

# DSM for Low Income Consumers in Ontario

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# **DSM for low income consumers in Ontario**

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Prepared for: Canadian Environmental Law Association

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# 1 Background to report

## 1.1 *Canadian Environmental Law Association*

The Canadian Environmental Law Association (CELA) is a non-profit, public interest organization established in 1970 to use existing laws to protect the environment and to advocate environmental law reforms. It is also a free legal advisory clinic for the public, and will act at hearings and in courts on behalf of citizens' groups who are otherwise unable to afford legal assistance. Funded by Legal Aid Ontario, CELA is one of 79 community legal clinics located across Ontario, 18 of which offer services in specialized areas of the law.

CELA's objectives include:

- providing equitable access to justice to those otherwise unable to afford representation for their environmental problems;
- advocating for comprehensive laws, standards and policies that will protect and enhance environmental quality in Ontario and throughout Canada;
- increasing public participation in environmental decision-making;
- providing the public with information, research, advice and educational materials to assist them in addressing environmental problems;
- working with communities, neighbourhoods, individuals and public interest groups to foster long-term sustainable solutions to environmental concerns and resource use;
- protecting ecosystem and public health by preventing degradation from pollution, destruction of natural areas and resource extraction and misuse; and
- working, increasingly with other constituencies, in defending democratic rights and essential services significant to environmental health and well-being.

CELA represents low income clients in matters related to the environment broadly defined. This includes matters related to the natural environment, land use, human health, and energy. CELA also has a mandate to do law reform work on behalf of its low income constituency. Because CELA's resources are limited, CELA focuses on environmental matters not covered by other legal aid clinics or environmental groups.

In examining the Minister's Directive RP-2003-0144 on demand-side management and demand response to the OEB, CELA determined that there was a need to explore DSM programs for low income consumers in other jurisdictions in order to determine whether programs of this type would be beneficial in the Ontario

context. Toward that end, CELA commissioned IndEco Strategic Consulting Inc, to review low income DSM programs in other jurisdictions. This report presents the findings of IndEco's work.

## **1.2 OEB directive on DSM and DR**

On June 18, 2003 the Minister of Energy issued a directive to the Ontario Energy Board (OEB) to "consult with stakeholders to identify and review options for the delivery of demand side management (DSM) and demand response (DR) activities within the electricity sector" and to report the results of the review to the Minister by March 31, 2004. On August 12, 2003 the Board announced its intention to expand the scope of the review and consultation process to include the role of gas distribution companies in DSM.

The Board received 118 responses, including one from CELA, to its invitation letters for stakeholder participation in the DSM and DR consultation process. These 118 groups are referred to as the Listed Stakeholder Organizations. An advisory group of 31 members was selected from the Stakeholder List to work closely with the OEB to identify, detail and assess the most promising options. CELA is not a member of the advisory group.

On October 6, 2003 the OEB issued a discussion paper and invited all listed stakeholders to submit a written submission based on the paper by November 10, 2003. CELA responded to the invitation in a letter to the OEB Assistant Secretary dated October 14, 2003, requesting consideration for funding in this matter. Further to that letter the OEB advised CELA that some funding would be available. As a result, CELA began to develop its written submission to the OEB consultation process. As part of the preparation of its submission, CELA commissioned this IndEco report.

## **1.3 Purpose of this report**

This report, along with its accompanying briefing note and list of recommendations, serves as CELA's written submission to the OEB consultation process with respect to DSM.

The purpose of this report, *DSM for low income consumers in Ontario*, is twofold:

- To determine if there is a need for low income focused DSM programs in Ontario; and
- To identify and discuss various low income DSM program design options based on a review of other jurisdictions.

## **1.4 Limitations**

The information presented in this report is based on a review of readily available information on the internet as well as some

personal communications with key stakeholders in other jurisdictions. This review of low income programs gives an indication of some of the different types of programs available, but is not a comprehensive survey.

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## 2 Low income energy use

### 2.1 Energy burden

According to Statistics Canada data, 11.7% of Ontario residents (or 1,378,000 people) were living at or below the low income cut offs (LICOs) – a widely used measurement of poverty lines – in 2001<sup>1</sup> (ACTO, 2002).

Low income residential utility customers face a much higher 'energy burden' (i.e. percent of household income devoted to energy costs) than median and higher income households. A 1993 study by the US National Consumer Law Center (NCLC) showed that the energy burden for median income families in the US was approximately 4 percent, whereas low income families spent between 12 and 26 percent of their income on energy (Oppenheim & MacGregor, 2000)<sup>2</sup>. This situation is not unique to the United States. A 2002 submission by the Dalhousie Legal Aid Service to the Nova Scotia Utility and Review Board, showed that low income consumers have higher energy burdens than average income households, right across Canada (Table 1). The gap is even wider when comparing the lowest and highest income quintiles in Canada. Statistics Canada data shows that in 2001, the lowest earning quintile of Ontario households spent nearly five times the relative amount of their income on water, fuel and electricity than did the highest income quintile (Table 2).

