Environment Northeast

Michael D. Stoddard
Deputy Director and Attorney

Testimony of Michael D. Stoddard
Deputy Director and Attorney, Environment Northeast

"Solutions to Cope with the Rise in Heating Oil Prices"

United States Senate
Committee on Small Business and Entrepreneurship
Rm. 428A Senate Russell Office Building
Washington, DC 20510

June 25, 2008

On behalf of Environment Northeast (ENE), I am pleased to offer this testimony calling for new state and federal policies to establish and fund major energy efficiency programs that will help Americans cope with the rise in heating oil costs. ENE is a Maine based regional non-profit organization that researches and advocates innovative environmental policies. ENE is at the forefront of state and regional efforts to combat global warming with solutions that promote clean energy, clean air, healthy forests, and a sustainable economy. Our staff of attorneys, policy experts, and environmental specialists work out of offices in Connecticut, Rhode Island, Massachusetts, Maine and eastern Canada.

ENE is proposing that the federal government coordinate with the states on a major new initiative to help consumers and our economy gain control over escalating oil and propone costs. Together, federal and state government should implement a comprehensive efficiency effort in two parts. For income-eligible residential buildings, the Weatherization Assistance Program budget should be expanded to around $3 billion per year over five years in order to weatherize every home that receives LIHEAP fuel aid. For business, multifamily and all other residential buildings, market-based efficiency programs should be run out of every state, designed to function like current electric and natural gas efficiency programs, and should be funded with a national budget of around $1 billion annually. These programs will save individual consumers thousands of dollars, save our economies more money than the alternative of continually paying for more oil, reduce the flow of money out of our states to foreign sources of oil, and build jobs by mobilizing and enhancing the existing workforce of heating technicians and insulation contractors.

The Problem

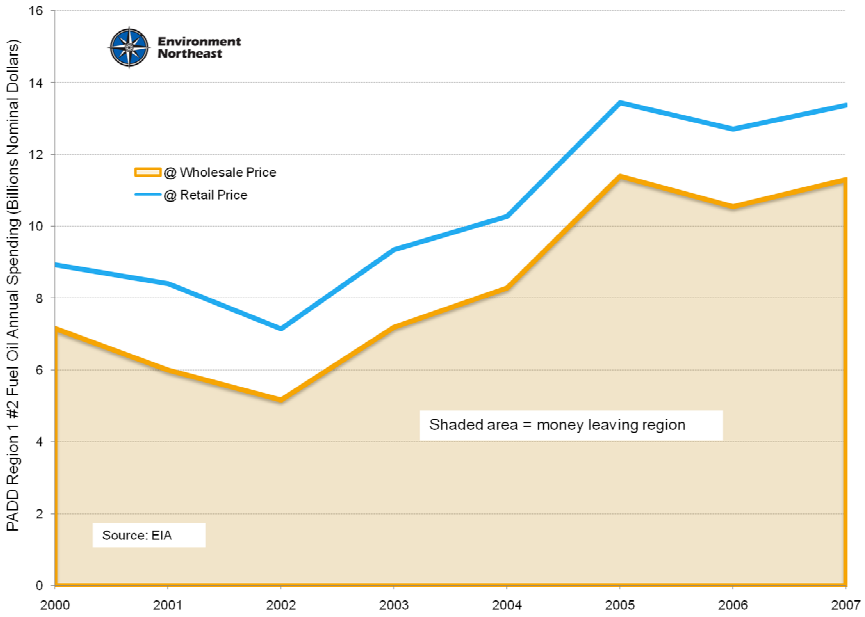
On June 11, the Governor of Maine reported that the statewide average price for a gallon of heating oil had reached $4.60. If consumers want to "lock in" a stable price for the winter ahead, oil will cost

$4.70/gallon. Kerosene is selling for $4.98/gallon. The price of heating oil in Maine went up by $1.89/gallon, or 70%, since the beginning of last heating season. In the last decade, the price of heating oil has jumped 360% (from just under $1/gallon in March 1998 to today's price of $4.60/gallon).

Rising prices translate into total cost when multiplied by consumption. By way of illustration, an average residential heating oil customer in New England consumes 1,000 gallons each year. At this month's lock-in price of $4.70/gallon, they will pay $4,700 this coming winter.

