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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**

Rockport, ME
Portland, ME
Providence, RI
Hartford, CT
New Haven, CT

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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

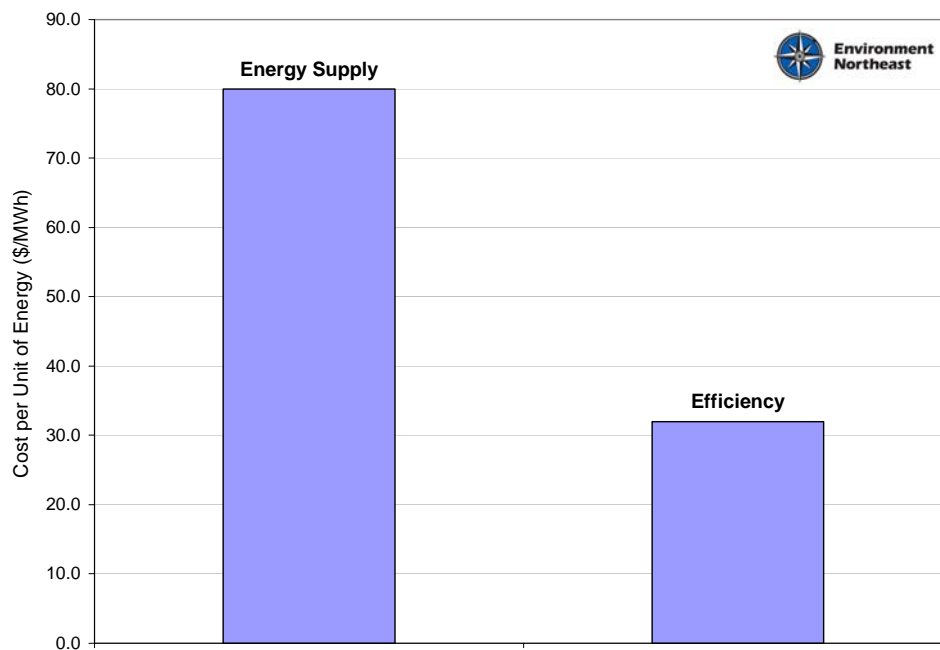
Existing Electric Energy Efficiency Programs

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.

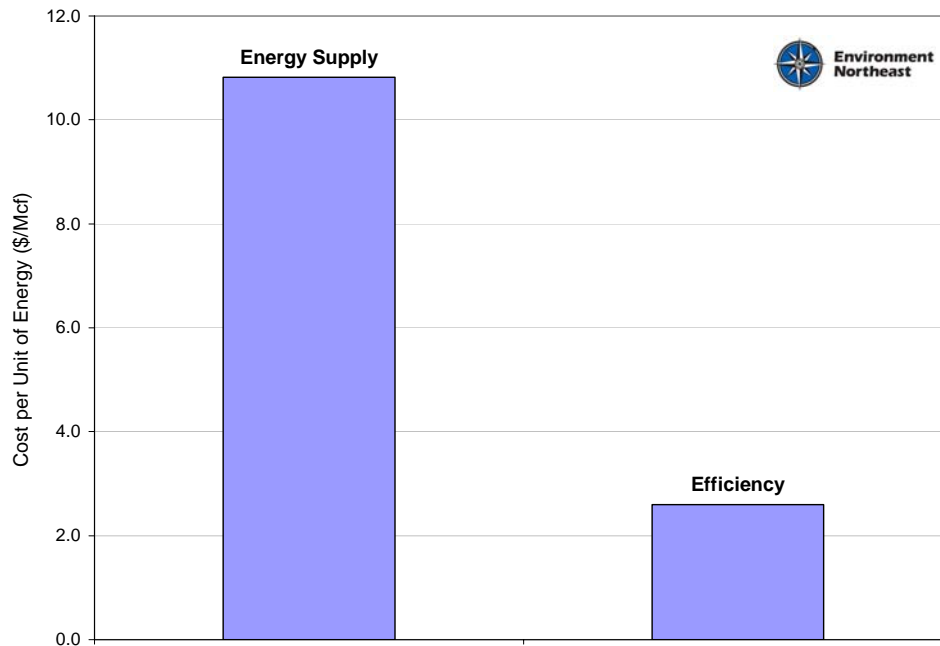
Existing Natural Gas Energy Efficiency Programs

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 of energy independence, job and economic growth, and reduced emissions.
- The KeySpan natural gas efficiency programs save over 600 thousand tons of CO₂ 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