**Table 1 Power bill comparisons across Canada**

City	Monthly power cost (\$)	Power bill as % of Assistance Income	Power bill as % of Stats Can LICO	Power bill as % of Average Income
Edmonton, AB	108.42	11.20 %	5.52%	3.4%
Charlottetown, PE	112.41	10.76%	6.72%	4.6%
Halifax, NS	108	10.58%	6.4%	5%
Regina, SK	101.42	9.84%	6%	4.3%
Moncton, NB	105.10	9.78%	6.24%	5%
Toronto, ON	91.59	7.95%	4.66%	3%
St. John's, NFL	95.16	7.78%	5.65%	4.5%
Winnipeg, MB	68.67	7.23%	3.5%	3.1%
Montreal, QC	69.39	6.25%	3.53%	2.8%
Vancouver, BC	67.47	5.75%	3.44%	2.6%

Source: Dalhousie Legal Aid Service, 2002.

<sup>1</sup>The Canadian Council on Social Development and the National Council of Welfare have both adopted the Statistics Canada's pre-tax, post-transfer Low Income Cut Offs (LICOs) as poverty lines (ACTO, 2002).

<sup>2</sup> The energy burden statistics quoted from Oppenheim and MacGregor should not be directly compared to those in Tables 1 and 2, as various studies do not always use the same definition of income (e.g. pre-tax versus post-tax).

**Table 2 Ontario average household energy expenditure as percent of average income, by income quintile, 2001**

	All Ontario households	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Highest Quintile
<b>Fuel Use</b>						
Water, fuel and electricity	3.6%	9.9%	5.8%	4.5%	3.2%	2.0%
Fuel	1.8%	6.5%	3.3%	2.2%	1.5%	0.9%
Electricity	1.7%	5.2%	2.9%	2.1%	1.5%	0.9%

Source: Calculated from data in Statistics Canada Survey of Household Spending, 2001

## **2.2 Characteristics of low income energy use**

There are at least two factors that contribute to this higher energy burden among low income consumers. Firstly, there is a relatively inelastic demand for household utilities, i.e. regardless of the price, there is a certain amount of energy that is required to heat and light a household.

The second factor is that there are other characteristics, in addition to the proportion of household income spent on energy, that differ among income groups. Statistic Canada's 2001 survey of household spending (Table 3) illustrates that, compared to both the Canadian average and the highest Canadian income quintile, the lowest Canadian income quintile has a far greater proportion of households that:

- are rented;
- have electric space heating;
- have principal heating equipment more than 10 years old; and
- have electric water heating.

The net result is that low income households in Ontario and in many other parts of Canada are likely paying more per unit of energy (since electric heating is more expensive than other fuels) and may be using more energy per household (due to older appliances).

**Table 3 Dwelling characteristics and household equipment by household income quintile, Canada, 2001**

	All Canadian households	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Highest Quintile
<b>Average household pre-tax income</b>						
	58,135	13,629	28,994	47,446	69,845	130,762
<b>Tenure</b>						
Owned	64.6%	31.0%	53.5%	66.6%	81.1%	90.6%
Rented	35.4%	69.0%	46.5%	33.4%	18.9%	9.4%
<b>Principal heating equipment</b>						
Steam or hot water furnaces	13.5%	19.6%	15.5%	13.2%	9.6%	9.5%
Forced hot air furnaces	51.5%	35.0%	43.0%	51.3%	59.3%	69.0%
Other hot air furnaces	2.1%	2.1%	1.9%	1.8%	2.1%	2.5%
Heating stoves	3.8%	3.6%	5.2%	4.7%	3.8%	1.9%
Electric heating	28.8%	39.3%	34.2%	28.7%	25.0%	16.9%
Other	0.3%	F	F	F	F	F
<b>Age of principal heating equipment</b>						
5 years or less	17.7%	11.9%	13.6%	18.4%	19.3%	25.2%
6 to 10 years	16.8%	12.3%	15.8%	16.8%	20.1%	18.9%
Over 10 years	65.6%	75.8%	70.6%	64.8%	60.6%	56.0%
<b>Principal heating fuel</b>						
Oil or other liquid fuel	12.5%	14.1%	14.0%	12.4%	12.2%	9.8%
Piped gas	49.2%	37.4%	40.8%	47.3%	54.0%	66.4%
Bottled gas	0.9%	F	0.9%	1.2%	0.9%	0.9%
Electricity	32.9%	44.0%	38.2%	33.1%	28.7%	20.5%
Wood	4.4%	3.7%	5.8%	6.0%	4.1%	2.3%
Other	0.1%	F	F	F	F	F
<b>Principal heating fuel for hot water</b>						
Oil or other liquid fuel	5.1%	5.7%	5.1%	5.0%	4.9%	5.0%
Piped gas	47.2%	36.4%	39.4%	44.3%	52.5%	63.3%
Electricity	46.7%	56.8%	54.7%	49.9%	41.8%	30.5%
Other heating fuel or no running hot water	0.9%	1.2%	0.8%	0.8%	0.8%	1.2%