Oil dealers are not the culprits. Only a small fraction of what customers pay is going to the local dealers, and their profits have remained constant. Many smaller dealers are struggling to keep up with the rising wholesale prices, as shown in Figure 1, below. Indeed, recent years have seen more than one spectacular collapse of a local oil distributor who folded, leaving hundreds of pre-paid customers with no delivery, no refund, and the need to buy heating oil, a second time, at elevated mid-winter prices.[1]

Figure 1: Spending on Heating Oil at Wholesale and Retail Prices Shows Dealer Gains Are Not Increasing



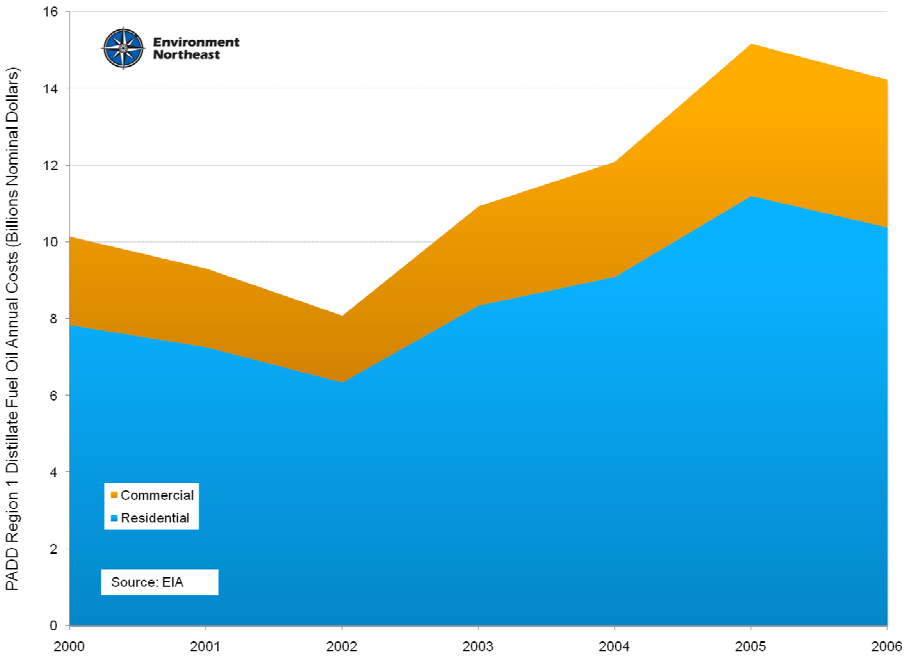
The problem extends beyond just what individual consumers and the oil dealers are experiencing. Because petroleum resources are not indigenous to the Northeast U.S., states in this region must import all of their petroleum-based heating fuels. The result is more than $11 billion per year leaving these state economies, and with it the chance for this money to trickle down into the local economies.

Figure 2, below illustrates the increase in the cost to residential and commercial customers to buy fuel oil in the Eastern US (PADD 1) during this decade.

[1] See Maine Attorney General, Unfair Trade Practices complaint filed against Price Rite Fuel, Veilleux Oil and Perron Oil, 1/22/2008, at http://www.maine.gov/tools/whatsnew/index.php?topic=AGOffice_Press&id=49118&v=article .

Environment Northeast

Figure 2: Annual Consumption and Cost of #2 Fuel Oil in the Eastern U.S.



The Northeast region is particularly vulnerable to this run up in oil prices since, unlike the rest of the country, most homes and businesses in the Northeast heat with oil (instead of natural gas). Maine has the highest reliance on heating oil in the country, estimated at 80% of all residential units.

Combustion of heating oil also saddles the Eastern US states with about 150 million tons of CO2 emissions each year and a very high level of sulfur dioxide emissions. In Maine and Vermont, for example, home heating oil is responsible for fully one-quarter of the total greenhouse gas emissions. The Northeast states are very vulnerable in a carbon-constrained economy if they remain 70-80% reliant on petroleum-based heating fuels.

Clearly, the most vulnerable consumers need urgent financial assistance to help pay their fuel bills. This can help them get through one winter. Responding to this crisis by throwing money at the fuel bill is a quick fix with no exit strategy, because the consumer will be in the exact same situation next year and the year after that. It not a lasting or sustainable solution for the consumer or the government programs supporting them.

A Solution to Help Consumers: Increasing the Efficient Use of Energy

A more sustainable solution to the oil heat crisis is for federal and state governments to collectively establish a comprehensive new effort to develop and fund energy efficiency programs for petroleum-based heating fuel consumers in the United States. The program must begin immediately and be sustained over a multiyear period to provide consumers with relief from the tremendous costs they are bearing. The most effective response to this crisis is to help consumers use energy more efficiently.

ENE recommends two paths for implementation of efficiency programs for non-regulated heating fuels. First, small businesses, commercial building owners, and residential customers other than low-income,

we recommend establishing market-based efficiency programs along the lines of the electric and natural gas programs that have such a successful history of saving consumers money through cost-effective efficiency investments. Second, for income eligible customers, we recommend a dramatic expansion of the WAP funding and continuation of WAP weatherization programs.

