ACEEE.

In addition to these direct savings to consumers who make use of efficiency programs, there are also substantial savings to all consumers due to efficiency programs, as these reduce overall demand for electricity and thereby reduce the average market clearing price. The RGGI modeling by ICF clearly showed the substantial gains this would produce, eliminating a significant portion of any wholesale electricity price increase.[4]

The Proposed Clean Energy Trust Fund

Central to this legislation is the Clean Energy Trust Fund (CETF), described in Section 23 of the bill. We understand that the intent of creating this new fund is to both improve the effectiveness of the existing efficiency and renewable energy programs and to expand the pool of available funds. These are laudable goals, and we fully support them. However, we see several concrete problems in the implementation of the fund, which in combination mean that as presently worded the bill could cause more harm than good, by substantially decreasing the amount of efficiency that is accomplished through state-mandated programs, rather than increasing such spending, which we all agree is the goal.

Advantages of the combined fund

We see the following possible benefits from the CETF:

Integrate efficiency and renewables spending - at present two different sets of agencies administer spending efficiency and renewable energy programs. It often makes sense to be spending both types of money within the same building or facility in order to be most effective, yet this is difficult to do when different agencies control the funding separately and are statutorily required to support only efficiency or renewables but not both. The CETF could overcome this problem.

Issue bonds and create a loan fund - the legislation would give the CETF fund the ability to issue bonds, which the current efficiency programs cannot do. By doing so, the fund could create a pool of capital that could be used to accelerate spending on efficiency and to renewables programs, and to provide loans to electricity consumers instead of the rebates or discounts that are the heart of the programs now. By providing loans that would be paid back, the fund would in effect be expanding the overall pool of available funding.

Improve administration of the programs - there have been many criticisms of how the electric utilities operate the efficiency programs and of how the Mass. Renewable Energy Trust administers the renewables funds. Despite these criticisms, the evidence cited above shows that the efficiency programs are highly cost effective. Nevertheless, as a member of the Non-Utility Parties for the past several years (the oversight body for the efficiency programs), we agree that improvements to the programs could be made. Whether shifting administration of the programs to a new entity would actually improve their operation is questionable, however, as we will discuss below.

Problems with the combined fund

Despite its possible advantages, movement of large sums of money into the CETF has several important problems:

Administrative difficulties - in most states the efficiency programs are operated by the utilities, while in a few they are run by an independent state agency or by a non-profit corporation under contract to the state. A few states have attempted to shift administration of the programs from the utilities to other methods such as direct state agency control, but the results have generally been negative, with severe disruption and delays to the functioning of the programs.

Negative examples include California, Wisconsin, and New Jersey. In Wisconsin the programs had been run by the utilities with oversight by the public utility commission. The programs were taken away from the utilities, and contracted out to management companies, with very mixed results, including poor administration of the commercial and industrial programs. In addition, because the money became part of the state's overall budget, at one point a third of the funds were siphoned off into other state expenses. At present Wisconsin is in the process of returning the funds to the control of the utilities, with a plan for them to contract out actual implementation.

Legislative reforms that improve the effectiveness of oversight for the utility-based programs is may yield better results, and less disruption, than removing the utilities from their role as implementers of the programs.

Shifting money away from efficiency - of the money being shifted to the CETF from the existing efficiency and renewables funds, about $72 million total, 80 percent would come from the efficiency programs. In addition, all the revenue from the RGGI allowance sales would go to the CETF. These funds are likely to be at least $52 million a year during RGGI's early years, and could easily rise to $130 million a year or more.[5] Governor Patrick has urged, as have we, that these funds be spent predominantly on efficiency programs. Moreover, the CETF would receive other sources of funds, including payments from the ISO's Forward Capacity Market (FCM), based on reductions in electricity demand due to existing efficiency programs. All of those involved in oversight of these programs agree that the FCM payments should go back into efficiency programs.

As a result of these flows, it is likely that more than 90 percent of the money going into the CETF should be spent on energy efficiency. But while the proposed legislation is certainly encouraging of such spending, it does not require the money to go here, and substantial sums could easily be shifted to other purposes, including renewable energy development, support for emerging technologies, and clean-up of pollution from fossil fuel power plants, all purposes allowed by the bill.

We are greatly concerned that support for efficiency programs, rather than increasing due to the Clean Energy Trust Fund, could be greatly decreased. The freedom for this to happen via executive branch decision is in contrast to other states that have funds with combined responsibility for efficiency and renewable energy spending, where in most or all cases there is a regulatory process that mandates the split between the two areas of spending.

One such case is the New York State Energy Research & Development Agency, NYSERDA. NYSERDA develops a five year plan, which is reviewed in a public proceeding by the public service commission, and the commission decides the broad outlines of spending. At present NYSERDA spends about 75 percent of its funds on efficiency, with the rest going to renewables and R&D.[6] The situation is similar in Oregon, where the Energy Trust of Oregon administers a combined fund, but the public utility commission exercises regulatory oversight, again mandating that more than three-fourths of the money is used for efficiency programs.[7] A third case is New Jersey, where in 2005 about 70 percent of the funds in the Clean Energy Program were spent on efficiency, under oversight by the Board of Public Utilities.[8]

At a minimum, there should be a mechanism for ensuring that a specified, high percentage of the available funds is spent on efficiency. This could be done, as in other states including New York, New Jersey, and Oregon, through a public utility commission proceeding.[9] Alternatively, the legislation could require that all funds deriving from the existing efficiency charges, and from RGGI and the FCM, are spent on efficiency as long as it is the most cost-effective means of meeting electricity needs.

Issuing bonds and providing loans is valuable, but limited - the idea of issuing bonds, thereby creating a larger pool of available up-front capital, and then providing loans for electricity consumers to use for efficiency investments, is a good one. During our service on the Non-Utility Parties overseeing the utility-operated programs we have urged that such loans be made available to customers, particularly residential and municipal consumers, and some steps have been taken in this direction.

We are eager to hear more about plans to create such loan funds, and to see what progress the Cambridge Energy Alliance is able to make with such programs. However, experience around the country tends to indicate that while a useful tool, loans have a limited capacity to replace rebates, grants, or discounts as encouragement for implementation of efficiency measures.[10] Loans work best for institutional customers that have a long time horizon for making investments, that are confident in their permanence as organizations and in their longevity in the same buildings. This includes government agencies, universities, and hospitals.

Loans are also useful for businesses and residential consumers, but such customers are less willing to make long-term commitments to financing efficiency improvements, and do not have as much confidence that they will remain in the same location long enough to reap the benefits of lower utility bills. As a result, most of the funding provided to businesses and households remains in the form of grants or rebates. Another piece of evidence for this the-

sis is that energy service companies (ESCO's), which also provide this type of debt financing, get most of their business from institutional customers, not from businesses.[11]

Thus, while providing a loan fund for institutional customers, such as municipal governments, is an excellent idea, such loans can only be a partial replacement for cash grants to most program users. Loan funds cannot entirely substitute for greatly increasing the money spent on efficiency by electric and gas utilities, through one of several possible policy mechanisms, such as least-cost planning or an efficiency portfolio standard.

Incentives for Clean Vehicles

Transportation is now the largest source of greenhouse gas emissions in Massachusetts, and the fastest growing. It is thus essential that we address fuel use by motor vehicles and airplanes. Section 85 of the bill (page 115) does this, and it is good that this source of emissions is considered along with the electricity sector, however a far stronger response to transportation emissions is needed. Section 85 would give a $2,000 income tax deduction for purchasers of hybrid or alternative fuel vehicles, which at current tax rates is worth about $106. This is too small an incentive to have a significant impact on vehicle purchasing decisions. To make a real difference an incentive on the order of the federal tax credit, which went as high as $3,150 for buyers of the most fuel-efficient five-passenger vehicle on the road, the Toyota Prius, is needed.[12]

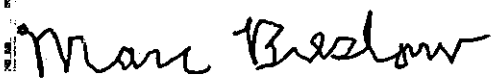
Of course, a much larger incentive would also have higher budgetary costs. If such costs are considered unaffordable at present, the solution would be a "tax-neutral" incentive, where the sales tax on fuel-efficient cars and trucks is reduced and the tax on vehicles with low miles per gallon is raised, so that the total tax revenues remains constant. Such a system not only protects the state financially, but also provides twice as great an incentive to switch from an inefficient to an efficient vehicles as does a simple tax cut on better vehicles without penalties on badly-performing vehicles.

In addition, we would suggest that in order to obtain the most reduction in fuel consumption per dollar of tax revenue lost, the bill's provision should reward a vehicle's performance in terms of fuel economy, not the type of technology used -- because there are a number of cases where vehicles that use innovative technologies do not actually save much fuel. The current language gives tax breaks to any "hybrid or alternative fuel vehicle" that "achieves an increase of 10 percent fuel efficiency as compared to the average vehicle of its class." A 10 percent increase relative to the vehicle class is not enough to deserve a tax incentive, and will not achieve much. For example, the Honda Accord hybrid only gets about 2 miles per gallon better than a conventional Accord, but since conventional Accords already do well compared to the average of all mid-sized cars, this would be enough to obtain the tax deduction for a hybrid Accord - which would be undeserved.

It would be better to provide tax incentives for purchases of all fuel-efficient vehicles, regardless of whether they have conventional gasoline engines or use an innovative technology, in proportion to how well they perform in conserving gasoline. The federal tax credit provides a good model for such a sliding-scale tax credit.

One more consideration is a legal one, the problem of federal preemption of authority over fuel efficiency standards. To avoid this problem, California's law requires reductions in the pollutant of concern, carbon dioxide emissions, rather than improvements in fuel economy. Massachusetts should use the same approach.

Thank you for considering our testimony. We would be happy to answer questions or to provide any additional information that you may find useful.



Marc Breslow, Ph.D.
Executive Director

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[1] "New Jersey's Clean Energy Program: 2005 Annual Report," page 7.

[2] Calculations by Mass. DOER based on utility reports

[3] Note that due to subtle biases in the modeling of the efficiency scenarios, we believe that the gains to residential customers shown here are probably somewhat overstated and the gains to industrial customers understated.

[4] See the state governments' website, www.RGGI.org, "RGGI Package Scenario (updated 10/11/06) and the 2X Efficiency Policy Scenario.

[5] RGGI allowance funds would yield $52 million a year with 26 million allowances for Massachusetts and a low price of $2 per ton; at a moderate price of $5 per ton they would yield $130 million a year.

[6] NYSERDA Annual Report 2005, www.NYSERDA.org

[7] "National Perspective on Program Administration and Design Issues," Charles Goldman, Berkeley National Laboratory, presentation to the Colorado DSM Information Workshop, Colorado Public Utilities Commission, Feb. 8, 2007.

[8] "New Jersey's Clean Energy Program: 2005 Annual Report," pages 24 and 25. $85.4 million was spent on efficiency and $35.5 million on renewable energy programs.

[9] "New Jersey's Clean Energy Program: 2005 Annual Report," page 7.

[10] "Database of State Incentives for Renewables and Efficiency, North Carolina Solar Center at North Carolina State University, http://www.dsireusa.org/index.cfm?EE=0&RE=1

[11] Charles Goldman, Lawrence Berkeley National Laboratory, 3/28/07.

[12] The $3,150 tax credit on Prius's is now almost gone, because the federal law only allowed the full tax credit on the first 60,000 hybrid vehicles sold by each auto manufacturer.

Good morning Chairman Dempsey, Chairman Morrissey and members of the Committee. Thank you for taking me out of turn to testify on H. 3965, The Green Communities Act of 2007.

As you know, this session, I have committed the House to passing comprehensive energy reform for Massachusetts. In crafting the bill before you today, I worked closely with members of my leadership team, particularly Chairman Dempsey and Chairman Bosley and also with Secretary Bowles. I hope to continue to work closely with Governor Patrick and Senate President Murray to ensure that this process results in meaningful change that will benefit all of the citizens in the Commonwealth.

Escalating energy costs are a significant burden on homeowners and businesses alike and our over-reliance on imported fuel sources jeopardizes the future economic vitality of the state. Electricity rates in Massachusetts average 5 cents per kilowatt hour higher than the rest of the country and according to one estimate prices are at 150 percent of their 2002 levels. The cost of energy inhibits economic growth and impacts the quality of life for our residents. For too long, we have operated without a clearly defined energy policy to guide our decision-making. In addition, as a state, we have not spoken with one voice on these incredibly complex issues because our regulatory structure has been spread across different agencies. The competing missions have resulted in confusing market structures and significant unnecessary costs that are ultimately borne by ratepayers. The key elements of this bill are progress, accountability and responsibility.

The Commonwealth can no longer afford to think about energy merely in terms of regulation, or try to fix things only during times of crisis. We must act now to secure our future and set the Commonwealth on a new course of energy independence in a way that will benefit our children and grandchildren. We need to be proactive in ensuring not only the safety and reliability of our energy infrastructure, but also in ensuring an adequate energy supply for future generations.

Massachusetts is at the end of the pipeline for traditional sources of fuel. As a state, we have done too little in recent years to increase our independence and reduce our reliance on imported sources of fuel. We all know that we in Massachusetts can not drill our way to energy independence and price stability. But we can realize significant benefits by increasing our commitment to generating sources of energy and energy industry that are both clean and

renewable. We can use our indigenous resources in a broader more comprehensive manner and leverage the funds at our disposal to achieve bigger and better results for the people of our state.

The bill before you, The Green Communities Act of 2007 is a workable, common sense solution to this problem that firmly establishes the Commonwealth's commitment to clean and renewable energy and that creates a regulatory and legislative structure to help us lead the way in the future.

This bill addresses a wide array of issues, too numerous to list in detail, but I would like to highlight a few key features.

- The bill establishes an Executive Office of Energy Affairs and moves the many disparate energy related functions under the auspices of a Secretary of Energy. We provide the Governor with the flexibility to appoint a single person as both the Secretary of Energy and the Secretary of Environmental Affairs, if he so chooses. We create several new departments under the Energy Office and also establish an independent Office of Ratepayer Advocacy, under the Secretary, but not subject to his control. An independent Ratepayer Advocate will ensure that the interests of Massachusetts' ratepayers are fully protected in the different federal and state forums that impact us as ratepayers. Most of the states around the country have an independent ratepayer advocate.
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We create several new funds and programs that will be administered by the Secretary of Energy. Implementation of these programs will be geared toward a 10 per cent statewide reduction in energy consumption by 2017 through the development and implementation of renewable energy, energy efficiency, conservation and demand reduction.

- We establish a landmark Green Communities Program which will allow communities to qualify for monies from the energy efficiency and renewable energy funds to fund the costs associated with the development of clean energy generating sources and energy efficiency programs within a municipality. If as a municipality, you want to use municipally owned land to construct a clean or renewable energy generating facility, or if you want to site a private facility, the Commonwealth will be a partner in this endeavor;

- We establish a Clean Energy Fund. This fund will provide grants and loans to clean energy related projects and businesses in the Commonwealth;
- We establish an Energy Efficiency Fund. This fund will be used for a variety of programs, including the green communities program and will provide funds for a rebate program for ratepayers who purchase energy efficient appliances or undertake energy efficient home improvements;
- We reconfigure the Renewable Energy Trust Fund. This fund will be used for the green communities program; the residential installation of renewable energy technologies, and for a green building program;
- We establish a Clean Energy Siting Committee to identify locations across the Commonwealth (both state and municipally owned as well as private) suitable for siting clean or renewable energy generating facilities and clean or renewable energy research and development and manufacturing facilities;
- We establish an alternative energy portfolio standard which will require electric suppliers to acquire at least 2 percent of their load from a prescribed list of alternative energy sources, thereby integrating new technologies and processes into the mix;
- We establish an Integrated Biofuels Research and Development Consortium within the University of Massachusetts in order to foster coordination between government, academia and industry around bio-fuel production. The consortium will also study siting and commercialization issues related to bio-fuels; and finally,
- Most importantly, we in state government lead by example: we seek to reduce the cost of electricity for state facilities through aggregated purchasing; we ask the siting committee to identify state lands suitable for siting clean and renewable energy generating facilities and we also require that for future construction or rehabilitation of state owned facilities utilize energy efficiency, water conservation, and other clean and renewable energy technologies

I believe these actions are welcomed in cities and towns, who, like consumers, know they must do something to change the way they use energy and want, as we all do, to lower their overall costs. Just last week the city of Cambridge announced a plan to become the greenest city in America – a bold plan which I think reinforces the need for this legislation and underscores the need for the state to act in one voice and lead the way.

I view this bill as a blueprint for change, one that will allow us to chart a new course and employ a new kind of thinking about how we use, pay for, and plan for our future energy needs. There may be some disagreement on the particulars and we expect, as with any proposal this size, a robust debate. We expect the industry, the various government interests and the people to come to the table with their ideas.

But, as with health care reform last year, I'll be following the model of shared responsibility as we make this kind of momentous change. And I know this committee is not interested in one word answers – like the word 'no,' for instance. Work with us and help us, but understand that maintaining the status quo is not an option.

I look forward to working with the Legislature and the Governor on this important endeavor.

Thank you.

Hebrew SeniorLife

Testimony to the Joint Committee on Telecommunications, Utilities and Energy
April 2, 2007

RE: H-3965 AN ACT RELATIVE TO THE GREEN COMMUNITIES ACT OF 2007

Hebrew SeniorLife (HSL) is a 100+ year-old not-for-profit organization committed to maximizing the physical and mental potential and quality of life of seniors. HSL carries out its mission through its integrated network of housing, health care, research, and teaching programs, serving more than 4,500 seniors annually in the Greater Boston area. HSL's holistic vision of lifelong wellness – the notion that one can live well at any age – continuously shape our programs, services, and supportive housing communities, thereby improving the greater community.

We congratulate the Speaker and other legislative leaders on focusing the state's legislative priorities on climate change solutions and in demonstrating their commitment to addressing issues of global warming. However, we believe that it is imperative that the Commonwealth focus as much on incentives for projects that have significant potential for on energy *avoidance* as on renewable energy development. Reduction in energy consumption through increased energy efficiency measures is a critical component in meeting our increasing energy demands. Reduction in cooling energy use decreases the need to build additional electrical energy generating facilities in New England, which typically consume fossil fuels (e.g., coal, natural gas) that increase greenhouse gas emissions. Reduction in energy use for heating can have the same effect by decreasing the amount of fuel oil or natural gas that is typically burned.

Later this year, HSL will begin construction of a senior supportive housing community in Dedham that will feature environmentally friendly solutions throughout. The NewBridge on the Charles ("NewBridge") project design incorporates many energy conservation/efficiency and "green" features including: high performance insulation, windows and doors; xeriscaping (watering of green space without use of outside water sources); and energy efficient lighting and appliances. NewBridge also has been designed to preserve public access to open space – 100 acres of meadows, ponds, woods and wetlands will be preserved as undisturbed natural areas.

Most relevant to this legislation, the NewBridge project's design incorporates a state-of-the art self-sustaining geothermal heat pump heating and cooling system for the campus. If completed, it would be the largest or one of the largest geothermal systems in the Commonwealth, with over 375 closed-loop boreholes and translating to approximately 1600 tons of heating/cooling capacity. Between this system and other energy-saving features on the campus, the project is expected to use 20 percent less energy for heating and cooling than a traditional project of comparable size.

Although the long-term energy and environmental benefits are greater than with traditional heating and cooling systems, installation of the geothermal system requires a significant additional capital investment and the additional cost presents a challenge. Most not-for-profit organizations like HSL do not have access to the level of capital and/or long term financing required to undertake a geothermal project of this size.

The NewBridge geothermal project will provide a reduction in heating and cooling consumption and corresponding operating costs to the senior supportive housing and health care facility – not electricity – and as such is not defined as a renewable energy project currently eligible for funding, despite the enormity of the project and the significant energy savings that would result by its application. We

appreciate that the legislation as currently proposed appears move beyond the current emphasis on funding renewable energy generation projects to allow certain energy avoidance projects such as geothermal heating and cooling to be eligible for funding under the newly-created Clean Energy trust fund.

Most current financial incentives, like heating and energy efficiency tax credits and deductions (including income, sales and property tax exemptions) as well as rebates, grants and financing resources are intended primarily for commercial businesses and generally are not available to not-for-profit or charitable institutions. Although some state programs do exist that fund renewable energy projects in this sector, funding has not been widely available for projects that reduce energy use but which are not used for the generation of electricity. Increased incentives for energy efficiency/conservation projects that result in significant energy avoidance are necessary in light of both rapid changes taking place in the energy market and increasing consumer demand. Any legislative measure that increases the number and/or applicability of such incentives to a broader range of projects, and which provides greater parity within the business community as to the availability of such incentives, would be of benefit to the Commonwealth.

Conclusion

HSL would like to praise the Speaker and Committee Chairs for looking at energy avoidance measures as well as renewable energy projects in this comprehensive bill. Reduction in energy consumption through increased energy efficiency and conservation measures is a critical component in meeting the Commonwealth's rising energy demands. We strongly feel that it is in the Commonwealth's best interest to encourage not-for-profit entities to develop self-sustaining projects that shift significant electric energy consumption away from conventional fossil fuel sources. We encourage legislation that ensures that not-for-profit organizations receive the same or comparable incentives and rewards available to private businesses and individuals for undertaking projects that reduce energy consumption through the use of geothermal solutions. Such opportunities would allow not-for-profit organizations such as HSL to focus their efforts more on providing the best possible services and facilities to the seniors we serve rather than on paying higher heating and cooling costs from less energy efficient technologies.

Thank you for the opportunity to provide testimony.

Sincerely,

Judith Iwanski, Esq.
Director of Government Relations
Hebrew SeniorLife

Hebrew SeniorLife is recognized internationally as a leader in the area of senior health care, housing and aging research. Through an integrated seven-site system, Hebrew SeniorLife provides long-term care; short-term, post-acute care; research and training; adult day health; independent supportive senior housing; a continuing care retirement community; home health care; and services and programs for seniors in the community.

TESTIMONY OF

INDUSTRIAL WIND ACTION GROUP ON

HOUSE BILL 3965

THE GREEN COMMUNITIES ACT OF 2007

COMMONWEALTH OF MASSACUSETTS

JOINT COMMITTEE ON TELECOMMUNICATIONS, UTILITIES AND ENERGY

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603-838-6588

APRIL 2, 2007

Thank you for this opportunity to provide written testimony in regard to House Bill 3965, *The Green Communities Act of 2007*. The proposed legislation is innovative and comprehensive and Industrial Wind Action Group (IWA) applauds the Commonwealth of Massachusetts in this effort. IWA believes *The Green Communities Act of 2007* provides an important opportunity for the Massachusetts legislature to incent renewable generators to build capacity on the grid that is better able to meet the growing electricity demand in the state and region. IWA respectfully recommends the addition of Section 21 (c) to the bill to address the following:

Adjustment of Renewable Energy Certificate for Locational, Time-of-Day and Time-of-Year Values The Massachusetts Renewable Portfolio Standard (RPS) makes no distinction between the location of resources or those resources that produce energy on-peak and on-season. IWA respectfully encourages this honorable committee to consider adjustments to renewable energy credit values that will incent the building of facilities that are located closer to load centers in the State, and that also reward the generation of on-peak and on-season renewable energy. There is clear value that can be assigned to renewable energy generated closer to load, during on-peak hours and during on-peak season periods. It is reasonable for the public to anticipate that their public dollars will be invested to maximize the generation of useable capacity on the grid. There is no economic or environmental justification for valuing all RECs within a particular class of renewable energy at an identical price.

IWA wishes to thank the Committee for granting it us this opportunity to offer testimony on ***The Green Communities Act of 2007***, House Bill 3965.

This concludes our testimony.

INTEGRATED
WASTE SERVICES
ASSOCIATION

Testimony of Ted Michaels
President, Integrated Waste Services Association
Before the Massachusetts Joint Committee on Telecommunication, Utilities, and Energy
April 2, 2007

In support of amending House No. 3965 to clarify the renewable portfolio standard regulation to require a minimum threshold for the purchase of existing renewable power.

Good morning, Chairman Morrissey, Chairman Dempsey, and Members of the Committee. My name is Ted Michaels and I serve as President of the Integrated Waste Services Association (IWSA). IWSA represents the waste-to-energy industry and the municipalities that rely upon our facilities for safe, effective trash disposal and the generation of clean, renewable energy. IWSA members with facilities in Massachusetts include Covanta Energy Group, Wheelabrator Technologies, and Energy Answers Corporation. These companies own or operate the seven waste-to-energy facilities in Massachusetts today, serving over 130 cities and towns and generating 260 megawatts of electricity from the disposal of nearly 10,000 tons of trash per day.

On behalf of the IWSA and its members, I recommend amending House bill 3965 to fully implement the intent of the 1997 Electric Utility Restructuring Act that created a renewable portfolio standard (RPS) to promote renewable sources of energy. The statute specifically included existing renewables such as waste-to-energy and made them eligible to sell renewable energy credits. Unfortunately, subsequent regulations promulgated by the Division of Energy Resources (DOER) to implement the RPS failed to follow the legislative intent, despite the recommendation of DOER's consultant who advised them that the Legislature intended to build upon and protect the Commonwealth's existing base of renewable resources.

This proposed amendment includes two critical components. First, it ensures that the Massachusetts RPS is more robust by requiring (again) that utilities provide a portion of their electric sales from existing renewable energy sources, such as waste-to-energy. Second, it requires waste-to-energy facilities to share with its municipal partners the revenues generated by sales of renewable energy credits under the Commonwealth's RPS. Enactment of this amendment would provide much needed stability to the Commonwealth's seven waste-to-energy facilities, while at the same time providing much needed financial assistance to communities whose resources are only becoming more limited.

Waste-to-energy is an enormously important resource in Massachusetts. Massachusetts already exports almost two million tons of trash each year because of a lack of in-state disposal capacity. Landfill expansions and siting new landfills continue to encounter opposition, making the continued operation of safe, clean and reliable waste-to-energy facilities a critical part of the Commonwealth's solid waste infrastructure. Rather than jeopardize the stability of these important facilities, the legislation under consideration would ease the financial burden associated with our communities' disposal costs.

In summary, I urge you to support the amending House bill 3965 to protect existing renewable energy sources, fully implement the Electric Utility Restructuring Act, prevent further loss of needed trash disposal capacity, and reduce trash disposal costs for more than 130 Massachusetts cities and towns through sharing in the revenue from the sale of renewable energy credits. Thank you.

The Commonwealth of Massachusetts

House of Representatives

State House, Boston 02133-1054

CLEON H. TURNER
STATE REPRESENTATIVE
1ST BARNSTABLE DISTRICT
BREWSTER DENNIS YARMOUTH

COMMITTEES:
ELECTION LAWS
HOUSING
PUBLIC HEALTH

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TEL. (617) 722-2090
FAX (617) 722-2848
Rep.CleonTurner@hou.state.ma.us

April 2, 2007

RE: House Bill 3965, The Green Communities Act of 2007

Dear Speaker DiMasi, Chairman Dempsey, Chairman Morrissey and Telecommunications, Utilities and Energy Committee Members,

As you know, Barnstable and Dukes counties and the 21 towns therein comprise the territory of the Cape Light Compact, a municipal aggregator operating under the provisions of the Electricity Restructuring Act of 1997.

The Compact has been a valuable asset to us in dealing with power supply and consumer advocacy issues, and has been especially effective as regards energy efficiency matters.

The Compact is a "grass roots" organization, with a Governing Board consisting of a selectman or councilor as appointed representative from each of the local governmental entities. It is truly the voice of the community. The Compact has been successfully delivering energy efficiency programs on Cape Cod and Martha's Vineyard for the past five and one half years. During this time frame, the Compact has returned $26 million in energy efficiency services to ratepayers. The Compact has effectively served the energy efficiency needs of municipal projects by funding 100% of the installation of cost effective energy efficiency measures up to $75,000 per project per year. This has resulted in the Compact reinvesting approximately $5.5 million in **municipal** energy efficiency projects on Cape Cod and Martha's Vineyard. Investments in energy efficiency measures in our towns have the added benefit of saving our taxpayers money through lower utility costs. The Compact requests that it be allowed to continue to administer the ratepayer energy efficiency programs on Cape Cod and Martha's Vineyard.

The Compact has been industrious and creative in involving, serving and *educating its customers. A few examples:*

- The Compact has conducted "Energy Fairs" and "Turn-In-Events," where customers turn in inefficient dehumidifiers and air conditioners, and receive incentive "cost reducing" coupons to purchase new, Energy Star replacement devices.
- The Compact ran a program wherein, if three percent of the towns occupied housing units signed up for three months of Cape Light Compact Green electricity, the town would be eligible for instillation of a 2KW photovoltaic on a school in the town. **All 21 towns attained the goal.** In addition to being a

valuable educational tool, the solar unit generates usable renewable electricity and renewable energy certificates!

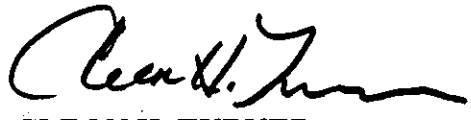
- The Compact has, at no cost to the towns, changed out every traffic signal (red/yellow/green, flashing, walk, etc.) from incandescent to Light Emitting Diode. The LEDs use only 10-12% as much electricity as the incandescent!
- The Compact has, with great cooperation of the local school systems, integrated the National Energy Education Development program (NEED) into the curriculum for third, fourth and fifth grades. The Compact provides, at no cost to the schools, teacher training and equipment kits for the classrooms.
- The Compact has donated **"Home Energy Detective Kits"** to 39 libraries on Cape Cod and Martha's Vineyard. The electricity monitoring meter provided can be borrowed by the consumer who can then become an electricity auditor of appliances in the home. Too, this is a way of detecting "vampire appliances," items which draw electricity even when in the OFF position.
- The Compact serves all customer classes with free energy audits and offers financial incentives with the instillation of energy efficiency measures. Reducing kWh consumption reduces the total electricity bill.

Clearly, the Cape Light Compact is running an energetic and successful consumer oriented program and is doing a good job of returning the ratepayer funded money back to its source. As I have been informed that the demand for energy efficiency measures is greater than the present funding will satisfy, it would appear counterproductive to divert any money away from this laudable effort and desirable goal. The current legislation should recognize the contributions and efforts of entities such as the Cape Light Compact and include continued funding for them rather than dismantle them only to recreate similar structures.

So, as House 3965, The Green Communities Act of 2007 pertains to the Cape Light Compact, I strongly support maintaining the process whereby the Compact receives 100% of the funds it is due for energy efficiency based on the kWh consumed by the ratepayers of Cape Cod and Martha's Vineyard. **I support the Compact's objection to 50% of the energy efficiency funds it is due being diverted to other projects as proposed in the Act.** In fact, logic would seem to dictate that **in order to satisfy the demand for energy efficiency and get the kWh/dollar savings as soon as possible, a small increase in the Systems Benefit Charge would be appropriate at this time.**

Thank you for the opportunity to present here today.

Respectfully,



CLEON H. TURNER
STATE REPRESENTATIVE
1st Barnstable District

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2 April 2007

Dear Mr. Chairman and members of the committee:

Please accept the following statement respectfully submitted by the University of Massachusetts Amherst in support of Massachusetts House Bill 3965: The Green Communities Act of 2007.

"Energy is the single most important challenge facing humanity today," proclaimed Nobel Laureate Richard Smalley in his testimony to the United States Senate in April of 2004. The national urgency of this issue is encapsulated in the words of Thomas Friedman who in September 2005 declared, "What should be the centerpiece of a policy of American renewal is blindingly obvious: making a quest for energy independence the moon shot of our generation." An essential component of that energy independence is the need to develop renewable, environmentally friendly sources of energy via the conversion of biomass (agricultural and forestry residues) to biofuels (e.g. ethanol and biodiesel).

The development of alternative, renewable fuel sources to reduce or replace our dependence on fossil fuels has emerged as a singular challenge to the economic security of the country and the Commonwealth. The proposed biofuels research and development consortium within The University of Massachusetts (UMASS), as described in Section 462 of House Bill 3965, is a significant and positive step in the direction of Massachusetts energy independence. State investment and support for biofuels research and development at UMASS will rapidly accelerate the development of the technologies required to realize the tremendous environmental and economic benefits of energy independence.

Biofuels-related activities at UMASS, centered at the University's Amherst campus, are vertically integrated to span the full continuum of biofuels research and development (R&D). A technical overview of biofuels-related research at UMass Amherst is provided in the attached document. Research activities include: development of novel and highly efficient biological and chemical biomass-to-biofuel conversion technologies; optimization of energy crop species for ease of cultivation and biofuels conversion; process design and engineering; and economic/social/environmental analyses. With this broad range of expertise in technology, policy, and economics UMASS is extraordinarily well positioned to achieve the objectives of the biofuels R&D consortium proposed in the Massachusetts Green Communities Act of 2007. Moreover, the consortium would facilitate the advancement and expansion of biofuels research collaborations statewide, enabling the growth of this industry cluster.

A notable collaboration between UMass Amherst, Harvard University, Boston University, and MIT, in cooperation with other universities and national laboratories throughout the country, culminated in the development of a proposal for a $125M Massachusetts-based Bioenergy Research Center submitted by Harvard to the U.S. Department of Energy on February 1 of this year. The proposal was significantly bolstered by a commitment of up to $11.1M in State matching funds from the Massachusetts Technology Collaborative. UMass Amherst prepared the proposal for matching funds, which describes a suite of economic development activities designed to catalyze the biofuels industry in Massachusetts and complement the Center's research agenda. The creation of a biofuels R&D consortium within UMASS would leverage these activities to much greater effect.

The following page provides examples illustrating how UMASS will achieve the objectives **(in bold)** of the biofuels research and development consortium as described in House Bill 3965.

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The UMASS biofuels R&D consortium will **facilitate expansive biofuels research throughout the Commonwealth** through development of a shared biofuels research laboratory. This laboratory will provide a physical and intellectual platform for UMASS investigators to interface directly with industrial partners and develop innovative collaborative research programs with a high potential for commercialization. Concerted State support for collaborative biofuels research at UMASS will **increase understanding of the fundamentals of biofuels production** by combining expertise in plant biology, microbiology, chemical catalysis, biorefinery engineering and design, and economic and environmental analysis.

Through additional resources allocated to the consortium, an emerging collaboration with the Massachusetts Division of Energy Resources and Department of Conservation and Recreation can be expanded to further develop **optimized methods of producing premium biofuels from regionally available feedstocks.** Importantly, these State agencies are now engaged in a long-term monitoring project to assess the underutilized forest resources of the Commonwealth and recommend strategies for sustainable biomass harvest that will yield environmental benefits and drive rural economic development. The activities related to this project are also well aligned with the "biofuels development and deployment strategic framework" objectives of (*i*) **identifying public lands for energy crop cultivation,** (*ii*) **reaching out to private landowners for cultivation of energy crops,** and (*iii*) **fostering market development for energy crops.**

UMass Amherst investigators have already developed a proposal to establish a Massachusetts Bioenergy Partners organization that will **enable State government, academic, and industry collaboration to accelerate the development of biofuels.** Through close collaboration with industrial partners, UMASS R&D activities will respond to the needs of the bioenergy industry and inform the development of this nascent sector. Technologies developed through the vertically integrated research enabled by the proposed legislation will span the full length of the biofuels production value chain and offer opportunities for engagement with many other sectors of Massachusetts industry. In particular, the State's renowned industrial biotechnology sector is poised to capture a share of the emerging biofuels industry because of the sector's collective experience with large-scale biocatalyst production and application. In the context of this new biorefinery paradigm, UMASS will work with industry and State government leaders to maximize the downstream economic benefits of biofuels research and develop the necessary educational and training programs.

With State support made possible through the Green Communities Act of 2007, the policy, resource economics, management, and regional economic development specialists of UMASS will have access to the resources necessary to begin **development of a strategic framework to accelerate development and deployment of commercially viable biofuels.** Furthermore, a group of UMASS management faculty specializes in evaluation of supply chain supernetworks, a field of study that has applications for **promoting infrastructure for cellulosic feedstock delivery to processing plants and supply of ethanol to motor fuel distributors.**

In addition to premier research, UMASS educates a sizeable portion of the State's workforce. Approximately 80% of UMASS graduates pursue careers in Massachusetts. State support and resources for a biofuels research and development consortium will enable the University to advance and expand important programs that will drive the emerging biofuels industry in Massachusetts. The resulting discoveries, technologies, and commercial opportunities have the potential for tremendously positive economic and environmental impacts throughout the Commonwealth.

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Technical Overview of Biofuels Research Thrust Areas at UMass Amherst

Biofuels research activities at UMass Amherst include:

(i) **Biomass agronomy and forestry**. Development of existing and novel, non-food, "energy crops" (i.e. feedstocks) will provide sources for the production of cellulosic ethanol, alternative biofuels and value-added products.

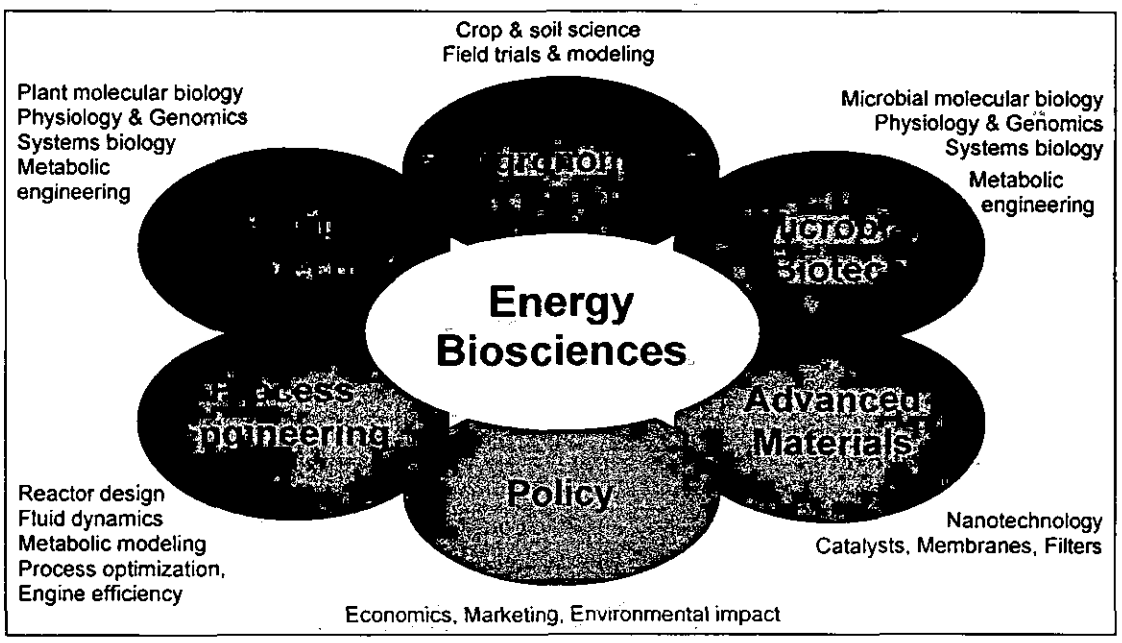
(ii) **Biological and catalytic feedstock-to-fuels conversion with an emphasis on consolidated bioprocessing using the novel microbe, *Clostridium phytofermentans***. The consolidated bioprocessing technique will be augmented by the use of selective chemical catalysis to optimize feedstock conversion (i.e. cellulosic biomass to biofuels);

(iii) **Catalytic conversion for development of premium biofuels and bioproducts**. Catalytic converstion will be applied to generate additional value-added products from feedstock residues to increase the economic viability of consolidated bioprocessing.

(iv) **Optimization of biomass production and biofuels conversion through advanced process engineering and design**. Techniques for industrial-scale biomass production, biofuels conversion, and fuel distribution schemes harvest and conversion of regionally available feedstocks will be developed with the aid of advanced computer simulations.

(v) **Technologies for increased combustion engine efficiency and lower emissions**. Expertise in fluid dynamics and flame modeling expertise will contribute to the development of highly efficient engines expressly geared for new biofuels and fuel blends.

(vi) **Macro-economic supply and demand analysis of emerging biofuel technologies will be used to evaluate how the biofuels portfolio relates to key economic indicators** including: percentage of liquid fuels likely to be replaced by bio-fuels, land-use, costs and benefits relevant to climate change, and social indicators, with a strong focus on uncertainty analysis.



UMass Amherst Energy Biosciences Research Thrust Areas

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The production of liquid transportation fuels from plant biomass is an intrinsically a multi-disciplinary problem requiring: (1) the production of low-cost biomass; (2) low-cost and energy-efficient technologies for conversion of biomass into liquid fuels; and (3) efficient conversion of biofuels to power transportation vehicles.