Source: Statistics Canada Survey of Household Spending, 2001

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## 3 Low income DSM programs

### 3.1 *Need for low income DSM programs*

The higher energy burden faced by low income households has several implications for DSM programs:

- **Inability to participate in general DSM programs.** Low income consumers are generally not able to participate in typical DSM programs such as purchasing energy efficient appliances or investing in building envelope upgrades. Even if the programs are partially subsidized by the utility or government, the requirement for a capital outlay, of any size, presents a barrier to the low income consumer.
- **Significant energy efficiency opportunities.** Low income consumers are more likely to be using inefficient electric heating (cited earlier) and may actually have higher energy usage rates than those with higher incomes, due to differences in housing standards (Dalhousie Legal Aid Service, 2002). Low income customers are also less likely to invest in building or appliance upgrades, such that there are significant opportunities for reducing energy use through DSM programs targeted at low income consumers.
- **Non-participant benefits of low income DSM programs.** In addition to energy reductions for participants, there are several non-participant benefits of low income DSM programs that are in addition to the general societal benefits associated with most DSM programs. According to a 1999 study for the National Consumer Law Center in the U.S. by Oppenheim and Howat, the added non-participant benefits include:
  - Reduction of costs to utilities associated with late or non-payment of bills (e.g. collection, termination, reconnection)
  - Reduction of costs to utilities associated with emergency calls
  - Reduced need for public expenditures such as health, fire, building inspections, homeless shelters, and housing programs

Oppenheim and Howat concluded that based on the “benefits to society, individuals, utilities, and ratepayers from delivery of comprehensive low-income energy efficiency programs, a benefit adder of between **17 percent and more than 300 percent** could reasonably be incorporated to represent the incremental value of a low-income focus beyond the general societal, economic, and environmental benefits of efficiency programs”.

### 3.2 DSM in Ontario

DSM in Ontario is not adequately capturing the potential benefits of delivering DSM to low income consumers. Two of Ontario's three gas utilities - Enbridge Gas Distribution and Union Gas – have DSM programs; however neither has any low income focused programs within their DSM portfolio. As a result, any participation by low income customers will be included in the mix of residential customer programs. There are likely to be few low income participants due to the barriers to participation (cited earlier). As a result, the significant potential energy benefits and non-participant benefits provided by low income consumers participating in DSM are largely being foregone. This lost opportunity is exacerbated because there is virtually no DSM provided by the electric utilities in Ontario.

In its 1993 Report E.B.O 169-III, the OEB set out guidelines for the implementation of DSM of natural gas in Ontario. The Report made several references to low-income consumers in the chapter on cost-effectiveness tests:

**Portfolio approach to DSM programs:** E.B.O 169-III indicates that a benefit of the portfolio approach is that it “allows groups that might otherwise be precluded from participating, such as low-income customers, tenants, Aboriginals and farmers to participate in these programs, while minimizing the rate impact on existing customers”(p.32).

**Customer contributions:** While the Board indicated that customer contributions were appropriate, it cautioned utilities “to be sensitive lest they impose hardships on low-income ratepayers...”(p.38).

**Rate impact:** The Board guided companies to consider “will the impact on certain groups, such as low-income customers, be onerous”(p.41).

The EBO 169-III guidelines for natural gas DSM suggest that utilities should consider the special needs of low income customers when designing their DSM programs and portfolio. The guidelines also imply that the OEB chose a portfolio approach to DSM to allow for programs specifically for low income customers since these customers may otherwise be precluded from participating in DSM. Further the guidelines caution the utilities to be sensitive to the hardships of low income ratepayers who do not participate in DSM as they may suffer a rate impact without the benefit of a bill reduction. DSM programs specifically for low income customers will increase the participation of these customers and reduce the overall burden on this customer group. Of course if a DSM program had a 100% participation of low income consumers, there would be no net financial burden, only benefit, from their participation as the energy bills of every low income consumer would drop.

### **3.3 Summary**

The preceding two chapters have illustrated several key points regarding low income DSM in Ontario:

- Low income consumers in Ontario, representing a significant proportion of the provincial population, face a much higher energy burden than higher income consumers.
- Due to their higher energy burden, low income consumers have special needs related to DSM programs, which have not been adequately fulfilled in Ontario to date.
- There is an opportunity to achieve significant energy reductions as well as broader societal benefits through aggressive low income DSM programs in Ontario.

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## 4 Review of low income DSM programs

In examining the Minister's Directive RP-2003-0144, CELA determined that there was a need to explore DSM programs for low income consumers in other jurisdictions. This was necessary in order to determine whether programs of this type would be beneficial in the Ontario context. Toward that end, CELA commissioned IndEco Strategic Consulting Inc. to review low income DSM programs in other jurisdictions. This chapter summarizes the key findings of that review. Detailed information on each jurisdiction that was reviewed is included in the Appendix.