A. Building on the Success of Programs for Electric and Natural Gas Customers and Federal Weatherization Programs

Consumers of electricity and natural gas have had access to large and growing energy efficiency programs for many years, and have benefited by using these programs to gain control over their energy costs. It is past time for consumers of the unregulated heating fuels – petroleum-based fuels such as fuel oil, kerosene and propane – to get similar access and similar benefits.

Revisiting the example of an average Maine homeowner, if we help these consumers to use their heating energy more efficiently, they can cut their consumption by 20% and lower their bill by more than $1,000 this year and every year thereafter. For a typical Maine commercial building, we have seen efficiency plans that would reduce the heating bill by 7%-9% each year.

The best established and most successful of these models are the utility-based energy efficiency programs which are developed and supervised at the state level. Many states, which have jurisdiction over electric and natural gas distribution utilities, have decades of experience implementing statewide energy efficiency programs for electricity and natural gas customers. Best practices for program design, delivery oversight and evaluation are increasingly well understood and institutionalized at the state level. Financial incentives for customers are generated through self-sufficient revenue streams built into ratepayer bills or integrated directly into the utilities' resource procurement plans.

Electric and natural gas efficiency programs across the U.S. invested $1.3 billion in 2007[2] to help consumers reduce energy consumption through activities such as upgrades to more efficient light bulbs, appliances, air conditioners, motors and the like. Top-ranked programs, such as the electric program in Connecticut, typically deliver a savings of $4 for every $1 of program investment. The total levels of investment vary from state to state, and traditionally have been limited to what was deemed politically appropriate, as shown in Table 1.

Table 1 - 2007 Annual Spending on Electric Efficiency Programs, Selected States

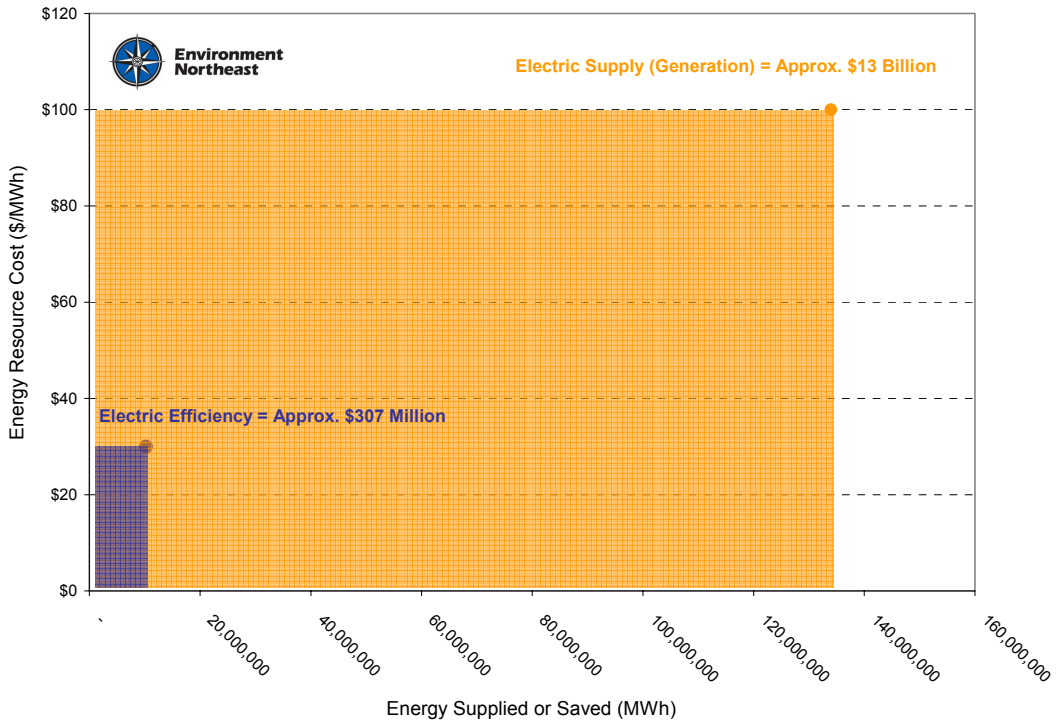
2007	CT	ME	MA	NH	RI	VT	CA
Total Spending ($Million)	$103.7	$16.6	$122.0	$18.9	$21.8	$23.8	$1,027.7
Spending per Capita ($/capita)	$29.6	$12.6	$18.9	$14.4	$20.6	$38.3	$28.1

Recently, however, the fact that energy efficiency resources can deliver the same functionality to consumers at a fraction of the cost of conventional electric supply has forged a consensus that efficiency should be the preferred resource. In order to fully harvest the "efficiency resource," electric utilities in California, Connecticut, Maine, Rhode Island and Vermont have committed to expand their efficiency programs to levels sufficient to capture "all cost-effective" efficiency resources, where such resources are

[2] Consortium for Energy Efficiency, Energy Efficiency Programs: A $3.7 Billion U.S. and Canadian Industry, available at: http://www.cee1.org/ee-pe/2007/index.php3 .

reasonably available and the cost to capture them is cheaper than regular electric supply. Figure 3, below, illustrates how even for electric customers we have been investing in the wrong resources, with overinvestment in supply at high cost versus energy efficiency at low cost.

