

Energy efficiency Knowledge Transfer to Low-Income Consumers: Best practices

RESEARCH REPORT

Report produced by Option consommateurs
presented to Industry Canada's Office of Consumer Affairs
May 2012

OPTION CONSOMMATEURS

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SUMMARY

This research focuses attention on the best practices for improving the energy-intensive consumption behaviour of low-income households with a view to making them more energy-efficient. We begin the report with a brief explanation of why energy efficiency programs are so important for low-income households in North America. We note that such households in Canada are not only more severely affected by high energy prices than more well-to-do households, but also that, in general, their behaviour is the most energy-intensive of all classes of Canadian households.

This situation can be redressed by encouraging energy-efficient behaviour through energy efficiency programs designed specifically to educate and/or raise awareness among participants. As a second step, therefore, we conducted an analysis of the scientific research on energy efficiency programs and on ways of bringing about a change in the behaviour of the consumers who participate in them. We noted that the designers of energy efficiency programs employ a wide range of intervention strategies such as disseminating information on energy conservation through the use of feedback, setting goals linked to financial rewards or through media campaigns and customized workshops. It is our belief that the use of multiple intervention strategies within a single program can lead to a significant reduction in energy consumption for the participants. On the other hand, we do not underestimate the importance of understanding the markets for which specific programs have been designed. Such programs are designed to address an aspect of the problem that is very real for the target clientele. Moreover, the clientele itself needs to be studied, in order to determine which behavioural changes can be achieved.

Finally, we presented various energy efficiency approaches to focus groups composed of people from low-income households to find out what they thought about practicing energy efficiency. To help us offer a choice of initiatives, we commissioned an outside firm to conduct a survey of the energy efficiency programs available in North America. Based on this survey, six broad categories of approaches were identified and linked with a sample program currently in place. After presenting these approaches to the participants in the focus groups, we attempted to determine which ones were most likely to be effective in getting them to change to more energy-efficient behaviour.

The focus groups elicited a wide range of opinions from the participants, which reflects the great diversity in the profiles of low-income households. We noted at the outset that the approaches that the participants seemed most to enjoy were those that placed them at the centre of the action. For instance, although they appreciated programs that allowed them to benefit from measures such as improving insulation or replacing windows, they particularly appreciated energy efficiency programs with an educational component presented in the form of a private workshop accompanied by a personalized energy audit. We therefore consider that this is the type of program most likely to persuade low-income households to change their consumption habits and adopt energy-efficient behaviours.

RECOMMENDATIONS

Recommendation 1:

Option consommateurs asks the Canadian government to reconsider its decision to end the EnerGuide program for low-income households before term.

Recommendation 2:

Option recommends that administrators of consumer energy efficiency programs intended for low-income households assess each of their initiatives in accordance with recognized best practices.

Recommendation 3:

Option consommateurs requests that Canada's Energy efficiency Office, in collaboration with Statistics Canada and the major Canadian energy suppliers, conduct an in-depth investigation of the use of various energy-saving practices in low-income households.

Recommendation 4:

Option consommateurs recommends that the Department of Natural Resources Canada, the provincial departments responsible for energy efficiency programs, the municipalities, and the energy utilities revise their overall offering of energy efficiency programs to ensure that they meet the needs of low-income households.

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TABLE OF CONTENTS

1 -	CONTEXT AND METHODOLOGY	9
1.1	Methodology	10
1.2	The importance of energy saving for LIHs.....	10
1.2.1	Energy poverty.....	10
1.3	Energy intensity of LIH budgets	12
1.4	Energy efficiency behaviour in LIHs.....	13
1.5	Energy efficiency programs intended for the population as a whole generally do not apply to LIHs	14
2 -	THEORIES OF DESIGNING ENERGY EFFICIENCY PROGRAMS WITH A BEHAVIOURAL COMPONENT	15
2.1	How to integrate behavioural measures into energy efficiency programs	15
2.2	Targeting opportunities for behavioural change	16
2.3	Typology of behavioural intervention strategies.....	16
2.3.1	Intervention strategies antecedent to user behaviour.....	16
2.3.2	Intervention strategies consequent to user behaviour.....	18
3 -	TYOLOGY OF APPROACHES TO ENERGY EFFICIENCY.....	20
3.1	Best practices in energy efficiency programs for low-income households	20
3.2	Classification of approaches	21
3.2.1	List of approaches.....	22
4 -	FOCUS GROUPS	27
4.1	Methodology	27
4.2	Results of the focus groups.....	27
4.2.1	Specific comments related to Approach 1 (Computerized/Web-based outreach tools)	28
4.2.2	Specific comments related to the second approach (outreach tools with personalized goals and financial incentives)	29
4.2.3	Specific comments related to the Approach 3 (home visits with light energy-saving measures).....	30
4.2.4	Specific comments related to approach (Home Visits with heavy energy saving action)	31