Specific examples of biofuels-related interdisciplinary, vertically integrated research and development at UMass Amherst include:

I. Optimized biofuels for seamless integration with existing infrastructure

- New liquid fuel components
  - Alcohols (e.g., ethanol, butanol)
  - Esters (i.e., biodiesel)
  - Alkanes (e.g., gasolines and diesel)
- Thermodynamics of fuel blends
- Other energy outputs
  - Hydrogen
    - Solar-powered hydrogen production
  - Microbial electricity generation
- Advanced engine technology (Homogeneous Charge Compression Ignition, Gasoline Direct Injection)
- Ultra-efficient combustion technologies
  - Fuel flow optimization
  - Fuel ignition optimization

II. Getting more fuel energy from currently available crops

- Biorefinery process design and engineering
- Production, refinement and distribution scale up modeling
- Pilot plants design and simulation
- Microreactors
- Microbial biotechnology (improving efficiency of microbial biomass conversion)
- Microbial metabolic engineering
- Advanced materials (nanotechnology) for the biorefinery
- Chemical catalysts (for optimal fuels and non-fuel by-products)
- Membranes and nanofilters (separation and purification of products)

III. Developing and optimizing new crop systems for biomass-biofuel conversion

- Plant biotechnology
- Genetic modification of "energy crops" for biofuel production
  - Agronomic optimization: increased biomass
  - Increased conversion efficiency of plant polymers to fermentable sugars
- Chemical catalytic conversion of biomass:
  - Aqueous-phase processing of biomass-derived oxygenates to fuels and chemicals

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- Catalytic fast pyrolysis for liquid biofuel production
- Design of novel catalytic materials including amine functionalized zeolites
- Microwave conversion of biomass with heterogeneous catalysis

- Biological conversion of biomass:
  - Ethanol production by consolidated bioprocessing with *Clostrium phytofermentans*
  - Integrated cellular and process engineering for optimal ethanol production from yeast
- Biomass-to-biofuels reaction engineering
- Plant systems biology: Development of energy crop varieties (e.g. *Crambe*, switchgrass) amenable to biofuels conversion
- Process design and integration for biofuels production scale up
- Combustion characterization of biofuels
- Agronomic optimization of energy crops

IV. Policy, Economic, and Environmental Analysis

- Economic analysis
- "Fields to wheels" economic viability
- Market analysis of biofuels
- "Carbohydrate economy" (impact of by-product economy)
- Environmental analysis
- Long-term energy farming
- "Carbon neutral" analysis
- Impact of genetically engineered energy crops
- Carbon sequestration technologies (biotech and mechanical)
- Green chemistry techniques for biofuels production

UMass Amherst
Advanced Energy Research

www.umass.edu/research/energy

Advanced energy research at UMass Amherst spans the entire energy continuum
from **harvest**, **use**, and **conservation**
to the environmental, social, and economic **impacts** of these activities

Harvest

Nearly all energy is solar energy, stored in different forms. Today, more than ever, advanced technologies are needed to improve energy harvest and conversion efficiency.
http://www.umass.edu/research/energy/harvest.html

Use

The global demand for energy is climbing. Forward-thinking energy distribution, storage, and waste management strategies are needed to accommodate the rising demand for affordable energy.
http://www.umass.edu/research/energy/use.html

Conservation

Energy conservation saves money as well as environmental and social costs. Through concerted research, training, and education programs our available energy will go further and last longer.
http://www.umass.edu/research/energy/conservation.html

Impact

Energy harvest, use, and conservation strategies impact our environment, economy, and society. Careful analysis of emerging technologies, policies, and markets will guide development of practices for a sustainable future.
http://www.umass.edu/research/energy/impact.html

Research Focus Areas

- Biohybrid Catalysts
- Biomass Refinement Catalysts
- Building Energy Efficiency
- Catalytic Processes for Biofuels and Biochemicals Production
- Climate Change: Global Effects of Populations of Marine *Cyanobacteria*
- Computational Fluid Modeling for Efficient Use of Biofuels
- Ecological Engineering
- Ecological Urban Environments
- Economics of Crop Protection
- Energy Efficiency and Pollutant Prevention through Turbulence Modeling
- Energy Efficiency of the Built Environment
- Energy Efficiency Promotion and Pollutant Prevention through Flame Measurement and Modeling
- Energy Efficiency Technology and Training
- Environmental & Natural Resource Economics
- Experimental Condensed Matter Physics
- Flame Characterization
- Fluid Dynamics of Fuel Injection
- Forecasting and Decision Analysis
- Fuels from Biomass: Microbially Mediated Production of Cellulosic Ethanol

- Functional Polymeric Nanostructures
- Functional Polymers
- Green Marketing
- Hybrid Solar Cells
- Industrial Energy Assessment & Combined Heat and Power
- Industrial Energy Efficiency
- Market Analysis
- Microbial Fuel Cells
- Micro-Econometrics
- Microwave Effects on Catalytic Chemical Reactions
- Molecular and Macromolecular Synthesis and Nanoscale Assemblies for Photovoltaic Cells and Fuel Cells
- Nanostructured Photovoltaics
- Natural Resource and Environmental Economics
- Natural Resource Economics
- Nonlinear Systems Modeling and Analysis
- Operations Research: Applications for Alternative Energy Economics and Policy
- Organic/Inorganic Composite Fuel Cell Membranes
- Plant Biotechnology for Development of Improved "Energy Crops"
- Polymers and Block Copolymers for Nanostructured Energy Devices
- Polymers and Nanoscale Assemblies for Renewable Energy Materials and Devices
- Reclamation of Industrial Wastewater
- Renewable Energy Crop Agronomy
- Self-assembling Nanostructures
- Single-Molecule Spectroscopy, Polymer-Based Nanoscale Photonics
- Sustainable Cities
- Sustainable Supply Chains
- Synthesis of Polymer Nanocomposites for Renewable Energy Materials and Devices
- Theoretical Studies of Reactions on Surfaces
- Theory and Modeling of Polymer Crystallization
- Theory and Simulation of Nanoporous Materials for Renewable Energy Materials & Devices
- Time-Resolved Spectroscopy of Functional Nanomaterials
- Unconventional Fossil Fuels Recovery
- Wind Power and Distributed Energy

Departments

- Chemical Engineering
- Chemistry
- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Finance and Operations Management
- Geosciences
- Landscape Architecture and Regional Planning
- Marketing
- Mechanical and Industrial Engineering
- Microbiology
- Natural Resources Conservation
- Physics
- Polymer Science and Engineering
- Plant Soil and Insect Science
- Resources Economics

Centers and Institutes

- Building Energy Efficiency Program
- Center for Energy Efficiency and Renewable Energy
- Center for Process Design and Control
- Center for Renewable Energy Science and Technology (MassCREST)
- Climate System Research Center
- Environmental Biotechnology Center - *Geobacter* Project
- Industrial [Energy] Assessment Center
- The Institute for Massachusetts Biofuels Research (TIMBR)
- Renewable Energy Research Laboratory
- The Environmental Institute
- Virtual Center for Supernetworks
- Water Resources Research Center

Original

Green Communities Act of 2007
Submitted Comments, April 2, 2007
Donald S. Bradshaw, Jr.
President
Massachusetts Hydrogen Coalition, Inc.

1. With great respect and admiration for the detailed work and continued effort to accelerate the development of clean energy economy in the commonwealth, I respectfully request that the Hydrogen Omnibus Bill, filed January 10, 2007 and currently before the Joint Committee on Revenue, be incorporated in total in Chapter 6C, Section 23, Part (C);

2. It would also be beneficial to the development of the clean energy industry, that the formation of a joint federal and state funded Hydrogen and Fuel Cell Research Institute be investigated by the proposed Executive Office of Energy Affairs. Language of said investigation would be inserted in Chapter 6C, Section 23, Part (C);

3. It would also be beneficial to the development of the clean energy economy in the commonwealth that the formation of an "Energy Building" corollary to the "Transportation Building" be investigated, with the objective to consolidate in one location state and regional public agencies and offices focused on energy as well as providing non-government organizations and non-profit organizations the opportunity to consolidate and share administrative and other resources;

4. In Section 8, with the formation of the "regional oversight committee", it is suggested that this committee include in its tasks , on the part of the commonwealth, the development of a regional feed in tariff to stimulate and accelerate the installation of renewable energy;

5. That the Office of Energy Affairs investigate the formation of an institute to be located at a major Massachusetts College or University, named "The Center for Energy Security and Sustainable Development", with said institute to be funded in part from federal, state, foundation, private and other monies to promulgate regional policies to enhance regional energy and economic security and sustainability; and

6. That the Executive Office of Energy strongly consider transportation issues in its mandate, considering accelerating the development of alternative transportation fuels and vehicles, increased transportation fuel diversity and reduced transportation emissions.

Respectfully submitted,
Donald S. Bradshaw, Jr.
President
Massachusetts Hydrogen Coalition, Inc.

Attached: ***Hydrogen Omnibus Bill of 2007***

MASSACHUSETTS MUNICIPAL ASSOCIATION

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617-426-7272 • 800-882-1498 • fax 617-695-1314 • www.mma.org

April 2, 2007

The Honorable Michael Morrissey, Senate Chair
The Honorable Brian Dempsey, House Chair
Joint Committee on Telecommunications, Utilities and Energy
State House
Boston, Massachusetts 02133

Re: H. 3965—Green Communities Act

Dear Chairman Morrissey and Chairman Dempsey,

On behalf of the cities and towns of the Commonwealth, the Massachusetts Municipal Association (MMA) wishes to record our support for H. 3965, Speaker Salvatore DiMasi's proposed "Green Communities Act." Based on our ongoing review of the bill, the MMA believes that this comprehensive legislative package would offer the Commonwealth significant opportunities to promote energy efficiency, conservation and use of renewable energy sources.

In particular, the MMA supports the new Energy Efficiency and Green Communities Program ("Program") proposed in Section 12 of the energy package.

Energy-related costs are among the fastest-growing expenses for cities and towns, and this initiative offers real potential to assist communities in reducing these costs.

The Program would provide all cities and towns with financial assistance in the form of grants and loans from the Massachusetts Energy Efficiency Trust Fund and Massachusetts Renewable Energy Trust Fund to finance the cost of energy efficient improvements and renewable energy development. These activities include, but are not limited to, energy conservation projects, procurement of energy management services, installation of energy management systems, adoption of demand side reduction initiatives, adoption of energy efficiency policies, and the siting and construction of clean energy projects within the community.

In order for a city or town to qualify as a "Green Community" and enjoy these benefits, the municipality must:

(a) accept a designation as a qualifying clean energy community by the clean energy facility site screening committee (who will develop a statewide list of public and private

real estate that may be used for siting clean energy facilities) and permit the construction of at least 1 such facility; ***or***

(b) adopt an expedited, 1-year application and permitting process in which clean energy generating facilities or clean energy research and development or manufacturing facilities may be sited; ***or***

(c) agree to enter into a contract whereby the city or town would purchase a fixed percentage of electricity consumed by municipally-owned buildings, street and traffic lights from clean energy generating sources at no more than 20 percent of a municipality's total electric load.

The Program would be administered by a new division of municipal services within the proposed Executive Office of Energy Affairs that would serve as the principal point of contact for cities and towns concerning any matter under the jurisdiction of the executive office. Notably, the division would serve cities and towns by providing advice and technical assistance if a municipality wishes to procure electricity and natural gas on the competitive market place, with respect to aggregation activities, and with implementation of the Program.

The MMA strongly urges that new tools such as those proposed in the Green Communities Act be implemented in order to assist cities and towns decrease their energy use, utilize renewable sources, use energy more efficiently and address this local expense.

While new tools are always needed, communities have already been proactive in order to achieve the goals set forth in the energy package. For example, Cambridge has worked with private sources to establish a $70 million energy fund that would provide low- or no-interest loans to both commercial and residential property owners to undertake energy conservation and efficiency activities. Somerville's Capuano Center recently won an award as one of the 10 best "green buildings" in the nation.

As the MMA continues to review the specific provisions of the legislation, we look forward to working with the Legislature as the Speaker's energy plan moves forward. The Speaker and your Committee have embraced an agenda that is central to our state's environmental and economic future, and we know that the efficiency and conservation initiatives that have been proposed would benefit all consumers, including our state's cities and towns.

Sincerely,

Geoffrey C. Beckwith
Executive Director

The Commonwealth of Massachusetts

In the Year Two Thousand and Seven.

BILL FILING TEMPLATE

Be It Enacted, by the Senate and House of Representatives, etc., as follows:

SECTION 1. To provide for programs that encourage economic investment in the Commonwealth, the sums set forth in this act for the several purposes and subject to the conditions specified in this act and are hereby made available subject to the provisions of law regulating the disbursement of public funds and approval thereof. Hydrogen and fuel cell Legislation to strengthen Massachusetts' competitiveness in the hydrogen and fuel cell industry resulted in expanded employment, increased private investment, greater federal funding, accelerated commercial sales, and increased public education and awareness. Social benefits include reduced dependence on foreign sources of energy, a cleaner environment, and an expanded manufacturing sector.

SECTION 2. Massachusetts shall establish a research and development matching grant program to help companies in the Commonwealth to accelerate the commercialization of hydrogen and fuel cell technologies. Specific objectives include: (1) providing direct financing and business assistance to companies located in the Commonwealth; (2) building research capabilities within universities and forge closer ties to industry; (3) promoting early adoption of commercial and near-commercial technologies; (4) increasing public visibility and education associated with hydrogen and fuel cell solutions; and (5) attracting greater amounts of federal funding to Massachusetts.

(a) Companies and organizations ("Requesting Organizations") must be located in Massachusetts to be eligible for funding. Requesting organizations may request funding for three purposes: (1) cost share requirements for federal research and development grants; (2)

industry sponsored research at Massachusetts universities and colleges; and (3) demonstrations of near-commercial technologies. Requesting organizations must demonstrate how projects will lead to commercial success and create benefits to the Commonwealth.

(b) All three grant categories are subject to requesting organization contributions, with the specific contribution level depending on the type of funding requested. For federal research and development grants, the Commonwealth will provide a portion of the federally required cost share percentage, up to 50%. For other grant requests, the Commonwealth shall provide up to 50% of project costs. The maximum grant under any circumstance shall be no greater than 50% of the applicable project cost, and no grant provided by the Commonwealth shall be more than $500,000 per project, with no requesting organization receiving more than $1 million in any one year under this specific program.

(c) The research and development grant matching program shall be designed and administered by the Renewable Energy Trust of the Massachusetts Technology Collaborative (the "Trust"). The Trust shall design and implement a simple application process with explicit award criteria and rapid decision making. The program shall be available to requesting organizations on an open solicitation basis, allowing requesting organizations to submit proposals throughout the year.

(d) The MTC shall assign a budget of $10 million over five years for this program.

SECTION 3. The Commonwealth should support the future activities identified in the June 2006 Report of the DG Collaborative to reduce the barriers to the adoption of fuel cells as part of distributed generation systems. In this regard, the Massachusetts Hydrogen Coalition, Inc., or its

(d) To qualify for the credit, the rated capacity of the electric generating systems must be 0.25 kilowatts (250 watts) or more, but not more than one hundred kilowatts (100,000 watts), or its equivalent.

(e) This credit is not refundable. If the amount of credit exceeds your tax for the year, you may carry over the excess to the following five years.

(f) Qualified expenditures include expenditures incurred on or after July 1, 2007, for materials, labor costs properly allocated to assembly and installation, engineering services, designs and plans directly related to the construction or installation of the eligible equipment.

(g) This credit provision will expire in 2015 and will be available to businesses and individuals in addition to any federal tax credits that may apply.

SECTION 5. The Massachusetts Department of Revenue shall extend the job creation incentive payment currently available for life science companies to hydrogen and fuel cell companies that create manufacturing jobs in Massachusetts.

(a) Companies must create at least ten jobs during the calendar year to receive tax credits.

(b) The incentive payment will be equal to 50% of state withholding tax (i.e., salaries times 5.3% times 50%.)

(c) The incentive payment will be paid in equal installments over three years.

The Commonwealth of Massachusetts
House of Representatives
State House, Boston 02133-1054

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April 2, 2007

Honorable Representative Brian S. Dempsey
Honorable Senator Michael W. Morrissey
Joint Committee on Telecommunications, Utilities, and Energy
State House, Room 473B
Boston, MA 02133

Dear Chairmen:

I write to testify on House 3975, *An Act Relative to the Green Communities Act of 2007*, sponsored by Speaker Dimasi, and I wish to express my disappointment with the manner in which this very important issue has been handled.

Massachusetts is facing an energy crisis that must be addressed and I realize the time for studying this issue has long since passed. In fact, I understood this to be true prior to January 10th of this year, when I began to craft and timely file my proposals to address the state's energy situation in House 3317, *An Act to Promote the Development of Renewable Energy and the Use of Alternative Fuels in the Commonwealth*, which was assigned to this committee. I am, however, very concerned that the energy bill currently before the committee, filed and given a public hearing in less than two weeks, has been given the momentum to be expedited through the legislative process when a great number of concerns have been raised about its provisions in such a short time. The issues surrounding energy production, use, and conservation must be addressed, but they must be addressed in an inclusive and collaborative manner.

As we move forward with legislation to address the energy issue, I would like to remind the committee that the acclaim given to our new health care law could only be made possible through bipartisan cooperation and agreement, and respectfully request that this issue be addressed in a similar fashion.

I thank you for your time, and look forward to the opportunity of working together to produce a comprehensive energy package.

Sincerely,

Bradley H. Jones, Jr.
Minority Leader

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Testimony of Environment Northeast
On House, No. 3965
The Green Communities Act of 2007

Massachusetts Telecommunications,
Utilities and Energy Committee
April 2, 2007

Samuel P. Krasnow, Policy Advocate and Attorney
Derek K. Murrow, Director of Policy Analysis

Environment Northeast (ENE) is a non-profit research and advocacy organization that focuses on energy, air quality and climate change solutions for New England and Eastern Canada. ENE appreciates the opportunity to provide this testimony to the Telecommunications, Utilities and Energy Committee on this critically important issue for the Commonwealth.

SUMMARY

This legislation is clearly intended to increase incentives for renewables, alternative generation and in some cases energy efficiency. However, notwithstanding this intent, provisions in this legislation raise serious concerns as they risk undermining progress made to date in Massachusetts on energy efficiency and do not incorporate the policy mechanisms likely to be most effective in achieving the goals of a lower cost, more efficient and sustainable energy system in Massachusetts.

The goals of the energy policy of the Commonwealth should include the following:

1) All cost-effective energy efficiency available in the marketplace should be captured as a priority resource. Efficiency is the least cost and cleanest resource to meet our energy needs. The most effective policy mechanism to achieve this goal would be to require electric and natural gas utilities to increase investments in energy efficiency and demand reduction programs to capture all that is achievable and cost-effective (available at lower cost than supply) on behalf of all customers.

2) Improve the way that energy purchases are planned for with greater consumer and environmental input and public transparency. Improve the oversight of energy efficiency programs through the creation of a new consumer oversight board that increases accountability and understanding of the programs, results, and investment levels.

3) Reform the way that electric and gas utilities earn revenue. Massachusetts needs to align utility incentives with state policy and consumer interests by decoupling utility revenues from sales in order to eliminate the disincentive to invest in energy efficiency and support the siting of distributed generation.

4) Increase incentives for municipalities through the utility run programs, accompanied by a commitment to increase available funding and a requirement that all investments be cost-effective.

In particular, the following provisions in the bill could frustrate rather than further the goal of creating a more sustainable and consumer friendly energy policy:

- The bill fundamentally changes the funding and administration of energy efficiency programs which are currently delivering nationally recognized results. The programs deliver substantial benefits (~$350 million in savings every year) – and should be expanded not gutted;
  - The bill misses the opportunity to expand the electric and gas utilities' successful efficiency programs, which deliver electric resource savings at 2.5¢/Kwh vs. 10¢/Kwh for supply and gas resource savings at $2/Mcf vs. $10/Mcf for supply. See ENE summary of existing program benefits (attached)
  - Investments should be increased to capture all cost-effective efficiency available at lower cost than supply – this will save MA consumers $, make our businesses more competitive, and help us meet our climate goals.

- Changes to the renewable portfolio standard that would reward existing generators, rather than encourage new clean generation, should not be considered.

- Creation of new policies to promote alternative generation may create incentives for new coal that is extremely polluting – coal gasification only delivers GHG benefits if combined with carbon capture and sequestration (CCS). If there are going to be incentives for new coal gasification plants or other technologies, at a minimum such facilities should be required to include carbon capture and sequestration (CCS) and have an emissions rate equal to or cleaner than a natural gas combined cycle power plant.

DETAILED COMMENTS

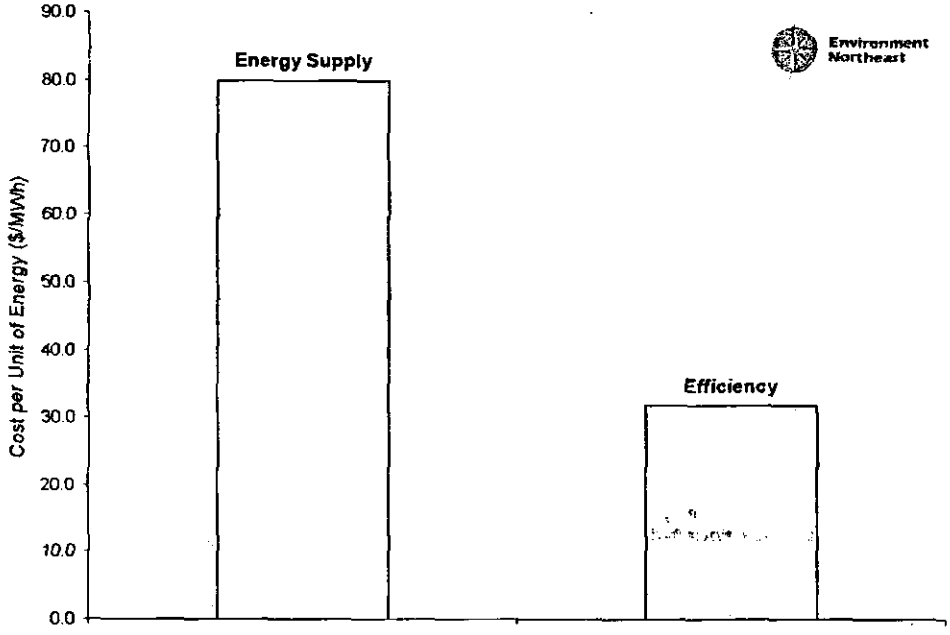
Existing Electric Energy Efficiency Programs

The current Massachusetts electric energy efficiency programs administered by the utilities and municipal aggregator deliver the following benefits:

- **Utility programs invest ~$125 million per year with total savings to consumers exceeding ~$500 million**
- **For every $1 invested by utilities and customers, more than $3 are saved**
- **The efficiency programs deliver energy savings at about 3.2 ¢/kWh while energy supply costs customers about 10 ¢/kWh**
- We spend around $6 Billion/yr on energy supply that costs 10 ¢/kWh, while only investing ~$125 million per year in 3.2 ¢/kWh efficiency programs – we are not investing in the low-cost resource
- Energy efficiency is the cleanest energy resource with annual program investments yielding avoided consumption of ~5 Million MWh of energy which would be equivalent to ~2.8 Million tons of carbon dioxide – efficiency programs are critical to meeting our clean air and greenhouse gas goals
- Over the next 10 years total savings to MA consumers will be over $5 Billion

- Efficiency investments put money in consumers wallets, reduce a fossil fuel trade deficit that has grown into the Billions, and grow energy service jobs and the economy
- Current efficiency programs create about 2,000 non-utility jobs and generate hundreds of millions of dollars in economic growth (DOER, 2002)
- Overall the MA utility run efficiency programs are well run and in many cases award winning.

Figure 2: Comparison of the Cost of Buying Additional Electric Supply vs. Saving it Through Efficiency



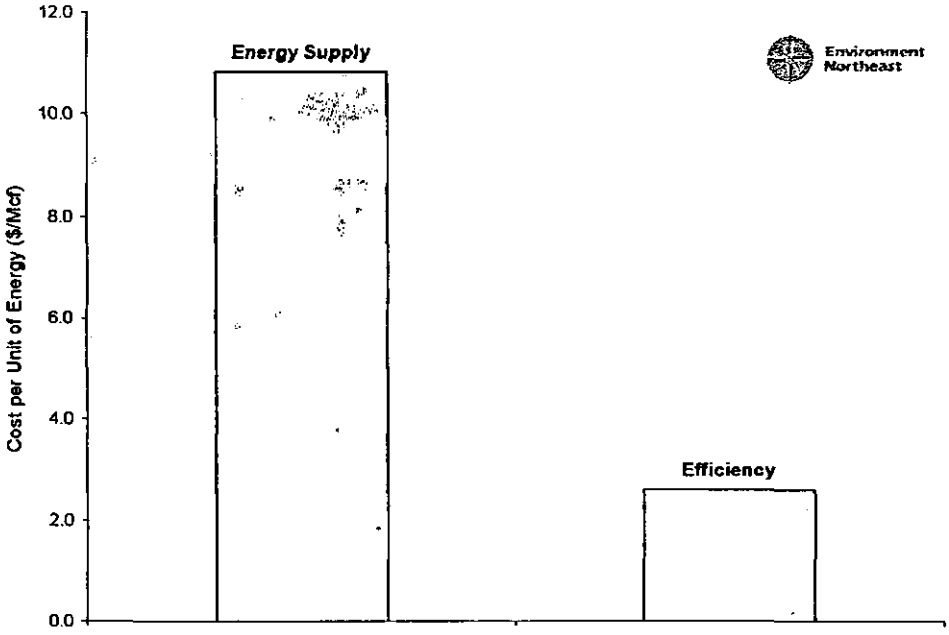
Attachment 1 to this testimony contains a summary of 2005 efficiency program benefits that the above numbers are based on.

Existing Natural Gas Energy Efficiency Programs

The current Massachusetts natural gas energy efficiency programs administered by the utilities also deliver significant benefits. The following are the results from one utility, KeySpan, for one year spanning 2005 to 2006. Many of the gas utility programs are run through a joint program known as GasNetworks and should deliver similar results.

- **KeySpan invests ~$12.6 million per year with total savings to consumers exceeding ~$73.4 million**
- **For every $1 invested by utilities and customers, more than $2.7 are saved**
- **The efficiency programs deliver energy savings at about $2.6/Mcf or $0.25/therm while energy supply costs customers about $11/Mcf or $1.1/therm**
- The natural gas efficiency programs deliver similar benefits to the electric programs in terms o energy independence, job and economic growth, and reduced emissions.
- The KeySpan natural gas efficiency programs save over 600 thousand tons of CO_2 every year the programs are run.

Figure 2: Comparison of the Cost of Buying Additional Natural Gas Supply vs. Saving it Through Efficiency



The existing programs should remain with the utilities and new policies should be created to procure all energy efficiency that is cost-effective on behalf of all electric and natural gas customers.

Within the existing framework and efficiency implementation structure, new programs should be created that assist communities and municipalities to use energy more efficiently. A percentage of the budget could be specified for these kinds of activities.

While the efficiency programs are well run and should stay where they are, there may be some reasons to consider reforms to the renewable programs. However, the two should not be lumped together either in terms of transfers of funding or administration.

SECTION 12

In the definitions, descriptions of energy conservation and efficiency should include a requirement that projects and programs be determined to be cost-effective based on the total resource cost benefit-cost test.

Section 5: Efficiency programs should continue to be administered by the electric and natural gas distribution companies under the supervision of the Secretary and Division. There should be a commitment to invest in all cost-effective energy efficiency on behalf of all customers and a higher level of investment in municipal programs. The Green Communities Program should be revised to address only renewable and alternative energy supply such as combined heat and power.

Section 8: The short and long term resource adequacy forecast should also include an assessment of the additional cost-effective energy efficiency investments that are not being captured by existing programs and how the cost to acquire those resources compares to the cost of energy supply, including both future energy and capacity costs.

Section 9: The energy advisory board should be able to comment on and provide feedback to the Secretary, Governor, Legislature and the public on any matter related to state energy policy including the success of state renewable and efficiency programs. They should also have a budget available to fund some research on their behalf by outside consultants.

Section 11: ENE supports continued and expanded investments in energy efficiency, but we believe the energy efficiency elements of the bill should be changed to the following:

The SBC levels should be changed to indicate that they are minimum investment levels to be collected by and administered by the utilities under the supervision of the Secretary and Division.

In addition the utilities should be required to procure all cost-effective efficiency as outlined below:

- The electric and natural gas distribution utilities shall increase investments over a reasonable period of time in energy efficiency and demand reduction programs to capture all achievable and cost-effective investments (available at lower cost than supply) that are reliable and feasible on behalf of all customers. The utilities will develop an Efficiency Investment Plan every two years for a two year period.
- The Plan will identify the efficiency programs and annual budget amounts required to expand its procurement of cost-effective efficiency that is reasonably available. Programs included in the Plan shall be screened through cost-effectiveness testing using the required Total Resource Cost (TRC) test which compares the value of program benefits to program costs to ensure that programs are designed to obtain energy savings and system benefits whose value is greater than the costs of the programs. Program cost-effectiveness shall be reviewed annually, or otherwise as is practicable. If a program is determined to fail the cost-effectiveness test as part of the review process, it shall either be modified to meet the test or shall be terminated. Increases in efficiency investments will be ramped up quickly based on the utilities' ability to maintain high quality programs.
- The efficiency programs will continue to be implemented by the utilities and their contractors. The Efficiency Investment Plan will identify existing funding sources including the SBC (which will be considered a minimum funding level at 2.5 mils), the forward capacity market, emissions allowances, or other funding sources, with any additional program investment needs recovered through delivery charges. Distribution companies will recover their costs, as incurred from year to year, in implementing these expanded energy efficiency programs as a special component embedded in its distribution rates, which component of rates shall be specially adjusted each year to match energy efficiency program expenditures to energy efficiency revenues.
- Utility Efficiency Investment Plans could be developed separately or jointly by the distribution utilities, but at minimum will be developed in a coordinated fashion among the utilities, allowing for joint-fuel programs or co-funding of programs. The Plans will maintain an appropriate balance of investments and programs between rate classes.

Section 20: ENE supports investigations of the best locations to site renewable energy facilities in the state. However, any designation of areas of the state that are suitable for renewable energy development should not include an opt-out for the municipality.

Section 21: The renewable portfolio standard should only create incentives for new facilities. It should be designed to create incentives for the development of new facilities and not to reward the owners of existing facilities. Higher energy prices that are set by fossil units, primarily natural gas and oil, are already rewarding the owners of low marginal cost facilities like hydro. It is just this kind of dynamic that is causing the value of hydro facilities to increase, which is driven by their increasing profits. We do not support rewarding existing hydro facilities or expanding the RPS to other existing facilities.

Section 22:

High efficiency fossil, such as combined heat and power (CHP), is a critical technology for increasing the regions energy independence and reducing air and greenhouse gas emissions. We support a stand-alone portfolio standard for alternative fossil technologies such as CHP, but there must be strict criteria for what qualifies.

Combined heat and power should only qualify if it achieves a minimum efficiency level of 65-70% (some changes may be required for smaller units, but the Department should have to do an assessment of the net-emissions benefit before qualifying smaller units at lower efficiency levels).

Other fossil technologies should have to provide a net-emissions benefit before qualifying for the portfolio standard. "Clean Coal" and "Coal Gasification" are terms often used by the promoters of coal power plants known as Integrated Gasification and Combined Cycle (IGCC) plants or other technologies. This power plant design makes it easier to capture pollutants, but in the case of carbon dioxide, the key global warming pollutant, equipment needs to be included to capture and sequester the carbon underground. Without carbon capture and sequestration, there should be no incentives for new coal plants.

All qualifying facilities under this new standard should have to achieve the same emissions per unit of energy produced by a combined cycle natural gas power plant (number to be set by the Department). This will ensure net emissions benefits and that most carbon from a "clean" coal facility is sequestered.

Section 23:

As noted above, we believe that the energy efficiency programs should remain with the utilities but that there may be room for some reforms to the renewable programs, the way they are administered, and what they are invested in.

Environment Northeast is part of the 24 member Stakeholder Group which was selected by the Regional Greenhouse Gas Initiative (RGGI) states to represent electric generator, environmental, consumer, and other affected interests in the Northeast and Mid-Atlantic regions. We are very supportive of the RGGI process and look forward to working with the State of Massachusetts as it moves forward with the RGGI rulemaking process.

We believe that the value of RGGI allowances should only be spent on activities or programs that meet the following criteria:

1) Reduce the costs of the RGGI program to the state's electricity ratepayers
2) Provide additional benefits for activities or projects that would not have occurred anyway and not replace existing programs or investments; and
3) Support programs and activities that do not pose a significant risk to human health and the environment.

We believe the state should make an explicit policy statement, such as the one above, in legislation or regulations that will guide all future investments of RGGI allowance value.

The criteria noted above would mean that programs and investments would be limited to the electric sector and those activities that most reduce consumer costs or maximize cost-effective investments would be targeted. In the near term, we believe the primary investment should be in additional electric sector energy efficiency programs. However, over time, other non-emitting electric sector technology investments could be considered such as renewables or carbon capture and sequestration.

Energy efficiency investments provide four major benefits to the state's electricity ratepayers:

- Consumer's electric bills are reduced through reductions in their energy consumption;
- Investments in efficiency substitute for payments for fossil fuels and keep energy dollars in-state leading to economic and job growth;
- Through reduced energy demand, the RGGI cap is easier to achieve and the program as a whole is cheaper leading to lower wholesale electric prices for everyone; and
- Reduced demand avoids the need to build expensive new transmission and distribution infrastructure as well as new power plants.

As noted above, Massachusetts has active and strong electric efficiency programs run by the electric distribution companies. Energy efficiency programs have significant system-wide benefits. In particular, reduced demand depresses the wholesale electric energy price, and because peak is lower, the capacity price is also reduced. These benefits are significant today, but under RGGI, the system benefits are even larger.

If electric consumption is growing and the RGGI program requires a decline in emissions, the goals are harder to achieve and more expensive than if electric consumption is held steady or even declines through investments in efficiency. The RGGI modeling results bear this out. The following figure illustrates the change in wholesale electric prices between the equivalent RGGI reference case and the policy case.

Figure 2: Forecasts of Changes in Wholesale Electric Power Price Increases Due to RGGI

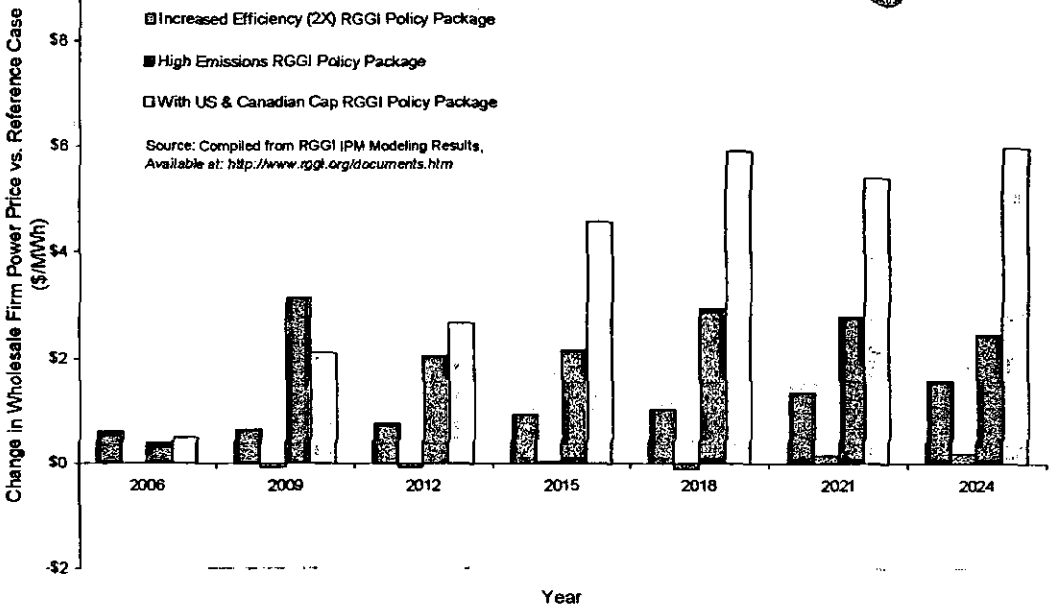
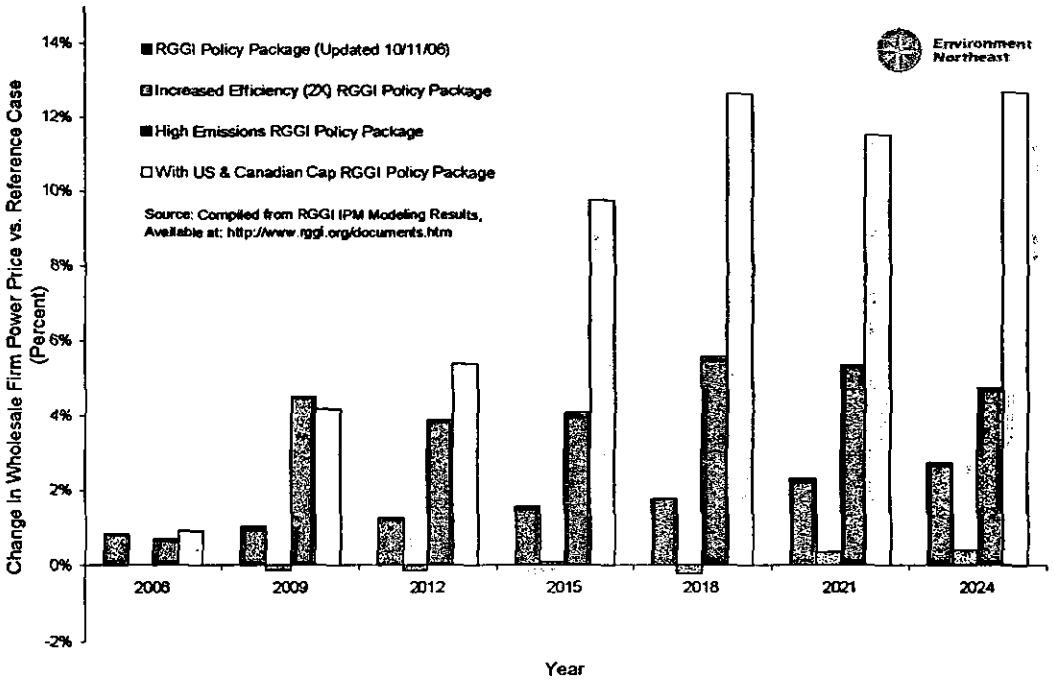


Figure 3: Forecasts of Changes in Wholesale Electric Power Percent Increases Due to RGGI



As the figures above indicate, the wholesale electric price is actually reduced in some years if RGGI is implemented along with a doubling of efficiency investments. Efficiency investments along with RGGI will deliver these savings to all consumers in the RGGI region.

Note that wholesale power prices are over half of delivered retail prices with wholesale prices in the range of $60 to 100 per MWh and transmission and distribution costing about $30 to 50 per MWh.

Increases in efficiency programs can be delivered using a number of policy mechanisms or tools. ENE believes that most of the RGGI allowance value should be used to increasing funding for efficiency programs and the legislation should be changed to require that.

Section 24 & 25: As noted above, efficiency programs should continue to be administered by the electric and natural gas distribution companies under the supervision of the Secretary and Division.

Section 27: The planning and reporting activities should be merged with Section 8 and include an assessment of the cost-effective energy efficiency potential (both supply and demand side resources).

Section 31 & 32: We support giving the state more flexibility to enter into energy service contracts for efficiency and co-generation. This should save the state money while also reducing emissions.

Section 33: We support commitments to purchase more efficient vehicles. This should save the state money while also reducing emissions.

SECTION 13

We support requirements for state buildings that include an assessment of environmental impacts and life cycle assessments of cost that increase the focus on energy efficiency opportunities. The legislation should also require the state to follow the federal government's lead and require that all state funded buildings achieve an efficiency performance standard that exceeds the IECC energy code by 30%.

SECTION 81 & 85

We support additional incentives for hybrid vehicles and alternative fuel vehicles through changes to tax policy. These vehicles should save consumers money while also reducing emissions.

SECTION 88

Solar thermal systems are a low-cost renewable technology that deserves additional incentives to encourage market penetration. We support these tax changes and also believe that solar thermal hot water systems should be a technology that any state renewable program could create additional incentives for.

SECTION 131-132

Upgrades to the energy portion of state building codes are essential and save large amounts of energy and also help the state reduce emissions. Rather than require an update every five years, we believe the state should require just the energy portion of the building code to be updated to the latest International Energy Conservation Code (2006 IECC would be the current version) and automatically updated within 6 months of any new revision of the IECC.

The Department and energy Secretary should also establish a new inspection mechanism dedicated to energy code compliance and supply a self sufficient revenue stream through building permit fees.

SECTION 211

We believe that the state should also change the way electric and natural gas companies recover their distribution revenue to ensure it is aligned with state goals of increasing energy efficiency and distributed generation.

A critical obstacle to full support of electric and gas utilities for strong and expanded demand-side measures, such as efficiency programs and distributed generation, is the fact that current rate designs result in reduced earnings when customers reduce consumption. This is because most fixed utility costs, including those for distribution and transmission lines, buildings, personnel and capital costs are recovered through charges (kWh and ccf) which vary with the volume of sales. In a rate case, the utility commission determines the total costs that should be recovered through these charges and divides that total by the estimated sales to determine the kWh or ccf charges for each category of customers. The clear incentive from this rate structure is for the utility to find ways to increase sales in order to maximize its profits. However, this incentive can be removed through "decoupling" mechanisms which adjust distribution rates so that changes in sales volumes do not affect earnings.

It is important to note that these mechanisms only impact the portion of the utility bill that contains charges for distribution or delivery service. Energy charges for the electricity or natural gas used by the customer reflect the direct cost of those commodities and do not contain any element of profit.

Decoupling provisions are beneficial for both customers and utilities. When sales increase above those forecast in the rate case, customers currently overpay for fixed costs and simply increase the utility's earnings. A decoupling clause would provide a small rebate to customers to eliminate this overpayment. Since this is occurring at a time when customer usage and overall charges are higher than expected, the rebate is particularly helpful. On the other hand, if sales are less than forecast, the utility would not be recovering its full fixed costs and the decoupling clause would increase the distribution charge to customers in proportion to the reduction in sales. At this time, customers would be using less energy and thus be experiencing lower costs which would only be slightly offset by the decoupling adjustment. The average amount of the adjustment would probably be about (plus or minus) one mill/kWh (based on an ENE review of CT utility sales trends).