Figure 3: New England Electric Supply Costs vs. Efficiency Investments



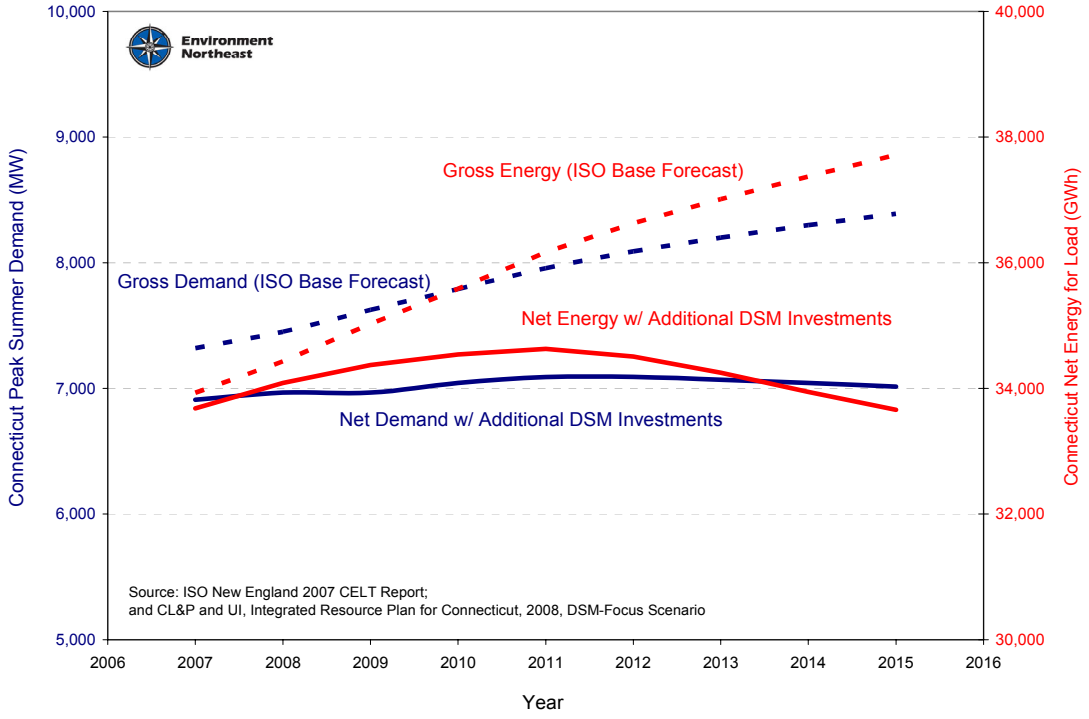
To appreciate the impact of this shift to investing in all cost-effective energy efficiency, consider the recent experience in Connecticut, where the electric efficiency programs have historically enjoyed among highest per capita funding levels in the country. When directed to capture all cost-effective efficiency resources, the utilities calculated that their investment levels should triple over the next eight years, as shown in the table, below.

Table 2: Connecticut Budget Ramp Up for Electric Energy Efficiency Programs Needed to Capture All Cost Effective Efficiency Resources, as Calculated by Connecticut Utilities

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Budget ($Million)	$112	$116	$135	$177	$236	$296	$336	$352	$338

This increased investment will save consumers billions of dollars and avoid the need to build new electric generating capacity. Figure 4, below, illustrates the benefits of the proposed level of spending in Connecticut in terms of total statewide avoided capacity and annual savings in energy consumption.

Figure 4: Impact of CT Utilities Proposed Efficiency Investments on State Energy Use and Peak Demand



Natural gas efficiency programs in the U.S. have also proved very successful and provide a close analogue for potential petroleum heating fuels 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 per thousand cubic feet (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; and,
- The KeySpan natural gas efficiency programs save over 600 thousand tons of CO_2 every year the programs are run.