4.2.5	Specific comments relating to Approach 5 (multi-family housing with a set of measures that enable a comprehensive approach)	33
4.2.6	Specific comments with regard to Approach 6 (by neighbourhood/by district).....	34
4.3	Most favoured and least favoured approaches.....	35
5	- DISCUSSION AND CONCLUSION	37
5.1	Recommendations.....	38
6	- BIBLIOGRAPHY	41
7	- APPENDICES	44
	Appendix 1 - TGG Report - Residential Energy Efficiency Programs for OC	45
	Appendix 2 - Discussion Guide	84

1 - Context and methodology

In the current global context of rising energy prices, energy efficiency is a key factor in ensuring accessibility to this vital commodity. In the U.S., for example, it is estimated that improved energy efficiency practices could reduce energy consumption by 23%.¹ In addition to reliance on measures such as improving heating and lighting performance, increasing levels of insulation and sealing walls and windows, the practice of energy efficiency also depends on consumers changing their habits and behaviour.

In fact, the energy consumption habits of the occupants can have a major impact on the amount of energy used in a household.² They may choose to heat or cool more than others, leave the lights on or off during their absence, wash their clothes in hot water or cold water, etc. Occupants therefore make decisions (whether consciously or not) about their energy use. Some actions are performed for the express purpose of saving energy while others are habits that may or may not result in less or no energy consumption. The fact that the occupants of a home are also responsible for energy consumption is one that is often overlooked.

Some mainstream economists³ describe such behaviour or habits as irrational. From a purely economic standpoint, one would expect consumers to control any ineffective behaviour that results in unnecessary energy costs. But this is not quite what happens in reality. Who has never forgotten to turn off the lights when leaving a room or to reduce the temperature setting on the thermostat when leaving for work? Such “irrational” behaviours are the consequence of barriers to energy efficiency, which may be cultural, intellectual, organizational, administrative, or financial in origin.⁴

Education and awareness raising are part of the arsenal of means used in energy efficiency programs to overcome these barriers and realize energy savings. These means can be broadly described as behavioural measures designed to encourage the occupants of households to reduce energy consumption by changing specific behaviours that have an impact on their energy use.

¹ Hannah Choi Granade, Jon Creyts, Anton Derkach, Philip Farese, Scott Nyquist, Ken Ostrowski. 2009. “Unlocking Energy Efficiency in the U.S. Economy, McKinsey and Company report, consulted on line at: http://www.mckinsey.com/en/Client_Service/Electric_Power_and_Natural_Gas/Latest_thinking/~media/McKinsey/dotcom/client_service/EPNG/PDFs/Unlocking%20energy%20efficiency/US_energy_efficiency_full_report.ashx

² Matt Davis, 2011. Behavior and Energy Savings. Evidence from a Series of Experimental Intervention. Environmental Defense Fund.

³ S. G. Becker (1969). *Journal of Political Economy*. Vol. 70, No. 1 (Feb.), pp. 1-13. The University of Chicago Press.

⁴ K. Ehrhardt-Martinez (2008). Behavior, Energy and Climate Change: Policy Directions, Program Innovations and Research Paths, ACEEE Report no. E-087.

1.1 Methodology

In order to address the aims of this research on how to achieve better transfer of energy efficiency knowledge to low-income households (LIHs), we have adopted a threefold methodology.

First, we conducted a literature search in order to characterize low-income households and their participation in energy efficiency programs.

Second, in order to establish a solid basis for reflection on this research topic, we studied the research that has been carried out to date on energy efficiency programs containing behavioural measures. As support to our documentary research, we also contacted a wide range of stakeholders in the energy sector; these included energy utilities, federal and provincial governments, non-profit organizations and private firms.

Third, to ascertain the views of the LIHs themselves with regard to the research topic, we presented a number of energy efficiency initiatives to focus groups. The consulting firm that we hired to organize the focus groups and elicit reactions from participants also carried out a classification of energy efficiency programs in accordance with several criteria. This involved conducting a large-scale mapping of major programs offered in both Canada and the United States. The mapping allowed us to clearly differentiate the various possible approaches to energy efficiency and to introduce the participants in our focus groups to a range of measures likely to prompt some pertinent responses from them.