### 4.1 Methodology and scope of review

Two Canadian provinces – Ontario and British Columbia – have utility based DSM programs, however neither of these jurisdictions has DSM programs that are geared specifically to low income consumers. Hydro Quebec undertook a 2-year low income education and weatherization pilot project in 1996; however this led to the creation of a provincial government run low income program that was delivered by community groups<sup>3</sup>. The scope of this review, therefore, was limited to jurisdictions within the United States. Based on the availability of information and the desire to identify a wide range of approaches to low income DSM programs, the following jurisdictions were reviewed:

- California
- Connecticut
- Illinois
- Maryland
- Massachusetts
- Minnesota
- Montana
- New Jersey
- New York
- Oregon
- Vermont

Information was gathered from personal communications with state regulators as well as by reviewing internet sites of state regulatory agencies, state utilities, and a national database of low income energy programs. The review focused on the following key elements of a low income DSM program design:

- **Types of energy efficiency programs offered.** e.g. weatherization, appliance upgrades
- **Participant funding.** Are consumers required to pay to participate in the DSM programs? Is the fee subsidized?
- **Program funding.** Is the DSM program funded through taxpayers or ratepayers? Is the cost built into the utility rate

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<sup>3</sup> <http://www.equiterre.qc.ca/accueil/LIEEP.pdf>. The current status of this program is not known.

structure or is there a systems benefit charge (SBC)? How are low income programs budgeted for in relation to the overall DSM budget?

- **Participant eligibility requirements.** What qualifies customers for low income DSM programs? Are there requirements other than a specified income level?
- **Accountable parties and delivery agents.** Who designs the programs? Who administers the programs? Who delivers the programs?
- **Regulatory aspects.** Are low income DSM programs a regulatory requirement?

## **4.2 Summary of findings**

This section of the report summarizes the key findings of the review of low income DSM programs. The findings are grouped according to the key design elements listed above.

### **4.2.1 Types of energy efficiency programs**

Based on this review, typical low income DSM programs include:

- energy audits;
- weatherization services, including weather stripping, caulking, attic insulation and provision of storm windows;
- appliance replacement, particularly refrigerators; and
- furnace repair or replacement.

In general, weatherization services appear to be the most common programs, followed by heating and appliance upgrades. Efficiency Vermont also offers replacement of electric space heater and water heaters to natural gas, propane or oil units, for qualifying low income consumers. In most jurisdictions reviewed, these typical services are available to both renters and home owners; however, some states limit the appliance replacement programs to home owners.

### **4.2.2 Program funding**

#### *a) Participant funding*

In all of the reviewed jurisdictions, the low income DSM programs were provided to eligible customers free of charge.

#### *b) Program funding*

The statewide and utility based low income DSM programs were generally funded by a proportion of the rates collected by the utility or via a separate Society Benefits Charge (SBC) on customer bills. For example in Minnesota, state law requires that public

utilities invest a proportion (1.5% for electric utilities and 0.5% for gas utilities) of their state revenues into energy conservation programs, with a certain fraction of that (determined by the state regulator) targeted to low income programs. In Montana, the free weatherization program is funded by a Universal System Benefit Charge (SBC) collected from all electricity and natural gas users. The total systems benefit funds is 2.4% of annual retail revenues for each utility, with a required minimum of 17% of the fund (or 0.41% of total revenues) being allocated to low income energy and weatherization assistance.

In jurisdictions where government agencies or community action groups are accountable for or deliver the low income DSM programs, there is often funding from additional sources such as the federal or state government, grants from private foundations or public donations. Vermont Gas, for example, shares the cost of its weatherization program with the Champlain Valley Office of Economic Opportunity (CVOEO). The CVOEO's contribution comes from individuals, grants from private foundations such as United Way agencies, and in-kind donations from businesses.

#### **4.2.3 Participant eligibility**

Generally, participants are eligible for low income DSM programs if their household income is below a certain threshold. This maximum income is often expressed as a percentage of the federal poverty level (FPL). In Massachusetts, for example, households with incomes up to 200% of the FPL are eligible for the Weatherization Assistance Program. The income thresholds vary between jurisdictions and even between utilities within the same jurisdiction. Although general eligibility is based on income levels, some states give priority to those households which have elderly or disabled persons or are home to children under the age of six.

#### **4.2.4 Accountable parties and delivery agents for DSM programs**

There are a wide variety of approaches to designing, administering and delivering low income DSM programs among the jurisdictions reviewed (Table 2). In some jurisdictions, such as California, Minnesota, and New York, each utility is accountable for and delivers its own low income DSM program.

In other jurisdictions, such as Illinois, Massachusetts, and Oregon, the low income DSM programs are delivered by local community action groups. The organizations that are accountable for these programs vary from state to state. In some cases it may be government department or agencies that are accountable for the DSM programs, while in other cases the utilities may be accountable, but all contract out the programs to third party delivery agents, the community action groups.