The decoupling adjustment would incorporate all variations in sales, including weather, conservation and economic conditions. Thus, it would eliminate the kind of complex and inexact assumptions which are required for "weather normalization clauses" which attempt to adjust charges to those for "normal weather". However, it would not in any way diminish the utility's responsibility to exercise prudent management of its personnel and assets in order to provide the necessary service to its customers within the costs allowed by the commission.

The potential benefits of adopting this mechanism for consumers are profound. A detailed study of an Oregon gas utility concluded that decoupling had very positive impacts on the company's activities in promoting the efficient use of natural gas and assisting customers in reducing costs. The perverse impact of the incentives provided by the current rate structure should be eliminated.

ENE recommends that the legislature include a decoupling provision in this bill that looks like the following:

- To remove this disincentive for investments in energy efficiency and distributed generation, modest, regular true-ups in rates should be established to ensure that any fixed-costs recovered through volumetric charges are not dependent on sales volumes.
- For a utility in an existing long-term rate plan, decoupling could be postponed until the expiration of the plan so as not to disturb the relative benefits of those arrangements, unless the utility voluntarily agrees otherwise. As an interim measure, the utility could be allowed to recover lost revenues associated with efficiency expenditures which exceed current SBC levels.
- For distribution rates after the expiration of existing rate plans, the decoupling mechanism should provide for regular true-up to the utility fixed-cost revenue requirement (distribution charge only), on a quarterly or annual basis. It could also allow for adjustments due to adding new customers. The fact that a revenue decoupling mechanism is being employed should not be a factor in determining the utilities allowed return on equity.

SECTION 460

We support increased investments in demand response programs if those programs are shown to be cost-effective. The study that results from this pilot program should include an assessment of each program or project to assess whether or not it proved to be cost-effective.

SECTION 461

We believe that standby rates set at a high level are extremely problematic for developers of renewable energy and distributed generation facilities. We support the examination of these rates and encourage the legislature to require the department to adjust these rates down to the point that they are no longer disadvantage these projects.

SECTION 462

Not all biofuels are created equal and we strongly encourage the legislature to require that any biofuels research or incentives be focused on those fuels that provide a net greenhouse gas and net energy benefit on a life cycle basis. This will create better incentives for cellulosic ethanol or other biofuels produced from local crops or forests rather than ethanol or biodiesel produced from mid-west corn and soybeans.

SECTION 464

The commitment to reduce energy consumption by 10% by 2017 should be a minimum goal, which we support.

The Energy Consortium's Comments DiMasi Bill

4/2/07

Good morning - TEC thanks the panel for the opportunity to speak today.

TEC is a non profit association of industrial, commercial, institutional and governmental large energy users in Massachusetts.

TEC wishes to address the energy-related sections of the bill:

General Points

1. It supports the separation of the energy and telecommunications departments,
2. It supports the establishment of the Executive Office of Energy Affairs and Development of a state energy policy
3. It supports the establishment of the Clean Energy Fund with recommendations
4. It is concerned with concept of a Director of Ratepayer Advocacy within the Executive Office – a potential conflict of goals.
5. It is not clear to TEC that there is a clear separation of the state's proposed energy policy and administrative rules to operate the various agencies. Parts came across as re-regulation to me, especially sections relating to the regional transmission system and the wholesale electricity market.
6. The concept of leveraging the trust funds (revolving fund) via bonding has appeal. It will jump-start the expansion of EE and implementation of CHP.

7. TEC supports agency and department audits for adherence to Rules and Regulations AND Financial records of utilities and contractors to ascertain proper accounting.

8. Suggest that the Energy Advisory Board include a Institutional member (i.e., university, hospital, municipal, etc)

Energy Efficiency

1. House Bill 3965 is an important energy reform effort. There are several provisions in the bill that would be good for C&I customers, including increased support for efficient combined heat and power as an Alternate Energy Generating Resource.

2. However, I would like to suggest some modifications to the bill in the way that it addresses energy efficiency programs. In short, I recommend that you build on the current programs rather than cutting them. Some TEC members who submitted EE proposals last year were turned down or put on hold due to over subscription of available funds.

3. Energy efficiency programs are very important for C&I customers. They reduce the energy usage which helps to bring new companies to Massachusetts and keeps them here.

4. C&I customers are happy with the existing energy efficiency programs. The programs are simple, easy to work with, and provide valuable benefits for C&I customers.

5. The programs should continue at AT LEAST current funding levels. Program funding should NOT be reduced.

6. C&I customers are also happy with the utility administration of the programs. TEC has worked hard to make the programs simple and easy for C&I customers to participate. The utilities have been responsive to those efforts and the current programs are working well.

6. The programs are not perfect. As a founding NUP, TEC continues to work with the utilities to improve their administrative efficiency and program effectiveness (i.e., collections vs. incentives). We would like to see more innovation, consistency (less variability) and flexibility in the delivery of programs.

7. TEC is concerned that moving the EE programs to state administration will not improve communication with customers and distribution of project incentives. A state agency does not have the knowledge of customers and access to customer data that the utilities do. Also, moving the programs to state administration might politicize them. (i.e., over-funding Green Communities to satisfy future campaign promises). Also, state employee benefits vs. private sector are a concern.

8. TEC urges you to maintain and expand on the current energy efficiency programs as you consider this bill.

Clean Energy Trust Fund

1. The fund should supplement the current EE funding. This very important to advancing distributed/ CHP generation among TEC members and others.
2. TEC is assuming that the distribution of funds will be fuel-blind.
3. Without getting into the make up of this fund, C&Is will contribute approximately 60% of the revenues through new energy cost and current electrical distribution tariffs. TEC is very concerned that allocation of the funds will create cross subsidies and therefore an indirect TAX on industry, etc. (i.e., Green Communities)
4. TEC supported the state going RGGI with the understanding that the funds collected via higher electricity cost would be returned to customers for EE efficiency and distributed generation implementation. TEC continues to be concerned with the high cost of energy in MA, and therefore; it doesn't support higher cost without a large portion of it returned to customers. Say 85%!

Long Term Energy Strategy and C&I Planning

TEC is working with its C & I members and others discussing and identifying renewable energy opportunities. As these meeting progressed, it has become clear that there is good interest in continuing energy efficiency programs, developing

renewable energy and on-site generation. TEC members vary in their long-term plans from 1- year (commercial and Industry) up to 30 years (government and institutions). The grant making process doesn't always coincide with solicitation periods – something to be aware of – opportunity lost. Suggest state assistance in planning (circuit rider approach) that keeps state goals and C&I capital planning aligned and informed.

The bill doesn't really define a clear long –term strategy for reducing energy consumption by 10%. (i.e., peak demand and kWh usage) by 2017. Also, 10% will just keep the state even with projected growth. Start date is not specified! Should goal be at least 20%?

This concludes my remarks.

Thank you,

Roger Borghesani, Chairman

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Testimony of Environmental Entrepreneurs (E2) on House, No. 3965
The Green Communities Act of 2007

Massachusetts Telecommunications, Utilities and Energy Committee
April 2, 2007

Thank you for the opportunity to comment on this vitally important issue. We represent the New England Chapter of Environmental Entrepreneurs (E2) (www.e2.org), a national community of ~800 business leaders -- 65 of them in Massachusetts -- who believe in protecting the environment while building economic prosperity.

E2 is widely recognized as a resource for understanding the business perspective on environmental issues. As a group of entrepreneurs, investors and professionals who have collectively started over 800 businesses which in turn have created over 400,000 jobs, and manage over $20 billion of venture capital and private equity funds, we believe that Massachusetts has many of the right ingredients to be a leader in the emerging clean energy industry. Our recent E2 report titled "*Creating Cleantech Clusters: 2006 Update -- How Innovation and Investment Can Promote Job Growth and a Healthy Environment*" bears directly on this issue.

Our State and Nation at a Crossroads: The Clean Energy Economy

Our country is at a crossroads. Indecision at the federal level has opened the door for state initiatives on the most serious issue facing our planet: reducing Global Warming while building a new Clean Energy economy. We have an opportunity, indeed a responsibility, to act. It's time for the Commonwealth to take bold action, declare independence and take a leadership role.

When it comes to energy and environmental innovation, Massachusetts is losing our competitive edge to California, Pennsylvania, Texas and many other parts of the country and the world. Why is Massachusetts -- a state that has consistently been on the leading edge in so many areas -- not taking decisive action? We have the intellectual capital; the environmental drivers; and the financial resources. However, thus far, we have lacked the political will.

The potential solutions to global warming offer an unprecedented opportunity for Massachusetts to lead the emerging clean energy industry that will fuel the 21st century. We believe that Clean Energy, including energy efficiency, can bring far reaching economic benefits to the state including increases in jobs and revenues, and reductions in costs to consumers and businesses - but only if we create the correct policy incentives.

The Green Communities Act of 2007

Dealing with the reality of global warming and a carbon constrained economy is challenging. We applaud the speaker for putting this issue at the front of our agenda. We support the intent of the bill to increase energy efficiency and encourage development of renewable energy. We agree with many of the concepts embodied in the bill.

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However, we are concerned that some provisions in the bill move in the wrong direction and that the bill fails to seize potential opportunities. Despite its good intentions, this bill falls short of the mark.

Energy Efficiency

Energy efficiency — getting more and better output using less energy — is the quickest, cheapest, cleanest answer to the looming energy crisis. From a business perspective, incentives for efficiency will reduce rates overall by lowering demand; reduce the need for new and expensive power plants; and pay dividends to customers in the form of lower bills.

We make the following recommendations:

1. **Treat energy efficiency as a resource.** We should require utilities to treat energy efficiency as a resource on an equal footing with supply and require procurement of all cost effective efficiency that is cheaper than buying additional electricity. California which has had this policy and other aggressive energy efficiency regulations in place for years proves that it works. Since 1974, that state has held its per-capita energy consumption essentially constant, while energy use per person for the United States overall has jumped 50 percent. California has cut greenhouse-gas emissions, maintained economic growth, and reduced energy costs for the average Californian family by about $800 a year based on energy efficiency improvements.

2. **Strengthen and expand existing, proven efficiency programs – rather than eliminating them.** The current energy efficiency program administered by the utilities in Massachusetts provides ~$350M in savings per year. Instead of building and expanding on this award winning program, the bill proposes to implement a whole new administrative and funding mechanism that would set us back several years.

   In addition, because efficiency is the lowest cost resource, the current cap on efficiency programs should be removed. The additional revenue could be used for efficiency programs specifically designed to assist municipalities.

3. **Align utility incentives with policy objectives.** Under current regulations, incentives for utilities are misaligned with the state's and society's goals, since rate plans reward energy usage rather than savings. This basic sales incentive is at odds with a requirement to invest in cost-effective energy efficiency. Policies must, instead, align utilities' profit motives with acquisition of all cost-effective energy efficiency.

   The most effective method for eliminating this efficiency disincentive is to decouple utility revenues from its sales. A description of various implementation options can be found at http://www.raponline.org/Pubs/General/EfficiencyPolicyToolkit.pdf . Changing the regulatory structure for transmission and distribution utilities would not only promote cost-effective investments, it would encourage them to use their own capital budgets to do so without costing the state treasury a cent. While the Green Communities bill proposes a lengthy study of decoupling, we believe that we can and should move rapidly to implement this proven policy.

4. **Ensure prudent use of funds and that money designated for efficiency is used for efficiency.** The bill proposes to pool resources that are currently collected expressly for efficiency to create a larger fund that could be used for a wide variety of purposes, with no guarantee that the funds would be used for efficiency. The new "Clean Energy

Trust Fund" ("CETF") would be subject to extremely broad discretion over how it is disbursed, including such things as "employment opportunities" related to the development of clean energy technologies; pollution prevention and mitigation at existing generation facilities"; "ensuring delivery to all consumers of the commonwealth of as many benefits as possible created as a result of increased fuel and supply diversity". A large fund of money with such vague guidelines invites abuse and presents a huge opportunity for misuse of the funds.

5. **Implement real-time pricing rates.** Regulations should create incentives for consumers and businesses to reduce energy usage because it is in their economic interest to do so. As regulations now stand, there is no way for consumers to know exactly how much they pay at any given moment and take appropriate action. Rather than studying the issue for an extended period – as the bill currently proposes -- it should direct the appropriate agency to develop a plan with stakeholder input to implement real-time pricing.

Renewable Energy

Energy efficiency must go hand in hand with renewable energy to meet the challenges of global warming and delivery of a reliable 21st century energy supply. The potential is enormous. Worldwide annual revenue for renewable energy rose nearly 39% in 2006 – from $40B in 2005 to $55B in 2006. The industry is projected to become a $226 billion market by 2016. In 2006 investment in energy tech startups from private equity firms was over $2.4 billion, a yearly increase of 262 percent.

Moreover, the renewable energy sector generates more jobs per megawatt of power installed, per unit of energy produced, and per dollar of investment, than the fossil-fuel-based energy sector.[1]

The question is: what will the Commonwealth's take of this massive growth opportunity be? As our innovative companies move from development into implementation and manufacturing -- where the majority of jobs are created -- will they decide to stay here in Massachusetts or relocate to a more favorable state or country? We have already seen some of our leading clean energy companies site their manufacturing facilities in other locations. We need the right incentives, policies and minimization of bureaucratic obstacles to free up growth in the sector.

To support Massachusetts emerging Clean Energy Economy, we make the following recommendations:

1. **Require utilities to enter into long term contracts for the supply of clean energy.** The lack of long-term contracts is one of the biggest hurdles facing renewable energy projects and municipalities. This bill should establish a means for renewable projects to enter into long-term contracts to sell their power to creditworthy entities – a key requisite for cost-effective debt and equity financing.

   Not only do private projects face this problem but municipalities do as well. The current General Laws on Municipal Finance set limitations on municipal borrowing for alternative

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[1] Kammen, D., Kapadla, K., & Fripp, M. "Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate?" Energy and Resources Group/Goldman School of Public Policy at University of California, Berkeley. (2004)

energy at only ten years. Since many projects require fifteen to twenty years, this limit should be raised to twenty years.

In addition, state agencies should leverage the state's credit strength by directing an appropriate state entity to enter into competitively bid contracts on a long-term basis to meet the state's renewable power requirements.

2. **Eliminate disincentives in current policy such as exorbitant stand-by rates and limits on net metering.** The state needs to encourage distributed on-site power generation by establishing appropriate rate designs and interconnection requirements to facilitate development of CHP. Current stand-by rates serve as a disincentive for CHP and need to be revised. Once again, the bill proposes study, rather than action.

   We are pleased that the Green Communities bill supports net metering which will enable solar and wind projects to receive credit for the electricity they generate.

3. **Establish clear goals for the Massachusetts Renewable Portfolio Standard (RPS).** Massachusetts was first in the nation to implement an RPS, but it has now fallen behind other states. It is important for investors to have the certainty of knowing that the RPS standard will extend beyond 2009. The legislation should provide that certainty by requiring a 1% increase per year in the RPS until 2020. This will encourage investment and help to achieve the goals of the RPS.

4. **Limit Renewable Portfolio Standard incentives to new facilities.** The RPS should be designed to create incentives for the development of new facilities and not to reward the owners of existing facilities. Higher energy prices that are set by fossil units, primarily natural gas and oil, are already rewarding the owners of low marginal cost facilities like hydro. We do not support rewarding existing hydro facilities or expanding the RPS to other existing facilities.

5. **Change state regulations to enable communities to create Municipal electric companies.** This will encourage innovative approaches such as the Hull wind project. Since 1926, not a single municipal light company has been added to the current field of 41. That is because current regulations give power companies unlimited power to reject reasonable offers to purchase their existing poles and wires. This regulation needs to be changed in order to unleash the creativity of local municipal systems.

Massachusetts Needs Innovative Policy to Regain Momentum

California, which recently passed the nation's most stringent caps on Global Warming, is seeing a surge in Clean Energy investment and a considerable increase in jobs. The recent New York Times headline says it all: "Silicon Valley Rebounds, Led by Green Technology." Cleantech investment in Silicon Valley, which is about 1/7th the size of Massachusetts, went from \$34 million in the first quarter of 2006 to \$290 million in the third quarter. California will also benefit from a recent \$500 million British Petroleum research grant which went to UC Berkeley rather than MIT. One of the reasons cited was California's "enlightened policy" on Global Warming.

Even within our own region we risk falling behind. Pennsylvania has snared some major wind and solar manufacturers and has pledged to invest \$850M in renewables and energy efficiency. Rhode Island recently adopted comprehensive energy legislation that requires

equal attention to demand side resources like energy efficiency; Connecticut has staked out the dominant position in Fuel Cells, while Wisconsin is pressing ahead in biofuels.

The time for action is now. We urge you to face the reality of global warming and take aggressive steps to turn it into an opportunity to lead the Clean Energy Economy.

Sincerely,

Berl Hartman
Principal Hartman Consulting
E2 New England Chapter Leader

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Appendix 1

Massachusetts Programs Recognized as Exemplary

Northeast Residential ENERGY STAR® Appliances Initiative

Northeast Program Sponsors, Northeast Energy Efficiency Partnerships, Inc., and participants

PROGRAM OVERVIEW

The Northeast Residential Appliances Initiative was established to promote the market acceptance of high-efficiency residential appliances; the initial emphasis has been on clothes washers. The objective is to transform the market by creating a sustained demand for clothes washers that use substantially less energy and water than standard models. During 1997, several U.S. manufacturers introduced high-efficiency clothes washers, joining European companies in delivering such clothes washing technology to domestic markets. Using technical specifications developed by the Consortium for Energy Efficiency (CEE), utilities in the Northeast along with the Northeast Energy Efficiency Partnerships, Inc. (NEEP) organized the regional initiative "TumbleWash" to take advantage of a unique opportunity to accelerate the adoption of high-efficiency clothes washers. In 2000, the initiative grew to incorporate other major appliance products (refrigerators, room air conditioners, and dishwashers) and to promote the ENERGY STAR label to consumers in the Northeast.

The expanded program sought to raise customer awareness of the importance and benefits of purchasing energy-efficient appliances, while the rebate levels were being reduced or eliminated. In 2002, the sponsors worked to engage industry in joint ENERGY STAR appliance promotions. To date, the utilities have participated in a cooperative spiff program with a major manufacturer, a 10 percent coupon promotion with a major retailer, and a joint consumer rebate for ENERGY STAR clothes washers for 29 qualifying models made by six manufacturers.

Program sponsors include a consortium of electric utilities and energy efficiency municipal aggregation groups within the Northeast region. NEEP works with the program sponsors to facilitate the regional effort to increase consumer awareness about ENERGY STAR and to encourage consumers to choose ENERGY STAR-labeled products.

A defining and exemplary feature of this initiative is the large number of organizations involved. The following organizations are sponsoring and participating in the Northeast Residential ENERGY STAR Appliances Initiative.

Connecticut

- Northeast Utilities—Connecticut Light & Power
- The United Illuminating Company

Massachusetts

- Cape Light Compact
- National Grid, USA—Massachusetts Electric and Nantucket Electric
- NSTAR Electric
- Northeast Utilities—Western Massachusetts Electric Company
- Unitil/Fitchburg Electric & Gas

New Hampshire

- National Grid, USA—Granite State Electric

New York

- Long Island Power Authority

Rhode Island

- National Grid, USA—Narragansett Electric Company

Vermont

- Efficiency Vermont

The sponsors of the Northeast Residential ENERGY STAR Appliance Initiative meet regularly as the Appliance and Lighting Working Group (ALWG) to coordinate their program planning, implementation, and marketing efforts. With the appliance and lighting groups working together, it allows for further economies of scale in promoting the ENERGY STAR label across broader product categories.

The long-term goal of the ENERGY STAR Appliances Initiative is to establish the market for high-efficiency consumer appliances (clothes washers, refrigerators, room air conditioners, and dishwashers) as standard, competitive product offerings in the Northeast. The sponsors continue to work with CEE, ENERGY STAR, and others to encourage higher energy efficiency standards for qualifying ENERGY STAR-labeled appliances. NEEP continues to provide support and facilitation services in the development and implementation of this program.

LESSONS LEARNED

One of the keys to the sponsors' success in transforming the residential appliance market has been the willingness of the appliance industry (manufacturers, retailers, buyers' groups, and others) to assist in program marketing and implementation activities. One of the important goals is to strengthen working relationship with the appliance industry by

inviting them to participate in industry-initiated program elements that can be implemented jointly with the regional sponsors.

The widespread participation by utilities, manufacturers, retailers, and other parties in the Northeast has allowed the overall initiative to have a large impact on the targeted markets. The collective voice and coordinated activities of the initiative's participants and sponsors have been instrumental in its success in affecting the markets.

The work on the initiative is ongoing. Program sponsors and NEEP will support and participate in DOE's and EPA's scheduled reviews to consider new federal minimum-efficiency standards and revised ENERGY STAR specifications for residential appliances, and continue to coordinate the regional appliances initiative with other regional and national efforts.

Case Study Program: Tumble Wash/ ENERGY STAR Appliances
NSTAR Electric, National Grid USA, Western Massachusetts Electric Company, Unitil/Fitchburg Gas and Electric, and Cape Light Compact
The Northeast Residential ENERGY STAR Appliances Initiative encompasses numerous individual programs run by sponsoring utilities. It is not possible to profile each of these many programs for this report. Rather, we offer the following profile of one of these programs that has a long record of achievement and provides a good case study to illustrate typical features and implementation of services. We intend no slight to any of the other ENERGY STAR Appliance programs operating under the umbrella of this initiative. It is the overall initiative, comprised of individual programs such as this, that the ACEEE expert review panel judged as exemplary.

There have been many successes in the TumbleWash/ENERGY STAR Appliance program in Massachusetts. Since 1998, utilities in Massachusetts have provided rebates for more than 52,681 ENERGY STAR clothes washers, which yield an estimated annual savings of 9,061,132 kWh and 368,767,000 (gallons of water, and customer savings of $1,087,336 (based on $.12 per kWh). These estimates are based on taking the number of rebates and multiplying it by savings assumptions for energy and water.
Additionally, major market transformation effects have occurred as a result of this program. Some of those effects include:

- A reduction of more than $150 in the average incremental cost of ENERGY STAR-labeled clothes washers;
- The number of manufacturers producing ENERGY STAR-labeled clothes washers tripled from 6 to 18;
- A substantial increase in the number of qualifying products from 15 to 99;
- A significant increase in consumer awareness of the ENERGY STAR label from 6 to over 41 percent;
- An increase in the coordination of regional market transformation efforts with 11 utilities in the Northeast offering similar programs, which has resulted in over 85,000 clothes washer rebates and 14 million kWh saved since 1998;

- Over 95 percent of all appliance dealers in Massachusetts participate in the programs offered by utilities in Massachusetts;
- Both federal minimum standards and ENERGY STAR specifications for residential appliances continue to become more stringent;
- The market share for ENERGY STAR-labeled clothes washers in Massachusetts is generally 7–12 percent higher than the national average;
- The market share for ENERGY STAR-labeled clothes washers in Massachusetts has grown from 5 percent in the first quarter of 1998 to over 28 percent in the third quarter of 2002;
- CEE is supporting the May 29, 2002 request by Massachusetts utilities for a simple breakdown of state-by-state and national appliance shipments above and below current ENERGY STAR efficiency levels;
- The program been successfully expanded to other states and areas such as Rhode Island and Long Island, New York;
- Over 95 percent of customers that purchased an ENERGY STAR-labeled clothes washer would recommend it to a friend or family member; and
- In 2002, Massachusetts changed its focus from ongoing mail-in rebates to targeted joint initiatives, one of which was a $100 joint rebate promotion with select manufacturers.

PROGRAM AT A GLANCE

Program Name: Massachusetts ENERGY STAR Appliances Initiative

Targeted Customer Segment: Residential

Program Start Date: Fall 1998

Program Participants

2002 (through 10/31/02): 4,841 rebates
1998–2002 (through 10/31/02): 52,681 rebates

Approximate Eligible Population: 2,171,000

Participation Rate

2002 (through 10/31/02): 22%
1998–2002 (through 10/31/02): 2.4%

Annual Energy Savings Achieved

2002 (through 10/31/02): 832,652 kWh
1998–2002 (through 10/31/02): 9,061,132 kWh

Peak Demand (Summer) Savings Achieved (kW)

2002 (through 10/31/02): 324 kW

1998–2002 (through 10/31/02): 3,526 kW

Other Measures of Program Results to Date: 2002 third-quarter ENERGY STAR-labeled clothes washer market share for Massachusetts = 28.3%

Budget

Year	Utility Costs
2001	$632,212 (rebates only)
2002	$224,762 (rebates only)
2003 (projected)	NA

Funding Source: Systems Benefit Charge through utility bills

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GasNetworks® High-Efficiency Heating Program

GasNetworks®: a collaborative of Bay State Gas Company, Berkshire Gas Company, KeySpan Energy Delivery, New Gas Company, NSTAR Gas, and Unitil Fitchburg Gas and Electric Company.

PROGRAM OVERVIEW

The GasNetworks® High-Efficiency Heating Program is designed to promote the installation of ENERGY STAR®-rated high efficiency gas furnaces and hot water boilers, and energy-efficient steam boilers to residential and small commercial and industrial customers. The program offers rebates for new construction and replacement equipment (i.e., lost opportunity and retrofit). The objective of the program is to overcome current market barriers to this equipment through rebates, education, and awareness of customers, builder/developers, and plumbing/heating contractors.

Qualifying customers are eligible to receive a mail-in rebate per unit installed for ENERGY STAR-rated high-efficiency gas furnaces and boilers, and energy-efficient steam boilers with input ratings of 300,000 Btu/hour or less. The rebates have increased and decreased since the inception of the program depending on market response to the various rebate levels. In 2002, qualifying customers were eligible to receive a $400 mail-in rebate per unit installed for ENERGY STAR high-efficiency boilers and a $300 rebate for ENERGY STAR furnaces.

GasNetworks® is one of the first such collaboratives formed among gas utilities in the United States. GasNetworks® is an independent collaborative of six natural gas utilities in Massachusetts whose mission is to work with governmental agencies and affiliates to promote energy-efficient technologies, create common energy efficiency programs, educate consumers, and promote contractor training and awareness of ever-changing natural gas technologies. GasNetworks® provides market transformation and rebate programs that are consistent across the Commonwealth of Massachusetts. Program consistency is in important objective of GasNetworks®' programs, which reduces customer and contractor confusion, and takes advantage of shared program costs such as marketing and administration. In addition, GasNetworks® works with the Consortium for Energy Efficiency (CEE) in researching and developing programs. As a result, GasNetworks® maintains a regional/national focus in program development and implementation of its market transformation programs.

PROGRAM PERFORMANCE

From the year 1998 through March 2002, GasNetworks® provided 36,395 high-efficiency heating rebates, a total value of about $13 million. In 2001, the amount of rebates paid to customers alone was about $4 million.

The success of the program is evidenced by the 24% increase in rebates in the first two years of program implementation. In budget year 1998–1999, 836 rebates were processed and 1,089 rebates were processed in 1999–2000.

A 2001 evaluation report found that there was a steady increase in the penetration rate for high-efficiency furnaces—from 47% in 1998 to 57% in 1999 and over 60% in 2000.

The Department of Energy Resources (DOER) in Massachusetts views the program very favorably, commenting: "The DOER applauds the efforts of the GasNetworks® collaborative and continues to be impressed with the progress and achievements of Gas Networks."

The program positively influenced manufacturers and suppliers in Massachusetts. Weil-McLain, the largest manufacturer of boilers in the United States, said: "There has been an overwhelming demand expressed by our customers for Weil-McLain to offer a steam boiler that meets the requirements of the GasNetworks® rebate program....The impact of the G GasNetworks® rebate program has forced us to take the necessary steps to bring our model EG boiler up to the 82% efficiency requirement."

LESSONS LEARNED

An integral part of the High-Efficiency Heating Program has been the development and implementation of training programs and marketing plans to address all the components of the equipment supply chain, including manufacturers, supply houses, distributors, contractors, and consumers. Targeting all links in the chain has contributed significantly to the program's success.

The design of this program follows national ENERGY STAR standards, where applicable, and uses national AFUE ratings, which allows for simple replication of the program design. Further, the prescriptive rebate structure allows for simple replication of implementation.

PROGRAM AT A GLANCE

Program Name: GasNetworks® Residential High-Efficiency Heating Program

Program Start Date: 1997

Program Participants: Year 2001 = 12,060*

*Due to the complexity of the various GasNetworks® programs, ONLY the 2001 High-Efficiency Heating Program data are used to calculate participants and participant rate. Total High-Efficiency Heating Program participants (program-to-date) are actually 43,772. Combined program participants (i.e., all GasNetworks® programs) exceed 50,000.

Eligible Population or Customer Segment: 42,835**

** Approximate shipment of natural gas heating equipment to Massachusetts.

Participation Rate: 2001 = 28%

Annual Energy Savings Achieved (MMBTU)

2001: 233,791 MMBTU

2002 (as of 11/30/02): 205,914 MMBTU

Peak Demand (Summer) Savings Achieved (kW): NA

Other Measures of Program Results to Date

- Due to GasNetworks® efforts, shipments of high-efficiency furnaces in Massachusetts in 1997 were 46% of furnaces shipped. In 2001, shipments were 65%.
- GasNetworks® has convinced retailers such as Home Depot, Sears, and most recently Lowes to stock qualifying products for its rebate programs.
- GasNetworks® has facilitated and processed over 40,000 high-efficiency heating rebates and over 4,300 high-efficiency water heating rebates.

- GasNetworks® and its member utilities have contributed to certifying over 1,200 ENERGY STAR Homes in 2001 alone.

Budget (GasNetworks® member utility budgets 2001, 2002 and 2003)

2001: $5.3 million

2002: $5.5 million

2003: $5.6 million

Funding Source: Ratepayer Energy Efficiency Charge

Best Person to Contact for Information about the Program

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Small Business Services Program

National Grid

PROGRAM OVERVIEW

Since 1990, National Grid has provided direct retrofit installation of energy-efficient lighting and other electric energy saving measures to small commercial and industrial customers. Customers with an average monthly demand of less than 100 kW, or annual energy usage of less than 300,000 kWh, are eligible for the Small Business Services Program. National Grid pays for 75–80 percent of the total project costs, and customers may finance the remainder for up to 24 months interest-free.

The small business customers targeted by this program tend to have a significant lighting load (as a percentage of total load) and a historical reluctance or inability to fund efficiency improvements. In addition, the customers' small size tends to exclude them as potential beneficiaries of services from other energy service providers.

The program targets lighting, water heating, and refrigeration. Some of the available technologies generally offered through the program include: energy-efficient fluorescent ballasts, lamps, and fixtures; hard-wired and screw-in compact fluorescent systems; high-intensity discharge systems; occupancy sensors; light-emitting-diode (LED) retrofit kits; programmable thermostats; hot water tank insulation wraps; and fan and door heater control devices for walk-in coolers as well as night setbacks for novelty coolers. Over its life, the Small Business Services Program has kept pace with changes in efficient lighting technologies and introduced new energy-efficient non-lighting measures. As an example of the latter, National Grid is piloting a service in 2003 aimed at enhancing air conditioning operations and performance. The service includes training of contractors to perform adjustments to HVAC equipment and combines in-field technician training, computer diagnostics, and immediate test verification and feedback to promote better practices with small commercial customers' air conditioning systems.

The program is delivered through a number of delivery contractors hired through a competitive bidding process (historically no more than three contractors are engaged in the program). The contractors market the program primarily through telemarketing and direct mail as well as leads that are referred by National Grid.

The vendors market the program, perform audits at customers' facilities, make recommendations to customers, complete audit forms and questionnaires, purchase materials from a supplier selected through a competitive bid process by the company, install measures, input data into a database, and prepare progress reports for the company on a regular basis. The company program manager manages the vendors' activities and provides technical expertise. A separate vendor handles services for recycling ballasts and lamps for proper disposal. National Grid expects that this program will provide a valuable service to small businesses for the foreseeable future.

PROGRAM PERFORMANCE

The Small Business Services program has been very successful.

- Since 1989, almost 35,000 small businesses have received this program.
- Approximately 33 percent of the eligible customers have had measures installed.
- The program has saved over 2.5 million MWh and 65,700 kW since 1989.

LESSONS LEARNED

- National Grid's Small Business Services program has been innovative in its ability to progress with changes in technology as mentioned previously. The program has also had to address changes in the target market as the market of easier-to-reach large customers has become saturated over time. In recent years, National Grid and its contractors aggressively pursued the hardest-to-reach constituents through innovative marketing and technology offerings such as emphasis on refrigeration measures. The combination of successful marketing techniques to include a direct response campaign and delivery of quality turnkey installation services supports the results achieved to date.
- Another feature that small business customers find attractive under the Small Business Services Program is the ability to finance their portion of the costs on their monthly utility bill. This provides them an easy mechanism over 24 months to pay off their share of the costs.

PROGRAM AT A GLANCE

Program Name: Small Business Services Program

Program Start Date: 1990

Program Participants

2002: 1,676
Cumulative total (1990–2002): 34,633

Eligible Population or Customer Segment: Approximately 77,000

Participation Rate: About 33% of the eligible customers have had measures installed.

Annual Energy Savings Achieved

2002: 13,648 MWh
1990–2002 cumulative: 2,593,347 MWh

Peak Demand (Summer) Savings Achieved

2000: approximately 4,500 kW gross
Life: approximately 65,700 kW (through 2000)

Budget

Year	Utility Costs	Customer Costs	Total Costs
2001	$1,483,004.41	$5,481,399.32	$6,964,403.73
2002	$993,950.58	$3,728,371.34	$4,722,321.92
2003	NA	NA	NA

Funding Source: Systems benefit charge

Best Person to Contact for Information about the Program

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- URL (program overview with links to individual operating companies and their programs): http://www.nationalgrid.com/usa/environment/energy_efficiency/index.shtml

Design 2000 plus

National Grid

PROGRAM OVERVIEW

Design 2000 *plus* targets time-dependent opportunities for the installation of energy-efficient equipment in new construction, renovation, remodeling, and failed equipment replacement. Financial incentives are designed to cover 60–90% of the incremental cost difference between standard and energy-efficient equipment, or decrease the incremental cost to the customer to a 1.5-year payback, whichever is less. By providing these incentives, the cost barrier to investing in energy-efficient design and equipment is substantially reduced.

The program's goal is to make consideration of energy-efficient options an integral part of the design process. In doing so, the program creates long-term market transforming effects by influencing architects, engineers, and the building design community to incorporate energy-efficient design strategies and equipment in the early design phase, thereby raising the energy efficiency standards of normal building practices.

The company markets the program through extensive personal communication by its account managers with customers, vendors, and contractors and via seminars, training sessions, and other direct marketing approaches. Through Design 2000 *plus*, the company also actively supports regional and national market transformation initiatives such as Motor-Up, Cool Choice, DesignLights™ Consortium,[4] and the New Buildings Institute.

The program provides prescriptive rebates for lighting, HVAC systems, motors, variable frequency drives, and compressed air systems. For more complicated systems, the custom approach is used, which allows more site specific and comprehensive energy savings analyses. Whole building designs are treated through the comprehensive design approach (CDA). As the program has matured, an increasingly larger portion of the savings has been achieved year by year through custom and CDA projects, accounting for 73% of all Design 2000 *plus* net annual savings for 2000.[5]

CDA has been shown to be a very innovative approach. The new construction/renovation side of the National Grid's Schools Initiative is also served through Design 2000 *plus*. These programs have provided Design 2000 *plus* with the opportunity to move into whole building sustainable design. Already, the Schools Initiative is participating in the Massachusetts Green Schools Initiative administered by the Massachusetts Renewable Energy Trust.[6] The goal of the Green Schools Initiative is to encourage school districts to

[4] These regional initiatives are provided through the Northeast Energy Efficiency Partnerships.
[5] From the *2000 Energy Efficiency Annual Report* submitted to the Massachusetts Department of Telecommunications and Energy and the Division of Energy Resources, December 2001.
[6] The Massachusetts Technology Collaborative (MTC) and the Massachusetts Department of Education's School Building Assistance Program (SBA) have teamed up for this pilot program to provide school districts in Massachusetts with the information and resources necessary to help the districts design and build high

construct or renovate school buildings that will cost less to operate and will provide healthier learning environments for students. This pilot program is an extraordinary opportunity for school districts planning new schools or major renovations to create more efficient facilities. The program will also help influence how future schools will be designed and built in Massachusetts.

PROGRAM PERFORMANCE

Design 2000 *plus* has helped Massachusetts save electricity and peak demand.

- Since 1989, the program has served 5,000 participants (this number includes prescriptive participants) representing approximately 50% of the eligible market in Massachusetts.
- Since 1994, cumulative energy savings of 2.56 GWh have been achieved.
- Since 1994, cumulative peak demand savings of 130 MW have been achieved.
- The benefit/cost ratio has been approximately 2.1 over the last 10 years.
- The program has been evaluated by outside consultants, with five to ten studies conducted each year for the last 14 years. Impact evaluations approved by the Department of Telecommunications and Energy showed that tracking estimates of savings are unbiased.

PROGRAM AT A GLANCE

Program Name: Design 2000 *plus*

Targeted Customer Segments: Commercial, industrial, and government facilities

Program Start Date: 1989

Program Participants to Date (Annual Totals): Over 5,000 Energy Initiative overall (custom and prescriptive projects) (4,183 for Massachusetts from 1992 to 1999; assume this constitutes 77% of total, Narragansett Electric accounts for 20%, and Granite State Electric Company accounts for 3%).

Eligible Population or Customer Segment: Over 10,000

Participation Rate: Approximately 50% of National Grid's customers have participated (based on information in the 2000–2002 5-year plan for Massachusetts; assume this is the same for Rhode Island and New Hampshire).

Annual Energy Savings Achieved: Cumulative since 1994 = 2,560 GWh overall for Energy Initiative

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performance, and resource- and energy-efficient green schools. For more information, log on to http://www.mtpc.org.

Peak Demand (Summer) Savings Achieved: Cumulative since 1994 = 130 MW

Budget (2001, 2002, and 2003)

Year	Total Rebates (NGRID)
2000	$15.0 million
2001	$14.0 million
2002	$10.7 million (as of 11-02)

Year	Approximate Customer Costs	Total Costs
2000	$5.0 million	$20.0 million
2001	$4.7 million	$18.7 million
2002	$3.6 million (as of 11-02)	$16.7 million (projected)

Funding Source: System benefits charge

Best Person to Contact for Information about the Program

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- URL (programs overview with links to individual operating companies and their programs): http://www.nationalgrid.com/usa/environment/energy_efficiency/index.shtml

Energy Initiative Custom Program

National Grid

PROGRAM OVERVIEW

National Grid's Energy Initiative Custom Program is designed to target energy efficiency opportunities in existing commercial, industrial, and government facilities. The program targets equipment that continues to function but is outdated and energy inefficient.

Measures installed as part of the program include efficient lighting, high-efficiency HVAC controls, variable frequency drives, and premium-efficient motors. Generally these measures are treated under the prescriptive track of the Energy Initiative program. However, when a project doesn't fit into the prescriptive track, it is put into the custom track. Examples of custom track projects include manufacturing process equipment upgrades, specialized HVAC upgrades, and unique motor systems. Over time, more Energy Initiative projects are following the custom track such that custom projects now reflect over 55% of the annual savings achieved in the Energy Initiative program.

In addition, many new technologies are first introduced to Energy Initiative through the custom track. As data and experience are gained, some of these new technologies end up as prescriptive measures (new lighting technologies are an example).

This program targets customers and trade allies (such as equipment vendors) to educate and encourage their adoption of new design features and equipment selection in order to promote efficient energy usage in commercial, government, institutional, and industrial buildings. The Energy Initiative Program is available to all non-residential customers. Rebates cover 50% of the total cost of installation. Installation is the customer's responsibility.

National Grid markets the Energy Initiative Custom Program through extensive personal communication by the company's account managers with customers, vendors, and contractors; seminars; training sessions; and other direct marketing approaches. Through Energy Initiative, the company actively supports regional and national market transformation initiatives in the areas of operations and maintenance, compressed air and retro-commissioning.

The company offers customers financial incentives, technical assistance, training, and commissioning. Financial incentives reduce the cost barrier to investing in energy efficiency. Technical assistance provides information and education to participants in the use of energy-efficient engineering practices to advance better design in buildings. Additional education opportunities for customers and trade allies are offered through the company's participation in the regional and national market transformation initiatives. Commissioning ensures that the designs and systems specified for efficient buildings operate as intended by the design professionals.

PROGRAM PERFORMANCE

The Energy Initiative Custom Program has achieved significant success in both energy and demand savings and penetration rates.

- Since 1989, the program has served 5,000 participants (this number includes prescriptive participants) representing approximately 55% of the eligible market in Massachusetts.
- Since 1994, cumulative energy savings of 1.6 GWh have been achieved.
- Since 1994, cumulative peak demand savings of 55 MW have been achieved.
- The Energy Initiative Custom Program is probably the leading program in the country promoting chiller retrofits. The Comprehensive Chiller Initiative targets interactive measures such as lighting that are good retrofit opportunities at the time of a planned chiller replacement.
- Another unique aspect of the Energy Initiative Customer Program is the Industrial Systems Optimization Service (ISOS), an extension of technical assistance that, in addition to electric savings, quantifies non-electric energy benefits when an industrial process is being retrofitted. In addition to electric energy savings, ISOS might quantify savings in raw material, scrap, labor, and water when a system improvement is proposed.