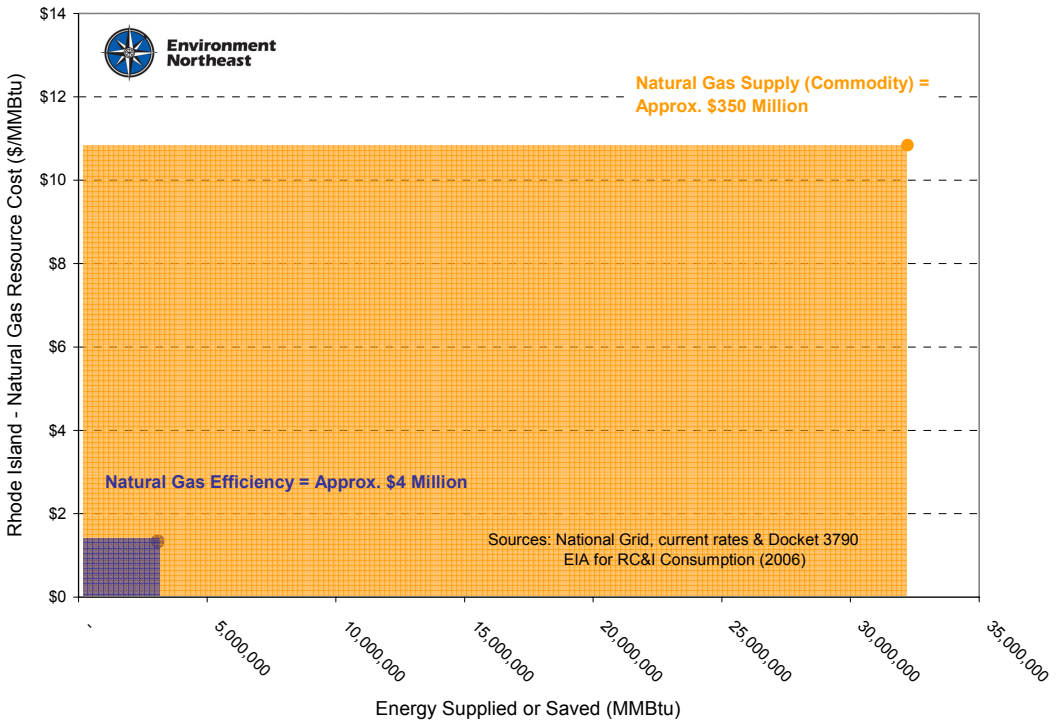
Table 3 shows the investment levels of several states for natural gas efficiency programs.

Table 3: 2007 Annual Spending on Natural Gas Efficiency Programs, Selected States

2007	CT	ME	MA	NH	RI	VT	CA
Total Spending ($Million)	$4.0	$0.7	$26.8	$2.4	$0.0	$1.6	$182.5

However, we know that we are significantly under-investing in efficiency resources for natural gas customers. The following figure illustrates our over-investment in supply at high cost versus energy efficiency at low cost, using Rhode Island as an example.

Figure 5: Rhode Island Natural Gas Supply Costs vs. Efficiency Investments



As part of the evaluation of the elements of Connecticut's Climate Change Action Plan 2005, Regional Economic Models, Inc. (REMI) performed an analysis of natural gas and heating oil conservation programs funded from a 3% surcharge on customers.[3] The projected economic benefits to Connecticut for efficiency programs for natural gas and heating oil, funded at a minimum 3% level, are summarized in Table 4. These programs provide real economic benefits to the state through the substitution of local energy service jobs for high cost fuel.

Table 4: REMI Modeling Results for New Efficiency Programs in Connecticut [4]

Natural Gas Program	**2010**	**2020**
Cumulative Program Costs	$205 Million	$462 Million
Cumulative Program ***Savings*** (Energy Only)	$979 Million	$3,483 Million
Benefit – Cost Ratio	4.8	7.5
Increase in Employment		1,668
Increase in Gross State Product		$1.8 Billion

[3] Governor's Steering Committee on Climate Change, February 2005, *Connecticut Climate Change Action Plan 2005*, http://www.ctclimatechange.com/StateActionPlan.html; the funding mechanism has been changed in RB 6777 to be a charge on a per Mcf and per gallon basis, but the program sizes remain similar to those modeled for the state action plan and modeled economic and environmental benefits should remain the same.

[4] *Ibid.*

Fuel Oil Program		2010	2020
	Cumulative Program Costs	$131 Million	$320 Million
	Cumulative Program ***Savings*** (Energy Only)	$319 Million	$1,715 Million
	Benefit – Cost Ratio	2.4	5.4
	Increase in Employment		430
	Increase in Gross State Product		$266 Million

By contrast to electricity and natural gas, the petroleum-based heating fuels – #2 distillate oil (or "fuel oil"), kerosene and propane – are not distributed to customers through regulated utilities. These are sometimes referred to as "unregulated fuels," and customers of these fuels essentially have been without any energy efficiency assistance.

There are some programs that address energy efficiency opportunities for all fuels. The critically important Weatherization Assistance Program (WAP) and Low Income Heating Energy Assistance Project (LIHEAP) deliver energy efficiency funding to a small fraction of income-eligible households. WAP has a budget of $207 million (2008) for this purpose. To its allocation from this sum, each state may elect to add up to 15% of its annual LIHEAP allotment for income-eligible weatherization.