In New Jersey, a different model is used. A state wide central agency is accountable for the overall design and administration of the DSM program, while individual utilities bid for contracts to deliver the programs to customers.

Not only do the delivery methods vary between jurisdictions, but they can also vary within the same state. In Vermont, for example, the electric utilities' low income DSM programs are developed and delivered by a central agency - Efficiency Vermont - whereas the low income gas DSM programs are developed by the utility and delivered by a local community action agency.

**Table 4 Delivery and administration of low income DSM programs by jurisdiction**

Jurisdiction	Delivery agent	Program Accountability	Federal Program Links
California	Utilities	Utilities	None
Connecticut	Local community action groups	Utilities	None
Illinois	Local community action groups	Department of Commerce and Community Affairs (Government Department)	Weatherization Assistance Program
Maryland	Utilities	Maryland Office of Weatherization and Maryland Department of Human Resources (Government agencies)	Weatherization Assistance Program
Massachusetts	Local community action agencies	Utilities	Weatherization Assistance Program
Minnesota	Utilities	Utilities	None
Montana	Human Resource Groups	Utilities and Department of Public Health and Human Services	None
New Jersey	Utilities	Central agency (NJ Clean Energy Program)	None
New York	Utilities	Utilities	None
Oregon	Local community action group	Utilities	
Vermont	Central Agency (Efficiency Vermont)	Central Agency (Efficiency Vermont)	None
	Local community action group	Utility	Weatherization Assistance Program

There are different types of linkages to federal DSM low income programs. Many of the statewide or utility based DSM programs are 'piggybacked' onto federal low income programs, such as LIHEAP or WAP<sup>4</sup>, in order to leverage funds and resources. In some jurisdictions the money collected from rate payers by the

<sup>4</sup> The Low Income Home Energy Assistance Program (LIHEAP) is a federal block grant made available to the states by the Department of Health & Human Services. Weatherization Assistance Program (WAP) is a Department of Energy program that is delivered through non-profit community action agencies at the local level.

utility is passed through to a federal program which the utility or a government agent different from the federal program delivers.

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## 5 Conclusions

The preceding report has provided an overview of the energy burden faced by low income consumers in the US and in Canada. It also identifies some low income DSM programs in the United States that have been developed to address this issue. Several important conclusions can be drawn from this work.

**There is a need for low income DSM programs in Ontario.** Low income consumers face a higher energy burden than median and high income consumers. They would benefit relatively more from energy efficiency upgrades than higher income consumers; however they are less likely to invest in energy efficiency. The lack of low income DSM programs in Ontario is now a lost opportunity that should be captured because of the benefits to the participant, the utility and society as a whole.

**There is an opportunity to learn from U.S. experience, both on the gas and electric utility side, with low income DSM programs.** There is a considerable range in the design of low income DSM programs in the US. For example, some programs are voluntary whereas others are mandatory. In some states, utility low income DSM program delivery is 'piggybacked' onto federal and statewide low income energy assistance programs, such as LIHEAP or WAP. In other jurisdictions, utilities deliver the programs themselves. Ontario's natural gas and electric utilities and the OEB can learn from and build on the US experience to develop and implement DSM programs tailored to the Ontario regulatory setting and the specific needs of low income consumers across Ontario.

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## Appendix

The following pages contain descriptions of the low income DSM programs for each jurisdiction reviewed in this study:

- California
- Connecticut
- Illinois
- Maryland
- Massachusetts
- Minnesota
- Montana
- New Jersey
- New York
- Oregon
- Vermont

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## California

Low-Income Energy Efficiency (LIEE) programs are offered to eligible customers in California. These programs are developed and delivered by the electric and gas utilities. Funding for these programs is provided by a systems benefits charge on customers' bills.<sup>5</sup>

An example of a utility LIEE program is by Southern California Gas. The Direct Assistance Program (DAP) offers free weatherization and furnace repair or replacement services for qualified limited-income renters and home owners. Some of these weatherization services include: ceiling insulation, door weatherstripping, caulking, low flow shower heads, water heater blankets, evaporative cooler covers and a/c covers, switch and outlet gaskets and covers, pipe insulation, faucet aerators, minor repairs to exterior doors and/or windows.

There are eligibility criteria for participation in LIEE programs that are tied to income and age. An applicant aged 59 and younger must be at 175 % of the Federal Poverty Level (FPL), which means that for a household of 1 or 2 people under the age of 59, their household income cannot exceed US\$23,000.<sup>6</sup> An applicant aged 60 or older, or a disabled head of a household, must be at 200% FPL.

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<sup>5</sup> <http://neaap.ncat.org/programs/lowincome/ca-li.htm>

<sup>6</sup> <http://www.socalgas.com/residential/assistance/dap/>

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## Connecticut

The electric and gas utilities in Connecticut are required by legislation to deliver residential programs for low income as well as mainstream customers.