PROGRAM AT A GLANCE

Program Name: Energy Initiative Custom Program

Targeted Customer Segments: Commercial, industrial, and government facilities.

Program Start Date: 1989

Program Participants to Date: Over 5,000 Energy Initiative overall (custom and prescriptive projects) (4,183 for Massachusetts from 1992 to 1999; assume this constitutes 77% of total, Narragansett Electric accounts for 20%, and Granite State Electric Company accounts for 3%)

Eligible Population or Customer Segment: Over 10,000

Participation Rate: Approximately 55% of National Grid's customers have participated (based on information in the 2000–2002 5 year plan for Massachusetts; assume this is the same for Rhode Island and New Hampshire).

Annual Energy Savings Achieved: Cumulative since 1994, 1.6 GWh overall for Energy Initiative Custom Program

Peak Demand (Summer) Savings Achieved: Cumulative since 1994, 55 MW

Budget

Year	Total Rebates (NGRID)
2000	$6.5 million
2001	$11.3 million
2002	$5.0 million (as of 11-02)

Year	Approximate Customer Costs
2000	$6.5 million

2001	$11.3 million
2002	$ 5.0 million (as of 11-02)

Year	Total Costs
2000	$13.0 million
2001	$22.6 million
2002	$10.0 million

Funding Source: System benefits charge

Best Person to Contact for Information about the Program

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Schools Initiative

National Grid

PROGRAM OVERVIEW

In 2000, National Grid began offering a targeted energy efficiency initiative for public schools. This initiative is offered through both National Grid's commercial new construction/renovation program, "Design 2000 Plus," and its commercial retrofit program, "Energy Initiative." The program is aimed at overcoming market barriers such as high first costs; the lack of information on the costs, savings, and reliability of energy-efficient equipment; and the dearth of expertise in energy-efficient design among architects and builders. These barriers prevent cities and towns from incorporating high-quality, energy-efficient lighting and other energy-efficient technology in renovated and new schools. The Initiative's intent is to help schools minimize the hurdles posed by these market barriers during a time when Massachusetts is seeing an unprecedented level of investment in new and renovated schools. This Initiative helps schools identify and install cost-effective electric efficiency opportunities in retrofitted, renovated, and new school buildings. Incentives pay for the full cost of equipment in retrofit cases and the full incremental cost in major renovations or new construction. With these incentives, schools do not incur additional costs for the installation of high-efficiency equipment. Through these installations, the program broadens the awareness of the benefits of high-quality lighting in schools within communities and school districts, and among building practitioners. By building this awareness through actual installations, the company hopes to promote high-quality lighting as the norm in school design as opposed to the exception. Clearly, in the long term, paying the full incremental costs for high-efficiency lighting is not sustainable; however, the company views these incentives as the catalyst for changing building practices. Starting in 2002, the company reduced the incentives resulting in a co-pay from the school district.

A primary component of the Schools Initiative is the requirement that all participating schools use lighting guidelines developed in 1999 by the DesignLights™ Consortium.[7] This Consortium is a regional collaborative of utilities and other organizations whose purpose is to influence lighting design toward quality and energy efficiency during remodeling, renovation, and new construction. The Classroom Lighting knowhow™ guideline establishes specific fixture and fixture-layout (design) criteria focused on achieving high-quality lighting as well as energy efficiency. When followed, the guidelines result in designs with improved lighting uniformity, control of glare, increased comfort and quality, and lower-than-standard lighting power densities in school classrooms, multi-purpose rooms, and corridors. In addition, where appropriate, effective daylighting and lighting control strategies are incorporated into the schools' lighting designs. The overarching goal of the guidelines is to provide a visual environment that is supportive of the learning process. This can be achieved only if the occupants can see their visual tasks accurately, quickly, and comfortably. Effective lighting designs can make a school pleasant and attractive and can stimulate learning. Efficiency opportunities are found in better lighting design. Lower net lighting power densities may result from more efficient

[7] See description at Northeast Energy Efficiency Partnership's website: www.NEEP.org.

overall system designs that do not degrade lighting quality. Essential design variables include variations in fixture layout patterns, high-power ballasts, and the use of optically efficient fixtures.

PROGRAM PERFORMANCE

The National Grid Schools Initiative Program has experienced some positive results.

- Through 2002, 28 new schools have participated in the program and over 40 existing schools have been retrofitted. Budget constraints have limited the number of participating schools. These have all been public/regional schools with a mixture of elementary, middle, and high schools as well as special needs and vocational schools.
- New schools save roughly 15 percent of their projected electricity consumption while retrofitted schools save over 20% of existing consumption, mostly through lighting.[8]
- Incentives for new and retrofitted schools have ranged from $7,000 to over $140,000 and $60,000 to over $750,000 respectively.
- As noted above, the program overcomes first cost barriers incurred by cities and towns in building new or retrofitting existing public schools and influences the design practices of architects and engineers who specialize in new school construction. First cost barriers lead to school designs that essentially meet but don't exceed the state energy code. Many architects and engineers are hesitant to change their "standard" design because of the additional cost and lack of confidence in newer designs and technologies. In the two years the Initiative has been implemented, National Grid has been able to work with the same architects/engineers on a number of projects. Although an evaluation of this initiative has not been conducted, ongoing work with these practitioners suggests that they are gradually shifting their designs to incorporate high-quality energy-efficient lighting in schools with less intervention by National Grid.

LESSONS LEARNED

Incorporating energy efficiency in new schools is considerably more cost-effective than doing so in existing schools. National Grid has found that roughly half the existing schools approached about participation in the program have not been cost-effective to retrofit. Cost-effectiveness is more difficult to achieve in existing schools due to the fact that most schools have already installed an earlier version of an energy-efficient lamp and ballast retrofit and are therefore maintaining moderate watts/sq. ft. thresholds. Introduction of better fixtures with appropriate fixture spacing does not gain significant energy savings. While the general quality of the lighting environment is improved, the energy savings to drive the cost-effectiveness are difficult to achieve.

PROGRAM AT A GLANCE

Program Name: National Grid's Schools Initiative

[8] Energy savings estimates from National Grid technical studies performed by professional engineering firms.

Targeted Customer Segment: All public municipal and regional school districts, grades K through 12

Program Start Date: May 2000

Program Participants:

Most recent annual total: 10 schools
Cumulative total since program inception: over 50 schools

Eligible Population or Customer Segment: NA

Participation Rate: NA

Annual Energy Savings Achieved

About 507,000 annual kWh for projects completed in 2002.
The cumulative total is 2.5M annual kWh.

Peak Demand (Summer) Savings Achieved: The cumulative total is about 720 kW.

Other Measures of Program Results to Date: Unknown

Budget

Year	Utility (Program) Costs
2001	Approx $160,000
2002	Approx. $1.08M
2003	Unknown

Funding Source: System benefits charge

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- URL: http://www.nationalgrid.com/usa/environment/energy_efficiency/index.shtml

Massachusetts Low Income Affordability Network

Massachusetts Department of Housing and Community Development in collaboration with KeySpan Energy Delivery—New England

PROGRAM OVERVIEW

The Massachusetts Low Income Affordability Network (LEAN) coordinates the delivery of all publicly funded energy efficiency programs across the state. Its purpose is to ensure that the 21 program operators deliver the highest quality, most cost-effective, and most convenient energy efficiency services possible for low income clients through the Commonwealth. LEAN also represents low income interests in utility regulatory negotiations on funding levels, program designs, and evaluations. The program works to provide seamless delivery of energy services to low income clients, which currently total about $30 million per year.

LEAN was established as a result of legislation that, for the first time, established secure funding for low income utility efficiency programs. The statute (G.L. c. 25, sec. 19; St. 1997, c. 164, sec 37) states:

> The low income residential demand-side management and education programs shall be implemented through the low income weatherization and fuel assistance program network and shall be coordinated with all gas distribution companies in the Commonwealth with the objective of standardizing implementation.

Prior to this time, electric and gas utility low income programs were negotiated, one at a time, between individual utilities and the low income agencies in each service territory. Statewide support was provided by the Association of Community Action Program Directors (MASSCAP) and the Massachusetts Energy Directors Association (MEDA), and by statewide multi-party collaboratives of interested parties from all customer sectors with respect to each utility, all of which continue. The statute established a floor for funding of electric programs and the mandate for gas programs. A negotiated agreement with KeySpan Energy Delivery—New England established the model for other gas utility programs.

The services provided by LEAN include:

- Coordination among electric and gas utilities and their collaboratives with the objective of standardizing implementation (as directed by the above statute).
- Coordination within the low income weatherization and fuel assistance program network, including among lead vendors and between lead vendors and sub-vendors.
- Coordination with potential vendors outside the low income weatherization and fuel assistance program network for certain segments of the low income residential market—for example, large multi-family buildings.

- Assistance in the development of the comprehensive low income residential demand-side management and education programs required by statute.
- Assistance in monitoring and evaluating existing programs to improve cost-effectiveness and develop new program features. This includes development of evaluation strategies, coordination with evaluators, and synthesizing statewide lessons from program evaluations.
- Support for the training of the low income weatherization and fuel assistance program network with the objectives of quality, cost-effectiveness, and consistency.
- Regulatory support in negotiations with and proceedings before the Department of Telecommunications and Energy (DTE) and the Division of Energy Resources (DOER).

LEAN is composed of representatives of each lead agency among the low income agencies; the Department of Housing and Community Development (DHCD); experts and attorneys from Action for Boston Community Development (ABCD), National Consume Law Center (NCLC), and South Middlesex Opportunity Council (SMOC); and appointed experts and attorneys. LEAN negotiates program agreements among the low income agencies in each utility service territory, each of the ten gas and electric utilities,[9] and the two regulators. LEAN also meets periodically as a group and with utility representatives to coordinate standardization and establish best practices, to work out issues that may arise, and to oversee quality control. Ultimate responsibility for each program remains the subject of contracts between each utility and lead agency and between DHCD and each lead agency. Based on those contracts, lead agencies sub-contract implementation to other agencies in the relevant territory. Operating agencies generally hire sub-sub-contractors for measure installation.

A comprehensive set of services is provided to households served by LEAN's coordinated programs to address residential heating systems, building shell improvements, appliances, and health and safety checks. Funding is coordinated among sources, as appropriate. Funding sources include gas utilities, electric utilities, U.S. Department of Energy (DOE), U.S. Department of Health and Human Services (HHS), and a Ford Foundation pilot grant to combine energy efficiency and home renovation programs. The two federal sources (DOE and HHS) are administered by DHCD. All measures are directly installed at no charge to the low income consumer and include:

- a comprehensive energy audit, which includes customer education,
- weatherization (wall, attic, floor, and pipe and duct insulation[10]) and air sealing (caulking, weatherstripping, door and window hardware, window parting beads, and stops),
- turn-down thermostats,

[9] As a result of mergers, the ten utilities operate in 14 separately identified territories. In addition, a gas utility that serves one town and part of another has no low income efficiency program. To date, the full set of programs has not been adopted by municipal utilities.

[10] About a third of Massachusetts' low income homes are heated by oil. Weatherization of these homes, as well as those heated by other non-utility fuels (chiefly propane and wood), is funded by DOE and electric utility funds. Thus the integrated program operates in a fuel-neutral manner.

- water heater blankets,
- blower door analysis,
- tune-up, repair, and replacement of faulty heating systems,
- low-flow showerheads and faucet aerators,
- minor building repairs, including glass replacement and adjustment of window meeting rails,
- replacement of inefficient appliances, including refrigerators and clothes washers,
- water bed covers,
- installation of compact fluorescent lamps (CFLs),
- CFL torchieres and desk lamps,
- health and safety measures such as wire inspection, ventilation, and the DOE lead-free protocol, and
- additional multifamily-building-specific measures such as common area lighting fixtures and HVAC motors and controls, particularly in publicly funded housing.

Special efforts are made with respect to new construction and comprehensive rehabilitation projects. In addition, other services that are coordinated with efficiency measures include:

- Budget counseling where appropriate and available,
- Referral to other social services, where appropriate and available, and
- Arrearage management, including some arrearage forgiveness, where there is a utility program in place.

Starting January 1, 2004, the efficiency program will be coordinated with KeySpan's innovative OnTrack program, which provides budget counseling, arrearage management, and other social services to a small number of low income customers with the objective of increasing their ability to pay their bills. In addition, a pilot project supported by an HHS grant provides case management services (including budget counseling and, where available, utility arrearage management) in certain parts of the Commonwealth. In a small part of the KeySpan territory, a Ford Foundation grant supports pilot efforts to combine energy efficiency and home renovation programs.

In almost all cases, customers become eligible for low income efficiency services through the fuel assistance program (LIHEAP), which is administered by community action programs (CAPs) and other community-based organizations. Although eligibility levels differ slightly among the programs, in general the fuel assistance application process automatically enrolls clients for all utility-related programs for which they are eligible. These can include, in addition to LIHEAP:

- Efficiency programs,
- Gas, electric, and telephone rate discounts,
- Case management services, and
- Utility arrearage management programs.

Customers not eligible for other low income energy programs are nevertheless screened by fuel assistance agencies for eligibility for low income energy efficiency services.

PROGRAM PERFORMANCE

LEAN's first large-scale gas utility program was with KeySpan Energy Delivery—New England, begun in 1997. It has been evaluated "to be operating in a high quality and cost-effective manner," with more than 95 percent of participants extremely or very satisfied, and the consistent "opinion of program staff, managers, and planners that the program is very successful." Evaluation further found that, in addition to the therm savings the program produces for the system, the low income efficiency program provides significant benefits to customers in the form of comfort, improved condition of homes, bill savings, and (for 60 percent of those in arrears) an easier time paying their bills. Indeed, 30% of those in arrears found themselves able to pay their bills in full after participating in the efficiency program. These non-energy benefits translate further into such benefits as health benefits to participants and reduced utility costs of carrying and collecting debt and terminating and reconnecting service. There are also water resource savings. The value of such additional benefits has not been formally computed for this program, but they are estimated to be at least 50% of the energy benefits. Concluded one contractor quoted in the evaluation: "This Program is the best one I've seen out there, and I've seen a lot!"

Results at KeySpan include these for the six completed years of the ongoing program:

	Lifetime, May 1997–April 2003	Last full year, 2002–03
Participants	7,180	1,103
Fuel savings (therms)	20,168,800	3,098,400
Program cost	$16,100,000	$3,400,000
Cost/therm saved	$0.798	$1.09

KeySpan attributes the success of its low income program to flexibility in program design and on-going implementation, creative management, effective administration, and high implementation standards. Ongoing training by the utility and the agency, based on DHCD and utility practices, also plays a key role in the program's success. This includes the requirement that all auditors have DHCD training and certification. The particular success of KeySpan's low income efficiency program illustrates how LEAN supports and enhances individual utility efforts. LEAN has improved program services in many ways, including serving as a sounding board for program managers. Such input has guided program development and evolution, leading to more effective program administration, implementation, and delivery of services to customers.

LESSONS LEARNED

LEAN's performance of its functions in a consistent, statewide manner eliminates duplication of effort and makes the administration and coordination of utilities' low-income programs both more efficient and more effective. Among the benefits achieved from the approach taken by LEAN are:

- The statutory goal of standardizing implementation is achieved, while retaining individual electric and gas distribution utility flexibility.
- Repetitive functions are more efficiently performed through elimination of duplicative services.
- Problem-solving is administratively simplified and benefits from experience elsewhere in the state.
- Lessons are synthesized for statewide application, where appropriate.
- Statewide issues need only be addressed once.
- Electric and gas utility service territories partially overlap in many places. Electric and gas territories partially overlap with low income agency territories. Thus one agency can be working in the territories of several utilities. Coordination among overlapping service territories is simplified.
- Representation in proceedings before the Department of Telecommunications and Energy and the Division of Energy Resources are simplified.

Utility efficiency programs in Massachusetts, including low income programs, grew out of the Integrated Resource Planning (IRP) process of the mid-1980s, which was itself a response to a federal law (PURPA) and to price shocks due to nuclear power cost overruns. Utility low income programs were significantly expanded as a result of an electricity restructuring statute enacted in 1997. The statute set a permanent floor under electric utility funding of low income efficiency programs and required coordination with gas utility programs. In the same year, the current KeySpan program was established on the basis of the settlement of a DTE rate case. From their beginning in the federal weatherization programs of the 1970s, low income efficiency programs had been coordinated by the Commonwealth's administering agency (DHCD), by an association of the community action programs that implemented most of them, and by an association of community-based programs delivering low income energy services. LEAN was created in 1998 to focus and expand the scope of coordination of the vastly expanded programs.

The success of LEAN in expanding and coordinating utility low income programs is a result of countless factors that mix idealism, politics, and good management. The base for development of the programs has been, as it is in many states, a federally funded weatherization program administered by the state and implemented by a network of community-based agencies, together with a core of support in the state for utility efficiency services. While all situations are unique, the organizers of LEAN believe their successful leverage of that base into comprehensive and well-funded low income energy efficiency programs can be replicated over time by developing these principal conditions:

- Adequate funding to implement and administer the programs, including support services necessary to provide operational assistance, factual information, negotiation of agreements, and advocacy for those agreements with regulators;
- Development and maintenance of a broad base of political support for all efficiency programs and especially for low income programs;

- Identification of key personnel working for success of the programs at utilities, regulators, and agencies, as well as at coalition partners, and development of constant communication and strong working relationships among those people;
- Strong support from the state agency that administers the federal weatherization programs; and
- Close attention to volume and quality control and immediate response to any problems.

PROGRAM AT A GLANCE

Program name: Massachusetts Low Income Energy Affordability Network (LEAN)

Targeted customer segment: Low income households (60% of state median income, some non-efficiency program elements have lower income limits)

Program start date: 1997

Program participants: Program information for KeySpan Energy only: 1,103 for 2002–03 (program year); 7,180 cumulative program total from beginning of program (May 1997)

Approximate eligible population: 360,254 households (estimated from 2000 U.S. Census)

Participation rate: 0.3% annual (program year 2002–03); 2.0% cumulative since program inception

Annual energy savings achieved: 3,098,400 therms (program year 2002–03); 20,168,800 therms cumulative from program inception

Cost-effectiveness: Average cost per therm saved in the utility-funded portion of the program is 79.8 cents. The benefit-to-cost ratio exceeds 1.0 on the basis of energy savings alone; with non-energy benefits factored in, this ratio is at least 50% higher (a definitive calculation has not been performed).

Budget

Year	Program Costs
2001	$3.3 million
2002	$3.4
2003 (preliminary)	$2.7
2004 (projected)	$3.2

Notes: Program costs are utility costs only and do not include other sources. There are no customer costs in this program. Years are program years (May of stated year through April of following year.)

Funding sources: Customer rates pursuant to order of DTE, utility shareholder funds, DOE, and HHS via DHCD; and also a Ford Foundation grant

Best persons to contact for information about the program

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- Elliott Jacobson, Chair, LEAN and Energy Director/Rita Carvalho, Assistant Energy Director/Craig Brown, Director, Conservation Services
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Appliance Management Program

National Grid, New England
The Massachusetts Low-Income Energy Affordability Network
Rhode Island State Energy Office
Numerous community action agencies[11]

PROGRAM OVERVIEW

In 1995 National Grid formed a partnership with the local low-income weatherization and fuel assistance network of Community Action Program (CAP) agencies to develop a low-income electric conservation program. The Appliance Management Program (AMP) is very successful in delivering electric savings to low income customers by a combination of home appliance surveys, education about energy used by household appliances, and the installation of energy-savings measures. The program is delivered to National Grid customers by local CAP agencies in its service territories in Massachusetts (Massachusetts and Nantucket Electric), in Rhode Island (Narragansett Electric), and New Hampshire (Granite State Electric). In Rhode Island AMP is offered in cooperation with the Rhode Island State Energy Office.

The program uses a cooperative co-learning approach of adult to adult education, innovatively designed especially for limited income households. The purpose of the in-home visit is to identify mutually beneficial outcomes rather than merely instructing or doing things for customers. One method for identifying the sources of high use is to question customers and listen actively about how they use appliances. This knowledge is used to prioritize savings opportunities and create a workable action plan allowing the customer to use their appliances more efficiently. This program has been able to actually quantify energy savings due to education and consumer action, which has rarely been documented. The local CAP personnel have strong expertise in working with low income customers and are able to tie customers into other energy efficiency and community action programs such as job training, telephone discount rates, and educational programs.

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[11] Local participating community action agencies in Massachusetts: Action Inc., Berkshire Community Action Inc., Citizens for Citizens, Community Teamwork, Inc., Franklin Community Action Corp., Greater Lawrence Community Action Council, Lynn Economic Opportunity, Montachusett Opportunity Council, Inc., North Shore Community Action Program, Quincy Community Action, Self Help, Inc., South Shore Community Action Council, Southern Middlesex Opportunity Council, Springfield Partners for Community Action, Tri-City Action Program Inc., and Worcester Community Action Council.
Local participating community action agencies in Rhode Island: Blackstone Valley Community Action, Comprehensive Community Action Programs, East Bay Heating Assistance (Self Help), Providence Community Action Program, South County Community Action, Tri Town Community Action, and West Bay Community Action.
In 2002 the AMP program in NH was replaced by a similar joint utility program called Home Energy Assistance. That program was selected for ACEEE recognition and is profiled elsewhere in this report. The Local participating community action agencies in NH agencies that currently deliver Home Energy Assistance for National Grid are: Rockingham Community Action, Southern New Hampshire Services, Southwestern Community Services, Inc., and Tri-County Community Action.

The program is funded by the state-required System Benefits Charges in all three states. In Massachusetts, the Low-income Energy Affordability Network (LEAN) oversees program development. Budgets vary somewhat by year, but average about $5.6 million per year, with $4.5 million in Massachusetts, $1 million in Rhode Island, less than $100,000 in New Hampshire.

PROGRAM PERFORMANCE

Since 1996, the program has delivered more than 30,000 MWh in cumulative annual savings and 425,000 MWH in lifetime savings, and has served more than 30,000 customers.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Annual MWH	234	1,526	2,698	3,563	4,378	4,927	4,852	4,960	5,627	32,766
Lifetime MWh	2,344	16,786	38,211	55,983	71,029	22,892	69,182	72,614	76,598	425,638
Households	241	1,101	2,798	3,751	5,167	4,332	4,726	4,185	4,622	30,923

Average savings by measures are given below, based on an impact evaluation of the 2001 Appliance Management Program completed by Quantec, LLC and the Massachusetts state weatherization study. The program has achieved high and consistent electricity savings (average 1,200 kWh/household)—which reduces low-income household electricity bills by about $100/year. Customers report implementing an average of 3.5 lifestyle changing "actions" as a result of education received through their participation in AMP.

Lighting installed	63 kWh /year per bulb
New refrigerator replacement	1,106 kWh/year per
New freezer replacement	726 kWh /year per
Waterbed measures	1,070 kWh/year per bed
Refrigerator removal	135 kWh/ year per removal
Electric weatherization home	595 kWh/year per
Oil heat weatherization home	143 kWh/year per
per home	150 gallons of oil/year
Oil heating system	91 kWh/year per home
per home	290 gallons of oil/year
Education and other	206 kWh/year per home

In 2000 the program began offering weatherization measures for oil heated homes. Since then the program has weatherized 2,515 homes. The average savings for weatherization is 150 gallons of oil for a total of more than 377,000 annual gallons of oil saved. Also since 2001 the program has offered oil heating system replacements. Since then a total of 758 customers received this measure and saved an average of 290 gallons of oil each for a total of almost 220,000 annual gallons of oil.

AMP has been extensively evaluated, which has both documented impacts and provided critical feedback for program improvement. Complete impact evaluations were done for the program in 1998, 1999, and 2001. Another impact evaluation is currently under way by National Grid's vendor Quantec LLC and results will be available later in 2005. The evaluations reveal that AMP is highly cost effective. For example, the benefit to cost ratio (based on the total resource cost test) of AMP is 2.56 as reported in the Massachusetts Electric 2003 Energy Efficiency Annual Report, based on most recent evaluation results.

AMP applies the "best practice" of training, testing and measuring and reporting results to create feedback loops that foster quality and continual learning. The appliance audit software and the recent shift to the use of blower door guided infrared scanners by each local agency are two examples of this.

Because of its long history and aggressive program targets, AMP program has served at least ten percent of the eligible population to date and continues to set and meet aggressive program targets each year. AMP also has expanded its services into new territories. National Grid used AMP's success in Massachusetts to help convince the Rhode Island Public Utilities Commission to offer the program in Rhode Island. Because of a well-documented training program, replicating the program in Rhode Island was relatively easy. AMP's strong emphasis on training creates local electric energy efficiency experts, who then become an on-going community resource at the CAP agencies that partner with the program. AMP was offered—and a successor program now is offered—in New Hampshire.

AMP's successes go beyond the very real and significant benefits provided directly to participating customers. AMP has affected broader utility and weatherization program practices in the region. The program has encouraged increased utility investment in low income energy efficiency in the region. AMP also has led to the creation of a "Best Practices" Working Group for LEAN and all the electric and gas utilities in Massachusetts to meet regularly to share best practices and cooperate on program design and technical issues. Through this numerous working relationships with other organizations that share common interests, AMP has improved the partnership between National Grid, LEAN, and local CAP agencies. AMP benefits CAP programs by providing additional funding to the CAPs for electric and oil weatherization, using the existing network of services and supplementing federal funds so more clients can receive services.

LESSONS LEARNED

- The success of this program in reaching the target audience and creating real energy savings is largely attributable to the close relationships the CAP agencies have with low-income customers. The agencies provide a variety of services to these customers

that have helped them gain the respect and trust of customers. This facilitates program marketing and helps in gaining customer cooperation on implementing the energy savings actions recommended in the program.

- Regulatory support has allowed AMP to meet unique customer needs. New England has a high percentage of customers who heat with oil. For a number of years, the Department of Energy's (DOE) weatherization funds have been supplemented by gas utility energy efficiency programs. Beginning in 2000 National Grid started funding weatherization for income eligible households heating with other fuels not including natural gas. These homes may be heated by oil, propane, wood or other non-utility fuels. This only works if the regulating entity allows the Program Administrator to get credit for non-electric savings, which National Grid is able to do in Rhode Island and Massachusetts.
- Through its funding and partnership with CAP agencies, National Grid's aim is to extend the benefits of AMP to more customers and enable the weatherization network to efficiently deliver a total package of energy efficiency services including weatherization to address heating usage and appliance services. Through AMP's support and partnership, CAP agencies are able to deliver services more cost effectively and have fewer visits to customers' homes per unit of energy saved. More importantly, the CAP agencies have integrated appliance usage into their "house as a system" approach, allowing for a better understanding of all energy uses in the home, and better services to their clients. CAP field staff now understand the electric use of heating system pumps and blowers, the interaction of refrigeration, lighting, and heating, and are able to solve customer problems as opposed to just dealing with a part of the consumer's overall energy use.
- The success of the program depends largely on the skill of the CAP energy auditors and active customer participation. For that reason broad based skills are required for the auditors who work on AMP, who are called "Energy Managers." The skills include an ability to audit electric base load conservation and diagnose causes and solutions for high electric use. Training is provided on the program requirements, electric base load auditing, and computer use. Energy Manager candidates should already have significant weatherization auditing and communication skills as well as an aptitude for computers. National Grid found it very helpful to start the program with just a few highly skilled agencies as a pilot, and then gradually add more agencies as the overall knowledge of the network improved.

Each year National Grid continues to explore new measures and refinements in how measures can be implemented in cooperation with the state-wide Best Practices group in Massachusetts and the State Energy Office in Rhode Island. In AMP added infrared scanners and training for each agency on how to ensure that their sub-contractors effectively seal key building leakage junctures and then inspect the results.

AMP collaborates with other program for outreach efforts to low income customers through a Massachusetts state-wide joint marketing effort called "Energy Bucks." In the Energy Bucks campaign gas and electric utility companies, in collaboration with the Massachusetts Community Action Program Directors' Association (MASSCAP) and the Low-Income Energy Affordability Network (LEAN), work together to promote energy

efficiency programs (like AMP), fuel assistance, and utility discount rates to qualifying households. This educational campaign is funded by System Benefit Charge (SBC) funds.

PROGRAM AT A GLANCE

Program name: Appliance Management Program

Program eligibility (guidelines): The Appliance Management Program (AMP) income eligibility level for customers is 60% of median in Massachusetts and is indexed to the same income criteria as for fuel assistance in Rhode Island. AMP is available to customers living in 1 to 4 family facilities.

The appliance audit service component of AMP is targeted to income eligible customers who use at least 10 kWh, base load, per day and have a minimum of nine months billing history at that residence. Base load use is determined by kWh usage per day in the most recent May or September billing period.

Income eligible customers who heat with oil or other deliverable fuels and who meet the typical DOE established requirements for weatherization are eligible for weatherization and or heating system replacement measures.

A third component is called mini-AMP which is piggy backed onto other agency field services and includes refrigerator metering and replacement. It is for customers using less than 10 kWh per day.

Program start date: 1996

Program participants: From 1996–2004 a total of 30,923 households have participated. AMP served 4,622 households in 2004—and has served 4000 or more households per year since 2000.

Approximate eligible population: Not available.

Participation rate: Not available.

Annual energy savings achieved: In 2004 AMP yielded 5,227 MWH as a result of new measures installed; the cumulative annual energy savings achieved by the program from 1996-2004 is 32,766 MWH. Lifetime savings are estimated to be 425,000 MWH.

Cost effectiveness: Benefit to cost ratio of 2.56 (total resource cost test).

Budget and cost information: About $5.6 million per year, broken out as about $4.5 million in Massachusetts, $1 million in Rhode Island and less than $100,000 in New Hampshire.

Funding sources and share of program budget: State system benefits charges in all three states.

Best person to contact for information about the program

- Dave Legg, Program Manager
- Telephone: 508-421-4265
- Fax: 508-421-7265
- E-mail: dave.legg@us.ngrid.com
- Postal address: 55 Bearfoot Road, Northborough, MA 01532
- Web page: National Grid's AMP program doesn't have its own web site; however, these three sites refer to AMP:
  http://www.nationalgridus.com/narragansett/home/energyeff/4_energy_svcs.asp
  http://www.nationalgridus.com/masselectric/home/energyeff/4_energy_svcs.asp
  http://www.energybucks.com/

Low Income Gas Program

NSTAR Gas Company

PROGRAM OVERVIEW

The Residential Low-Income Program offers weatherization measures to NSTAR's neediest customers. The objective of the program is to increase energy efficiency and reduce the energy cost burden for low-income customers through energy efficiency education and the installation of gas energy efficiency measures. The weatherization services available include an energy audit, attic insulation, wall insulation, air sealing, heating system repair/replacement (on a qualifying basis), and safety inspections. The program allows each eligible customer to receive up to $4,500 for these measures. When possible, the program is leveraged with Department of Energy (DOE) weatherization funds.

The program is administered by NSTAR in conjunction with the South Middlesex Opportunity Council (SMOC), which is the lead vendor. NSTAR works closely with SMOC on all aspects of program design and implementation. Community Action Program (CAP) agencies are responsible for providing the actual weatherization services to the customer. The CAP agencies work with installation contractors to ensure that proper program guidelines are enforced. They are also responsible for ensuring that the customer meets the eligibility requirements for program participation. The CAP agencies provide SMOC with the required documentation of all work performed.

This program directly targets residential low-income customers with annual incomes at 60% of the Massachusetts median income level. NSTAR Gas works with the CAP agencies to market the program to qualifying customers in its service area. Priority is given to high use (high-energy burden) customers.

Various methods of marketing are used to promote this program. NSTAR markets the program via bill inserts and messages, marketing brochures, and literature, company newsletters, and the Company web site. Marketing efforts are also conducted by the CAP agencies. While telemarketing proves the most effective, direct mail and community events are also used.

Currently, NSTAR and other Massachusetts utilities and low-income advocates are working collaboratively to sponsor a marketing campaign intended to increase participation levels in the discount rate, energy efficiency, and fuel assistance programs for customers who are income eligible.

NSTAR Gas has offered this program for low-income single-family households since November 1996. The company added a multi-family component to the program in May 2001.

NSTAR works collaboratively with the Massachusetts Division of Energy Resources (DOER), the Low Income Energy Affordability Network (LEAN), and the Massachusetts Department of Telecommunications and Energy's (DTE) Settlement Intervention Staff in the design of its energy efficiency programs. A Joint Motion for Approval of a Settlement Agreement is then submitted to DTE for final approval. The NSTAR Gas energy efficiency programs are currently in the third year of NSTAR Gas' three-year pre-approval period.

NSTAR Gas recovers its energy efficiency costs, along with any applicable incentives and lost margins, through the conservation charge (CC) cost recovery mechanism reviewed and approved by DTE.

PROGRAM PERFORMANCE

The company has realized great savings through the low-income programs. Since May 2001, this program has saved over 96,500 therms, which is equivalent to heating over 98 homes in Massachusetts for one year. Further, the program produces other non-energy benefits for customers who participate. Struggling low-income customers who pay their own bills not only save energy through NSTAR's program, but also save money that can be put toward other essential household expenses. In addition, their weatherized homes provide greater levels of comfort, health, and safety as a result of the measures implemented through the program.

The program's success was publicly recognized recently when it received a 2003 award by the Worcester Community Action Council for low-income services provided to residents of Worcester County, Massachusetts.

For the period May 2001 through April 2003, the program served 770 customers, saving an estimated 96,500 therms annually. While there is no formal survey process in place, SMOC and their sub-contracting agencies providing services to the customers have received very positive feedback from customers who have realized significant savings and assistance through these programs.

LESSONS LEARNED

One element that contributed greatly to the success of the low-income gas program was the addition of the multi-family component. Prior to 2001, the low-income program only served single-family units; multi-family units at that time were handled by the Energy Conservation Services (ECS) program regardless of income level. Recognizing low-income multi-family dwellings as an underserved market, NSTAR worked closely with the low-income network to develop a unique extension of the single-family program. As a result of adding the multi-family element, NSTAR has reaped the rewards of great publicity. On November 20, 2002, SMOC held a grand opening for a shelter it opened in Framingham, Massachusetts. The completely renovated building provides housing for twenty-four clients as part of an 18-month transitional program. NSTAR was noted for its

significant contribution to this project by providing funding for heating equipment through the Low-Income Multi-Family Gas Program.
Ramp-up for this type of program may be time consuming in the planning stages, but overall is not very complicated. Whether it is working with low-income agencies at the federal or state level, or even down to the community level, an interested utility/organization simply needs to meet with the appropriate stakeholders to develop a program that meets the needs of their customers. Many of the agencies already provide services for the low-income sector; therefore, the utility/organization may be able to subsidize or enhance efforts already being conducted.

Having a good working relationship with the vendor providing services is key to having a successful program. In particular, working with the local weatherization network helps to overcome possible skepticism of a utility-funded program and encourages customers to take advantage of community-based resources. SMOC and NSTAR continually strive to improve their low-income programs and the services provided to their customers.

PROGRAM AT A GLANCE

Program name: Low-Income Gas Program

Targeted customer segments: Low-income gas customers in single- and multi-family housing

Program start dates: Low-income single-family = November 1, 1996; low-income multi-gamily = May 1, 2001

Program participants: 770 customers between May 1, 2001 and April 30, 2003; total since program inception (1996): 1,876

Approximate eligible population: 18,000 customers

Participation rate: About 10% of eligible customers have been served by the program since its inception.

Annual energy savings achieved

Year	1997	1998	1999	2000	2001	2002
Annual Savings (therms)	34,150	81,660	37,740	90,710	58,527	37,977

Program cumulative total = 340,764 therms

Other notable measures of program results to date

The benefit/cost ratios have been calculated using the Total Resource Cost (TRC) test, as specified by the guidelines established by DTE. The TRC test, which includes the value of avoided gas supply, transmission, and distribution costs, also takes into account the direct economic benefits and costs of a program to participating customers.

Lifetime impacts of measures installed from 2003 through 2013 as filed in its Annual Report are:

- Low-Income Single Family
  - Benefits (2003$) = $3,430,797
  - Costs (2003$) = $1,668,747
  - B/C Ratio = 2.06

- Low-Income Multi-Family
  - Benefits (2003$) = $1,469,947
  - Costs (2003$) = $922,450
  - B/C Ratio = 1.59

Budget and cost information

Year	Budget/Actual Program Costs
2001	$739,000/$800,072
2002	$813,000/$740,166
2003 (preliminary)	$1,000,000/NA
2004 (projected)	$1,000,000/NA

Funding source: NSTAR Gas recovers its energy efficiency costs, along with any applicable incentives and lost margins, through the conservation charge (CC) cost recovery mechanism reviewed and approved by DTE.

Best person to contact for information about the program:

- Colleen Lovejoy
- NSTAR Gas Company, One NSTAR Way, SW360, Westwood, MA 02090
- Telephone: 781-441-3875
- Fax: 781-441-8168
- E-mail: colleen_lovejoy@nstaronline.com
- Web page: www.nstaronline.com

Cape Light Compact

Cape Light Compact

Tel: (508) 375-6648 • Fax (508) 362-4136

www.capelightcompact.org

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April 2, 2007

Senator Michael W. Morrissey
Senate Chairman Joint Committee on Telecommunications, Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman Joint Committee on Telecommunications, Utilities and Energy
State House, Room 473B
Boston, MA 02133 -1053

Re: House Bill #3965 - The Green Communities Act of 2007

Dear Chairman Morrissey and Chairman Dempsey:

The Cape Light Compact ("Compact") appreciates the opportunity to submit comments on House Bill 3965, The Green Communities Act of 2007. The Compact is a regional energy services organization made up of all 21 towns of Barnstable and Dukes counties, and the two counties. Each of these towns voted at town meeting or by town council to become municipal aggregators so that they could provide generation services to consumers on an "opt-out" basis, and administer the ratepayer funded energy efficiency programs pursuant to M.G.L. c. 164, §134. The overarching purpose of the Compact is to represent and protect consumer interests in a restructured electric utility industry. As authorized by each town, the former Division of Energy Resources and the former Department of Telecommunications and Energy, the Compact operates the regional energy efficiency program and works with the combined buying power of the region's 200,000 electric consumers to negotiate for lower cost electricity and other energy related public benefits. Since our establishment in 1997, the Compact has had first hand experience representing consumer interest on energy policies and delivering energy efficiency services.

The Compact carefully reviewed and discussed the Green Communities Act of 2007 (the "Act") filed by Speaker DiMasi, Representative Bosley and Representative Dempsey from the perspective of a public entity already working towards many of the goals

outlined in the proposed Act and, in some cases, having achieved some of those objectives. The Compact strongly applauds the Speaker's desire to provide a comprehensive energy solution for Massachusetts and the extensive scope of the proposed Act.

However, the Compact believes the Act can be improved along the following precepts:

1. The Act inadvertently makes significant changes to §134 which governs the opt-out municipal aggregation process which the Compact has successfully employed over the last ten years. Sections 271-272 and 274-276, among others, substitute the term "Basic Service" for "Standard Offer" since the latter is no longer offered. However, this change has perhaps the opposite effect of what is intended -- municipal aggregators may be obligated to price against short-term, last resort "Basic Service" and may not be able to enter into longer-term, competitive supply contracts. **The outmoded term "Standard Offer" can be dropped without substantively changing the municipal aggregation process.**

2. The proposed Act amends several other generation supply provisions within Chapter 164 as enacted in the 1997 Restructuring Act. The Compact respectfully requests that the Act pursue this issue one step further by supporting transparent pricing in the setting of Basic Service rates. Most observers recognize that, aside from the Compact's service territory, competition has brought few benefits to residential and small commercial and industrial consumers in the Commonwealth. **The Act can help remedy that problem by fostering a level playing field.** The Compact will shortly provide, under separate cover, suggested language and changes to the Act to accomplish this and the other major points made in this letter.

3. The Compact has been successfully delivering energy efficiency programs on Cape Cod and Martha's Vineyard for the past five and one half years. During this time frame, the Compact has returned $26 million in energy efficiency services to ratepayers. The Compact has effectively served the energy efficiency needs of municipal projects by funding 100% of the installation of cost effective energy efficiency measures up to $75,000 per project per year. This has resulted in the Compact reinvesting approximately $5.5 million in **municipal** energy efficiency projects on Cape Cod and Martha's Vineyard. Investments in energy efficiency measures in our towns have the added benefit of saving our taxpayers money through lower utility costs. The Compact requests that it be allowed to continue to administer the ratepayer energy efficiency programs on Cape Cod and Martha's Vineyard.

4. The demand for energy efficiency program services on Cape Cod and Martha's Vineyard, and throughout Massachusetts, exceeds available funds. The Compact agrees with Speaker DiMasi that high energy costs are adversely impacting the Massachusetts economy and now is the time to do more. Energy efficiency measures are a proven method for reducing energy usage and costs, not to mention the adverse greenhouse impacts of fossil fuels; therefore, **the Compact**

does not support reducing the total amount of funds available for energy efficiency programs, from today's levels, by redirecting energy efficiency funds towards other projects as proposed in the Act. Instead, the Compact strongly supports increasing these funds, so that all cost-effective efficiency measures may be implemented in a timely fashion. One of the goals of the Act is to save 10% of electricity sales by 2017 – roughly 1% per year. The Compact is presently saving 0.8% of electricity sales annually, and with an increase in funds could exceed the goal of 10% savings in electricity sales.

5. The Compact believes that **over the long run, the towns on Cape Cod and Martha's Vineyard are better served – meaning more funds are available to the towns for implementing energy efficiency measures – under the current structure** (Compact administering the energy efficiency programs) than under the structure proposed in the Green Communities Act.