Also, federal policies such as the Non-business Energy Property Tax Credit (Internal Revenue Code Section 25C) and the New Energy Efficient Home Tax Credit (Internal Revenue Code Section 45L) provide valuable financial incentives for installation of efficiency technologies and measures in homes. We support the extension of these policies in any new tax extenders legislation.

Even with these excellent policies and programs in place, the total budgets available for improving energy efficiency in low-income households are woefully insufficient. Even in Vermont, where a 0.5% gross receipts tax on oil supplements federal low-income weatherization funds, a recent study concluded that only 3% of all eligible homes are receiving program assistance each year. At that pace, it will take 35 years for the program to treat all eligible homes.[5]

Equally important, it must be noted that the WAP and LIHEAP funds make no provision for the many small businesses, commercial building owners, and middle income households who also are struggling to cope with rising heating costs.

This obvious gap in efficiency programming (between the electric and natural gas customer "haves" and the petroleum-based heating fuel "have nots") has prompted many to begin an urgent shift toward establishing efficiency programs for petroleum fuels to complement, and ultimately be coordinated or integrated with, existing programs for electricity and natural gas consumers. For example, in 2007 the state of Connecticut enacted legislation to establish a heating oil efficiency program to use up to $10 million. As noted above, Vermont has instituted a gross receipts tax on heating oil that provides $6.7 million each year to supplement $1.3 million in federal WAP funding. Vermont also commissioned a study of the total cost-effective potential to capture energy efficiency from heating oil, kerosene, propane and wood.[6] As a result of this study, efficiency experts have estimated that a new "all fuel" efficiency program in Vermont could deliver, on average, $2.64 in energy savings for every $1 in program funding

[5] Regulatory Assistance Project, "Affordable Heat: A Whole-Buildings Efficiency Service for Vermont Families and Businesses," January, 2008, p. 46.
[6] GDS Associates, *Vermont Energy Efficiency Potential Study for Oil, Propane, Kerosene, and Wood Fuels,* 2007.

and, in the aggregate, saving the state economy $1.5 billion from measures implemented over the next decade.[7]

In Maine, the Governor has established a stakeholder Energy Task Force that recommended the establishment of energy efficiency programs to be made "available to all Maine consumers whether they use home heating oil or propane or kerosene or natural gas."[8] Environment Northeast has been assigned to chair the Energy Efficiency Committee of this Task Force, which is now working with industry, state government officials, community groups, and other environmentalists to identify a plan to deliver efficiency programs to Maine's fuel oil consumers. Maine also decided that when it auctions carbon credits in Regional Greenhouse Gas Initiative beginning in the next year, it will allow up to 15% of the auction proceeds to be used for fossil fuel efficiency projects such as weatherization for oil heat customers.

B. Proposed Funding Levels for Petroleum Heating Fuel Energy Efficiency Programs

1. Market-Based Efficiency Programs

In addition to the critical expansion of funding for LIHEAP and WAP, discussed below, market-based energy efficiency programs must be created for petroleum-based heating fuels -- oil, kerosene and propane – and be adequately funded through a combination of states and federal government policies. While the states mentioned above – Connecticut, Maine, and Vermont – appear headed in this direction, it is clear from any analysis that the funding levels they are contemplating, even when added to current federal funding levels of LIHEAP and WAP, are inadequate for the task.

ENE proposes that funding for petroleum-based heating fuels should ideally reach levels sufficient to capture all cost-effective efficiency resources in the businesses and homes that use these fuels, consistent with the recent trend in electric efficiency programs. Once ramped up to full spending levels, these programs should be maintained at least through the 2020-2025 time period.

In order to identify the appropriate funding levels for new energy efficiency programs for fuel oil customers, ENE has reviewed existing spending levels for natural gas customers and the most recent studies that estimate the total cost-effective potential for natural gas or oil heat efficiency programs. At least two states have commissioned studies to investigate the maximum "cost-effective potential" for heating fuel efficiency programs. A cost effective efficiency measure is that which is determined to be less expensive than purchasing the fuel that would be saved over the lifetime of that measure. These studies typically determine the maximum potential for efficiency measures, based on the existing housing stock and projected construction, and then arrive at a lower number, the cost-effective achievable potential, that takes into account the fact that not all eligible participants will take part the programs. The two studies listed below arrive at similar results.

---

[7] Regulatory Assistance Project, *Ibid.*, p.3 and 7.