On the electricity side, there is a system benefits charge (SBC) for energy efficiency which is assessed on all electricity sold by the state's two investor-owned electric utilities. In 2002, this amounted to a total state funding level of about US\$86 million, or three percent of total utility revenues. The fund is used for programs affecting all customer classes. Of this amount, Connecticut Light and Power Company and United Illuminating Company are spending about US\$6.5 million on low-income energy efficiency, mostly delivered through community action agencies.

The natural gas utilities flow rate based DSM funding to the State of Connecticut Housing and Investment Fund for energy conservation loans and the upgrading of heating equipment.

The gas utilities also participate in a voluntary low income weatherization program. The utilities are accountable for this program to the regulator, however they provide funding to third party vendors from community action agencies to deliver the program to customers. This program provides free energy audits and conservation improvements to qualified customers based on certified hardship criteria. It is possible for a low income tenant to participate in the program provided that the landlord and tenant can work out an agreement on the work to be done. Each of the gas utilities in Connecticut spends about US\$250,000 per year on this program.

The voluntary low income programs that are in place in Connecticut provide good public relations for the utilities. The gas industry competes directly with the fuel oil business for the Connecticut heating market, however the fuel oil business is not regulated and not required to do DSM. The DSM programs, therefore, help the regulated utilities to retain their customers. State law also prohibits the utilities from shutting off gas supply for non-payment of bills; therefore, it is in the utilities' best interest to have these programs.<sup>7</sup>

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<sup>7</sup> Crocco, Joseph. 2003. Personal communication (Manager of conservation Southern Connecticut Gas, Bridgeport, Connecticut)

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## Illinois

Illinois has mandated the existence of a low income energy efficiency program by the Low-Income Home Energy Assistance Act of 1981<sup>8</sup>. Further, in order to provide assistance to low income customers, the Supplemental Low-Income Energy Assistance Fund (authorized through electric utility restructuring legislation) was developed to require gas and electric utilities to assess a monthly systems benefit charge of \$0.40 on residential electric and gas service accounts, plus higher amounts for commercial and industrial accounts. The utilities collect these charges (about US\$76 million yearly), and deposit them into a state fund, which the General Assembly appropriates yearly to the state Department of Commerce and Community Affairs, the LIHEAP and the weatherization grantee. Annually, about 80 percent of the fund, US\$65 million, goes for low-income bill payment assistance, and 10 percent, about US\$7.6 million, supplements the state's weatherization program.<sup>9</sup>

The Illinois Home Weatherization Assistance Program helps low-income customers reduce heating and cooling costs by improving the energy efficiency of their homes. The program provides funds to the state's network of community action agencies, which deliver the low income programs. Priority for these programs is given to senior citizens and those with disabilities<sup>10</sup>.

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<sup>8</sup> <http://neaap.ncat.org/programs/lowincome/il-li.htm>

<sup>9</sup> [http://www.illinoisbiz.biz/com/energy/home\\_weather.html](http://www.illinoisbiz.biz/com/energy/home_weather.html)

<sup>10</sup> <http://www.acee.org/briefs/mktabl.htm>

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## Maryland

The Electric Universal Service Program (EUSP) is a statewide program that is administered by the Department of Human Resources to assist low-income electric customers with their electric bills. The lion's share of the EUSP funding, US\$24.4 million, comes from industrial and commercial customers; US\$9.6 million comes from residential customers, who pay about 40 cents per month.<sup>11</sup>

An example of a low-income energy efficiency program delivered by a utility is the Columbia Gas Low Income Weatherization Program. Columbia Gas of Maryland and the Maryland Office of Weatherization collaborate to provide a free program for the counties of Allegany and Washington. In this program the utility first produces an energy audit and then takes action to seal up areas of heat loss. This program is offered to customers with low incomes (a monthly income of less than US\$1,123 for a one person household) and high gas usage.

For other counties in this gas utility's jurisdiction, the Maryland Human Resources Development Commission<sup>12</sup> provides free weatherization through the Weatherization Assistance Program (WAP). WAP provides home weatherization services such as weather stripping, caulking, plastic window covering, storm windows, storm doors, etc.

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<sup>11</sup> <http://www.dhr.state.md.us/meap/income.htm>

<sup>12</sup> [http://www.columbiagaspa.md.com/community\\_outreach/liwp.htm](http://www.columbiagaspa.md.com/community_outreach/liwp.htm)

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## Massachusetts

The gas and electricity utilities in Massachusetts provide low income Demand Side Management (DSM) programs through local community action agencies. The community action agencies deliver the Weatherization Assistance Program (WAP) on behalf of the utilities. This program is designed to assist low-income households reduce their heating bills by providing home energy efficiency services<sup>13</sup>.