6. **The towns on Cape Cod and Martha's Vineyard, through the support of the Compact, are already on the road to becoming Green Communities.** The Compact has successfully leveraged the strength of energy efficiency program funds with renewable trust funds through the Green Affordable Homes Initiative that will, by May 2009, support over 50 units of green affordable homes and over 100 kW of installed on-site renewable generation. This is in addition to the 42 kW from photovoltaic panels installed in our communities' schools through our Solarize Our Schools initiative completed in late 2006.

7. **The Compact supports net metering and cost effective distributed generation.** Municipal net metering (where community renewable projects may offset the usage on all municipal accounts) should be a part of this approach.

8. With respect to the Renewable Energy Trust Fund aspect of the Act, the Compact supports Speaker DiMasi's objective of increasing the amount of funds available for renewable energy grants for towns and residents. The Green Communities Act addresses funding, contracting provisions, and financial commitments to renewable energy projects. **The Compact believes that a lean, administratively efficient structure which encourages the development of community renewables on a statewide basis best serves these objectives.** Developers of such projects, especially cities and towns, need to be able to enter into long term contracts to sell the energy and renewable energy certificates from their projects at stable, sustainable levels. And, in any case, **the Compact requests that customers of municipal aggregators be afforded any and all benefits of these proposals** – similar to basic service customers served by Investor Owned Utilities.

9. **The Compact does not support moving the energy consumer protection functions of the Attorney General to the Executive Office of Energy nor does it support blending the role of policymakers with regulators.** The Compact believes that consumers are best served by an advocate independent of the executive branch and by full-time, impartial regulators.

Over the past 10 years, the Compact has worked diligently to represent consumer interests in a restructured electric market. The Compact has partnered with state agencies, our local distribution company, other utilities, towns, local environmental organizations, residents and businesses to advance and protect consumer interests. The twenty one towns on Cape Cod and Martha's Vineyard are proud of what the Compact has accomplished on our own and through partnerships. We continue to make strides towards fostering green communities, and are poised to advance renewable energy generation through the formation of an electric cooperative. The Compact has been touted as a success of the 1997 Restructuring Act; we request that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators.

The Act wisely recognizes the need to enhance consumer interests and promote a reliable and affordable energy delivery system in our Commonwealth. We look forward to working with you and the Joint Committee staff to help bring about the vision of the Act -- a significant reduction in climate changing emissions through the aggressive development of renewable energy and energy efficiency measures with municipalities playing a key role.

Sincerely,

Bob Mahoney

Robert Mahoney
Chairman
Town of Dennis Representative

Cc: Senate President Therese Murray
Speaker Salvatore F. DiMasi
The Honorable Governor Deval Patrick
Senator Robert O'Leary
Representative Demetrius Atsalis
Representative Eric Turkington
Representative Cleon Turner
Representative Matthew Patrick
Representative Sarah Peake
Representative Susan Gifford
Representative Jeffrey Perry
Attorney General Martha Coakley
Barnstable County Commissioners
Secretary Ian Bowles
Undersecretary Ann Berwick
Commissioner David O'Connor
Cape Light Compact Governing Board Member

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Testimony of Contractors and Builders Regarding House Bill 3965

Contractors and Builders: Doing the Work on the Ground

Chairman Dempsey, Chairman Morrissey, and Members of the Committee:

The Energy Efficiency Industry can be thought of as utilities and engineers but most of the jobs and real energy savings are carried out by the large number of builders, insulation contractors, electricians and HVAC contractors across the state. These are the silent majority of workers that deliver the upgrades to new and existing residential and commercial buildings that result in lower energy costs and environmental improvement.

This panel of witnesses provides input from the segment of the efficiency industry that sells and installs products in homes and businesses in the Commonwealth. The profile of these companies and their work is representative of the hard work that is involved in saving energy at the ground level. Given the fact that buildings produce almost 40% of the greenhouse gasses, the ability to lower energy use in buildings is at the center of any environmental strategy.

1. Replacing incandescent lighting with efficient fluorescent fixtures

Hundreds of electricians are employed at changing out old, inefficient lighting systems with high efficiency "super" T-8 technology with natural lighting and controls as well as improved design to optimize task and ambient lighting needs. This is the most cost effective way to reduce peak demand cooling loads at the same time. This work is carried out directly as a result of the intervention of the efficiency programs that promote the substitution of efficient technology for inefficient technology. Without program support, customers would opt for lower first cost inefficient systems.

2. *Installing high efficiency Heating and Cooling Equipment*

Most heating and cooling technology is installed at minimum Building Code levels. This results in a long term loss of efficient use of energy and a penalty to the end users who pay the 'operating penalty' for the use of the system they have purchased. The efficiency programs provide education and incentives to substitute, on a cost effective basis, lower long term costs for slightly higher first cost. Hundreds of HVAC contractors are participating in the programs to upgrade heating and cooling systems using the latest technology and products available on the market.

3. Building Energy Star qualified homes

Standard "Code"' built homes result in a significant energy and operating cost penalty over a 40 to 50 year time frame. There is a robust federally sponsored program to promote upgrading and verifying the increased efficiency homes. Federal-State cooperation in promotion of "Energy Star New Homes" sponsored by EPA has been one of the most successful aspects of the public-utility programs in the region. Builders can secure support for reducing the cost of upgrades and energy use evaluation as well as marketing support. In addition, there has been an innovative expansion of these initiatives by the incorporation of renewable energy supported by the MTC and LEED standard sustainability standards. These integrated initiatives have been built on the use of a combination of programs by local builders and developers. Ending these programs and trying to start everything from scratch will set back the market momentum for building sustainable and efficient homes significantly.

4. Insulating homes to reduce heating and cooling bills

Poorly insulated and sealed old homes result in hundreds of thousands of Massachusetts homeowners paying unaffordable energy costs. The programs that help these homeowners upgrade their homes and understand the technical standards to achieve these improvements is one of the most cost effective ways to save energy, reduce global warming and build jobs in the Commonwealth. A combination of energy assessments, incentives, and low interest loans make up the program portfolio that exists today as part of the MASS Save program and HEAT loan program created by the legislature in 2006. These are working to produce millions of dollars in energy efficiency upgrades every year. The cost effectiveness of these programs is improving annually, resulting in more measures installed at a more cost effective manner than the previous year.

If the utility programs are ended, funds are cut and a slow development of alternative programs, there are companies that will go out of business and lay off hundreds or thousands of employees. In addition, thousands of households that will not get the support to upgrade their homes and reduce their energy costs.

Today we have several companies that have been participating in these programs provide their history and explain how making homes more efficient home by home is working in Massachusetts.

AJ Electric-represented by Aaron Lancaster
AJ Electric works with the energy efficiency programs operated by NStar and National Grid to install energy efficiency lighting in multi-family buildings across Eastern and Central Massachusetts.

Newton Electric- represented by John Richall
Newton Electric is a supplier and installer of energy efficient lighting and has been working as a member of NEEC and participant in the energy efficiency programs for the past 15 years. They provide quality installation services for multi-family and commercial buildings seeking to upgrade from inefficient to efficient technology.

Atlantic Insulation- represented by Ric Palm
Atlantic Insulation, located in Salem, has been working to insulate residential homes as part of the Mass SAVE and other utility programs for almost a decade. Atlantic insulation works with both utility programs and low income programs to supply the critical technology needed to reduce energy use in the home, namely increased insulation levels.

Advanced Insulation Services- represented by Al Pellegrini
Advanced Insulation Services is located in Hopedale Massachusetts and is providing insulation and improved thermal shell improvements to homes as part of the MASS Save and HEAT loan programs. They have provided high quality services to the thousands of homeowners who need to lower their energy costs through improving the insulation levels in their home.

Porrazzo Construction- represented by Dan Porrazzo
Dan Porrazzo is a homebuilder of highly efficient and solar powered homes in Brockton, Massachusetts. He has been in the industry for over 20 years providing program sponsored insulation, PV, and program management services.

Carter Scott New Homes-represented by Carter Scott
Carter Scott has been developing new Energy Star homes that are sustainable and include solar power. He has been working with the utility and MTC programs to help achieve that objective.

Testimony of Ian Bowles
Secretary of Environmental Affairs
April 2, 2005

Chairman Dempsey, Chairman Morrissey, members of the Committee:

Thank you for the opportunity to testify before you today. Speaker DiMasi has done the people of the Commonwealth a great service by putting energy at the top of his legislative agenda. By filing the bill you are taking testimony on today, the Speaker has begun a critically important conversation on the Commonwealth's energy future. I am delighted to be here to share my views.

As the Speaker noted when he announced the legislation at the Chamber of Commerce breakfast two weeks ago, "energy is one of the essential building blocks of a strong economy and that, in order to reinvigorate our economy and prepare for the future, we need to fundamentally alter our thinking on energy policy."

I couldn't agree more. For a number of reasons, now is the time for bold measures on energy:

- First, we face high energy costs in the Commonwealth. This is a burden for residential customers and a threat to business competitiveness.
- Second, the Commonwealth is turning its attention to global climate change, as are the nation and the world. In order to make long-term reductions in greenhouse gas emissions we will have to make different energy choices today and in the future.
- Third, the global economy is driving fuel prices higher on a sustained basis. Today, oil prices hover between $50 and $70 a barrel – hitting $66 one day last week. Three short years ago, they were less than half that.
- Fourth, there is a compelling need to strive for energy independence. In Massachusetts, our dependence on foreign oil is amplified by our dependence on natural gas imported from other states and countries. We must begin to control our own energy destiny.

As bleak as the situation sounds, our energy challenges also contain within them the seeds of economic opportunity. With no coal, oil, or natural gas of our own, we have been at an inherent disadvantage when it came to the fossil fuel–based energy of the past. But as we head toward a clean energy future, Massachusetts finds itself rich with assets:

- Leading academic research centers
- A strong venture capital industry that is now turning its attention to clean energy technology, and
- A tradition of technology entrepreneurship
- Already, the clean energy industry employs 10,000 people in Massachusetts

As much as we need to worry about our energy problems, we must also keep our eye on our energy opportunities in terms of jobs and growth – we have the opportunity to use our comparative advantages to become a global center for clean energy technology and the jobs that come with it. The fact is, the more we solve our own energy problems, the more we stand to gain in the clean energy future that lies ahead.

Against this backdrop, the Administration sees three top priorities we would like to see enacted in comprehensive energy legislation. Let me describe them to you, and discuss what the current bill has to offer in each regard.

Our first priority is **energy efficiency – saving money and energy at the same time**. Energy efficiency means reducing energy use through cost-saving and energy-saving measures like efficient electric appliances (air conditioners, water heaters or lighting) or other investments like insulation and windows. Investments in energy efficiency lock in savings now and for years go come for the customers who make them, while reducing demand for additional electricity generation in a way that keeps rates in check for all customers and limits harmful emissions.

New data from the Division of Energy Resources show that the investment of $371 million in ratepayer funds in energy efficiency from 2003 to 2005 will provide cumulative lifetime savings of $1.2 billion. At the same time, reducing demand for summertime peak power by 216 MW in that same period produced $19.5 million in wholesale price savings that accrued to all customers.

In both economic and environmental terms, energy efficiency is the gift that keeps on giving.

For too long, efficiency has been viewed as an "add-on" to the overall energy strategy. But efficiency should be at the core of our energy policies. Even with the strong, but limited programs we have in place now, financed by the System Benefit Charge on electric bills, we are meeting 30 percent of our annual increase in electricity demand through efficiency. There is much more that could be done to save both energy and money.

The time is ripe for a major push on energy efficiency. Last week, Governor Patrick helped launch the Cambridge Energy Alliance, a massive efficiency program that promises $100 million worth of efficiency installations throughout the city, mostly financed by private funds, that will reduce peak electricity load by 15 percent. For residential customers, this is expected to translate into savings of $100 on an average electric bill of $1,000 a year. At the same time, the Governor announced his intention to launch a revolving loan fund, called MassEfficiency, to cover the start-up costs of spreading the Cambridge Energy Alliance model to five more Massachusetts cities, starting with the largest one, Boston. These initiatives are very much in line with the ideas behind the Speaker's Green Communities initiative in this bill.

There is one simple, and cost-efficient, standard that should guide our efforts in this area: capturing all available energy efficiency that is below the cost of power generation.

This is just common sense. If there are efficiency measures available in the marketplace that cost less than turning on power plants, why not buy them?

The opportunities are growing: From 2003 to 2005, the cost to achieve energy savings dropped 15 percent, from 3.8 cents to 3.2 cents per kWh, while the cost of producing electricity jumped 61 percent, to 8.9 cents per kWh.

The all-available-efficiency standard could be met through several different routes. One of them is through an Efficiency Portfolio Standard, which would require energy suppliers to meet a certain amount of their customers' demand through efficiency rather than generation. This is the general approach taken in the bill, and I applaud the initiative.

But as currently written, the bill would not capture nearly all energy efficiency below the cost of generation. We need to provide some certainty to existing energy efficiency providers by setting a floor (requiring, for example, that we invest as much as

we do today through the SBC), but then set a much higher target – purchasing all cost-effective energy efficiency resources. I would like to work with the Committee to find ways for the bill to reach that vital goal.

One way or another, we must unleash the power of efficiency to meet our energy needs. Under new rules set by ISO-New England, the region's grid operator, efficiency measures can now compete with supply as ways of meeting our future power needs. With efficiency so much less expensive than power generation, we can save money consumers and reduce our need for additional power plants by exploiting the potential of efficiency.

Our second priority is **renewable energy**. These clean-energy technologies include wind, solar, geothermal, and biomass. Massachusetts led the way on this with our Renewable Portfolio Standard. Despite this pioneering effort, precious little renewable energy has been built in Massachusetts. It is time we brought more tools to the table to develop the renewable energy.

One key obstacle to renewable energy is siting. Cape Wind, whose environmental review I signed off on last week, is just the most visible manifestation of the difficulty developers of renewable energy face in siting their facilities. Hoosac Wind, a clean energy project in the Berkshires, has been held up for more than two years while an appeal from opponents contesting its wetlands permit languishes before a magistrate at the Division of Administrative Law Appeals.

Delay and uncertainty in siting are stifling the development of an industry that is vitally needed for our clean energy future. Siting reform is essential.

This bill takes an important step in that direction by making renewable energy a "by right" use for property zoned as industrial. If we allow a landfill to be considered a "by right" use in industrial property, as we do under current law, why not renewable energy facilities?

But there is more we could do in siting reform. Right now there are laws on the Commonwealth's books that facilitate the siting of a large coal plant, but they do not apply to small wind installations. I suggest allowing appeal to the Energy Facilities Siting Board, now reserved for large power generators of 100 MW or more, for renewable energy facilities of 1 MW or more.

Our third priority for the legislation is **strategic use of funding programs.** Today, our efficiency and renewable programs – while among the best in the nation – are too limited in scope and ambition. They are also splintered in ways that weaken their impact.

Currently, the funds available for efficiency programs are administered by the distribution utilities, while funds to encourage development of renewable energy reside in the Renewable Energy Trust. Efficiency funding is segregated from renewables funding when the two should be used and managed in tandem, in order to capture synergies. After all, if you're providing incentives for a customer to install solar photovoltaic panels – a clean but expensive source of energy – you should at the same time make his use of energy more efficient, so that he needs less of it.

Greater impact would also be possible if we had more financial tools at our disposal for deploying the SBC funds for renewables, in particular, because they are so limited. For example, we should be able to securitize the SBC funds in order to create

larger revolving loan funds. I'd also like to see us have the ability to use these funds to finance other approaches like feed-in tariffs and tax credits or other means.

We need consolidation and flexibility to find the approaches that give us the most bang for the buck.

The bill takes some positive steps in this direction, creating a Clean Energy Fund and allowing securitization of a portion of it. But in other ways, the bill replaces a complex system with an even more complex system, with funds divided up in multiple ways and then earmarked for specific purposes. I would urge greater simplicity, fewer strictures, and a greater range of financial tools.

This covers our Administration's main priorities. Let me wrap up with a few comments on other parts of the legislation.

The Speaker's bill is a very ambitious piece of legislation with a number of laudable initiatives, including important incentives to create "green communities" across the Commonwealth. Speaker DiMasi should also be commended for his vision in including in this legislation net metering – that is, allowing homeowners and businesses to feed power back into the grid through their own use of small renewable and other clean energy installations. I'd like to note Chairman Morrissey's leadership on net metering as well. Finally, we are also encouraged by the inclusion in the bill of important measures such as tax credits for hybrid automobiles and for solar water heating.

Unfortunately, the legislation also re-opens certain matters decided in the Governor's Article 87 reorganization. That legislation becomes effective next week, on April 11th.

This bill would create an Executive Office of Energy Affairs. Compared with executive-branch structures of the past, this proposal makes the important statement that energy deserves the attention of a Cabinet-level agency. The Governor's Article 87 reorganization made that same statement, but went a step further to combine Energy and Environmental Affairs into a single secretariat, in recognition of the growing synergies between environment and energy. I acknowledge that the bill would allow the Governor to name one person Secretary of both Executive Offices, but I think it would be best to give our combined approach some time to work before creating a new structure. I'd also like to see the Governor and the Secretary have the flexibility to choose the number of UnderSecretaries in the Secretariat – as drafted, I believe the bill is too prescriptive in that regard.

Of greater concern is the proposal to reconstitute the state's utility regulatory body for the second time this year. We are just now naming the leadership of the Commonwealth Utilities Commission, the three-person commission that oversees the Department of Public Utilities created by the Article 87 reorganization. I have been hearing from Wall Street that there is a need for stability in regulated industries, and I think it is unwise to revisit the structure of the regulatory and adjudicatory agencies at this time.

In all these matters, Mr. Chairman, my staff and I stand ready to help as you work on this bill in Committee. In closing, let me return to my thanks to the Speaker for his leaderhip on energy. I think this will be a year of tremendous opportunity for all of us in the Commonwealth to put our state on a new path toward a clean energy future. Thank you again for having me here today.

TOWN OF TRURO

P.O. Box 2030, Truro MA 02666
Tel: (508) 349-7004 Fax: (508) 349-5505

April 13, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications
Utilities and Energy
State House, Room 413D
Boston, Ma 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

Re: House Bill #3965 The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Truro supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Truro has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Truro, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Very truly yours,

Alfred Gaechter

Alfred Gaechter, Chair
Truro Board of Selectmen

OFFICE OF THE SELECTMEN

PHONE (508) 430-7513
FAX (508) 432-5039

732 MAIN STREET, HARWICH, MA 02645

April 10, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Harwich supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Harwich has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Harwich, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely yours,

Robin D. Wilkins
Chairman, Board of Selectman
Town of Harwich

cc: Margaret Downey, Cape Light Compact Administrator

TOWN OF EASTHAM

2500 State Highway, Eastham, MA 02642-2544
All departments 508 240-5900 *Fax* 508 240-1291
www.eastham-ma.gov

April 4, 2007

Representative Brian S. Dempsey, House Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 473 B
Boston, MA. 02133-1053

Dear Representative Dempsey,

RE: House Bill #3965 – The Green Communities Act of 2007

The Board of Selectmen of Eastham are writing to inform you that the Town and its Selectmen supports the Cape Light Compact's letter dated April 2, 2007 addressed to you and Senator Michael W. Morrissey, the subject of which is House Speaker DiMasi's *Green Communities Act of 2007.*

Since the Cape Light Compact's formation, just ten years ago, the Town of Eastham has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, its residents and businesses.

Further, we believe that all of the monies collected from the ratepayers' electric bills on Cape Cod for Conservation, Energy Efficiency, and Renewable Energy should remain on Cape Cod, administered by the Cape Light Compact.

On behalf of the Town of Eastham, we are urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Thank you for your consideration.

The Town of Eastham
By its Board of Selectmen

Linda Burt, Chair

Kenelm Collins, Vice Chair

Russell Sandblom, Clerk

Martin McDonald

David Schropfer

Cc: Margaret Downey, Cape Light Comapct Administrator

TOWN OF CHILMARK
CHILMARK, MASSACHUSETTS

TOWN OFFICES:
Beetlebung Corner
Post Office Box 119
Chilmark, MA 02535
508-645-2110 Fax

April 3, 2007

VIA FIRST CLASS MAIL

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Chilmark supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Chilmark has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Chilmark, we are urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely,

cc. Margaret Downey, Cape Light Compact Administrator

TOWN OF YARMOUTH

1146 ROUTE 28 SOUTH YARMOUTH MASSACHUSETTS 02664-4492
Telephone (508) 398-2231, Ext. 271, 270 — Fax (508) 398-2365

BOARD OF SELECTMEN

TOWN ADMINISTRATOR
Robert C. Lawton, Jr.

April 3, 2007

VIA FIRST CLASS MAIL

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Yarmouth supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Yarmouth has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Yarmouth, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely yours,

James K. Saben
Chairman, Board of Selectman
Town of Yarmouth

cc: Margaret Downey, Cape Light Compact Administrator

Town of Falmouth

OFFICE OF SELECTMEN & ADMINISTRATOR

59 TOWN HALL SQUARE, FALMOUTH, MASSACHUSETTS 02540
TELEPHONE (508) 495-7320
FAX (508) 457-2573

April 3, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Falmouth supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Falmouth has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Falmouth, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely yours,

Chairman, Board of Selectman
Town of Falmouth

cc: Margaret Downey, Cape Light Compact Administrator

BARNSTABLE COUNTY COMMISSIONERS

P.O. BOX 427
BARNSTABLE, MASSACHUSETTS
02630
(508) 375-6648
FAX (508) 362-4136

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April 4, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

We are writing in support of the comments of the Cape Light Compact (Compact) submitted on April 2, 2007, concerning House Bill #3965, *Green Communities Act of 2007*. Since the Compact's formation, just ten years ago, Barnstable County has served as the fiscal administrator for the Compact. The County Commissioners have observed first hand the substantial benefits from its programs, including local delivery of energy efficiency services for municipal facilities, residents and businesses. Working together, the towns and counties of have reinvested $26 million in energy efficiency services on Cape Cod and Martha's Vineyard. We urge you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely,

Lance Lambros
Chairman

Mary LeClair
Vice Chairman

William Doherty
Commissioner

cc: Margaret Downey, Cape Light Compact Administrator

Town of West Tisbury
Board of Selectmen
West Tisbury, MA 02575

April 4, 2007

VIA FIRST CLASS MAIL

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of West Tisbury supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of West Tisbury has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of West Tisbury I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely yours,

Chairman, Board of Selectman
Town of West Tisbury

cc: Margaret Downey, Cape Light Compact Administrator

Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

April 4, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 - The Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the Town of Provincetown supports the comments of the Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et al. *Green Communities Act of 2007* (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Provincetown has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Provincetown, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely yours,

Cheryl L. Andrews
Chairman

cc: Board of Selectmen
Town Manager Keith Bergman
Acting Assistant Town Manager Michelle Jarusiewicz
Cape Light Compact Administrator Margaret Downey
Provincetown Representatives to CLC Heather Wishik , Susan Donegan

INTEGRATED WASTE SERVICES ASSOCIATION

Testimony of Ted Michaels
President, Integrated Waste Services Association
Before the Massachusetts Joint Committee on Telecommunication, Utilities, and Energy
April 2, 2007

In support of amending House No. 3965 to clarify the renewable portfolio standard regulation to require a minimum threshold for the purchase of existing renewable power.

Good morning, Chairman Morrissey, Chairman Dempsey, and Members of the Committee. My name is Ted Michaels and I serve as President of the Integrated Waste Services Association (IWSA). IWSA represents the waste-to-energy industry and the municipalities that rely upon our facilities for safe, effective trash disposal and the generation of clean, renewable energy. IWSA members with facilities in Massachusetts include Covanta Energy Group, Wheelabrator Technologies, and Energy Answers Corporation. These companies own or operate the seven waste-to-energy facilities in Massachusetts today, serving over 130 cities and towns and generating 260 megawatts of electricity from the disposal of nearly 10,000 tons of trash per day.

On behalf of the IWSA and its members, I recommend amending House bill 3965 to fully implement the intent of the 1997 Electric Utility Restructuring Act that created a renewable portfolio standard (RPS) to promote renewable sources of energy. The statute specifically included existing renewables such as waste-to-energy and made them eligible to sell renewable energy credits. Unfortunately, subsequent regulations promulgated by the Division of Energy Resources (DOER) to implement the RPS failed to follow the legislative intent, despite the recommendation of DOER's consultant who advised them that the Legislature intended to build upon and protect the Commonwealth's existing base of renewable resources.

This proposed amendment includes two critical components. First, it ensures that the Massachusetts RPS is more robust by requiring (again) that utilities provide a portion of their electric sales from existing renewable energy sources, such as waste-to-energy. Second, it requires waste-to-energy facilities to share with its municipal partners the revenues generated by sales of renewable energy credits under the Commonwealth's RPS. Enactment of this amendment would provide much needed stability to the Commonwealth's seven waste-to-energy facilities, while at the same time providing much needed financial assistance to communities whose resources are only becoming more limited.

Waste-to-energy is an enormously important resource in Massachusetts. Massachusetts already exports almost two million tons of trash each year because of a lack of in-state disposal capacity. Landfill expansions and siting new landfills continue to encounter opposition, making the continued operation of safe, clean and reliable waste-to-energy facilities a critical part of the Commonwealth's solid waste infrastructure. Rather than jeopardize the stability of these important facilities, the legislation under consideration would ease the financial burden associated with our communities' disposal costs.

In summary, I urge you to support the amending House bill 3965 to protect existing renewable energy sources, fully implement the Electric Utility Restructuring Act, prevent further loss of needed trash disposal capacity, and reduce trash disposal costs for more than 130 Massachusetts cities and towns through sharing in the revenue from the sale of renewable energy credits. Thank you.

The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

FRANK I. SMIZIK
15TH NORFOLK DISTRICT
ROOM 473F, STATE HOUSE
TEL. (617) 722-2210
FAX (617) 722-2239

CHAIRMAN
Committee on:
Environment, Natural Resources and Agriculture

Testimony of Representative Frank I. Smizik
Before the Committee on Telecommunications, Utilities and Energy
In Support of House Bill H3965
An Act Relative to the Green Communities Act of 2007

April 10, 2007

Energy consumption and fossil fuel dependency are massive problems for the entire country. H3965 is an enormous step forward taken by Speaker DiMasi, Chairman Demsey and Chairman Bosley. The Commonwealth must comprehensively address the issues and create a strategic plan that includes the development of renewables, conservation incentives and the establishment of education programs that produce industry leaders for the future.

Restructuring of Executive Offices

H3965 calls for the restructuring of the Executive Office of Environment and Energy. The legislature recently passed the Administration's Article 87 Reorganization. However, the creation of a department of alternative and renewable energy development under an undersecretary for alternative and renewable energy development is a focus which Article 87 lacked. The Commonwealth can and should become a leader in inventing, producing and marketing renewable energy. This department could help move alternative and renewable energy from ideas to the marketplace. This transition has been lacking in past administrations.

Regional Greenhouse Gas Initiative (RGGI)

In January, Governor Patrick signed the Regional Greenhouse Gas Initiative (RGGI) MOU. The nine state agreement is an amazing opportunity for Massachusetts to curb its greenhouse gas emissions and simultaneously fund energy efficiency and conservation programs. Treating the production of energy as a regional problem requiring a regional strategy is a new and unique way of examining energy issues in the Commonwealth. The legislature should assist DEP in implementing RGGI and look for opportunities to address energy consumption through being a part of RGGI. Additionally, everything in the proposed energy bill should be in compliance with RGGI and promote the goals of the agreement.

Clean Energy Trust Fund

The creation of a Clean Energy Trust Fund could prove to be problematic in two distinct areas. First, the Clean Energy Trust Fund will receive money from the Systems Benefit Charges (SBC). Currently, money from the SBC is allocated to non-profits who have proven extremely successful in making homes in Massachusetts more energy efficient. The bill will in essence take away from

industries that have been operating successfully in Massachusetts over the past twenty years and introduce programs that are ill-defined and with no previous performance standards.

One of the goals of the Green Communities Act of 2007 should be in promoting Massachusetts businesses. If a shift is made in how the SBC's are distributed and to who they are distributed, then thousands of jobs will be lost and an important driver of economic development in the state will be destroyed.

Second, the Clean Energy Trust Fund will receive money from the allowances which will be sold through the Regional Greenhouse Gas Initiative (RGGI). Governor Patrick signed the RGGI Memorandum of Understanding (MOU) in February 2007. By signing the MOU Governor Patrick showed the region as well as the entire country that Massachusetts was going to be at the fore-front of curbing greenhouse gas emissions. All nine states which signed the MOU helped in drafting a model rule. The model rule specifies that all the funds recovered from the auction shall be used for "consumer benefit or strategic energy purposes", including the use of funds to promote energy efficiency, to directly mitigate electricity ratepayer impacts, to promote renewable or non-carbon emitting energy technologies, to stimulate or reward investment in the development of innovative carbon emission abatement technologies with significant carbon reduction potential. Because the MOU specifies the RGGI use funds collected from the auction, it may be problematic to use the money in a new fund that merges funds from various sources. Ratepayers in Massachusetts should directly see the benefits of RGGI. The allowances have been estimated to be brining in close to $20-$25million every auction cycle. This amount of money can and should be used strictly for consumer benefit or strategic energy purposes. To combine the monies with other sources and potentially be utilized not as directed by RGGI, would weaken the MOU signed by the Governor. The legislature should not impede the work that RGGI is striking to accomplish and should not use the monetary gains of the program for uses not in mandated in the MOU.

Renewable Energy Portfolio Standard (RPS)

Creating a renewable energy portfolio standard for all retail electricity suppliers selling electricity to end-use customers in the commonwealth is a forward thinking idea. The bill has two problems with what qualifies as renewable energy generating sources. First, is the inclusion of old hydroelectric generation units located in the commonwealth. By including old hydro plants into the renewable energy portfolio standard the portfolio standard has the potential to be completely overtaken by hydro. The portfolio standard is a method to increase technology and demand of renewable energy producers in the commonwealth. The portfolio standard will not work if all the credits can be utilized by investing in hydroelectric facilities. I would suggest grandfathering in existing hydros but not permit them to push out other more efficient renewable strategies.

Second, the renewable energy portfolio lists waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use. The legislation must make unwaveringly clear that this must not include construction and demolition material. Construction and demolition debris can be toxic, containing asbestos or wood with lead paint. When the materials are burned, the toxins from the materials are released into the environment. These toxics cause a wide-array of health and environmental problems. It is imperative to maintain the commonwealth's ban on the incineration of construction and demolition waste.

Third, the plan should not be prescriptive of what particular energies qualify, but it should set standards for eligibility. There are many strategies not mentioned that we should prioritize and include in the RPS.

Establishment of an Alternative Energy Portfolio Standard

The establishment of an alternative energy portfolio standard using alternative generation technologies operating in the state is an impressive way to encourage new non-fossil fuel technology in the commonwealth. However, instead of being technology specific, the legislation should focus on results, particularly environmental results. If a technology is proven to be cleaner and greener for the commonwealth, then it should be included in the alternative energy portfolio standard. Instead of listing specific technologies, the statute should allow the secretary or the department to create a list of what technologies can be included.

Green Buildings

The requirement of state agencies to build energy efficiency buildings is necessary for the state to be a leader in green technology and green building and should be included in this bill. State agencies should not only be required to be energy efficient when constructing new buildings, but also when renovating existing structures. Senator Resor and I filed a bill this session, An Act Relative to Sustainable Building in State Construction Projects (S1901). The bill was based on a report, produced by DCAM and EOEA. Including the bill in the energy plan would strengthen the Commonwealth's goal of decreasing energy consumption.

Educational Component

The businesses, technology and development from the energy sector have the potential to be the next bio-tech industry for the Commonwealth. To encourage the creation of jobs and businesses we must support education at the university level. The University of Massachusetts can become a leader, not only in the exploration of bio-diesel, but in the creation of a curriculum which encourages students to enter the energy sector, in developing a work force, and in finding solutions for our fossil fuel dependency.

Thank you for your consideration.

Frank I. Smizik, House Chair
Joint Committee on Environment

WORCESTER COMMUNITY ACTION COUNCIL, INC.

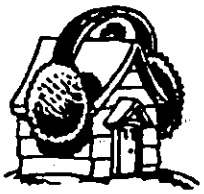
484 Main Street • Worcester, Massachusetts 01608

ENERGY PROGRAMS

Fuel Assistance

Weatherization

(508) 754-7281 • 1-800-545-4577



Testimony regarding House Bill No. 3965, An Act Relative to the Green Communities Act of 2007", filed by Speaker S. DiMasi and "An Act to Promote Electric Generation Via Renewable Resources" Senate Bill No. 1961 filed by Senator Morrissey

From: Peter Wingate Director of Energy Resources, Worcester Community Action Council, inc, vice-chair Massachusetts Energy Directors Association

Worcester Community Action Council is one of 22 agencies that provide energy services in Massachusetts through the LIHEAP and Weatherization Assistance Program (WAP) network. Collectively we serve approximately 175,000 low income households. These households can be found in each and every city and town in Massachusetts. In addition to the federal efficiency funds in WAP this network leverages $ 30 million annually from investor owned utility companies for additional efficiency services in these households. The federal WAP program is the backbone for the services and will provide service to approximately 2,800 homes during the 2006 program year we are just wrapping up.

This network of agencies providing services is staffed by highly trained energy auditors, certified by the state of Massachusetts, and we use the latest in tools and techniques to ensure high quality and effective efficiency programs. The work we do is completed by local contractors who have received training from the network on how to do the latest in efficiency techniques. Homes we work on for lower income residents are generally the least energy efficient homes in the state.

Homes we encounter typically have no insulation, antiquated heating systems, and out dated lighting and appliances. With the mix of federal funds and leveraged utility efficiency funding we are now able to identify and seal air leakage points and completely insulate the heated shell of the building. The tools and techniques we use have been adopted through an ongoing process of trainings and discussions with the United States Department of Energy, state technicians and program operators at the Massachusetts Department of Housing and Community Development, and with highly skilled and motivated representatives from the utility companies. We constantly scrutinize all work we do through a "best practices" committee which keeps us in touch with the latest advancements in efficiency. Homes receive thermal scanning and instrumented air sealing along with carbon monoxide testing both before and after completed work and combustion analysis of all greenhouse emitting appliances. When inefficient heating systems are encountered with low income home owners we replace them with Energy Star quality or equivalent systems using a combination of federal Home Energy Assistance Retrofit Taskforce Weatherization Assistance Program (HEARTWAP) funding and utility co-payment funds, and we install compact fluorescent lighting and replace high energy use refrigerators.

It may be easy to look at this network's accomplishments as good social service work for needy households. And indeed we do target residents who are elderly, have disabilities, and households with young children. However, the efficiency service we provide is complete and comprehensive. The energy savings are real. According to figures on the United States Department of Energy website (http://www.eere.energy.gov/weatherization) homes receiving weatherization services average a 31% reduction in heating energy use. Massachusetts is a leader in the country on the use of pooling federal and utility funding to extend these savings.

Also according to the Department of Energy State Energy Advisory Board, Resolution 06-01; Weatherization decreases .475 metric tons of carbon monoxide per home served for those who

WORCESTER COMMUNITY ACTION COUNCIL, INC.

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ENERGY PROGRAMS

Fuel Assistance Weatherization

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heat with electricity and .23 metric tons of carbon monoxide for homes heated with natural gas. Levels of methane and nitrous oxide are also reduced for homes served. These savings are cumulative as the network continues to exceed unit allocation goals each year, and due to the pooling of resources, Massachusetts likely exceeds these national averages.

As a network we are committed to new technologies and find much to praise about efforts in these bills to promote efficiency and sustainable energy for Massachusetts. However, we must be sure to safeguard the existing structure where it now benefits our citizens and provides quality work and the desired savings, reduces fuel consumption and reduction in greenhouse gas emissions. Increased spending in other realms of efficiency should not be done on the backs of the neediest citizens especially when we are now saving oil, natural gas, and electricity each and every day.

This year at Worcester Community Action Council we still have 842 written requests for efficiency services through our federal and utility sponsored programs. This number excludes those we have already served, and reports from other agencies mirror this demand for efficiency services. As of this writing our federal program has been unexpectedly cut by 16%. This means that 35 fewer households in and around Worcester will receive WAP services. Across the state almost 500 fewer homes will receive these services. However, the structure of the federal program still exists and the current structured funding from utility companies will help fill this gap. Any cut in funding from utility companies to the low-income programs would be counter productive to what we need to do as a state, as a country, as a society. We are dedicated to finding new ways to save energy and reduce consumption. Through the existing network we have this structure in place.

If we continue to support the structure that funds low income efficiency these 842 homes in and around Worcester can be served. If funds from utility companies are cut as proposed in this legislation then most will not.

In short, the existing network of 22 agencies working with combined federal and utility efficiency funds is a leader, perhaps even a model, for saving energy, saving money, decreasing greenhouse gases, and avoiding dependence on foreign energy supplies. This network is dedicated toward efficiency and sustainability. We support new initiatives and new technologies. However, these new initiatives should not be at the expense of a system with a proven track record. We have a system and a network in place that is even now saving energy in homes throughout Massachusetts each and every day. I would encourage you to contact your local Community Action Agency and spend a part of a day visiting homes that are receiving efficiency services. You will see safer more efficient homes and households who benefit from having additional money to spend on other needs.

Respectfully submitted,
Peter Wingate
Director of Energy Resources

Town of Brewster

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OFFICE OF:
BOARD OF SELECTMEN
TOWN ADMINISTRATOR

April 9, 2007

Senator Michael W. Morrissey
Senate Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 413D
Boston, MA 02133-1053

Representative Brian S. Dempsey
House Chairman
Joint Committee on Telecommunications,
Utilities and Energy
State House, Room 473B
Boston, MA 02133-1053

RE: House Bill #3965 – the Green Communities of 2007

Dear Chairman Morrissey and Chairman Dempsey:

I am writing to inform you that the Board of Selectmen for the of Brewster support the comments of Cape Light Compact submitted on April 2, 2007, concerning House Speaker DiMasi et.al. Green Communities Act of 2007 (the "Act"). Since the Cape Light Compact's formation, just ten years ago, the Town of Brewster has experienced substantial benefits from its programs, including local delivery of energy efficiency services for town facilities, and its residents and businesses. On behalf of the Town of Brewster, I am urging you to ensure that the final Massachusetts energy law preserve and enhance the rights of municipal aggregators for the continued good of our community.

Sincerely,

Dyanne F. Cooney, Chairman

Edward S. Lewis, Vice Chair

James W. Foley

Peter G. Norton

James R. Ehrhart, Clerk

Brewster Board of Selectmen

POST-HEARING COMMENTS OF CAPE WIND, LLC ON GREEN COMMUNITIES ACT OF 2007 April 9, 2007

I. Introduction

Cape Wind Associates, LLC ("CWA") hereby submits its written comments on the Green Communities Act of 2007 (the "Act"). CWA's affiliate, EMI, is a Boston-based energy company that has been one of New England's leading independent developers and operators of electrical generation projects. EMI developed a substantial portion of the region's natural gas-fired combined cycle generation facilities and is now developing the Cape Wind project, which will be the nation's first offshore wind facility and would generate up to 420MW of clean and renewable energy. Accordingly, CWA is particularly well suited to offer comments as to capital market requirements for the financing of new generation infrastructure and as to facilities siting issues. CWA commends the Speaker, members of the Legislature and staff for the comprehensive manner in which the proposed Act was drafted, and offers the following policy suggestions for consideration.

II. The Committee Should Consider the Requirement of Long-Term Renewable Purchases by Electric Utility Distribution Companies.

As we testified at the public hearing, CWA suggests that Section 21 of the Act should include provisions for long-term renewable contracts as a part of each electric utility distribution company's portfolio for procuring its required percentage of Renewable Energy Generating Resources. Such inclusion of long-term renewable procurement provisions is entirely consistent with the views of a growing body of governmental and public advocacy entities, which recognize that the RPS objectives are less likely to be met without long-term renewable procurement that corresponds to the typical financing term of new renewable

facilities. In this regard, the Massachusetts Renewable Energy Trust recently issued the following policy statement regarding the need for long-term renewable contracts:

> Without such [long-term renewable purchase] agreements, developers are unable to secure project financing because lenders and equity investors are not willing to assume a substantial amount of REC or energy market price risk on a long-term basis.
>
> ***
>
> Furthermore, investors require that the long-term revenue contracts be "bankable," i.e., long-term contracts with investment-grade entities that cover market price risk. This is true even for projects that are equity financed by the developer, so that the developer can project finance the project or sell it at a later date. Without such contracts, it is very difficult to secure investors for renewable projects in New England. Unfortunately, there are a limited number of creditworthy entities in the region that are active market participants and very few are willing to assume market price risk by entering into long-term contracts, especially for RECs.
>
> The lack of bankable long-term contracts for renewable developers is due in part to the absence of creditworthy entities that are willing or able to participate in long-term purchase agreements, particularly in the REC market.

"Long-Term Revenue Support to Help Developers Secure Project Financing," presented by Karolyn Cory of MTC at Global Wind Power 2004 Conference. Similar comments were raised by the region's leading public interest advocacy groups (i.e., The Union of Concerned Scientists, Massachusetts Public Interest Research Group, Massachusetts Energy Consumers Alliance, Clean Water Action, and the Conservation Law Foundation) in Massachusetts DTE Docket 04-115, which requested that the MDTE support fulfillment of the legislative mandate of the Massachusetts RPS through longer-term renewable procurement practices:

> In particular, the failure of state government in general and the Department in particular to foster development of renewable resources through its policies has been part of the cycle of failure. The Department must recognize that long-term contracts are needed for new renewable generation sources to be built. In our recommendations included here and in our initial comments, we call on the Department to address the failures of the current defaults through procurement practices to deliver renewable energy and energy efficiency results that consumers require and deserve, and in so doing, change the cause of failure to become part of the solution.