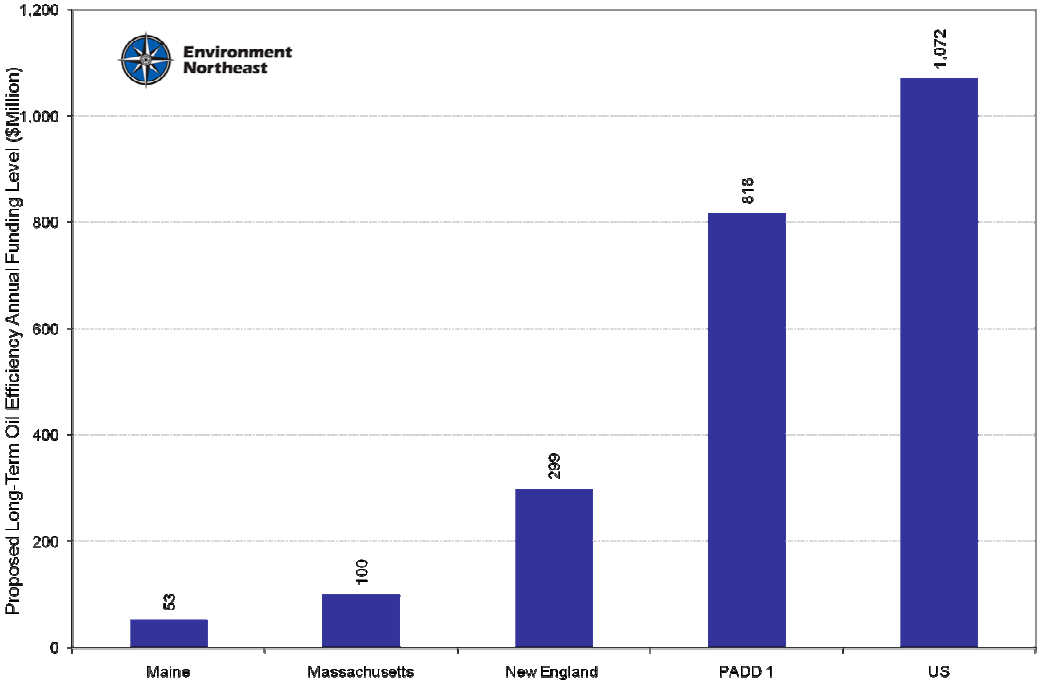
[8] Task Force, "Report to Governor John E. Baldacci On the Pre-Emergency Energy Task Force, Phase One: Immediate Needs," January, 2008, p. 15.

Table 5: Natural Gas and Oil All Cost-Effective Efficiency Studies

	Oregon	Vermont
Fuel Consumption (R&C 2006, MMBtu)	70,955,670	15,341,986
Maximum Economic Potential cutoff ($/MMBTU)	17	11
Average cost of savings ($/MMBTU)	6	5.57
Annual Spending Required	$63,600,000	$17,199,199
Annual Savings (MMBTU)	10,600,000	3,087,619
Savings compared to 2006 consumption	15%	20%

ENE has extrapolated these funding levels to estimate the cost effective achievable potential in other states, the New England and PADD 1 regions, and in the U.S. as a whole, based on how many gallons of fuel oil each place consumed for residential and commercial heating. The results, in Figure 6, show that across the U.S., we can and should be spending about $1 billion annually to adequately fund market-based energy efficiency programs comparable to those now benefiting natural gas and electric customers. In a state like Maine, the figure should be in the range of $53 million per year.

Figure 6: Funding Levels for Market-Based Energy Efficiency Programs for Heating Oil Consumers, Sufficient to Capture All Cost Effective Efficiency Resources



ENE makes no recommendation about the appropriate cost-sharing between federal and state governments to reach these levels of funding, other than to suggest that funding for these programs come from both state and federal sources, and that leveraging federal monies through matching or similar requirements would be a fair and effective tool.