Finally, we present a discussion of the results obtained in our research together with an explanation of the resulting recommendations.

1.2 The importance of energy saving for LIHs

1.2.1 Energy poverty

When a household has to allocate more than 10% of its budget to energy costs, it is considered to be suffering from energy poverty. This problematic situation is determined by three factors: the energy performance of the household, the amount the household spends on energy and household income.⁵ When a household has to spend so much of its income on energy, great pressure is placed on other areas of the budget such as food, clothing and recreation. According to an article published in *CIBC World Market*,⁶ a reallocation of spending occurs in the food sector in periods of rising energy prices. First, consumers reduce spending in restaurants and depend more on grocery stores. Even inside grocery stores, however, consumers purchase fewer articles at the regular price than those on special. More specifically, CIBC believes that a 25% increase in the price of gasoline would result in a 2 to 3% increase in the unit price of every item sold in grocery stores. If the price of every product in the energy sector were to increase, one can only

⁵ L. Kelly (2007) *Affordable Energy – Diversifying DSM Programs in BC : A Discussion Paper*. Report prepared for British Columbia's Department of Energy, Mines and Petroleum Resources (unpublished).

⁶ Benjamin Tal (2010) *Sucking Energy Out of Households*. Consumer Watch Canada, CIBC World Market.

imagine how other budget items (even basic essentials) would be affected. When low-income households start cutting back on their food budgets, it is a sign that the situation is serious and that there is an urgent need for action.

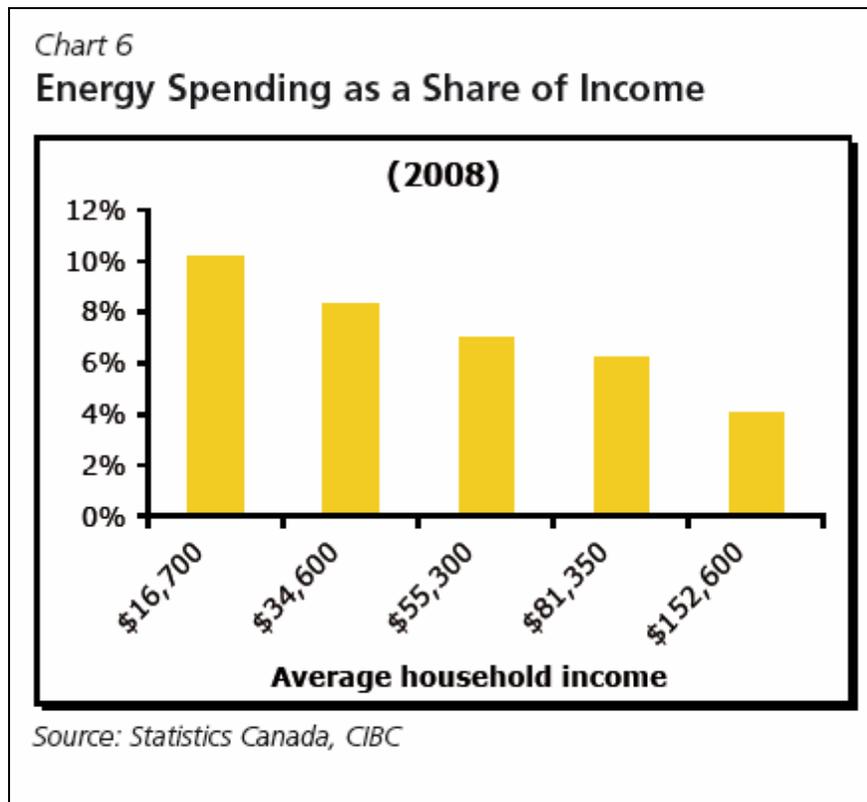
Educating consumers and raising their awareness about energy-efficient behaviour could result in significant energy savings for every household. These savings are even more welcome for LIHs, which already have very limited family budgets to deal with. In the view of Québec's *Comité consultatif de lutte contre la pauvreté et l'exclusion sociale* (advisory committee to combat poverty and social exclusion), energy and transportation are the budget items that affect low-income consumers the most.⁷ More specifically, there are three factors that militate in favour of developing research on energy efficiency programs for LIHs.

⁷ P. Dechêne, 2010. Les répercussions des hausses tarifaires sur les conditions de vie des personnes à faible revenu. Des tarifs qui excluent...Des solutions qui rassemblent. Comité consultatif de lutte contre la pauvreté et l'exclusion sociale. Gouvernement du Québec. Consulted on line at: <http://www.cclp.gouv.qc.ca/publications/index.asp?categorie=1500201#liste>

1.3 Energy intensity of LIH budgets

LIHs devote a larger share of their budget to energy bills than all other Canadian households.⁸ CIBC Bank estimates that in 2008, the median Canadian household⁹ spent 8% of its budget on energy, only one percentage point below the absolute record.