Group Comments, at 4. A similar policy position was also taken in by the United States Department of Energy and the Massachusetts Technology Collaborative in the Framework for Off-Shore Wind Energy Development in the United States released in September of 2005, which was based upon input from more than 60 experts contributing via interviews and workshops. Such Framework recognized the benefits of renewable energy and included the following specific strategy item for increasing long-term renewable energy contracts:

> **Strategy 3-3 Increase Availability of Long-Term Power Purchase Agreements**
>
> ***Near Term*:**
> - Identify barriers to long-term power purchase agreements.
>
> ***Medium to Long Term*:**
> - Work on a collaborative basis to address barriers.
> - Investigate role of government directly purchasing energy from offshore wind.
> - Investigate positive linkages with state Renewable Portfolio Standard programs, long-term Renewable Energy Credit programs, and others.

Framework Document, at 21. The Massachusetts Climate Protection Plan also includes the following and substantially similar policy provision: "DOER will work with the [Renewable Energy] Trust and others to develop financing strategies for renewable energy projects through long-term contracts and other mechanisms required by the investment community." Id. at 31.

Similarly, ISO New England CEO Gordon Van Welie issued a policy statement at the ISO New England Regional Energy Forum of October 16, 2005, which recognized that exclusively short-term default service contracts are inconsistent with the financing term of new generation projects:

> The length of time that default service is offered poses potential problems, since it does not encourage long-term contracting and investment on the part of those suppliers serving retail load. Region-wide, contracts between distribution companies and suppliers to supply default service are as short as three months and few exceed a year.
>
> These short-term deals act as barriers to financing new generators and demand response. They also create uncertainty over how long wholesale

> suppliers will be serving the amount of load designated in the contract. Thus, they are unlikely to invest in supply or demand response programs that have a multi-year payback period.

Id. at 6. Thus, the addition of requirements of long-term renewable procurement would be consistent with a growing consensus in the regulatory and public advocacy community.

Such longer-term renewable purchase agreements are also not inconsistent with the economic theory of deregulation. As noted above, recent public policy clarifications confirm that there can be no presumption that necessary generation investments will occur absent such long-term renewable procurement. Similarly, Professor William Hogan in his leading deregulation treatise, Competitive Electricity Market Design: A Wholesale Primer (1998), indicated that post-restructuring generation investment would be expected to occur only when long-term procurement contracts are in place, and that spot markets alone would not be presumed to provide sufficient incentive for the desired investment in generation:

> If the generator or customer wants price certainty, then new generation contracts can be struck between a willing buyer and a willing seller. The complexity and reach of these contracts would be limited only by the needs of the market. Typically we expect a new generator to look for a customer who wants a price hedge, and for the generators to defer investing in new plant until sufficient long-term contracts with customers can be arranged to cover a sufficient portion of the requirement investment. The generation contracts could be with one or more customers and might involve a mix of fixed charges coupled with the obligations to compensate for price differences relative to the spot-market price.

Id. at 20 (emphasis added). It was thus acknowledged from the outset that the desired level of investment in new generation could not be presumed to occur in the absence of long-term procurement contracts. It is also incorrect to suggest that long-term renewable procurement by electric distribution companies would result in an adverse impact upon the workings of the competitive markets; it is noteworthy in this regard that the states with the most successful RPS

programs (Texas and California, for example) have both long-term renewable purchase arrangements and robust retail markets.

III. Streamlined Authority of the EFSB.

We would also suggest that the Committee consider amending the Act to enhance and streamline the authority of the Energy Facility Siting Board to be a one-stop permitting agency for jurisdictional projects. We believe that a final order of the EFSB approving a petition for a jurisdictional energy facility, after an adjudicatory public proceeding with a complete evidentiary record, should be the sole approval required under state or local law, as is the case under the Rhode Island Energy Facility Siting Act, R.I.G.L. c. 42-98. In contrast, under Massachusetts law, upon issuance of an affirmative final order of the EFSB, the petitioner must then proceed to seek additional licenses and approvals from various other state and local agency, a process that could add years to the process. Although the ESFB would ultimately have override authority, we would suggest that the process be consolidated and expedited by resolving all state and local approval issues into a single proceeding that affords a timely and comprehensive review.

IV. Maintaining Stability of RPS Investment Signals.

We would also make a further suggestion aimed at avoiding unintended destabilization and uncertainty in the RPS credit markets, a result that could discourage the long-term capital investment necessary to meet the Commonwealth's renewable energy goals. We note that concerns have been raised as to the possible market effects of expanding RPS eligibility to include items such as construction debris and stoker projects, alternatives which do not seem consistent with the original objectives of promoting new and clean technologies. In the event, however, that the General Court sees fit to expand RPS eligibility to include such items, we would suggest adding an adjustment provision to effect a corresponding increase (i.e., an amount

not less than that of the additional eligibility) to the overall RPS requirements, similar to the approach of the Draft Act at Section 21, pages 78-79, reflecting the increased volumes associated with newly-eligible hydro projects. This would seem a judicious approach that balances the goal of expanded eligibility with the goal of sending stable market signals to the capital markets regarding investment in renewable technologies in the Commonwealth.

Respectfully submitted,

CAPE WIND, LLC

By: _____

Its: VP

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Joint Testimony of the
Alliance to Save Energy
and
American Council for an Energy Efficient Economy

Regarding House Bill No. 3965
The Green Communities Act of 2007

Massachusetts Telecommunications
Utilities and Energy Committee
April 2, 2007

Summary

The Alliance to Save Energy and the American Council for an Energy-Efficient Economy urge the Committee not to advance Bill 3965, because it would dismantle one of the nation's most effective infrastructure systems for administering energy efficiency programs. While we support the objectives of increasing funding for green community initiatives, this should not be accomplished by destroying the core infrastructure that is delivering energy efficiency to Massachusetts consumers and businesses today. This efficiency program infrastructure is needed now more than ever to meet the Commonwealth's energy and environmental challenges.

Massachusetts utilities are delivering energy efficiency programs today in a very effective and cost-effective fashion. Because they serve the entire state, they are best positioned to provide the essential "infrastructure" for efficiency programs, just as they are franchised to provide the infrastructure that delivers electricity and natural gas service to all customers. The state's utilities have received national recognition from ACEEE, the federal Energy Star® program, and other national organizations. Massachusetts' utility programs are recognized as among the most effective in the United States.

Community-based efficiency programs have an important place in a state energy policy framework. However, they cannot and should not seek to replace the essential infrastructure for delivering energy efficiency across all key markets. This can only be accomplished by utilities or other statewide entities. Over more than twenty years of implementation experience, it has been shown that to be effective, efficiency programs must be designed to reach all major markets, at the right level of aggregation. Utilities in Massachusetts have become expert at this. It would be a terrible setback to Massachusetts' electricity and gas customers, and to the state's larger goals for reducing air pollution and greenhouse gases, to dismantle this infrastructure.

experience lower total benefits, and serve fewer customers. The proposed bill could lead to Massachusetts utility customers paying higher energy bills, suffering deteriorated reliability, and worsened air quality.

Massachusetts' Utility Efficiency Programs Are Working Very Well

Massachusetts has long demonstrated a commitment to energy efficiency as a vital resource for all utility customers. The Commonwealth has also reaped many other benefits from greater levels of energy efficiency, including economic development, environmental improvement and increased electric system reliability. ACEEE regularly reports state energy efficiency activity; Massachusetts has consistently ranked among the top ten states in its funding for and energy savings from energy efficiency programs. Through 2004 ACEEE estimates that Massachusetts is saving over 6% of its total electricity sales (kilowatt-hours) as a result of its energy efficiency programs. Without these utility programs, energy bills would be that much higher, and electric reliability and air quality would be that much worse.

ACEEE also conducts national studies to recognize and profile the nation's "exemplary" energy efficiency programs. Massachusetts' utility-run programs appear more frequently in these exemplary programs than do those of most other states. What is especially important for the Committee's consideration is that these leading programs span the full range of customer classes---from low-income residential customers to large industrial and institutional customers, served by both electric and natural gas utilities. Not only are Massachusetts energy efficiency programs among the nation's finest, but the utilities and related stakeholders have been pioneers in leading up multi-state and broader regional efforts. This not only improves the performance and cost-effectiveness of programs in Massachusetts, but also helps reap broader regional benefits from improved energy efficiency.

To highlight leading examples, ACEEE has honored the following programs offered by utilities and other organizations in Massachusetts:

- **Northeast Residential ENERGY STAR® Appliances Initiative:** Northeast Program Sponsors, Northeast Energy Efficiency Partnerships, Inc.,and participants—which in Massachusetts include Cape Light Compact ,National Grid, USA—Massachusetts Electric and Nantucket Electric, NSTAR Electric, Northeast Utilities—Western Massachusetts Electric Company, and Unitil/Fitchburg Electric & Gas.

- **GasNetworks® High-Efficiency Heating Program**: GasNetworks®: a collaborative of Bay State Gas Company, Berkshire Gas Company, KeySpan Energy Delivery, New Gas Company, NSTAR Gas, and Unitil Fitchburg Gas and Electric Company.

- **Small Business Services Program**: National Grid

sectors. Since 1989, ninety-five percent of the large C&I customers have taken advantage of the system benefits programs.

Percentage of Customers Participating in Massachusetts System Benefits Programs by Sector

Customer Sector	Total Customers In 2001	Number of Participants in 2001	Percent Served in 2001	Cumulative Participation Since 1989
Low-Income	565,085	27,114	5	N/A
Residential	1,654,681	219,769	13	55
Small C&I	230,612	3,275	1	14
Medium C&I	45,425	1,704	4	24
Large C&I	5,416	829	15	95
Total/Average	**2,501,219**	**252,691**	**10**	**38**

Source: Massachusetts DOER: 2001 Energy Efficiency Activities, A Report by the Division of Energy Resources, An Annual Report to the Great and General Court on the Status Of Energy Efficiency Activities in Massachusetts, Summer 2003. Table 4.

As seen in the table below, although small and medium C&I customers were least represented amongst participants, they tended to save the highest percentage of their annual bills, 19% and 11% respectively.

2001 Average Bill Impacts From Energy Savings by Customer Sector

Customer Sector	Total Annual Bill Reductions for Participants	Avg. Annual Bill Savings per Participant	Avg. Annual Bill per Participant	Avg. Savings As a Percent of Avg. Annual Bill
Low-Income	$ 1,052,297	$39	$748	5
Residential	$ 8,145,750	$37	$901	4
Small C&I	$ 2,535,195	$774	$4,049	19
Medium C&I	$ 3,158,496	$1,854	$16,289	11
Large C&I	$ 13,875,175	$16,737	$332,517	5
Total/Average	**$28,766,914**	**$114**	**$2,117**	**5**

Source: Massachusetts DOER: 2001 Energy Efficiency Activities, A Report by the Division of Energy Resources, An Annual Report to the Great and General Court on the Status Of Energy Efficiency Activities in Massachusetts, Summer 2003. Table 5.

environmental challenges facing the Commonwealth, now is not the time to dismantle a vital and successful public goods infrastructure.

Environment Northeast (a nonprofit research organization focusing on the Northeast and Eastern Canada) has developed a detailed body of data highlighting the extraordinary benefits that energy efficiency programs in Massachusetts have delivered. A few of those benefits (based on 2005) are listed below:

- The Massachusetts utilities' programs invest approximately $125 million and result in nearly $500 million in customer savings.
- The energy efficiency programs deliver the savings at approximately 2.5 cents/kWh – far less than the cost for new supply of approximately 10 cents/kwh.
- The energy efficiency delivered through DSM programs results in a decrease in consumption of nearly 5 million MWh – the equivalent of reducing CO_2 emissions by 2.8 million tons.
- The current DSM energy efficiency programs will save Massachusetts consumers more than $5 billion over the next 10 years as well as creating many energy service jobs in the state.

These results demonstrate that the value of the utility energy efficiency programs are a key part of the Massachusetts economy. Detailed descriptions and results from these programs are found in Appendix 1.

Massachusetts Utility Programs From a National Perspective

The Committee would benefit by reviewing the proposed legislation from a national perspective. Natural gas prices have more than doubled during this decade, driving up electricity prices as well. Combined with recent oil price increases, American families and businesses are paying over $300 billion more each year. The president recognized energy security as a major issue in the State of the Union message. And with the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC), the world's scientists have just reaffirmed the urgent need to reduce global warming. These problems are not going to go away— electricity use in the United States is projected to grow by half by 2030. Without effective utility-sector efficiency commitments, such growth will lead to higher prices, weakened reliability, and a dangerously unstable climate.

Electricity and natural gas use in buildings is a major factor in these linked problems, and must be a major part of their solution. More than one-third of all energy used in the United States, and more than two-thirds of electricity, goes to heat and power buildings. Buildings account for some 40% of carbon emissions in the United States. Clearly, improving efficiency in buildings is one of the great challenges we face in coping with this century's energy and environmental challenges.

Great strides have been made in improving the efficiency of appliances, heating and cooling systems, equipment, and the building envelope (walls, windows, doors, and roofs).

a system peak load reduction of 994 MW. The program has also created over 3,700 new jobs, and has reduced carbon dioxide emissions equivalent to taking 135,000 cars off the road. The New York Energy $mart Program has the full support of the NY Public Service Commission and the Governor.

NYSERDA's strategy for driving the market for energy-efficient products is exemplified by its Keep Cool program for room air conditioners. The program offers a $75 bounty on the turn-in of a working older unit when combined with the purchase of an Energy Star® unit. In 2001, Energy Star® units represented 6% to 20% of the market in New York and commanded a premium price. Now, due to NYSERDA's Keep Cool Program, Energy Star® units represent 40% to 60% of the market and the price has dropped by an average of over $80 because of the volumes which are being manufactured, stocked and purchased, eliminating the price premium. This year, over 160,000 units have been retired early in New York, resulting in an estimated peak demand savings of nearly 50 megawatts. This program was initiated in 2000 and operates annually from May through September.

b. The **California Energy Commission** (CEC) is fully supporting an energy policy emphasis that includes DSM programs as a major portion of the resource mix for investor-owned electric utilities in California. The Chairman of the CEC made increased reliance on DSM programs a key portion of his January 15, 2004 address to the State's legislature. DSM programs are designed and implemented by the State's investor-owned utilities, with oversight from the CEC and the California Public Utilities Commission.

Californians have maintained a strong commitment to energy conservation and energy efficiency following the state's recent energy crisis in the summer of 2001. New data from the California Energy Commission show that instead of slipping back into old habits in 2002, Californians sustained much of the conservation seen during the 2001 power crisis, even accounting for the dampening effect of a slower economy. Thanks to these efforts, California residents and businesses have demonstrated some of the best possible ways to protect the economy and the environment.

The first six months of demand reductions in 2001, for example, saved Californians an estimated $660 million in spot market electricity purchases and helped avoid up to $20 billion in projected costs of summertime rolling blackouts. The conservation in California in 2001 and 2002 reduced pollution emissions by nearly 8 million tons of carbon dioxide and 2,700 tons of smog-forming nitrogen oxides relative to 2000. The carbon pollution savings are equivalent to taking 1.5 million passenger vehicles (one-third of Bay Area vehicles) off the road for an entire year.

Even more promising for California's continued economic and environmental health, Californians locked in about one-quarter of the demand reductions

Set rates to incentivize utilities and customers. Typically utilities earn more by selling more energy. It is important to "decouple" utility revenues from sales, or to provide utilities with performance incentives for effective energy-efficiency programs, in order to align utility benefits with customer benefits. For example, Northwest Natural, a natural gas utility in Oregon, has a "conservation tariff" that helps it promote energy savings rather than sales.

Carefully evaluate energy-efficiency programs, with measurement and verification of energy savings and appropriate cost-effectiveness tests, so all stakeholders can rely on the energy savings. For example, in Texas savings estimates used to meet the state peak load reduction requirements are verified by a contractor to the Public Utility Commission of Texas.

These policies are typically set at a state level, by public utility commissions or sometimes by state legislatures. However, as there are compelling national interests that cannot easily be addressed by individual states, federal action is needed. While most individual states are not large enough to affect the shortage of natural gas that has driven up prices, concerted federal action could have an impact. In addition, the grid failures that blackened much of the Midwest and Northeast in 2003 showed that reliability issues are not confined within state lines.

As a focus for federal policy, the energy efficiency resource has several advantages:

- It is readily available in all parts of the nation,
- It is available for direct natural gas use as well as for electricity,
- It is cost-effective today, and
- The potential savings are enormous.

Several states are already developing innovative policies to set performance standards for utility energy-efficiency programs alongside standards for generation from renewable sources. These policies are known generically as **Energy Efficiency Resource Standards (EERS).**

Like a renewable portfolio standard (RPS), an EERS is a flexible, performance-based regulatory mechanism to promote use of cost-effective energy efficiency as an energy resource. An EERS requires utilities to implement energy-efficiency programs sufficient to save a specified amount of electricity or natural gas, often expressed as a percentage of total sales. Note that an EERS is not a requirement that the utility's sales decrease in absolute terms or a limit on its sales at all; it is simply a performance requirement for the utility's energy-efficiency programs.

An EERS gives utilities broad flexibility about how and where to achieve the energy savings. Utilities can meet an EERS through the kinds of effective demand reduction programs that have been conducted in many states for years. They can implement their own programs, hire energy service companies or other contractors, or pay other utilities to

Conclusion

The Alliance and ACEEE urge the Committee not to advance Bill 3965. This bill would dismantle critical infrastructure, which in our judgment will be more essential than ever in coming years as Massachusetts grapples with the largest energy and environmental challenges it has ever faced. Just as one would not disband a police force in the face of a rising crime wave, the legislature should not destroy the very successful system that Massachusetts utilities have put in place over the last 20 years.

Evaluations within the state and awards from national organizations have shown Massachusetts utility efficiency programs to be among the best in the nation. While community-based programs can be a helpful complement, they should not seek to replace utility-system-wide programs. System-wide program infrastructure is needed to reach all key markets and serve all customers. The utilities' programs make energy efficiency delivery very cost-effective as well as successful in total impact.

Across Massachusetts and across the nation, concern about the linked issues of energy prices, energy security, and global warming has grown to epic proportions. These problems call on public officials to increase public commitments to energy efficiency as the "first fuel" in the race for clean and secure energy. Some of these commitments are best met at the national level. At the state level, however, experience has shown that utility-system-wide efficiency programs are the most effective way to tap the enormous energy efficiency resources in our commercial and residential buildings.

Given all these considerations, now is not the time to abandon the highly effective energy efficiency programs that Massachusetts utilities have built. Keeping the utility program infrastructure strong is a prerequisite to meeting the Commonwealth's energy and environmental challenges. The Alliance and ACEEE urge you to build on, not destroy, these programs as the best way to build a sustainable energy future for Massachusetts.

BSA
Boston Society of Architects
A Chapter of The American Institute of Architects

Hubert Murray AIA, RIBA
President

April 2, 2007

The Honorable Michael Morrisey and Brian Dempsey
Joint Committee on Telecommunications, Utilities and Energy
State House, Room 413D and 473B
Boston MA 02133

Re: House Bill 3965 – Relative to the Green Communities Act of 2007

Dear Senator Morrisey and Representative Dempsey:

On behalf of the Boston Society of Architects I am writing to express our profession's strong support for the inclusion of a provision within the Green Communities Act of 2007 establishing a green building income and excise tax credit. The intention of this bill is to promote higher environmental standards for the construction, rehabilitation and maintenance of buildings in this state; to improve energy efficiency and increase generation of energy through renewable and clean energy technologies; to increase the demand for environmentally preferable building materials, finishes, and furnishings; to improve the environment by decreasing the discharge of pollutants from buildings; and to create industry and public awareness of new technologies that can improve the quality of life for building occupants.

The Challenge

Buildings are the largest source of energy consumption and greenhouse gas emissions in America and around the world. Buildings account for as much as 68 percent of electricity consumption and 48 percent of all greenhouse gas emissions, compared with 22% from vehicles.

Furthermore, according to the National Institute of Building Sciences' Whole Building Design Guide, buildings generate 35 percent of the carbon dioxide (the primary greenhouse gas associated with climate change), 49 percent of the sulfur dioxide, and 25 percent of the nitrogen oxide found in the air.

The U.S. Council of Mayors' 2030 Challenge calls for an immediate 50-percent fossil-fuel greenhouse-gas-emission reduction (using the national average as a baseline) for all new and renovated buildings, while setting benchmarks and timelines for increasing the reduction standard for new buildings to carbon-neutral by 2030.

The International Building Codes (applicable throughout much of the U.S. but not yet in Massachusetts) are also changing with the new American National Standards Institute's (ANSI) Climate Neutral Building Standard. This new standard calls for 60% of the US Building stock to be net zero energy within 5 to 10 years.

While these targets seem ambitious and a difficult challenge, which they are, a Green Building Tax Credit is an excellent vehicle to induce change and reach these goals.

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Experience in Other States
Other States that have adopted a Green Building Tax Credit are New York (1999), New Mexico (2007), Maryland (2002), and Oregon (2003), with others such as California, Rhode Island, Pennsylvania and Hawaii following suit.

By implementing a tax credit, the above states have experienced a smoother transition to energy efficiency through the introduction of new products or systems, which has in turn attracted advanced energy companies to the states, resulting in job growth.

Costs
There is an initial premium over 'normal' construction costs ranging from 2% to 10% on initial capital expenditures for building green. These numbers are rapidly decreasing with the evolution of industry knowledge due to various states implementing Tax Credits and similar Legislation, as well as the United States Green Building Council's LEED framework. For example, the additional costs of building green in Seattle has dropped from 3-4% several years ago to 1-2% today. Notwithstanding, these numbers need to be compared to the average 30% savings in life cycle costs of the building due to "building green".

According to a study conducted by Gregory H. Kats, for the consulting firm Capital E, which compared the cost of 33 green buildings from across the United States to the conventional design costs for those same buildings, the average increase in capital cost for building green is less than 2%, or $3-5/sq. ft. Most of this cost is associated with integrating green technologies or methods. This cost goes down the earlier the green building features are introduced into the design. The study also found that financial benefits associated with energy, emissions, water, operations, and health savings over a 20-year time period, totaled $50-$65 per square foot, or a 20% savings.

By concentrating environmentally responsible efforts on the initial 2% of a building project's life cycle cost, the construction cost, systems and products place result in the best building possible in terms of comfort, health and low-to-net-zero carbon emissions. Also, operating and maintenance costs, as well as occupancy costs in terms of absenteeism, will be dramatically decreased.

These savings, in turn, increase the building's worth by 30% to 60% and result in much higher employee performance and well-being.

Public Opinion
In order to gauge public opinion, the American Institute of Architects commissioned the Tarrance Group and Lake Research Partners to conduct a survey of registered voters nationwide. Responses to this survey were gathered January 3–5, 2006. The bipartisan survey found that voters across the nation are uneasy about energy issues and their economic, environmental, and national security implications. High

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levels of public concern extend to matters of the built environment, including issues that directly affect architects. Here are some key findings:

- 90 percent believe the "people who design and build houses and commercial buildings should try to convince property owners to use construction materials that protect the environment and building standards that reduce energy consumption *even if it costs a little more to do so*."
- 84 percent expressed support for new tax breaks "to encourage the design and construction of buildings that *significantly reduce pollution and energy consumption.*"
- 74 percent say that "government should *take the lead* in promoting real estate development that conserves our natural resources such as oil, gas, and electricity."
- 68 percent agree with the statement that "federal and state governments should put *a little less money* into building new highways and *a little more money* into building mass transit systems so people don't have to use their cars so much."
- 90 percent said "yes" to whether they would be willing to pay an additional $4,000 or $5,000 for a house that would use less energy and protect the environment. Of the 90 percent saying "yes" to this question, 72 percent said "strongly yes," indicating great intensity on the issue. Furthermore, of the 9 percent who answered the initial question "no," more than two-thirds of those switched their answers from "no" to "yes" when they were asked whether they would be willing to pay more for housing that uses less energy and protects the environment if they could get the upfront costs back through lower electric and gas bills over the next 7 or 8 years.
- 71 percent of voters agree that "global warming is already having an effect on weather, and government should immediately put into effect new energy policies that *dramatically reduce* greenhouse gas emissions that may be causing such climate change."

Benefits to Massachusetts

The Commonwealth, in common with the rest of the United States, is in a transition period in which new standards are being imposed in construction and other industries to combat the phenomenon of climate change. While the social and environmental benefits of making this transition are now broadly accepted, the means of implementing these changes is constrained by the very competitive construction market. Until these new standards become the norm, the marginal additional cost of implementing these higher standards will remain a disincentive for private sector investment in construction.

The benefits of providing tax credits for green technology in construction (against proven, measurable standards) are general to the country as a whole with two particular aspects specific to the Commonwealth:

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Massachusetts not only has a significant coastline, it also has some of the most valuable real estate in the country on that coastline. Investing in green technologies through tax credits serves to preserve and enhance the overall quality of the state's towns and cities, as well as the valuable land most at risk from significant climatic change.

Massachusetts has the greatest concentration of research universities anywhere in the nation. While a tax incentive for green technology in construction serves the primary purpose of getting green buildings built there it is also a crucial secondary purpose in building up a local body of research and expertise that will in a short time prove to be invaluable as the foundation for what is already a growth industry throughout the country and the rest of the world. Massachusetts needs to attain preeminence in this field.

We are greatly appreciative of your leadership in this matter and are ready to assist you in this endeavor as you see fit. A number of our members are recognized national experts in the field of green building and energy systems. We should be more than happy to answer any questions you may have, to undertake further research on your behalf and to testify during at hearings if you feel this would be useful. We can be reached through Andrew Baldwin of the Boston Society of Architects at 617-951-1433 x 242 / abaldwin@architects.org.

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Committees:
Environment, Natural Resources and Agriculture
Mental Health and Substance Abuse
State Administration and Regulatory Oversight

TO: Committee on Telecommunications, Utilities, and Energy

FROM: Representative William N. Brownsberger

RE: House Bill 3965, An Act relative to the Green Communities Act of 2007

DATE: April 2, 2007

I am writing to commend the sponsors of House Bill 3965, An Act relative to the Green Communities Act of 2007, for taking an important step forward in improving energy policy in the Commonwealth. In particular, I support the notion of the "energy efficiency and green communities program" as described in SECTION 12, line 341 (page 17) of H3965, which will enable municipalities to receive financial assistance to engage in approved energy efficiency activities. A large number of Massachusetts municipalities "acting locally" can collectively achieve a significant savings of energy. Therefore, it is important that all municipalities have the option of participating.

The Town of Belmont in my district is served by a municipal lighting plant. SECTION 12, lines 437-440 (page 20) of H3965 states that municipalities served by municipal lighting plants are ineligible to participate in the energy efficiency and green communities program. Such municipalities are also not required to pay a charge on their electricity usage into certain funds established by H3965. As Mayhew Seavey of PLM Electric Power Engineering, Belmont resident and consultant to many Massachusetts municipal lighting plants, suggests, such communities may welcome the opportunity to voluntarily "opt-in" to the program. It would be desirable for such municipalities to have the option of voluntarily making the contributions required by SECTION 12, lines 807-854 (page 29-31) in H3965 to the Massachusetts Clean Energy Trust Fund and the Massachusetts Renewable Energy Trust Fund in order to become eligible to be designated "green communities."

As Mayhew Seavey points out, "There is an issue of equity in this as well, since customers in most of the communities served by municipal lighting plants will already be making payments into the fund through their natural gas bills but would not otherwise be eligible to receive the benefits of the green community designation." The requirement for

certain charges on natural gas usage to be paid into the Massachusetts Clean Energy Trust Fund and the Massachusetts Renewable Energy Trust Fund appears in SECTION 12 lines 821-830 (page 30) and lines 845-854 (pages 30-31) of H3965.

A separate concern has been brought to my attention by Tim Richardson, Manager/CEO of the Belmont Municipal Light Department. SECTION 267 (pages 150-151) of H3965 states that gas and electricity providers must replace all gas and electricity meters within seven years of their installation with approved advanced meters that track energy usage hour-by-hour. As Tim Richardson explains, "This broad brush approach will force utilities to replace meters well before their expected service life and does not address how alternative time of use strategies can be implemented." I urge the Committee to consider ways in which this requirement might be modified to prevent incurring insupportable costs to gas and electricity providers.

House Bill 3965 shows the commitment of Massachusetts leaders to protect our environment for future generations. I strongly support these efforts and look forward to future discussions on details of how this initiative can best enable municipalities to improve energy efficiency and promote renewable energy sources.

Testimony of Kevin Conroy
Chief, Business and Labor Bureau
Office of the Attorney General
Green Communities Act
April 2, 2007

Good Morning Chairman Dempsey, Chairman Morrissey and members of the Joint Committee on Telecommunications, Utilities and Energy. I am Kevin Conroy, Chief of the Business and Labor Bureau of the Attorney General's Office. On behalf of Attorney General Coakley, I thank the Committee for the opportunity to provide testimony on HB 3965, the Green Communities Act of 2007. Joining me today is Jed Nosal, Chief of the Energy and Telecommunications Division within the Attorney General's Office.

Speaker DiMasi has crafted a comprehensive bill and provided vision and leadership on an issue that will impact the welfare of our citizens and the economic stability and growth of our state. Attorney General Coakley recognizes that the Commonwealth is at a critical juncture in ensuring our citizens and businesses have access to reliable, efficient, affordable and clean energy. The Commonwealth must pursue long-term energy policies that include alternative energy resource development, conservation, efficiency as well as the enhancement and improvement of our existing energy infrastructure and regulatory environment.

The Green Communities Bill contains many provisions that address our energy challenges. Today, we would like to focus on five particular aspects of the bill that we support:

First, the Attorney General supports the restrictions on ex-parte communications contained in the bill. It is important that government officials and parties have clear guidance regarding communications with the new Department of Public Utilities during an open proceeding. Prohibitions against ex-parte communications can dispel appearances of unfair influence and add integrity to the regulatory process. The bill contains very detailed restrictions and disclosure requirements regarding communications between any executive office decisional employee and any party or non-party. These provisions represent a needed reform to level the playing field for advocates before the new DPU. However, the bill inserts certain policymakers as Commissioners of the DPU that may make the ex-parte communication prohibitions difficult to enforce. We urge the legislature to carefully consider this new framework.

Second, the Green Communities Act provides advocates and parties to proceedings before regulators with the ability to compel a timely ruling on a docket. The bill requires the new DPU to make a ruling when so requested by a party during the course of any contested proceeding. Failure to rule is

recorded as ruling adverse to the requesting party and may be appealed to the supreme judicial court. Such a requirement will result in judicious resolution of disputes and better docket management by regulators.

Third, the Attorney General strongly supports the sections of the bill addressing utility service quality. There are several provisions that support the efforts of the Attorney General to improve the service quality standards. The bill builds on existing service quality activities through expanding standards, introducing a service quality rating to be sent out to all customers, and increasing the maximum penalty from 2% of revenues to 5%. We also support enhancements that will improve utility service quality under the Commonwealth's dig-safe law, mandated natural gas leak survey and inspection requirements.

Fourth, the Green Communities Act addresses the critically important area of forecasting. The mandate to develop a statewide forecast of demand and supply for both electricity and natural gas serves to address the jurisdictional issue of who is responsible for resource adequacy–the states or FERC regulated Independent System Operators. Since the restructuring of the electricity industry in Massachusetts the state's electric utilities have not been required to file for DTE review and approval of demand and supply forecasts. The bill requires both short and long term resource adequacy

forecasts be developed by the secretary, and requires an annual report that includes a forecast of capacity excesses or deficiencies for the next 10 years. The report would also include data on spot electricity prices, an assessment of the competitiveness of the retail energy market, among other assessments of the performance of the regional market.

Fifth, the Green Communities Act requires the new DPU to immediately open a proceeding to design a competitive bidding process for the procurement of basic service. The Attorney General continues to be concerned about the pricing and procurement of Basic Service. For the vast majority of customers there are no meaningful alternatives to Basic Service. Prices are volatile and currently are the second highest in the 48 states for residential and small business customers and the highest for the industrial sector, according to the federal Energy Information Agency's most recent data for the month of December 2006. Customers deserve a fresh review of the issues and the implementation of the best procurement strategy designed to provide the lowest and least volatile basic service rates.

While we support these and other measures in the bill, the proposal to transfer responsibility for ratepayer advocacy from the Attorney General's Office to an appointed Ratepayer Advocate would dilute rather than strengthen the Commonwealth's ability to serve the ratepayers.

The Attorney General's Office has successfully advocated for ratepayers in Massachusetts for decades both in state and federal regulatory matters and is best suited and the most capable to meet the new challenges we face. In 2006 alone, these efforts saved ratepayers approximately $589 million.

The Attorney General's Office has aggressively pursued wholesale market irregularities and forged settlements with utilities that guarantee infrastructure improvements and maintenance. As a direct result of the Attorney General's advocacy, we have minimized rate increases and enhanced low income and energy efficiency programs. These programs and their funding structures have a proven track record of meeting the needs of our most vulnerable citizens.

Another distinct advantage to having the ratepayer advocate function within the Attorney General's office is that it is an independent division, yet able to draw on the broad expertise of other divisions within the office. For example, because it can draw on the expertise of the Environmental Protection Division, the Attorney General is in a unique position to advocate for short term rate relief for consumers while planning for long term cost containment and the development of clean, renewable energy. This collaboration also allows us to explore new ways of thinking about issues

responsible for appeals of such decisions are involved in the underlying administrative cases. Such continuity of representation can only be offered by the Attorney General's Office.

We appreciate the broad support we have heard from organizations and stakeholders for the work of the Attorney General's Office on energy issues, and Attorney General Martha Coakley is committed to bringing an even greater focus to this area. She has created a new division, Energy and Telecommunications, to address the changing energy world, and has appointed new and experienced personnel to run and staff the division. Building on the expertise and litigation skills at the Attorney General's Office that currently exist will allow the Commonwealth to improve its advocacy function and meet the complex challenges of our energy needs.

We look forward to working with the legislature as it crafts a vision for providing Massachusetts with clean, affordable, efficient and reliable energy sources. On behalf of Attorney General Coakley, I thank you for your consideration of our testimony. We are available to answer any questions you may have today or at the Committee's convenience. Thank you.

TESTIMONY

OF

DANIEL ALLEGRETTI

ON BEHALF OF

CONSTELLATION ENERGY COMMODITIES GROUP, INC.

AND

CONSTELLATION NEWENERGY, INC.

2007- HB 3965

THE GREEN COMMUNITIES ACT OF 2007

Joint Committee on Telecommunications, Utilities and Energy

APRIL 2, 2007

Good morning, and thank you for the opportunity to testify. My name is Daniel Allegretti and I am Vice President, Regulatory/Legislative Affairs for Constellation Energy Commodities Group, Inc. ("CCG"). Today, I am here to testify on behalf of CCG and Constellation NewEnergy, Inc. ("CNE") (collectively, "Constellation").

Description of Constellation

CCG is a wholesale supplier of electric power to many of New England's electric utilities in connection with either their standard offer or default service obligations and is one of the largest load-serving entities in New England. CNE is a licensed retail supplier in 17 states, including Massachusetts, and two Canadian provinces. CNE currently provides over 15,000 MWs of electrical supply directly to businesses throughout the country for their own use and over 2,500 customers in Massachusetts. Both companies are subsidiaries of Constellation Energy Group, Inc., a Fortune 200 company headquartered in Baltimore, Maryland which also owns Baltimore Gas and Electric Company, one of the nation's oldest and most respected electric utility companies.

The Green Communities Act of 2007

At the outset this bill represents a sweeping and impressive vision for Massachusetts of moving from a heavy reliance upon fossil fuels for the electricity needs of its citizens to a future in which clean and renewable energy sources and a culture of conservation form a new foundation for meeting those needs. It is unlike anything under consideration elsewhere in the country. The Speaker and sponsors are to be further commended for resisting the use of blunt, heavy handed measures, such as a return to monopoly regulation or the use of methods akin to the expensive long-term qualifying facilities contracts of the 80s and 90s. Instead, this bill demonstrates an understanding of the benefits that reliance upon competition in the electricity sector has brought to Massachusetts, both in terms of price efficiency, and technological and entrepreneurial innovation. That said, it is also not surprising that in a bill numbering some 364 pages Constellation has identified a few areas of concern

and a number of additional places where the bill is ambiguous and requires clarification. Our major concerns with this bill are fortunately limited to two particular sections – Section 206 and Section 12. With amendment or removal of these provisions and some simple clarifications and refinements to some other provisions, Constellation would be pleased to support this landmark bill.

SECTION 206

This section of the Green Communities Act would require electric distribution companies to offer their customers new generation service options. These options would be in addition to the Basic Service option currently offered by the electric distribution companies. On a general level, Constellation finds this section to be unclear. As Constellation interprets this section, Basic Service would be redefined to look similar to the old Default Service offering. In parallel to procuring Basic Service, a new process would be implemented "for the competitive procurement of electric generation by distribution companies on behalf of consumers." Section 206 is very unclear whether this is a wholesale purchase of a service that customers who do not make an election would "default" to or whether it is a process for assembling a menu of retail service options for customers to elect. It is also unclear what "department approved service" the Department is given discretion to authorize an "alternate generation company" or "supplier" to provide, if it is in the public interest.

Constellation does not believe the current procurement process for Basic Service needs to change and recommends that Section 206 be removed from the bill. Currently, electric distribution companies procure Basic Service supply for large commercial and industrial customers on a quarterly basis. For smaller commercial and residential customers, 50 percent of Basic Service supply is procured twice a year for one-year terms. For larger customers, with more competitive retail options, this allows Basic Service prices to track market prices, creating the right incentives for these customers to consider retail options. For smaller customers this approach provides more certainty and stability of prices,

while still allowing them to realize the benefits of competition. Clearly fewer competitive retail options currently exist for smaller customers. However in any given auction, many wholesale suppliers compete for the ability to serve Basic Service. Thus, while a residential customer may not have numerous offers from retail suppliers, wholesale suppliers aggressively compete to serve the Basic Service, thus allowing the benefits of competitive prices for electricity to be realized by smaller customers. Constellation believes this wholesale dynamic for smaller customers, coupled with the robust competitive retail market for larger customers, works well in Massachusetts. It was arrived at based on numerous examinations and re-examinations by the Department over the years since restructuring was first implemented and strikes an efficient and beneficial balance between the goals of stimulating competition, protecting consumers from volatility and assuring universal service. As written, Section 206 creates ambiguity and uncertainty without any apparent offsetting benefit and should be removed.

SECTION 12

Section 12 of this bill is comprised of a new chapter to the Massachusetts General Laws, Chapter 6C. This chapter would establish the Executive Office of Energy Affairs. While Constellation does not oppose the creation of this new office, we do have some concerns regarding the following sections of the proposed Chapter 6C:

- **Section 9** (pages 46-47). This section establishes an energy advisory board as part of the proposed Office of Energy Affairs. As detailed in the legislation, the board would be comprised of 13 members appointed by the Governor. The members would include: 3 representatives of investor-owned electric utilities, 1 representative of investor-owned gas utilities, 2 representatives of the environmental community, 2 representatives of the business community, 1 consumer representative, 1 organized labor representative, 1 energy conservation provider representative and 1 independent power industry representative. In addition the Secretary of

the Office of Energy Affairs would serve on the advisory board.

Constellation believes that to be more representative of the energy industry in Massachusetts, the advisory board should include at least one representative from the competitive electric industry. Firms such as Constellation, which provide basic service at wholesale to distribution companies as well as competitive retail service to end use customers bring an important perspective which ought to be included on the Board.

- **Section 10 (a)** (pages 47-49). This section provides the authority for the Office of Energy Affairs Secretary to make assessments against certain companies. Section 10 (a) proposes the levy of an assessment against "each generator company and supplier licensed by the executive office to do business in the commonwealth, based upon the instrastate operating revenues subject to the jurisdiction of the executive office."

  Constellation appreciates the need to collect assessments in order to reimburse the Commonwealth for the operation and administration of the Energy Affairs Office. However, Constellation questions the practicality of this proposal. The ultimate cost of these assessments will flow through to consumers in the bills they pay for electricity in proportion to their relative usage. Collecting data and pursuing tax collection from a potentially large and changing pool of companies is more cumbersome than simply collecting assessments through regulated energy delivery companies on a *volumetric basis. Simply collecting assessments from regulated* companies as is the practice today would be less cumbersome to administer, result in the same net impact on consumers, and provide the same funding for the Energy Affairs Office.

- **Section 21** (pages 76-78). This section would amend the existing Renewable Portfolio Standard (RPS) in Massachusetts. In particular, the

RPS would now include "naturally flowing water and run of river vintage hydro generation units located in the commonwealth, operating under the jurisdiction of the Federal Energy Regulatory Commission with a generation capacity of not more than 5 megawatts and not utilizing a dam constructed after December 31, 1997." The revisions would also increase the RPS percentage requirement to offset the addition of these existing hydro plants.

This provision represents a creative and thoughtful improvement over provisions introduced last year to add existing hydro to the list of qualified resources for RPS. The offsetting increase in percentage requirements addresses the major concern of the unintended impact upon market prices for Renewable Energy Certificates ("RECs") and the effect upon investment incentives for other renewable technologies.