One Massachusetts utility that offers free weatherization services is KeySpan Energy Delivery<sup>14</sup> (gas and electric utility). Homeowners or renters with incomes up to 200% of the FPL are eligible for this program. Keyspan contracts with a community action agency to deliver the weatherization services. The community action agency inspects homes and provides the weatherization services, which include: a complete energy audit, attic and wall insulation, air sealing (door sweeps, door kits, weatherstripping, etc.), heating system replacement<sup>15</sup> and safety inspections after the work has been completed.

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<sup>13</sup> <http://www.state.ma.us/dhcd/components/dns/HtOHA.htm#Energy%20Assistance%20Agenc>

<sup>14</sup> [http://www.keyspanenergy.com/customer/billing/low\\_income\\_ma\\_kedma.jsp](http://www.keyspanenergy.com/customer/billing/low_income_ma_kedma.jsp)

<sup>15</sup> Heating system replacement is only for qualified homeowners.

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## Minnesota

In Minnesota energy conservation improvement is required by law for the regulated utilities. Each of the gas and electric utilities delivers its own low income energy efficiency programs. These programs are funded by a proportion of the utility's total DSM budget.<sup>16</sup> This budget, which is set by the regulator, is 0.5% of state revenues (gross operating cost including the price of gas) for gas utilities and 1.5% for electric utilities. Of this amount the regulator determines how much must be invested in low income programs.<sup>17</sup> To be eligible for the low income programs single person households must have an income of less than US\$18,000.

CentrePoint Energy provides the same DSM programs for low income and non-low income customers. The utility provides a standard energy audit for US\$25 to non low income customers; the same service is free for low income customers. As part of this program a state-certified energy auditor checks windows, doors, insulation and heating and cooling equipment and provides energy-saving improvements and practices. The program also provides a complete home energy analysis report and up to US\$20 worth of weatherization materials.

A home performance audit is free to low income customers; for those above the maximum income level there is a fee of US\$100. This audit consists of a blower door test that determines the location of air leaks, a combustion safety test and carbon monoxide (CO) check, and an infrared inspection that pinpoints the location of air leaks and moisture problems.

CentrePoint also offers a free weatherization program for low income customers. This program provides wall and attic installation, air sealing and high efficiency furnaces.<sup>18</sup>

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<sup>16</sup> Staples, Grey. 2003. Personal communication. (Manager, Restructuring and Regulatory Strategy Customer and Field Operations Business Unit Xcel Energy Minnesota)

<sup>17</sup> <http://www.state.mn.us/cgibin/portal/mn/jsp/content>.

<sup>18</sup> [http://www.minnegasco.centerpointenergy.com/for\\_your\\_home/energy\\_your\\_home/heating/audit](http://www.minnegasco.centerpointenergy.com/for_your_home/energy_your_home/heating/audit)

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## Montana

A free weatherization program is provided by NorthWestern Energy (electric and gas) and the Montana Department of Public Health and Human Services and delivered by human resource groups in the state. The free weatherization program is funded by the Universal System Benefit Charge (UBSC) which was legislated in 1997 during restructuring and is collected from all Montana electricity and natural gas users. The overall funding level for universal system benefits programs is 2.4% of annual retail sales revenues for each utility. For low-income energy and weatherization assistance, the minimum funding level is 17% of the total universal system benefits fund (0.41% of total revenues)<sup>19</sup>. This free weatherization is available to customers with a household income below 150% of Federal Poverty Guidelines and who use electricity and/or natural gas delivered by NorthWestern Energy for space heating<sup>20</sup>.

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<sup>19</sup> Nancy Brockway, "Statewide administration of low-income programs under energy utility restructuring: opportunities and pitfalls". National Consumers Law Centre, February 1998. <http://www.ncat.org/liheap/pubs/brock.htm> accessed 10/13/2003

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[http://www.northwesternenergy.com/energy/residential/assistance\\_programs.htm](http://www.northwesternenergy.com/energy/residential/assistance_programs.htm)

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## New Jersey

The Clean Energy Council, through the New Jersey Clean Energy Program, develops the programs and budget for DSM and then the utilities or other entities bid on these programs as delivery agents. DSM is mandatory in New Jersey and the portfolio of programs must include a program specifically for low income customers. Board approved programs for 2003 included a Residential Low Income program called Comfort Partners<sup>21</sup>.

New Jersey Comfort Partners is delivered by PSE&G, Jersey Central Power & Light, Connective, Rockland Electric Company, New Jersey Natural Gas, Elizabethtown Gas and South Jersey Gas through the Societal Benefits Charge created under New Jersey's restructuring legislation<sup>22</sup>.

Comfort partners is designed to improve energy affordability for income eligible households. This is done through energy efficiency measures which include: efficient lighting products, hot water conservation measures, refrigerator replacement, programmable thermostats, insulation upgrades, air sealing, duct sealing and repair, and heating/cooling equipment maintenance, repair and/or replacement. Energy education and counselling and arrearage forgiveness for participants who agree to payment plans are included<sup>23</sup>.