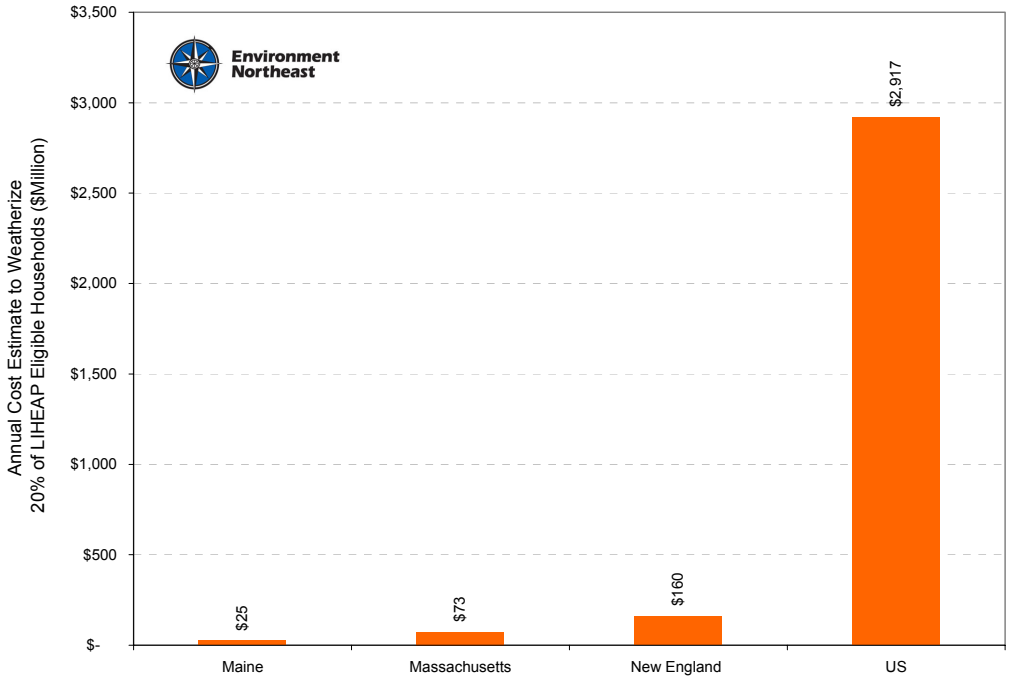
In order to allow a reasonable time for the marketplace to respond, including the hiring, training and deployment of new contractors and personnel who can deliver efficiency services, state and federal policies phase-in these funding levels over a 3-5 year period.

We have chosen to show Maine, Massachusetts, New England, PADD 1 (eastern states), and the US for illustrative purposes. However, funding should be made available to all states that wish to develop programs and commit money to the effort.

2. Income-eligible Efficiency Programs

ENE further recommends that federal and state governments set a target of providing weatherization services to every LIHEAP eligible house over the next five years. The following figure illustrates our estimate of the funding level required to weatherize 20% of LIHEAP eligible households in each year. Costs are assumed to average $2,514 per household, based on the reported average of recent WAP costs.[9]

Figure 7: Annual Funding Estimate to Weatherize 20% of all LIHEAP Eligible Households



Over time, energy efficiency programs will reduce the demand for LIHEAP funding. However, in the near-term, ENE also supports fully funding the LIHEAP budget of $5.1 billion as requested by 37

[9] The number of LIHEAP eligible customers is based on data from the National Energy Assistance Directors' Association (http://www.neada.org/communications/press/2008-04-25.pdf) and weatherization program costs are taken from the Whitehouse Office of Management and Budget Office's, Weatherization Assistance Assessment (http://www.whitehouse.gov/omb/expectmore/detail/10000128.2003.html).

senators in the letter of January 24, 2008 to Senate leadership as a means to address the critical needs of low income energy consumers in this time of historically high energy prices.

Summary and Benefits

Market based energy efficiency programs should be funded jointly by the states and the federal government at a level sufficient to capture all cost-effective opportunities. Total state and federal funding levels should ramp-up to achieve an annual efficiency funding level of approximately $1 billion per year for fuel oil efficiency. Once estimates have been made for propane and kerosene use, this number should be increased to ensure that it addresses efficiency opportunities for all petroleum-based fuels. ENE believes these efficiency programs will be at least as cost-effective as natural gas programs today, which should yield benefits three to four times the costs, in other words we should see savings in the $3-4 billion range. In addition, if the programs are coordinated with other activities such as electric efficiency they should be more cost effective. Every increase in fuel prices also increases the cost-effectiveness of programs. Efficiency programs are also the lowest cost solution to reduce greenhouse gas emissions and these programs should significantly assist states and the federal government in achieving emissions reductions.

Programs for low income customers are essential in this time of skyrocketing energy costs. The programs should be two-fold, with significant bill assistance in the near-term through expanded LIHEAP funding and immediate support for a large expansion of the Weatherization Assistance Program to reduce energy consumption and consumers energy bills. WAP funding should be raised to the point where all eligible LIHEAP customers can receive weatherization support over an approximately five year period. Based on current WAP review, these programs should be cost effective and should significantly reduce the need for long-term LIHEAP funding to address energy bills every year.

Both market-based and low income efficiency programs put energy service companies and community action groups to work, replacing expenditures on imported fossil fuels with good local jobs. In a time of high energy prices and economic worries there is no better government investment than one that grows jobs and puts money back in consumers pockets, which they can then invest in other parts of the economy.

ENE appreciates the opportunity to offer our recommendations on effective responses to the home heating oil crisis in the northeast. The best response – one that will save consumers the greatest amount on their heating bills, while delivering the greatest economic and employment gains, is a strategic, well crafted and comprehensive efficiency campaign. Federal and state resources will be required, but the benefits far outweigh any other approach.

Thank you.