That said, a word of caution about regulatory certainty in this area is still in order. Specifically, the requirement to conduct annual reviews and periodic additions to the eligible technology list is potentially problematic. The success of a RPS in creating incentives for new renewable resource development is dependant upon the ability of developers, buyers and lenders to make reasonable assumptions about the future value of RECs. The prospect of annual additions of technology to the Massachusetts RPS creates uncertainty in the REC market that will adversely impact forward sales of RECs and renewable energy resource development and financing. Therefore, Constellation recommends deleting the requirement for annual reviews and periodic additions to eligible technologies.

Finally, Constellation cautions the bill sponsors to carefully examine the limitation of eligible hydro facilities to in-state facilities and the delegation of standard making to the Low-Impact Hydropower Institute. These provisions as presently written may run afoul of certain federal and State

constitutional requirements.

- **Section 22** (pages 79-80). This section creates a new RPS class, the Alternative Energy Portfolio Standard (AEPS). The AEPS would include coal gasification, plasma gasification, combined heat and power systems, geothermal, energy efficiency and "other technologies approved by the Undersecretary." Constellation is generally supportive of this section but urges clarification of several ambiguities in the provision as drafted:
    - Similar to the existing RPS, does the new AEPS apply to both local distribution companies that provide Basic Service and retail suppliers? The provision should apply to both. Otherwise retail suppliers would be placed at an economic disadvantage as compared to Basic Service. In addition, the goal of promoting alternative energy would be significantly limited as the provision of Basic Service, which represents more than half of the load consumed in Massachusetts, would be exempt from the portfolio requirement

    - Would the 2% requirement in 2008 stay at the same level for subsequent years or incrementally increase? For market certainty, and so that suppliers can accurately price their products, Constellation would suggest that the legislation specifically state the percentage requirement for this RPS class through at least 2013.

    - Similar to the existing RPS, will there be an alternative compliance mechanism in place to guard against market power in the REC market that could otherwise potentially result? Constellation would recommend including this mechanism, and stating the levels at which the alternative compliance payments would be set through at least 2013.

In addition to these clarifications, Constellation strongly recommends that supply contracts entered into prior to the introduction of this bill be grandfathered from the new AEPS requirement. Otherwise suppliers would be unfairly assessed costs that they no knowledge of. Further, if changes are made to this RPS class once implemented (e.g., a technology added or removed), existing supply contracts affected by the change should also be grandfathered.

- **Section 27** (pages 115-118). This section details new reporting requirements for the new Department of Alternative and Renewable Energy Development, including a statewide plan focusing on alternative and renewable energy development. As part of this requirement, the Department would be authorized to "collect prices, inventory and product delivery data, including amounts and types of products sold, and other information which is specifically necessary and material" from a variety of entities, including wholesale providers of electricity. These types of wholesale sales are regulated by the Federal Energy Regulatory Commission (FERC). As such, states are pre-empted by the Federal Power Act. Accordingly, Constellation recommends removing the reporting requirement on wholesale suppliers from this section.

  Constellation also has concerns with the type of information sought from retail suppliers in this section. Retail supplier price information – even in an aggregated form – is proprietary and confidential information. Public disclosure of such proprietary information would affect the ability of retail suppliers to compete. Constellation recommends removing the reporting requirement on retail suppliers from this section.

- **Section 63** (pages 182-183). This section details the role that the Chairman and Commissioners of the PUC would fill in the administration

of the PUC duties, including during hearings and in decision-making processes. While Constellation does not have a strong position on the organization of the PUC, we would note that the PUC operated effectively and efficiently in the past with three full-time Commissioners. Constellation has some concerns that the three Undersecretaries, who are also designated Commissioners, have very full and demanding roles and therefore will not be able to address 100 percent of their time to their duties as Commissioners. Perhaps the organizational structure – as proposed in the Governor's reorganization plan – should be strongly considered.

CONCLUSION

Constellation applauds Speaker DiMasi and other sponsors and staff who have worked hard to put together such a comprehensive piece of legislation. Many components of this bill positively augment the competitive electric market in Massachusetts. Constellation would be pleased to work with the committee and others to improve and clarify the sections of the bill addressed above and to help achieve the vision of cleaner energy through reliance upon competitive markets.

Thank you for this opportunity to testify before you today.

TESTIMONY OF DANIEL C. CRANE,
DIRECTOR OF CONSUMER AFFAIRS AND BUSINESS REGUALTION
BEFORE THE COMMITTEE ON TELECOM, CABLE AND UTILITIES
REGARDING H. 3965, AN ACT RELATIVE TO THE GREEN COMMUNITIES ACT OF 2007.

APRIL 2, 2007

Good Morning Chairman Dempsey and Chairman Morrissey. My name is Dan Crane and I am the Director of Consumer Affairs and Business Regulation. In that capacity, I oversee the regulation of consumer and licensing issues for the Commonwealth of Massachusetts. I am here today to ask for your support in maintaining supervision of telecommunications and cable under the Secretary of Housing and Economic Development. If H. 3965 were adopted as it is currently written, the supervision for this function would be transferred to the Secretary of the Environment and Energy.

The Article 87 reorganization plan, approved unanimously by the Legislature in February, established the Department of Telecommunications and Cable under the Secretary of Housing and Economic Development. This treats the regulation and oversight of telecommunications and cable issues as the important economic development issues that they are. This permits the Secretary to coordinate both regulatory and policy functions involving telecommunications, cable and broadband as part of economic development.

- When Article 87 becomes effective, April 11, a single Commissioner of Telecommunications and Cable will be responsible for regulating these industries under the supervision of the Office of Consumer Affairs and Business Regulation within Housing and Economic Development.

- The commissioner will exercise regulatory functions involving rate setting, licensure, quality of service, safety, and ensuring that consumers throughout the Commonwealth have access to state of the art technologies at reasonable prices. The commissioner's decisions will be subject to direct appeal to the courts without any intervening review by another administrative agency. The commissioner will have opportunities to promote deployment of technological innovation, but the commissioner's primary responsibility will be as a regulator.

- The commissioner will also oversee the consumer hotline that responds to a wide range of consumer concerns involving telecommunications and cable services, including billing and service issues.

- Separate from this regulatory function, the Director of Wireless and Broadband Development also within the Secretariat of Housing and Economic Development, oversees the development of policy and planning function for cable and telecom. The director position was created by the 2006 Economic Stimulus Package. The current director, Stan McGee, joined the Administration in February – and, before then, no one was serving as the Director of Wireless and Broadband Development. In that capacity, Stan has already held several

meetings with legislators and stakeholders, including many in-depth meetings with the full team of industry experts and consultants leading the regional broadband deployment efforts at the John Adams Innovation Institute.

- This Administration recognizes that any individual or community without high-speed Internet access today is educationally and economically disadvantaged, and the Administration is enthusiastically committed to achieving ubiquitous broadband access and bridging the digital divide that faces many communities across the Commonwealth.

- The planning for and deployment of cable and telecom are economic issues. As many of you all too well know, unfortunately we have pockets of the state without broadband access – and where it is available it is often not affordable – particularly in the Berkshires, the Pioneer Valley and on the Cape. If you ask any legislator in impacted regions like western Massachusetts, they will tell you, without exception, that there is no more important economic issue in their region.

- A study recently issued by M.I.T. confirms that the assumed (and oft-touted) economic impacts of broadband are both real and measurable. When sample means for communities with and without broadband were compared, the mean growth in rent, salaries and employment were all higher in the communities with broadband than without. We're not talking about broadband access because some folks cannot access YouTube and MySpace – we're talking about a fundamental and necessary communications infrastructure – without which too many of our communities are unable to participate fully in our innovation economy.

- One of the top priorities of this Administration is to grow our economy in order that the many difficult fiscal choices we are now facing are not repeated in future years. And to do that, we have to make sure that all of Massachusetts is open to business – not just the areas where it is easier or more profitable for certain companies to make available high-speed Internet access to their customers. Improving this fundamental infrastructure issue will open areas of the state where it is not as attractive now for businesses to locate because their employees cannot productively work from home. It will allow all of our citizens to participate in the knowledge-based economy and will help us assure that Massachusetts is indeed a place where people with ideas and initiative want to be.

- The creation of a Commissioner of Telecom and Cable together with the creation of the Director of Broadband and Wireless Development means we now have the tools in hand from the Legislature to both develop needed services and oversee existing and new services to make sure there is fairness and affordability in cable, broadband, and telephone services. These services are critical ingredients to economic development throughout the Commonwealth. The Executive Office of Housing and Economic Development will deal with them more effectively than adding to the responsibilities of a Secretariat focused on Energy.

- We have rolled up our sleeves and commenced this important work. Any attempt to move these efforts into another Secretariat, however well-intended, only serves to stall momentum that is now well underway towards a lasting and comprehensive solution to this problem.

We are pleased that, under the Article 87 reorganization, the Office of Consumer Affairs & Business Regulation maintains control over telecommunications and cable regulation under the Secretary of Housing and Economic Development. We believe that the Article 87 reorganization gives us the structure we need to coordinate regulatory functions with our efforts to promote broadband and wireless development as part of the economic development of the Commonwealth.

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TESTIMONY OF UTILITY WORKERS UNION OF AMERICA on H. 3965, GREEN COMMUNITIES ACT OF 2007

April 2, 2007

Committee on Telecommunications, Utilities and Energy

Locals 317, 322, 329, 330 and 369 of the Utility Workers Union of America ("UWUA") strongly support the many provisions of H. 3965 which are designed to increase the reliability and quality of service provided by gas and electric companies in the commonwealth and that also strengthen existing procedures that are intended to protect the public and utility workers from the risk of physical harm.

UWUA's Massachusetts locals include some 5,000 members who work in a range of jobs at gas and electric companies across the state — from answering phones, reading meters and preparing bills, to repairing overhead and underground power lines, maintaining substations, and responding to gas leaks.

In particular, UWUA **strongly supports the following provisions**:

Section 95 requires that **properly trained utility company employees make the "Dig Safe" markings** which denote the location of utility lines. There has been at least one notable instance in the recent past where an improperly trained outside contract employee failed to properly mark gas lines, leading to one fatality, other injuries, and very extensive property damage. This common-sense provision ensures that only trained utility company employees who are personally familiar with the location of a company's distribution lines and infrastructure make the location of those lines in connection with excavation and construction work, except as the Department of Regulation and Oversight may approve otherwise.

Section 211 clarifies and strengthens provisions of the 1997 Restructuring Act (now codified in G. L. ch. 164, § 1E) which mandate the establishment of **service quality standards benchmark staffing levels.** Despite the inclusion of similar staffing provisions in the 1997 Act, the current DTE has yet to set benchmark staffing levels for a single Massachusetts company. The revised G. L. Ch 164, § 1E(b) would set firm deadlines for the Department of Regulation and Oversight to set benchmark staffing levels and to strictly enforce those levels (although the September 1, 2005 deadline should be revised to September 1, 2007, or some other date that has not already passed).

UWUA supports the **increase in the maximum fine** that can be imposed for failing to meet

service quality standards (revised ch. 164, § 1E(c)). At least one major company has incurred multi-million dollar fines several times for failing to adequately maintain system reliability, including again in 2006, which suggests that the fines may be seen more as a cost of doing business than as a sufficient incentive to invest in improvements that would decrease the frequency and extent of power outages.

Lastly regarding Section 211, UWUA strongly supports the revisions to G. L. ch. 164, § 1E(c) that require the Department to **review and investigate a company's maintenance practices**, on its own motion or in response to petitions from the Attorney General or Ratepayer Advocate. Since the adoption of the 1997 Restructuring Act, UWUA's members have seen significant declines in routine inspections, maintenance and repair. This last provision provides a mechanism for the Department to investigate these declines.

Section 222 strengthens the language of G. L. ch. 164, § 1F so that the Department will ensure that companies **maintain adequate staffing levels to ensure that service quality and reliability do not decline below 1997 levels.** As noted in the preceding comments on Section 211, some companies have paid substantial fines since the adoption of the 1997 Restructuring Act for failing to meet there service quality and reliability benchmarks. While fines are appropriate when service quality and reliability decline below the levels set by the Department, this section properly requires the Department to take proactive steps regarding staffing levels so that service quality and reliability do not decline. Since fines cannot adequately compensate customers for power outages and other declines in service quality, Section 222 properly strives to avoid both service quality declines and their consequent penalties, by requiring adequate staffing at each company to properly maintain utility infrastructure.

Section 259 requires that **newly-installed gas meters be locked until properly inspected by the local gas inspector,** that only **utility company employees shall unlock the meter once properly inspected;** and that only those employees shall then **light the gas appliances and check all gas related equipment.** This section ensures that gas in not turned on in a house by untrained employees of building contractors or by any other members of the public, and that a safety inspection of all appliances is carried out at the time the gas is turned on. This is an important public safety measure.

Section 260 requires gas companies to **survey their distribution systems for leaks on an annual basis,** and also requires the Department to **conduct random inspections of leaks reported by the companies.** Like Section 259, this is an important public safety measure.

Section 264 requires the Department to adopt **inspection, maintenance, repair and replacement standards for electric and gas companies.** The 1997 Restructuring Act on its face appeared to have required the Department to set such standards long ago (see G. L. ch. 164, § 1E), but, in fact, many companies have cut back on the extent of their routine inspection, maintenance and repair work since 1997. From the perspective of customers, after-the-fact fines for sub-standard reliability and service quality, which at best have an extremely minimal impact

in lowering bills, are a far less satisfactory outcome than avoiding those service quality declines in the first instance. Section 264 gets at the root of the problem by making sure that companies pay proper attention to inspection, maintenance and repairs before problems occur.

Section 265 provides the Department with much clearer **authority to review mergers.** This is an extremely important provision, as Massachusetts, unlike many other states, does not provide the Department with unquestionable merger review authority. For example, while the pending merger between KeySpan and National Grid is being closely reviewed in New York and also being reviewed by New Hampshire, the Massachusetts DTE has so far not attempted to review that merger because it does not see clear authority to do so under existing law.[1] To the extent other states review a particular merger that affects a Massachusetts company while Massachusetts itself does not, Massachusetts consumers inevitably suffer. Section 265 is an extremely important clarification of the law regarding the state's merger review authority.

Section 266 puts into the General Laws requirements that, in similar form, have been in regulations and that have been, at various times, part of routine company practice regarding **annual gas safety surveys of schools, churches, hospitals nursing homes, public safety facilities, and other public buildings.** The surveys are designed to detect any gas leaks and any unsafe conditions involving gas appliances in those buildings and facilities. This section is an important public safety measure that should be codified as part of the General Laws.

Section 269 makes sure that **companies do not indefinitely leave meters on more than 30 after a customer moves out.** Such so-called "soft-offs" save companies money, as they allow the company to avoid both shutting off the service when the customer moves out and turning it back on when a new customer moves in, and UWUA believes that this practice is increasing. However, "soft-offs" place the public at risk as it is unsafe to leave either the gas or electricity on for extended periods of time in a vacant apartment or home. Section 269 is therefore an important public safety measure.

UWUA does **oppose** two aspects of H. 3965:

UWUA strongly opposes **Section 17,** which would **repeal the authority of the Attorney General to intervene in utility proceedings,** and, therefore also opposed the **establishment of the Office of Ratepayer Advocate** in **Section 12** of H. 3965. If Massachusetts did not have a state office or agency that intervened on behalf of consumers, establishing an Office of Ratepayer Advocate ("ORA") would make perfect sense. However, Massachusetts already has an effective and well-respected ratepayer advocate in the Office of the Attorney General. Abolishing that long-established office and bringing a brand-new, free-standing office into being will almost certainly diminish the effectiveness of the representation that consumers now receive, for several reasons. First, the new ORA in the short-term will be primarily focused on setting up offices, hiring staff, and other administrative tasks. There is little question but that for the first year or

[1] UWUA does not necessarily concur with the Department's view.

two, the new ORA will be less effective than the Attorney General has been. But even in the long-run, it is hard to imagine that a small, free-standing ORA will command the credibility and respect that the duly-elected and constitutionally-empowered Attorney General now commands. In addition, the Attorney General can draw upon the knowledge, expertise and resources of the entire office, which can be particularly useful when litigating in out-of-state forums such as FERC, or when there is a need to draw public attention to a significant problem affecting utility consumers. Not only is the current Attorney General's intervention function not "broken," it is a well-respected and professional operation that has served consumers very well. There is no need to "fix" this office, and certainly no reason to abolish it.

UWUA also opposed several provisions of **Section 12** that appear to **reduce the existing funding for low-income energy efficiency** and leave somewhat unclear how these programs will be managed in the future. UWUA's members are part of the working class, and many of their relatives, family members and friends are on even lower rungs of the economic ladder. The existing low-income energy efficiency programs provide valuable assistance to low-wage working class and fixed-income households, as well as saving significant amounts of energy, and UWUA urges the legislature to make sure that these programs are not undermined by other changes that may need to be made to reduce overall energy consumption in the Commonwealth.

UWUA thanks the Committee for this opportunity to offer its comments.
UWUA

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Interfaith Power & Light

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Testimony on H-3965
An Act Relative to the Green Communities Act of 2007
Petition of Salvatore F. DiMasi, Brian S. Dempsey and Daniel E. Bosley
Joint Committee on Telecommunications, Utilities and Energy
2 April 2007

Massachusetts Interfaith Power & Light is a statewide organization composed of congregations and individuals of all faith traditions. We work as a *mutual ministry* of environmental stewardship by the community of faith, for the sake of the world. We have three *stewardship imperatives* to offer relative to your legislative deliberations.

#1 Care for Creation
This past October MIP&L sponsored the showing of the Oscar-winning documentary, *An Inconvenient Truth* at over 130 venues, including a showing in this very State House to a packed audience. I note this for two reasons. **First, energy, like politics, is fundamentally local.** It begins at our houses — where we live, where we worship, where we work, where we play and also where we legislate. **Second, however local our actions, they impact others.** The *Golden Rule* has bearing not just because it comes from sacred texts, but also because it is true and it works. *Care for creation* is not some mealy-mouthed religious phrase. It is a way to saying — Act on what you believe.

#2 Redress Environmental *In*-justice
Low-income communities and communities of color are the hardest hit by environmental and public health problems. For instance, within 2.5 miles of Lawrence there are 3 incinerators accounting for over 40% of the trash burned in the Commonwealth.

Any energy program adopted must have elements that address environmental *in*-justice by programmatic and financial strategies that correct this historic reality. The Clean Energy Choice "bonus" matching dollar-for-dollar Green Electric purchases with funds targeted at energy efficiency and renewable energy initiatives for low-income residents is a good beginning. This strategy is only the beginning of such focused efforts. Importantly, it needs to be *leveraged* so that it triggers additional dollars into those programs.

#3 Institutional Capacity
We have learned that the best way to carry the message, and prompt sensible energy actions is *peer-to-peer*. We tell our stories, and hold the hands of others as they face the practical realities of environmental stewardship. Being effective in prompting sensible action on heating, air conditioning, lighting, appliances, office equipment and so on necessitates having programs

adaptable to the circumstances of a broad range of users. To be explicit: The Commonwealth must ensure that its implementing entities are nimble, swift and flexible. These are not traits typically associated with centralized government and the associated bureaucracies. Find and fund institutions (quasi-government, non-profit, special-purpose partnerships, and so on) that will be innovative, creative, and results oriented. This means that there cannot be a "one-size fits all" program by the Commonwealth. It also means that every one of the 351 towns and cities must have access to the energy efficiency financial incentive programs—no more exemption of "municipal utilities", please.

By:
Stephen B. MacAusland, Chief Evangelical Officer
Mark Larson, Energy and Environmental Stewardship Analyst

MASSACHUSETTS OILHEAT COUNCIL

NATIONAL OILHEAT RESEARCH ALLIANCE
MOC is the qualified state association for NORA.

April 2, 2007

Testimony of Michael Ferrante, President, Massachusetts Oilheat Council, before the Joint Committee of Telecommunication, Utilities & Energy on H-3965 & H-4254

About MOC

With more than 900 independent retail Olheat dealers statewide, the Oilheat industry plays an important role in the energy security of the Commonwealth and is a key element of the state's economy. Established in 1955, the Massachusetts Oilheat Council (MOC) is a business association for heating oil and petroleum products companies. MOC represents more than 350 companies across the state, including retail and wholesale/supplier operations, and major Oilheat equipment manufacturers and distributors. Collectively, MOC's members store, sell and deliver nearly 70 percent of the heating oil used in homes, schools, hospitals and businesses statewide. About 40 percent of the homes in Massachusetts turn to Oilheat dealers statewide for warmth and comfort, and nearly one million homes rely on Oilheat for their source of energy.

MOC is also the qualified state association for the National Oilheat Research Alliance (NORA), a congressionally authorized program aimed at promoting Oilheat, educating consumers and the industry, and developing meaningful research and development projects.

- **H-3965 & 4254 – The Green Communities Act of 2007**

MOC supports many of the elements of H-3965 & H-4254 including:

- Consolidating the Department of Telecommunications & Energy and the Division of Energy Resources and creating the Executive Office of Energy Affairs.
- Promoting programs and initiatives to encourage and establish energy conservation and energy efficiency in Massachusetts.
- Developing programs and initiatives that implement the use of renewable fuels for home, commercial and municipal heating, and transportation.
- Protecting consumers from "unjust utility practices and monitoring the quality of service provided by utility companies."

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- Ensuring that "electric and gas service is provided to consumers in a safe and reliable manner at the lowest cost."

- Establishing tighter controls over predatory utility marketing practices and utility "affiliate" marketing and advertising practices, and the "preferences" given to affiliates relating to utility products and services.

- Developing energy data and information management capabilities to assist in energy planning and decision making.

- Establishing a Massachusetts Energy Efficiency Trust Fund to assist homeowners with loans, grants or rebates to help pay for energy efficiency improvements.

There are three areas within the legislation that MOC suggests need further legislative consideration.

#1) Section 27 calls for a number of provisions related to collecting price, inventory and product data from "wholesalers and resellers of petroleum products." In today's volatile worldwide energy markets, wholesalers and resellers have had to develop "just in time" inventory methods and other business models in order insulate their companies from financial hardship, while always being mindful of their responsibility to supply the marketplace and customers with fuel. The petroleum industry's reputation in this regard is stellar here in Massachusetts. In addition, the industry has demonstrated that it can and will provide inventory information to state energy officials when the situation warrants such action. New laws and penalties in this area are unnecessary and could pose significant hardship on these firms.

#2) In terms of the legislations' clean energy and renewable provisions, MOC is in total support of introducing biodiesel and bioheat to the Massachusetts energy landscape. MOC and the Oilheat industry have already embarked on a number of innovative and aggressive efforts to help bring these products to market. However, more work needs to be done before biofuels can have a significant impact on homes, businesses, government and municipalities. This work includes petroleum infrastructure improvements, the blending of home heating fuel and biofuel, widespread acceptance of biofuel standards (specifically ASTM D 6751), and extensive industry and consumer education on the proper blend of biofuel with home heating oil.

#3) The legislation presents an opportunity to improve the state's Low Income Home Energy Assistance Program (LIHEAP).

Amidst enormous business challenges the past two years, the Oilheat industry has continued to exhibit broad support for the LIHEAP program. The industry has an outstanding record of state and federal lobbying support and advocacy for LIHEAP.

Additionally, Oilheat dealers do laudable work every year helping about 40,000 LIHEAP customers with timely fuel deliveries, budget and credit matters, and debt forgiveness. However, the industry unanimously believes it is time for the state's LIHEAP program to augment and change the leveraging programs for heating oil. MOC suggests that the legislature amend H-3965& 4254 to implement the following changes to the heating oil portion of the LIHEAP program for 2007:

- **Increase in Margin-Over-Rack Pricing (MOR)**

Even though state LIHEAP officials implemented a modest increase in MOR for the 2005-2006 LIHEAP program, the current MOR does not adequately compensate Oilheat retailers for their extensive work with LIHEAP customers

- **Fixed of Cap Priced Programs**

Price protection programs have become an integral part of the retail heating oil business. The state should allow retailers, if they so choose, to offer price protection programs to their LIHEAP customers so that those customers can take advantage of the savings offered by such programs.

- **Discount off Retail**

This method of leveraging is in place in New York and MOC recommends that state officials embrace it as an option for Massachusetts Oilheat retailers and their LIHEAP customers.

On behalf of the Oilheat industry, MOC thanks the Committee and House Speaker DiMasi for the opportunity to testify on H-3965& 4254 – The Green Communities Act of 2007 and we look forward to working with the legislature on these important legislative initiatives.

Michael Ferrante
President

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

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Statement of Steve Long
Government Relations Associate
The Nature Conservancy

Joint Committee on Telecommunication, Utilities and Energy
April 2, 2007

House, No. 3965 An Act Relative to the Green Communities Act of 2007

Thank you for the opportunity to testify on the Green Communities Act of 2007 filed by Speaker DiMasi, Chairman Dempsey and Chairman Bosley.

The Nature Conservancy is a nonprofit conservation organization. We have 1.1 million members, over 32,000 in Massachusetts. Our mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. With the support of the government and local partners, we have preserved over 23,000 acres of land across Massachusetts.

Regional Greenhouse Gas Initiative

As part of our Global Climate Change Initiative, the Conservancy strongly supports Massachusetts' efforts to join, sign and implement the Regional Greenhouse Gas Initiative (RGGI). Since Massachusetts is one of the first RGGI signatories to consider legislation related to allocating funds from RGGI allowance auctions, the Commonwealth will set precedents that have regional and national implications.

The Conservancy supports the carbon dioxide allowance trading mechanism established under the RGGI Memorandum of Understanding (MOU). The Conservancy also supports a 100 percent auction of RGGI allowances under which the majority of allowance auction proceeds would fund energy efficiency and conservation and renewable energy development.

The Conservancy also urges the Committee to designate a reasonable portion (i.e., 10%) of RGGI allowances to fund conservation and land management actions to protect vulnerable ecosystems and animal and plant species from climate change impacts, and to implement measures that will further mitigate climate change, including:

- Restoring coastal ecosystems to address damage caused by erosion and storm surges from severe weather anticipated due to climate change;
- Managing and protecting existing forests to make the best use of trees to absorb or sequester carbon dioxide; and,
- Protecting and connecting natural areas to allow plant and animal species to adapt and migrate as climate change alters their natural habitats.

By supporting RGGI funding for conservation activities, Massachusetts would mirror provisions in proposed federal climate change legislation and could ultimately potentially leverage federal funds and support.

Renewable Energy Facility Siting

The Conservancy applauds legislative support of clean energy projects and facilities. However, we are concerned about the potential impacts of proposed commercial scale wind projects (wind) and large hydroelectric facilities (hydro) on the Conservancy's conservation targets and other pristine natural areas. We recommend an amendment to H.3965 that would require the Executive Office of Energy and Environmental Affairs to issue reasonable siting guidelines for wind and hydro projects. Currently, environmental review may be required if a project triggers the Massachusetts Environmental Policy Act (MEPA) review process. However, some wind and hydro projects do not fall under MEPA's purview. Energy facility siting guidelines should take into consideration major impacts that do not trigger the MEPA review process. The Conservancy calls for specific siting consideration for proposed wind and hydro.

In the case of wind power, the Conservancy supports the establishment of facility siting guidelines that require wind developers to conduct reasonable pre-construction and post-construction assessments, and an analysis of whether a proposed wind farm may cause major habitat fragmentation through the construction of wide roadways, transmission corridors, and other construction related infrastructure.

In the case of hydro, the Conservancy urges the state to require any new hydro facilities to be constructed in the same location as one of the more than 3,000 dams that already exist in our rivers and that hydro facilities receive public funding only if they construct state-of-the-art hydro facilities that allow for maximum passage of fish and other species and to protect freshwater biodiversity.

The Nature Conservancy's science staff, which specialize in freshwater, forest, and coastal and marine biodiversity conservation, are available to work with Committee and regulatory staff to define how reasonable siting criteria might apply to proposed projects within a limited scope throughout Massachusetts. We would appreciate the opportunity to talk further about these important policies.

I would be happy to answer any questions or follow up and meet and discuss our concerns and recommendations. Thank you again for the opportunity to testify on this important legislation. If you have questions, please call me at 617-227-7017 ext. 313.

Sincerely,

Steve Long
Government Relations Associate

NORTHEAST ENERGY EFFICIENCY COUNCIL

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Testimony of Energy Efficiency Companies Regarding House Bill 3965

Chairman Dempsey, Chairman Morrissey, and Members of the Committee:

INTRODUCTION

We are the members of the energy efficiency industry. The firms represented on this panel install energy efficiency measures, sell energy efficient products, and design, manage, and evaluate the effectiveness of energy efficiency programs. The companies here today represent hundreds of firms in our industry in Massachusetts and their thousands of employees.

We'd like to offer a very simple message:

1. We commend Speaker DiMasi for putting energy at the center of the legislative agenda. There is much to applaud in the Speaker's bill, particularly the focus on Green Communities; Sections 29-33, which mandate energy efficiency in state buildings; sections that address net metering; reauthorization of the HEAT loan program; and recognizing that 'decoupling' needs to be addressed.

2. However, we must be clear that certain provisions of the bill would devastate our industry, cost hundreds if not thousands of jobs, and set back energy efficiency efforts in Massachusetts by a decade or more. The bill would cut funding for energy efficiency by 50% and take program management away from award-winning managers and give it to a state agency that has no program management experience and, indeed, doesn't even exist. These changes will force layoffs in our industry, put many firms out of business, and stop energy efficiency efforts in their tracks. Other states which are national leaders in energy efficiency, like New York and California, as well as our neighbor states of Connecticut and Vermont, are doubling spending on proven energy efficiency programs, because they know, as we do, that every dollar spent on energy efficiency returns $2 or more in benefits to ratepayers.

3. Therefore, we urge you to reconsider those provisions of the bill and to work with us to craft legislation that creates jobs and advances energy efficiency in the Commonwealth. The members of the efficiency and renewable energy industry are prepared to work collaboratively with a broad cross sector of Massachusetts energy stakeholders to bring forward consensus plans to achieve the Speaker's laudable goals and objectives.

no market is capable of being supported and marketing efforts will be wasted. Some of these large customers require 12 to 24 month lead times due to the size and complexity of the projects. If programs are not consistent and stable then the ability to develop these projects becomes compromised. Massachusetts has a tremendous track record of efficient, effective and consistent program support that has allowed our type of projects to flourish. This will be lost under the proposed provisions of the Green Communities Act.

This panel of leading national and local energy program administrators and delivery companies will provide an overview and insight into the benefits of maintaining the leadership in this industry. We want to say that the proposed structure and funding of energy efficiency programs that is proposed in the Green Communities Act would seriously damage if not wipe out the work that is being done by this industry in the state and by extension damage the ability for the industry to work in other states.

RECENT INNOVATIVE INITIATIVES

This industry is at the center of several approaches to working with our clients, the program sponsors (utilities), to innovate and to deliver services efficiently. First, this industry is unified at the NEPOOL decision making level with the creation of the Alternative Resource Sector where we join with Demand Response, Renewable Energy and Distributed Generation technology companies to seek integrated customer sited solutions to their energy needs. It is this coalition of utilities and the Alternative Resource sector, led by Energy Efficiency that advocated for, lead and secured agreement on the historic Forward Capacity Market that for the first time in history puts customer side solutions and central generation on the same footing. This coalition is poised to move forward with implementation of that market but unfortunately will be significantly damaged in that effort as a result of the provisions in the Green Communities Act.

Second, our members have established the first and most successful integration of 'green' homes under the US Green Building Council (USGBC) program for LEED certified new homes combined with the SBC funded utility sponsored Energy Star Homes program. We were one of the first regions to participate and have one of the largest numbers of participating homes. This could not have happened without having a strong and stable base of SBC funded and utility administered efficiency programs with which to link up and integrate. Similar initiatives have happened on the Commercial sector.

Third, our members have integrated delivery of the MTC funded and utility funded programs in locations such as Johnson Square, the Mass SAVE program and others. The MTC joined with the Utility Joint Management Committee of the utilities to create a seamless program that combines efficiency and PV.

Lastly, there has been a strong demand from customers and regulators to keep doing more with the same level of funds that decline every year from inflation. Many programs, the residential RCS/MassSAVE program in specific, have increased their cost effectiveness by over 300% in the past 5 years through innovative redesign, customer service integration with the HEAT loan program and alliances with sub contractors. This is the type of quiet

Massachusetts-based heating, insulation, and electrical firms who install energy-saving measures in homes, businesses, and institutional buildings throughout the state. RISE works on behalf of several major program sponsors, including National Grid, NSTAR, Bay State Gas Company, and the Cape Light Compact.

KEMA

KEMA Inc., a wholly owned U.S. subsidiary of KEMA NV, is headquartered in Burlington, Massachusetts with offices across the United States. KEMA is an one-stop energy-services and consulting firm with special expertise in the areas of energy efficiency, DSM, retail and wholesale energy markets, distribution and transmission operations, renewable energy and green power, distributed energy resources, and marketing communications. Our multi-disciplinary staff provides a broad range of strategic and technical services to the entire energy-delivery value chain—from power generation through the consumer side of the meter.

This wealth of experience did not come to us overnight; we've been acquiring it for 30 years. In 1975, incorporated as XENERGY, Inc. we began our energy efficiency consulting practice, establishing a solid reputation for technical innovation and integrity. In 2001, we were acquired by KEMA Consulting, the U.S. subsidiary of KEMA N.V., a world-renowned consulting, testing, research and development firm in the electric power industry, based in the Netherlands.

Now as KEMA Inc., our 400 United States employees include engineers, economists, statisticians, and planners. We provide services to utilities, end-users, governmental entities, regulatory agencies, and supply-side market actors. KEMA meets the challenges of the dynamic energy marketplace through an unmatched combination of proprietary market knowledge, actionable research, and exceptional implementation services. Our clients rely on us, as an industry leader, to develop innovative solutions enabling their success.

CET

Established in 1976, the Center for Ecological Technology (CET) is a non-profit, organization based in western Massachusetts that promotes practical, affordable solutions to the environmental challenges encountered in our daily activities. CET's efforts focus on the areas of energy efficiency, renewable energy and waste management – all of which contribute significantly to climate protection, public health and local economic development. With offices in Pittsfield, Northampton and Springfield, CET's 37 staff members have expertise in energy efficiency, renewable resources, green building practices, waste management, and environmental education.

EFI

Energy Federation (EFI), a Massachusetts incorporated and Westborough based company currently celebrating our 25th year of assisting consumers and businesses to use energy more efficiently. From the start of 2005 through the first quarter of this year, or a slightly more than two year period, EFI has issued incentive payments of over $70 million for more than 20 million energy saving products and measures. A substantial majority of EFI's business is now with companies and individuals in other states, however, over 85% of our approximately 75 staff people live in Massachusetts and work out of our Westborough facility.

Northeast Energy Efficiency Partnerships, Inc.

Testimony of James O'Reilly, Director of Policy, Outreach and Communications
Northeast Energy Efficiency Partnerships (NEEP)
Before The Joint Committee on Telecommunications, Utilities and Energy
On House 3965, An Act Relative To The Green Communities Act Of 2007

April 2, 2007

rman Dempsey, Chairman Morrissey and members of the Committee: thank you for the opportunity to testify today ding House Bill 3965, An Act Relative to the Green Communities Act of 2007. [1]

ıeast Energy Efficiency Partnerships, based in Lexington, is a nonprofit organization founded in 1996 whose mission promote energy efficiency in homes, buildings and industry in New England, New York and the Mid-Atlantic states gh regionally coordinated programs and policies that increase the use of energy efficient products, services and ices, and that help achieve a cleaner environment and a more reliable and affordable energy system. NEEP supports rnment policies and coordinates regional initiatives that promote and build market adoption of quality, energy ent products and services. Working in partnership with environmental and consumer groups, state and federal cies, businesses, utilities and other non-profits, NEEP serves as a strategist, planner, facilitator, information and ng resource, and project manager to help develop and implement regional programs for energy efficiency.

ke to start off by commending Speaker DiMasi, Rep. Dempsey and Rep. Bosley for taking up what is undoubtedly of the most pressing topics to face our economy and or environment: energy. Introducing this legislation will fully elevate attention on this issue and focus the efforts of the members into making our energy system more dable, more reliable and more sustainable.

said, despite what are clearly the best intentions for promoting an energy policy agenda that results in greater tments in energy efficiency and other clean energy resources, there are some places where this legislation will need work so as to not undo many successful years of energy efficiency programs. There are also other areas in which we d respectfully submit that additional steps can be taken to maximize the benefits of energy efficiency for all ayers in the Commonwealth.

focus my comments on a few areas of this act where we feel greater strides can be made in energy policy through modifications to this legislation.

gy Efficiency Funding and Program Delivery

irst is in the area of energy efficiency funding and program delivery. Because this legislation contemplates changes administrative and funding model for the delivery of energy efficiency programs in the Commonwealth, I feel the to point out to the Committee and the sponsors that to do so would risk some of the most successful energy ency programs in the country at a time they are needed more than ever.

irecting half of the systems benefit charge (SBC) funds to the Clean Energy Trust Fund, as proposed in Section 12, d effectively destroy the current success energy efficiency programs as administered by the electric and gas bution utilities and the Cape Light Compact.

American Council for an Energy Efficiency Economy (ACEEE) just two weeks ago held its annual symposium in ington, D.C., one of the highlights of which is the annual ENERGY STAR Partners of the Year recognition

[1] pinions in this testimony due not necessarily reflect those of the NEEP Board of Directors, sponsors or underwriters.

suffer greatly from, given current energy costs and the reliance on emissions and demand reductions that efficiency brings to other policy objectives.

Result in confusion for consumers. Having multiple efficiency programs at play at the same time will serve to confuse energy consumers. In addition, any other administrator other than the utilities – whether the state itself or another third party – will not have the access to utility customer data that makes the utility program delivery model an effective one. Experiences from the ISO-New England gap RFP for Southwest Connecticut two years ago showed that multiple efficiency program administrators could sometimes work counter-productively toward the same ends. The potential for that to occur through this legislation is high.

Increase the costs of compliance for other policy objectives, such as the Forward Capacity Market and RGGI. It is precisely energy efficiency that will make these programs not only affordable, but a net economic positive for the people of Massachusetts.

Mingle funds and policy objectives that are fundamentally different. Combining energy efficiency monies with renewable energy funds may, on the surface, seem to be an opportunity of synergy. Yet these are distinctly different resources, with entirely different applications, cost factors, forecasting and other economic modeling distinctions that mean they cannot all be lumped together and treated simply as "clean energy" funds and objectives. The calculated benefits of and related performance of renewable energy programs need to be treated separately and distinctly from efficiency programs.

Risk system planning and the new Forward Capacity Market. The Massachusetts utilities are currently preparing their qualifications for the initial auction period for the new ISO-New England Forward Capacity Market, on behalf of the ratepayers of Massachusetts. By decreasing the funding for these utility-administered programs, there will be such a level of uncertainty on the eve of this new program as to potentially disqualify demand resources like energy efficiency from this first-of-its kind market. In addition, ISO relies on data from the proven, monitored and tested SBC efficiency programs as administered by the utilities and the Cape Light Compact. Without the proven energy and demand reductions inherent in ISO's regular market forecasts, they will have no choice but to forecast for greater levels of traditional generation, transmission and distribution as would be needed under the current system of ratepayer funded programs.

ld, therefore, respectfully urge you in the strongest possible terms to reconsider the idea of dismantling the current l for energy efficiency program delivery in Massachusetts, and instead focus on ways to make these already ive programs even more so for the people of the Commonwealth.

ative Energy Portfolio Standard

.ternative Energy Portfolio Standard contemplated in Section 12 would lump together things like coal gasification ɔmbined heat and power, energy efficiency, geothermal and waste-to-energy resources. While we agree with the ıt of a portfolio standard to promote energy efficiency, adding efficiency to a mix that includes techniques such as ısification is counter-productive to the aims of capturing greater energy efficiency and developing more renewable ɔes. In addition, coal is the dirtiest energy source, not only in terms of particulate pollutants, but especially with to carbon dioxide, the leading greenhouse gas. Coal gasification can only provide environmentally satisfactory tion if combined with carbon capture and sequestration, which is neither contemplated here nor, from our tanding, either easy or likely in the short term in a geographic area such as that of Massachusetts.

e appropriate framework for a portfolio standard may considered as that currently before the Department of ımmunications and Energy that would establish minimum levels of either energy efficiency or combined heat and (CHP) for those entities serving basic service customers in Massachusetts. On balance, we would submit that a ffective policy tool in this vein would be a procurement mandate that utilities capture all cost effective energy ncy first and foremost. But if the choice is, instead, to pursue the portfolio standard approach, that one that focuses ɔarrowly on energy efficiency and clean distributed generation than the mix currently contained in the legislation ıve greater economic, energy and environmental benefits.

anization of the Energy and Environment Function

egislation would undo much of the energy reorganization that the legislature granted to the Patrick administration in ticle 87 approval granted just weeks ago. We support the administration's plans to split the telecommunications and

The Honorable Michael Morrissey, Senate Chair
The Honorable Brian Dempsey, House Chair
Joint Committee on Telecommunications, Utilities and Energy

The Green Communities Act of 2007
House Bill 3965

Testimony of Douglas S. Horan
Senior Vice President and General Counsel
NSTAR Electric & Gas

April 2, 2007

Good morning.

NSTAR Electric and Gas is an energy delivery company with 3300 women and men serving 1.3 million customers in more than 100 communities in Greater Boston, Worcester, MetroWest, Cape Cod and Southeastern Massachusetts. We have a very strong interest in the energy needs of our customers and the energy policy of the Commonwealth, so I appreciate the opportunity to submit this testimony describing the perspective of NSTAR Electric and Gas on the Green Communities Act of 2007.