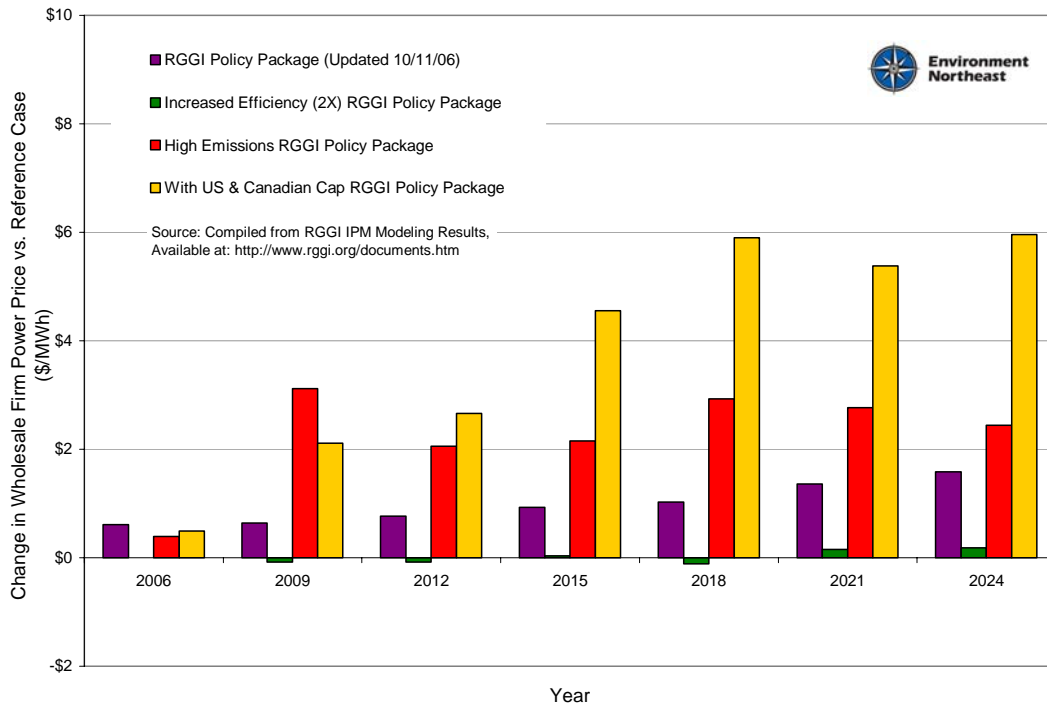
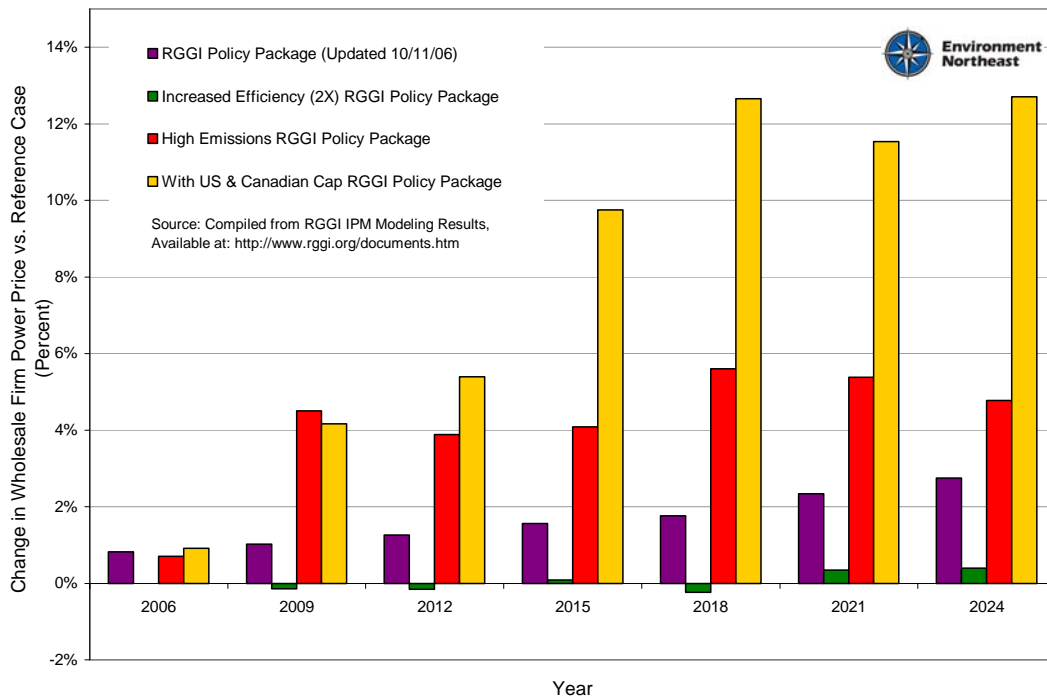


Figure 3: Forecasts of Changes in Wholesale Electric Power Percent Increases Due to RGGI



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.