Statewide expenditures for residential low income program were US\$2,368,000 (just under 14% of the budget of US\$17,500,000 for the Clean Energy Program for the first quarter of 2003 and participation was 1,118. An additional 53 participants signed onto a Senior Pilot program in Monroe Township and 1217 participants also enrolled in debt reduction programs statewide<sup>24</sup>.

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<sup>21</sup> Mosser, M and Wolfe, S. 2003. Personal communication (Chief, Bureau of Energy Efficiency New Jersey Board of Public Utility. New Jersey)

<sup>22</sup> New Jersey Clean Energy Program Report. Year-to-date through first quarter 2003

<sup>23</sup> [http://www.njcleanenergy.com/html/1residential/4\\_comfort\\_partners.html](http://www.njcleanenergy.com/html/1residential/4_comfort_partners.html)

<sup>24</sup> New Jersey Clean Energy Program Report. Year-to-date through first quarter 2003

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## New York

New York's eight investor-owned utilities, and one municipal power authority, have low-income energy programs totalling about US\$20 million per year. The programs vary considerably by utility service territory and have varying eligibility guidelines. Most offer rate assistance and one or more other services such as arrearage forgiveness, weatherization, appliance repair and replacement and aggregation<sup>25</sup>.

A range of electric efficiency programs for low-income and non-low-income customers are also provided under a systems benefits charge (SBC). The SBC-funded programs are administered by the New York State Energy Research and Development Authority (NYSERDA), with average annual funding of US\$25 million for low-income energy efficiency through June 2006<sup>26</sup>. The energy efficiency portion of the mandate is carried out through the Weatherization Assistance Program.

New York state utilities do deliver their own low income DSM programs. An example of such a program is the AffordAbility Program of Niagara Mohawk, an electric utility. The program is targeted to Niagara Mohawk's low income customers who have a documented "inability to pay" their full energy costs. As part of this package participants receive a set of energy efficiency services that can include any or all of the following: weatherization services, refrigerator replacement, waterbed mattress replacement, installation of energy efficient fluorescent fixtures, electric hot water tank and/or clothes dryer fuel switch<sup>27</sup>.

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<sup>25</sup> <http://neaap.ncat.org/programs/lowincome/ny-li.htm>

<sup>26</sup> <http://www.nyserda.org/newsbcprograms.html>

<sup>27</sup> <http://www.dps.state.ny.us/00m0504/affordprog.pdf>

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## Oregon

State mandated low income DSM programs are delivered by local community action groups on behalf of the utilities. The utilities provide a proportion of their DSM budget, (which is embedded in rates) and administration funds to the community action groups. These groups provide weatherization services to households whose annual income is less than 60% of the median income in Oregon<sup>28</sup>. In 2002 Avista Utilities and their partners performed 1,027 single family energy audits as part of their weatherization program. Of this 101 were for low income families.<sup>29</sup>

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<sup>28</sup> Shroy, K. 2003. Personal communication. Manager of demand side management, Avista Utilities, Oregon.

<sup>29</sup> Shroy, K and Powell, J. 2002. 2002 Oregon DSM Program Review. Avista Utilities.

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## Vermont

The DSM programs for low income residents are different for the gas and electric utilities. For the electric utilities the low income programs are delivered by Efficiency Vermont. This is a statewide provider of energy efficiency services operated by an independent, non-profit organization under contract to the Vermont Public Service Board. Efficiency Vermont is funded by an energy efficiency charge on electric bills. This organization was created in 2000 by the Vermont legislature and the Vermont Public Service Board to help, reduce energy costs and protect Vermont's environment. Some of their free programs include: installation of energy efficient light bulbs and fixtures; replacement of refrigerators with more efficient models; seal drafts and air leaks around windows and doors; insulating walls and ceilings; installing water heater jackets, low-flow shower heads, aerators; and replacing electric space and water heaters with oil, gas or propane units. The people served by this program will save more than US\$20 million dollars by the end of the useful life of the efficient products and practices put in place over one year<sup>30</sup>.

Low income customers of Vermont Gas are referred to the Champlain Valley Weatherization Service (CVWS) for energy efficiency programs. The CVWS determines the customer's income status and eligibility, performs the energy audit, submits the recommended measures to VGS for screening, and coordinates the installation of the cost-effective energy saving measures. VGS shares the costs of these jobs with CVWS<sup>31</sup>. The CVWS is one service of the Champlain Valley Office of Economic Opportunity (CVOEO) which is a community action agency in Vermont. CVOEO provides a wide variety of programs to help people struggling on low-incomes to lift themselves out of poverty. The work of CVOEO is funded through grants, contracts and donations including: tax deductible financial contributions from individuals, grants from private foundations such as United Way agencies, in-kind donations from businesses, collaborative services provided in conjunction with utilities and other entities, and a variety of local, state and federal program funding sources<sup>32</sup>.

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<sup>30</sup> <http://www.encyvermont.org>

<sup>31</sup> <http://www.vermontgas.com/dsm.htm>

<sup>32</sup> <http://www.cvoeo.org/>

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