NSTAR Commends the Speaker's Leadership.
Let me begin by commending the House Speaker and members of the committee for the leadership they have shown by addressing the critical energy issues currently facing the Commonwealth of Massachusetts. I believe we all agree that increasing energy costs and the impacts of climate change pose very significant challenges. Finding solutions to these issues requires effective and constructive political leadership. We are heartened that you have begun this process.

NSTAR Strongly Supports the Goal of a Cleaner, Less Costly Energy Future.
With regard to cost control, I know you are aware that NSTAR has not raised its delivery rates for the past 10 years, and has committed to freeze those rates at their current level through 2012. With respect to the cost of the electric energy that we deliver, while NSTAR no longer owns generation, we have been exceptionally active in the wholesale markets to secure power for our customers at as low a cost as possible.

With regard to the Speaker's clean energy goal, we fully support the expanded use of increased energy efficiency and renewable energy sources. We are an active and enthusiastic partner in the Cambridge Energy Alliance that was announced last Thursday, which is a city-wide program to reduce energy consumption that is ground-breaking in its

comprehensiveness. We are working with many stakeholders to increase the penetration of photovoltaic power sources in Massachusetts. We support long term power commitments to wind power projects, to encourage the development of those projects. We favor offering Green Rates to our customers so that they will have access to renewable power sources. We are sponsoring a renewable distributed generation pilot project in Marshfield which is aimed at demonstrating the benefits that can be achieved with distributed generation. And we have an award winning energy efficiency program through which we invest over $50 million a year in energy efficiency projects for our customers. We agree with and applaud the Speaker's view that working to create a clean energy future is a responsibility that we all share.

NSTAR Believes that Utility Administration of Energy Efficiency Funds Should Be Continued, and that Utility Rate Decoupling Should Be Endorsed.
With respect to the specific provisions of the Green Communities Act of 2007, we believe it embodies useful new concepts, including the creation of an improved siting process for renewable resources, the addition of measures aimed at helping municipalities invest in energy efficiency, and the broadening of energy efficiency funding to include renewable resources. However, we do have concerns over other provisions; chiefly, the new energy efficiency and renewable implementation structure created by the bill, and the absence of provisions endorsing the concept of utility rate decoupling.

Utility Administration of Energy Efficiency and Renewable Funds
Under current law, utilities collect a Systems Benefit Charge from each electric and gas customer. For NSTAR, these collections amount to $50 million per year from electric customers, and $3 million per year from gas customers. Under the oversight of key stakeholders and the DTE, these funds are spent on programs which the utilities design and administer.

The bill would change this structure. The current utility administered fund would be replaced by two new funds, the Clean Energy Fund and the Energy Efficiency Trust Fund, and the funds would be administered by newly created state agencies, subject to various criteria.

We believe this structural change would not be an improvement and would not meet the Committee's objectives. The current, NSTAR-based programs have a sound structure, are collaboratively run, are well understood, have clear regulatory oversight, and are highly efficient. Each of these attributes is described below.

- Sound Structure. NSTAR designs award winning and innovative Residential, Low Income, and Commercial & Industrial programs and services, using robust customer and market research. These programs are delivered through a contractual relationship with third party providers through a competitive procurement process. Lastly, we ensure the quality, customer satisfaction and cost-effectiveness of our energy efficiency programs using our rigorous evaluation process.

- Collaborative Development. NSTAR works collaboratively with the other Massachusetts Program Administers, the DOER, and the Non-Utility Parties (Low Income Energy Affordability Network, Massachusetts Climate Action Network, The Energy Consortium, Northeast Energy Efficiency Council) to develop comprehensive programs and budgets to ensure equitable allocations among customer classes and program types. This type of collaboration is unique to the nation, and helps Massachusetts develop some of the most effective programs in the country. Additionally, NSTAR has a close working relationship with several of the regional and national industry groups amplifying our impact on the industry by helping to change appliance and building standards.

- Regulatory oversight. NSTAR has created a portfolio of cost effective programs due to the oversight of the DOER and DTE. NSTAR not only files reports annually with the DTE detailing planned spending, metrics, savings and cost effectiveness, but also files detailed reports describing the same categories of actual results compared to our plans.

- Efficiency. The cost effectiveness of NSTAR programs is routinely monitored, and the NSTAR programs consistently achieve energy savings benefits that are **four times** the amount invested. NSTAR programs have received over 7 National awards for excellence over the past 2 years. Utility-based energy efficiency programs in Massachusetts are widely recognized in the energy efficiency community as well run, comprehensive and effective. For the 8th year in a row, Massachusetts utilities, facilitated by NEEP, were honored for Excellence in the Energy Star national promotion.

We believe there are very substantial risks in moving efficiency programs to a central state administration, including increased administration cost, increased confusion with the loss of "one stop shopping", increased difficulty of execution, and increased difficulty of capturing any additional attributes that these programs could earn, such as Forward Capacity Market revenues or Regional Greenhouse Gas Initiative payments.

We believe the current structure has been successful because it recognizes and builds on the extensive relationships that utilities have with their customers. In fact, at NSTAR we view the provision of regulated energy supply and energy efficiency, particularly to customers who do not have access to any meaningful retail choices, as a central part of our customer service mission. We believe that customer benefit is the criterion against which any policy change in this area should be judged. To the extent that the bill moves in the direction of diluting the utility-customer relationship, by proposing the assignment of customers to non-utility suppliers or by other means, we think it will not advance customer benefit.

We look forward to working with the committee to resolve these issues in order to enhance energy efficiency programs and continue to deliver real benefits to the customers who pay for these programs.

Rate Decoupling

One of the problems that has faced efficiency and renewable initiatives in the past is that utility rate structures strongly discourage utilities from pursuing these activities. The reason is quite simple and easily seen. Since utility revenues are based on the amount customers consume, decreased energy use decreases utility profitability. There is a very strong consensus among efficiency and renewable advocates that utility revenues must be "decoupled" from sales in order to eliminate this perverse incentive.

NSTAR agrees with this view. We believe that the introduction of decoupling will be a very significant enabler of the kinds of activities the bill seeks to promote. For NSTAR to be able to continue to pursue the many efficiency-related activities which I described in the beginning of my testimony, it is critical that decoupling be implemented.

The details of decoupling implementation will involve technical rate matters that are not well suited for inclusion in legislation. However, we believe it is entirely appropriate for a comprehensive energy bill to contain a legislative endorsement of the principle of decoupling, with detailed implementation to be determined by appropriate regulatory agencies.

I will conclude by again thanking the Speaker for the opportunity to comment on the bill, and by expressing NSTAR's commitment to working with all stakeholders to develop an energy plan that lowers costs, improves efficiency and encourages alternative sources of energy in order to make Massachusetts a more affordable, cleaner, and more energy self sufficient place to live and work.

Testimony concerning H 3965
Green Communities Act of 2007
State House, Boston
April 2, 2007

Jerrold Oppenheim,On behalf of
Low-income Weatherizaton and Fuel Assistance Program Network*

I am Jerrold Oppenheim and I am appearing on behalf of the low-income weatherization and fuel assistance program network identified in c. 25, sec. 19.

The Network is 21 community-based non-profit agencies that implement the low-income efficency programs mandated by the restructuring act of 1997, with the support of the electric and gas utilities in the state, as well as some of the municipal utilities, the US Department of Energy, and the Massachusetts Department of Housing and Community Development (DHCD). Together, and with the help of the Attorney General and other collaboratve partners, the Network:

- insulates and tightens 5000 low-income homes a year, resulting in savings of 15-25% each,
- replaces 7000 old refrigerators with Energy Star units, and replaces light bulbs and fixtures in 14,000 homes, for an average savings of about 10%, and
- replaces 2500 heating systems, saving 15-20%.

In addition, in the last two years, with the support of the Massachusetts Technology Collaborative (MTC), the Network has installed renewable energy measures – mostly solar electric and solar hot water, but also a couple of micro combined heat and power units -- that together produce about 111 *mega*Watthours a year.

Also, the Network manages the Fuel Assistance program, which supports about 145,000 households, and, together with the Commonwealth's utilities, the arrearage management program enacted by the General Court.

* Democracy And Regulation, 57 Middle St., Gloucester, Mass. 01930, 978-283-0897, JerroldOpp@DemocracyAndRegulation.com., www.DemocracyAndRegulation.com

We are grateful to Speaker DiMasi and to Chairs Bosley and Dempsey for a proposal that focuses much-needed attention on the long-term energy crisis that confronts the Commonwealth. As the Green Communities Act makes clear, nothing less than the seriousness of an Apollo Project will free us from dependence on fossil fuels, protect us from global warming, insulate our economy from energy supply disruptions, and save Massachustts families from ruinously unaffordable energy bills.

We have four points:

1. Utility administration of efficiency programs has been extremely successful.
2. Mandated efficiency and renewables programs should be expanded.
3. The Attorney General has been an excellent and dependable ratepayer advocate. And
4. Restructuring has been very hard on residential customers – reform is needed.

First and second -- We are grateful for the proposed continuation of part of the current low-income efficiency program. But energy prices have doubled since the original mandate in 1997. More mandated efficiency is needed. Our success with MTC renewables should also be expanded.

Instead of these increases, the bill's low-income mandate is <u>less than half</u> of the current low-income efficiency and renewables programs.

An essential component is to retain professional utility administration of efficiency programs, for a lot of reasons:

* Massachusetts utility administration has been efficient;
* It makes equitable distribution easier;
* Utilities provide world class technical and managerial expertise;
* The programs are comprehensive -- avoiding costly cream-skimming. Programs are also mature, well past the low-cost low-hanging fruit stage of states that started only recently, often by copying Massachusetts programs that have won ten EPA awards in the last seven years.
* Change is disruptive. As the California PUC discovered, "Our unsuccessful attempts to shift ... administration ... created *over two years* of uncertainty."

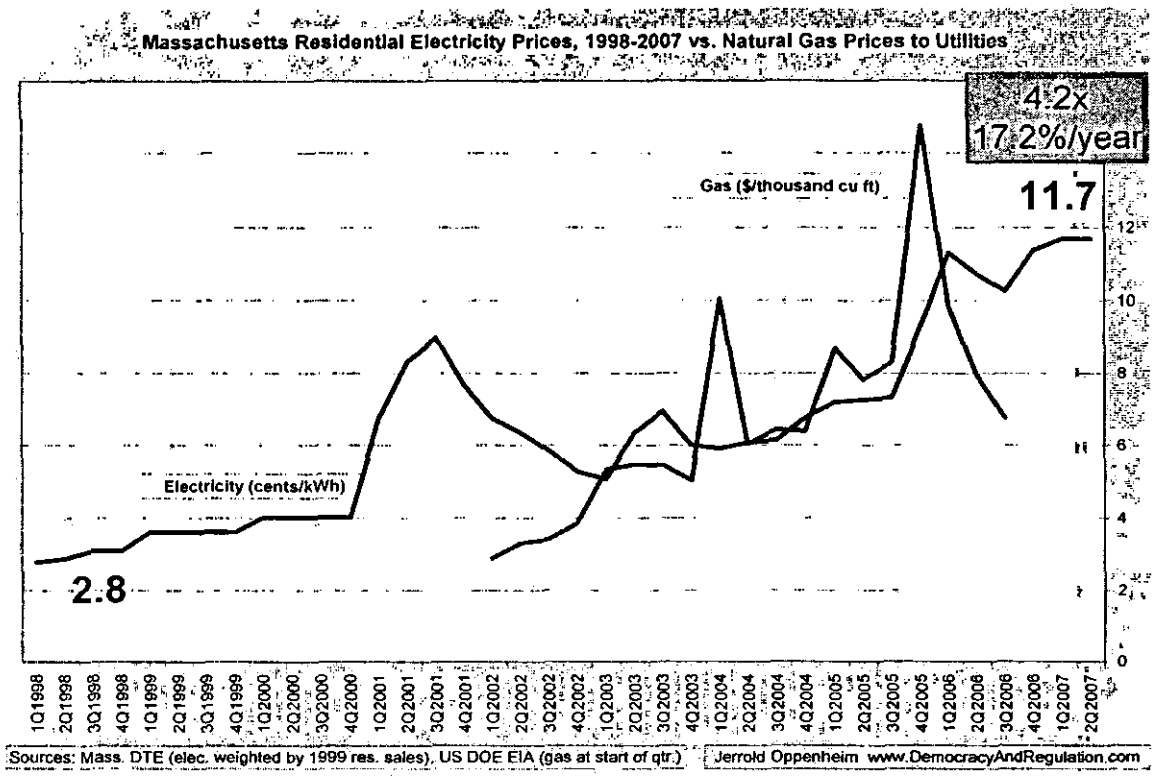
* Utility administration is also part of a unique five-layer oversight that assures accountability:

- a Consensus stakeholder process,
- DOER analysis and review,
- DTE review of cost-effectiveness,
- Post-program tracking, and
- (where appropriate) formal, independent impact evaluation.

Third – The proposed reorganization of ratepayer advocacy would lose the excellence of Attorney General (AG) advocacy, the synergy of operating within a large public interest law practice, as well as the independence of an independently-elected constitutional officer. If anything is done about ratepayer advocacy, it should be to expand the resources of the AG.

Finally, we understand the aversion to new charges – but that is exactly what the departure from cost-of-service rates has inadvertendly imposed. As shown below, home generation prices are up more than four times since restructuring, more than 17% a year. Wages are not increasing at this rate -- they are falling at the bottom and, under the President's current budget, Federal LIHEAP fuel assistance funding has been cut more than 50% over the past two years.

Low-income families devote 20% or more of their income to home energy. We just completed a survey of a group of our clients who are working especially hard to pay their utility bills. More than 40% of them skip a meal, needed medicine, or rent.



With your permission, we will be pleased to submit more detailed comments for the record.

Thank you.

ORIGINAL

Docket

TESTIMONY on HB No. 4254

Green Communities Act of 2007
Presented to the Joint Committee on Telecommunications, Utilities and Energy
Presented by: Lori Ribeiro, Independent Brownfields Consultant to the City of Brockton and Senior Consultant, BlueWave Strategies (halftime)
April 2, 2007

Introduction

My name is Lori Ribeiro. I am an environmental and renewable energy consultant. For the past nine years, I have served as the Brownfields Coordinator for the City of Brockton, which I currently do half time while also working half time with BlueWave Strategies in Boston. I am here to provide testimony as a result of my past six years of experience in developing the City of Brockton's solar "Brightfield", the largest solar power plant in New England, which was installed on a former brownfield site. This project required two home rule petitions in 2005, so you may be familiar with it. The process was so frustrating to me, I returned to school for my master's degree, and am basing part of my testimony on the Master of Science thesis I submitted to the Massachusetts Institute of Technology in August 2006 entitled, "*Does it have to be so complicated? Municipal renewable energy projects in Massachusetts*". My thesis research included a case study of Brockton's project as well as a survey of Massachusetts municipalities performed in partnership with ICLEI-Local Governments for Sustainability.

I am delighted that the House is interested in facilitating Green Communities through this Act. Massachusetts needs to facilitate implementation of municipal renewable energy projects. Municipalities are struggling to cope with skyrocketing energy prices. Further, in the absence of federal action, many municipal leaders are rightly concerned about 1) the environmental impacts of energy production and consumption, and 2) America's over-reliance on imported energy resources. They want to seize greater control over our energy future through renewable energy technologies. This could have great impact on both our economy and environment because municipalities are major energy users, exporting the bulk of their energy dollars outside the local economy. Finally, local projects have significant potential to educate the general public and foster broader adoption of renewable energy. Unfortunately, too many state policy barriers hinder these initiatives.

I have read that the Speaker and his co-sponsors of the Green Communities Act are willing to make changes to the Act, and I hope that they are willing to put a high priority on those issues that serve as barriers to communities like Brockton, and the many that are struggling to implement Community Wind projects, but are struggling to overcome all the barriers.

Policy Change Recommendations

The table below identifies policy barriers, their sources, and proposed solutions. It is focused on municipalities that do not have municipal light plants and, therefore, face the greatest hurdles. Of 351 Massachusetts municipalities, only 41 have municipal light plants. Brockton, which lacks a municipal light plant, required passage of two Home Rule Petitions (attached) by the State Legislature to address the major policy barriers to developing its solar facility (in order, below).

Other non-municipal light communities that want to site wind turbines or other large renewable generating assets will require Home Rule petitions to address at least the first two barriers, which are pressing priorities.

Policy Barriers, their Sources, and Proposed Solutions

Policy barrier...	Derived from...	Proposed solution
Municipalities lack legal authority to develop, finance, operate and maintain renewable energy generating facilities	MGL Chapter 164 does not provide legal authority	Three legislative change options: 1) Provide municipalities explicit legal authority to finance, develop, operate and maintain alternative energy projects. 2) Ease requirements for municipalities to establish municipal light plants. 3) Allow utilities to own renewable energy generating assets serving municipalities.
Third party ownership is not authorized. As a result, municipalities cannot take advantage of third party contracting that a) avoids initial capital costs; b) takes advantage of private sector tax credit advantages; c) avoids above-listed policy barriers; d) has vendor assume O&M responsibilities.	Net metering provisions 220 CMR 11.04 (7)(c) Massachusetts Renewable Energy Trust grant guidelines	Legislative change explicitly authorizing third party behind the meter power sales Change grant funding guidelines to provide incentives for third parties
Limitation on municipal borrowing set by General Laws on Municipal Finance, purposes for borrowing money allows only ten years to borrow for alternative energy. Many projects require fifteen to twenty years.	MGL CHAPTER 44. § 7(3B)	Legislative change increasing maximum term to twenty years.
Land availability is challenging for municipalities, even for siting a resource with a small footprint (i.e., a 1-2 wind turbine project).	Article 97 land protection	1) Explore potential changes to EOEA policy on Article 97 restrictions to facilitate siting of renewable energy on municipal lands, or 2) Define solar and wind energy projects as exceptional circumstances
Procurement ambiguity – it is not clear which chapter of procurement law applies to a renewable energy project, particularly when there is not a building involved.	MGL Chapter 30B, MGL 30§ 39M, MGL Chapter 149, MGL Chapter 25A: Section 11C	Legislative change clarifying which chapter applies. Chapter 30B allows evaluation based on criteria other than cost, which is preferable to lowest bidder as required by MGL 30§ 39M, MGL Chapter 149.
Often the best resource area for a renewable resource is at a location other than the site of the largest / most appropriate municipal load. Behind the meter economic advantages are often lost when balancing technical considerations	Interconnection standards	Legislative change to modify interconnection standards to allow electricity generated at one municipal site to be used at another site without distribution charges even if it crosses a public way; or, allow such generation to offset total municipal electricity supply charges.

with interconnection standards.		
Project scale is limited by economic considerations because net metering is capped at 60 kW	MGL Ch 164; Net metering provisions 220 CMR 11.04(7)(c)	Legislative change to increase net metering to 2 MW (solar and other renewable energy technologies as already defined in Ch 164).
Insurance requirements for distributed generation are borne individually by each customer, resulting in higher costs for all.	Interconnection standards	Legislative change requiring utilities to procure insurance and charge municipalities at cost (eliminate 38% markup for interconnection related costs), or to pool distributed generation customers to negotiate preferred rates

Beyond the policy changes, there is a need to improve the amount and consistency of financial and technical support offered to municipalities. Federal support for renewable energy is provided largely in the form of tax credits, which municipalities are not eligible to receive. The new Community Renewable Energy Bonds provide short-term opportunities, but longer-term predictable financing is required. Recommended changes for Massachusetts include:

- √ Carve-outs from the Massachusetts Renewable Energy Trust for municipalities such as those proposed in the Green Communities Act are a terrific start. The Act should also allow municipalities to enter into Power Purchase Agreements with commercial third parties that will finance, develop, own and operate renewable energy systems so that they can take advantage of federal tax credits and reduce the financial burden on local communities as well as state funds. The Green Schools and Community Wind programs are a start, but have narrow eligibility criteria that exclude many projects. The Trust weighs financial leverage as a grant decision criterion; municipalities are at a disadvantage because they cannot access tax credits.
- √ Zero interest loans to municipalities from the Massachusetts Renewable Energy Trust.
- √ Technical assistance should be expanded in scope beyond current technical and financial feasibility analysis. More assistance is required to assist cities and towns with building community and political support, developing financing plans (including assistance with multiple, technically complex, lengthy proposals), and planning for and implementing interconnection. Community Wind and Green Schools provide an excellent start, but have not been able to move projects past the need for special legislation and similar hurdles.

The importance of long-term financing cannot be overstated. Short-term programs with two or three year windows are insufficient.

Proposed Amendments/Changes to Green Communities Act of 2007
CHAPTER 6C
Section 5(c)(i) Second sentence, change to "municipally or privately owned land". Many communities lack undeveloped open space appropriate for developing clean energy generating facilities or manufacturing plants or R&D centers. Brockton's Brightfield is on land leased from Bay State Gas Company. Many Community Wind projects are curtailed by Article 97 protections. Section (c)(ii) appears to recognize this by recognizing projects built on municipally or privately owned land.

Section 5(c)(iii) Add an item (h) installing a clean energy generating project. These could include solar, wind or other clean energy technologies.

Section 5(e) The funding formula does not include any funds for commercial entities. Third party ownership by commercial, taxable entities is a crucial tool for facilitating public ownership, and so should be allowed (perhaps if the community applies as a public private partnership).

Section 9 The energy advisory board should also have renewable energy representation. The Board should include 15 members, 2 of whom shall be from the renewable energy industry.

Section 13 The Massachusetts Municipal Association's MunEnergy program should also be included.

Section 20. Having a clean energy site committee is a top down process. Communities should be able to apply and submit their own project concepts. Many are very eager to develop clean energy economies and would like to submit their ideas.

Section 23 (e) directs the undersecretary of the Department of Alternative and Renewable Energy Development to "ensure the fund shall be employed to provide financial and non-financial resources to overcome barriers facing clean energy enterprises, institutions, and projects". It should also help communities trying to overcome these barriers as articulated above.

Section 29, sixth paragraph states, "with respect to any grant funds of the commonwealth made to, or grant agreements involving funds of the commonwealth entered into with any city, town, sewer district or regional school district after January 1, 1984, the undersecretary shall require that a portion of such grant be repaid to the commonwealth." Required repayments are between 30-50%. This is bad policy. Communities are already struggling with energy bills, and repaying grants back to 1984 is neither budgeted for nor contractually sound. The logic behind taking those funds from municipalities and putting them into the General Fund is not clear. In the case of Brockton's Brightfield, if we had to repay 30% of the grant, that would represent 20% of the project's annual revenues for 10 years and change the project from being self-sustaining to being a drain on the City's General Fund. This violates promises we made to city taxpayers. This provision must be removed.

SECTION 459. Pay as You Save, while interesting and laudable in its intent, has two fatal flaws. First, the $300 for solar hot water and $1,000 for residential or commercial renewable energy are amounts that are far too small to incentivize any installations when the typical costs are orders of magnitude higher. Second, in the case of solar in particular, the repayment scheme would not work because the incentive is so low, the resident or commercial enterprise would not realize any savings.

Benefits

Enacting the policy changes recommended above would foster increased adoption of renewable energy by municipalities. This would have several benefits:

√ Lower municipal energy bills (reduces local tax burden).

- √ Economic development through increased markets for renewable technologies (local governments combined use more energy than state government).
- √ Economies of scale from implementing utility-scale projects increase cost effectiveness.
- √ Environmental benefits of offsetting electricity consumption from fossil and nuclear fuels with renewable resources.
- √ Increased public awareness of renewable energy through local projects.
- √ Increased public acceptance of wind projects through small, local demonstration projects with clear community benefits will foster greater acceptance of large-scale wind projects.

Conclusion

Local governments lack the resources to navigate the technical, policy, and financial barriers faced when attempting to implement renewable energy projects. The state must remove policy barriers that require each municipality to secure a home rule petition simply to install a wind turbine or large solar array. The top priorities should be 1) to address the legal authority to finance, develop, operate and maintain issue; and, 2) to eliminate the ten-year limitation on borrowing for alternative energy. Increasing net metering to 2 MW will benefit both public and private projects. Although it is more complex, the Article 97 issue needs to be explored. (In Brockton's case, the land was a former manufactured gas plant brownfield site that had never been used for conservation purposes and had an Activity and Use Limitation). Finally, all the other policy and financing barriers cited above add to the cost and complexity of implementing renewable energy projects; making it less likely for any given project to succeed. If the state wants to take a leadership role in renewable energy, it should facilitate municipal action by removing these barriers. Thank you for the opportunity to provide input. Please contact me at (781) 648-2605 or LRibeiro@alum.mit.edu if you have any questions. I would be pleased to meet with committee members or their staff to discuss these issues.

Chapter 5 of the Acts of 2005

AN ACT AUTHORIZING THE CITY OF BROCKTON TO INSTALL, FINANCE AND OPERATE SOLAR ENERGY FACILITIES.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Notwithstanding any general or special law to the contrary, the city of Brockton may design and install ground-mounted solar energy facilities at the 2 brownfields parcels owned or leased by the city of Brockton located on opposite sides of Grove street, aggregating approximately 15 acres and previously owned by the Brockton Gaslight Company, prepare and improve the sites, acquire all equipment necessary for the solar energy facilities, make improvements and extraordinary repairs to the facilities, and pay all other costs incidental and related thereto.

SECTION 2. The city of Brockton may issue bonds or notes up to but not exceeding the sum of $2,000,000 in the aggregate in order to finance all or a portion of the costs of the solar energy facility projects authorized pursuant to section 1. Notwithstanding chapter 44 of the General Laws to the contrary, the maturities of any such bonds issued by the city of Brockton under this act either shall be arranged so that for each issue the annual combined payments of principal and interest payable in each year, commencing with the first year in which a principal payment is required, shall be as nearly equal as practicable in the opinion of the city treasurer, or shall be arranged in accordance with a schedule providing for a more rapid amortization of principal. The first payment of principal of each issue of bonds or of any temporary notes issued in anticipation of the bonds shall be not later than 5 years from the estimated date of commencement of regular operation of the solar energy facilities financed thereby, as determined by the city treasurer, and the last payment of principal of the bonds shall be not later than 25 years from the date of the bonds. Indebtedness incurred under this act shall not be included in determining the limit of indebtedness of the city under section 10 of said chapter 44, but, except as otherwise provided in this act, shall be subject to the provisions of said chapter 44.

SECTION 3. Notwithstanding any general or special law to the contrary, the city of Brockton may operate any solar energy facilities installed pursuant to section 1, sell any electricity generated from such facilities and sell any other marketable products resulting from its generation of solar energy at such facilities or from its generation of any type of renewable energy at any renewable energy facility which the city is authorized by law to operate, including electronic certificates created to represent the "generation attributes" as such term is defined under 225 CMR 14.02 of each megawatt hour of energy generated by the solar energy facilities or any such other renewable energy producing facilities. The mayor of the city of Brockton may enter into 1 or more contracts on behalf of the city of Brockton for the sale of electricity and other marketable products resulting from the generation of solar energy at the solar energy facilities with such parties and upon such terms and conditions as the mayor determines to be in the best interest of the city of Brockton, but any such contract shall be subject to the approval of the city council.

SECTION 4. The city of Brockton shall procure any services required for the design, installation, improvement, repair and operation of the solar energy facilities authorized pursuant to this act and the acquisition of any equipment necessary in connection therewith in

accordance with the procurement requirements of chapter 30B of the General Laws, and the city of Brockton may procure any such services and equipment together as one procurement or as separate procurements thereunder.

SECTION 5. The city of Brockton may establish an enterprise fund pursuant to section 53F 1/2 of chapter 44 of the General Laws for the receipt authorized pursuant to this act and from any other renewable energy producing facilities which the city is authorized by law to operate and all moneys received for the benefit of the solar energy facilities and any such other renewable energy facilities, other than the proceeds of bonds or notes issued therefor. Such receipts are to be used to pay costs of operation and maintenance of the solar energy facilities, to pay costs of future improvements and repairs thereto, and to pay the principal and interest on any bonds or notes issued therefor.

SECTION 6. This act shall take effect upon its passage.

Approved February 17, 2005.

Chapter 151 of the Acts of 2005

AN ACT AUTHORIZING THE CITY OF BROCKTON TO CONVEY CERTAIN PARK LAND.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The city of Brockton, acting by and through its mayor and city council, may convey a certain parcel of land acquired for park, recreational and conservation purposes to Bay State Gas Company. Consideration paid for said parcel shall be $500,000. Said parcel is shown as Lot 1 on a plan of land entitled "Subdivision Plan of Land, Grove Street, Brockton, Mass." dated October 3, 2003 and prepared by Harry R. Feldman, Inc., which is on file in the office of the city clerk. The grantee shall assume the costs of all appraisals, studies, surveys and other expenses related to the conveyance.

SECTION 2. This act shall take effect upon its passage.

Approved November 22, 2005.

TESTIMONY OF

RIDGEWOOD RENEWABLE POWER, LLC ON

HOUSE BILL 3965

THE GREEN COMMUNITIES ACT OF 2007

COMMONWEALTH OF MASSACUSETTS

JOINT COMMITTEE ON TELECOMMUNICATIONS, UTILITIES AND ENERGY

PRESENTED BY

DANIEL V. GULINO, ESQ.
SENIOR VICE PRESIDENT AND GENERAL COUNSEL
RIDGEWOOD RENEWABLE POWER, LLC
AND
WILLIAM P. SHORT III
VICE PRESIDENT OF POWER MARKETING
RIDGEWOOD POWER MANAGEMENT, LLC

APRIL 2, 2007

Thank you for the opportunity to testify before you today on House Bill 3965, ***The Green Communities Act of 2007***. The proposed legislation is innovative and its intentions are laudable but Ridgewood Renewable Power (Ridgewood) has some concerns about one of its sections. Ridgewood, respectfully recommend the following changes to ***The Green Communities Act of 2007***, House Bill 3965:

Add an RPS Requirement for Existing Renewables - Section 21(a) - Ridgewood believes that the Commonwealth should make an explicit statement to retain its existing renewable energy generating sources. It makes little sense to promote new renewable sources while paying minimal attention to those existing renewable sources. Since the mid-1990s, New England has received about 10% of its energy from such sources. Accordingly, Ridgewood urges that, after the second sentence in the paragraph, the following sentences should be inserted:

> Commencing in January 2011, every retail supplier shall provide a minimum of ten percent (10%) of kilowatt-hour sales to end-use customers in the commonwealth from existing renewable energy generating sources. For the purposes of this subsection, an existing renewable energy generating source is one that began commercial operation before January 1, 1998. A retail supplier may satisfy all or part of this obligation from new renewable energy generating sources.

Remove the Inclusion of Hydro Below 5 MW from The RPS - Section 21(b) – The idea of including hydro below 5 megawatts (MW) in the category of new renewable energy generating sources if located in the Commonwealth is well intentioned but whose most likely outcome is the collapse of the Massachusetts new renewables energy market. Ridgewood's first and foremost concern is the constitutionality of this portion of the proposed statute. There appears to be little case law supporting a Commonwealth-only limitation on qualifying incremental production from hydro below 5 MW while excluding all other such production from New England hydro units.

If enacted and then found unconstitutional, the worst result could be to include all such 5 MW hydro production located in New England as renewable energy generating sources but with only adding to the new renewable requirement that which is located in the Commonwealth. ISO-NE records indicate that nearly 5.5 times as much hydro production below 5 MW exists outside of the Commonwealth as in it. From year to year,

incremental hydro production from hydro units less than 5 MW can be significant. In 2000, such hydro production was only 97 GWh in the Commonwealth and 667 GWh in New England. For 2005, such hydro production was 170 GWh while the corresponding number was 985 GWh, respectively. Thus, the supply of incremental hydro production could be 318 GWh while the increase in new renewables requirement would be only 73 GWh.

This difference, 245 GWh, could easily cause the supply of new renewable energy generating sources to exceed the requirement for new renewables. For 2007, Ridgewood forecasts supplies of new renewable energy generating sources to be approximately 1,500 GWh while the new renewables requirement ought to be approximately 1,600 GWh. Consequently, had this statute been in effect and the in-state supply limitation been declared unconstitutional, Ridgewood believes that the new renewable requirement would be satisfied and the value of the Massachusetts renewable energy certificates would fall to such a low price that no new or incremental production from existing resources could be sustained. Any projects in the development pipeline would stop. The message sent to the investment community is that the Commonwealth is willing to change its RPS statute on a whim for parochial business interests. Last, it could take years to repair the harm that such a well intentioned, but misguided, legislative change could bring. ***Accordingly, Ridgewood suggests that all proposed language pertaining to the inclusion in the RPS of both the in-state supply and the in-state requirement coming from hydro below 5 MW be deleted from this proposed bill.***

Specify Emissions Rate of Stoker Biomass Units - Section 21(b) – While the proposed bill attempts to state that less than 30 MW stoker biomass units must meet air emissions of low emission, advanced biomass units, no clear emission criteria are mentioned. Ridgewood believes that explicit air emissions criteria for NOx, CO, SO_2, VOC, PM, Pb and Hg should be added to this section with the requirement that all of these stokers must meet all of these limits. Ridgewood's experience with the Massachusetts Division of Energy Resources is that that organization was all too willing to accept the applicant's word that its emissions met a Best Available Control Technology standard when in most cases they did not. Developers of new fluidized bed boilers have made public claims of very low levels of air emissions. These should provide the basis for the limits placed in this statute. ***Accordingly, Ridgewood requests that the following air emissions levels be set in the***

proposed bill for all less than 30 MW stoker biomass units: NOx emission limits of 0.075 lbs/mmBTU, CO emissions of 0.080 lbs/mmBTU, SO_2 emissions of 0.020 lbs/mmBTU, VOC emissions of 0.005 lbs/mmBTU, PM emissions of 0.01 lbs/mmBTU, Pb emissions of 0.000005 lbs/mmBTU; Hg emissions of 0.0000025 lbs/mmBTU.

Remove all references to any form of C&D Wood as an Eligible Biomass Fuel - Section 21(b) –Renewable portfolio standards should be for clean, renewable energy and not for those renewable technologies which cause major health concerns and/or do not need the subsidy arising from an RPS. Construction and demolition (C&D) wood fits both of these latter definitions and clearly does not satisfy the former. Most important, there is no study of the burning of C&D wood that shows that C&D wood can be burned and not cause any increased illness. A comparison of the air toxics released by identical biomass plants located in Maine, one burning 45% C&D and 55% forest biomass and the other burning 100% forest biomass, showed that the former emitted 4 times the air toxics of the latter. Presently, neither the burning of C&D wood nor the inclusion of C&D wood in the RPS programs is permitted in Connecticut (except for two grandfathered exceptions), Rhode Island and New Hampshire. There is no justifiable reason, health or economic, to permit the inclusion of this fuel as an Eligible Biomass Fuel. ***Accordingly, Ridgewood requests that (1) the phrase "organic refuse derived fuel" be stricken from the list of biomass fuels and (2) the phrase "construction and demolition wood" be added to the list of technologies not considered renewable energy supplies.***

Ridgewood thanks the Committee for granting it the opportunity to offer its testimony on *The Green Communities Act of 2007*, House Bill 3965.

This concludes Ridgewood's testimony.

ANALYSIS OF NEW ENGLAND ELECTRIC PRODUCTION (GWh)

State	CY 2000		CY 2001		CY 2002		CY 2003		CY 2004		CY 2005	
	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*
NE Retail Load**	125,394		126,485		128,029		130,778		132,520		136,369	
NE Generation**	109,924	87.7%	114,618	90.6%	120,538	94.1%	126,898	97.0%	129,189	97.5%	131,602	96.5%
NE Non-Renewable	96,887	77.3%	103,393	81.7%	108,395	84.7%	113,799	87.0%	116,271	87.7%	117,422	86.1%
NE Renewable	13,037	10.4%	11,225	8.9%	12,143	9.5%	13,099	10.0%	12,917	9.7%	14,180	10.4%
NE Biomass	2,172	1.7%	2,076	1.6%	1,964	1.5%	1,907	1.5%	1,822	1.4%	2,097	1.5%
NE Hydro (all sizes)	6,115	4.9%	4,365	3.5%	6,468	5.1%	6,391	4.9%	6,305	4.8%	7,284	5.3%
NE Hydro (< 5 MW)	667	0.6%	698	0.5%	819	0.6%	933	0.7%	887	0.7%	985	0.7%
NE Hydro (> 5 < 30 MW)	3,048	2.4%	2,164	1.7%	2,590	2.0%	3,053	2.3%	3,061	2.3%	3,348	2.5%
NE Hydro (> 30 MW)	2,401	1.9%	1,603	1.3%	1,959	1.5%	2,406	1.8%	2,357	1.8%	2,951	2.2%
NE Landfill Gas	302	0.2%	361	0.3%	354	0.3%	373	0.3%	377	0.3%	404	0.3%
NE MSW	4,438	3.5%	4,411	3.5%	4,444	3.5%	4,416	3.4%	4,400	3.3%	4,382	3.2%
NE Wind	9	0.0%	12	0.0%	13	0.0%	12	0.0%	13	0.0%	12	0.0%

* Percentage is the percent of New England Retail Load

** Excludes NMISA Generation and Load

ANALYSIS OF MASSACHUSETTS
ELECTRIC PRODUCTION
(GWh)

State	CY 2000		CY 2001		CY 2002		CY 2003		CY 2004		CY 2005	
	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*	Energy	Percentage*
MA Retail Load	56,342		56,953		57,992		59,471		59,986		61,882	
MA Generation	40,911	72.6%	41,296	72.5%	44,268	76.3%	49,000	82.4%	48,413	80.7%	48,372	78.2%
MA Non-Renewable	37,918	67.3%	38,594	67.8%	41,353	71.3%	45,876	77.1%	45,337	75.6%	45,231	73.1%
MA Renewable	2,993	5.3%	2,702	4.7%	2,914	5.0%	3,124	5.3%	3,076	5.1%	3,141	5.1%
MA Biomass	142	0.3%	140	0.2%	140	0.2%	136	0.2%	127	0.2%	134	0.2%
MA Hydro (all sizes)	978	1.7%	652	1.1%	886	1.5%	1,081	1.8%	1,021	1.7%	1,082	1.7%
MA Hydro (< 5 MW)	97	0.2%	95	0.2%	151	0.2%	156	0.3%	154	0.3%	170	0.3%
MA Hydro (> 5 < 30 MW)	406	0.7%	263	0.5%	334	0.6%	421	0.7%	347	0.6%	354	0.6%
MA Hydro (> 30 MW)	475	0.8%	294	0.5%	436	0.8%	504	0.8%	520	0.9%	559	0.9%
MA Landfill Gas	84	0.1%	127	0.2%	124	0.2%	150	0.3%	157	0.3%	151	0.2%
MA MSW	1,788	3.2%	1,783	3.1%	1,763	3.0%	1,756	3.0%	1,769	2.9%	1,772	2.9%
MA Wind	0	0.0%	0	0.0%	1	0.0%	2	0.0%	2	0.0%	1	0.0%

SSCAC, Inc. Fuel Assistance

- 9,695 households applied through 3/28/07
- 39 towns Hull to Wareham & Cape & Islands
- 64% of households have zeroed out of funds at 3/28/07
- Benefits are 35% less than last year
- 30% elderly
- 43% heat with oil, kerosene, or propane; 43% of SSCAC households heat with natural gas; 11% heat via electricity; 3% coal, wood, or heat in rent
- Average household income $ 16,011.
- Natl avg heating expense projected to be $ 873
- Weatherization 244 utility leveraged units $ 238,364 leveraged dollars annually

eyspan DSM	42 UNITS	$ 59,335
ay St Gas DSM	10 UNITS	$ 20,636
sTAR Electric DSM	14 UNITS	$ 22,301
GRID DSM	17 UNITS	$ 25,730
Star Gas DSM	4 UNITS	$ 8,043
star Amps	114 UNITS	$ 62,255
Grid Amps	41 UNITS	$ 30,204
TC	2 UNITS	$ 9,860

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April 2, 2007

The Honorable Michael W. Morrissey
The Honorable Brian S. Dempsey
Members of the Joint Committee on Telecommunications, Utilities and Energy
State House
Boston, MA 02133

Dear Chairman Morrissey, Chairman Dempsey and members of the Committee:

Thank you for the opportunity to comment on H.B. 3965, "An Act Relative to Green Communities," which focuses primarily on achieving significant policy goals in energy, and broadening the economic impact of new energy approaches in Massachusetts. As a major purchaser of energy services in Massachusetts, Verizon supports the broad principles outlined in this bill, and we applaud the sponsors' focus on developing new sources of energy in order to drive down costs in the Commonwealth.

A number of provisions in H.B. 3965 affect the communications industry. The proposal clearly recognizes that the telephone and cable industries have more in common with each other than they do with monopoly energy distribution.

The communications industry is marked by fast-changing technologies, markets, and consumer demand. Expanded broadband infrastructure requires massive capital investments, but these investments can catalyze growth and stimulate innovation across many sectors of our state's economy.

Massachusetts must find ways to promote network investment and deployment in a way that allows for *ever-changing technological and market conditions. In this light, further clarification may be needed as to* how any underlying reorganization plan best applies to competitive industries. Other provisions may need further examination to determine how they square with federal law and regulations covering wireless and broadband services.

We look forward to working with the committee to find ways to create a climate for more broadband investment and technology deployment in Massachusetts, and we look forward to working with you as this bill progresses through the legislative process.

Sincerely,