Table 1: Energy spending as a percentage of income in Canadian households



Source: Benjamin Tal (2010) *Sucking Energy Out of Households*. Consumer Watch Canada, CIBC World Market.

In Table 1, we can see that the percentage of the LIH budget devoted to energy is greater than that of households with higher incomes. In simple terms, energy costs account for a larger share of the budgets of poorer families. Thus, any increase in the price of energy commodities (whether gas, electricity, natural gas or heating oil) will have a greater impact on the budget of an LIH than on any other household.

⁸ O. Bourgeois, (2010). *La sensibilisation à l'efficacité énergétique des populations faiblement alphabétisées*. Option consommateurs. Montréal. Page 47. Table 2: Tableau des dépenses moyennes par ménages en énergie par quintile de revenu en 2003.

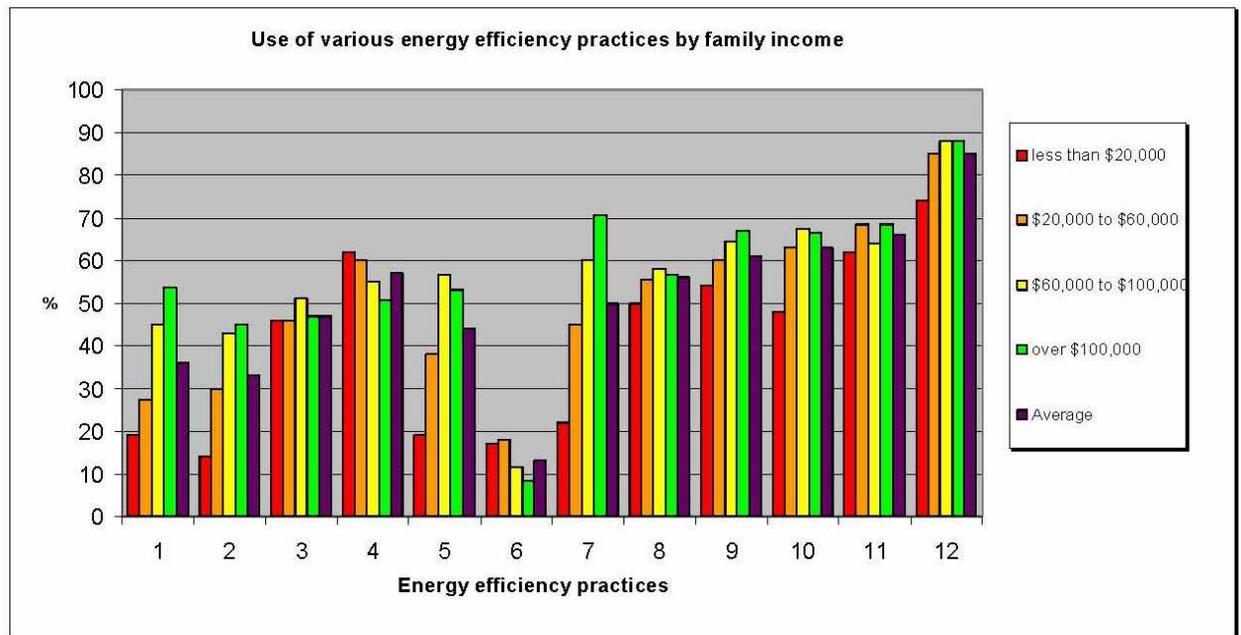
⁹ The CIBC uses the median rather than the average to illustrate the problem of energy poverty. It considers that the asymmetry of the income distribution curve for Canadian households does not permit the "average household" to be used as a representative indicator.

Given this situation, we might believe that LIHs are more likely than more affluent households to change their energy consumption habits and lessen the impact on their budget. As will be seen in the next section, the truth is actually quite different.

1.4 Energy efficiency behaviour in LIHs

The practice of energy-efficient behaviour is less common in LIHs than in other households. Indeed, it seems that number of energy-saving practices falls in proportion to the size of household income.

Table 2: Use of various energy-saving practices by household income



Source: Statistics Canada, *Households and the Environment Survey: Energy Use, 2007*, no. 11-526-S in the catalogue. Table 6-6

In its *Households and the Environment Survey*, Statistics Canada collected data on a number of energy-saving practices. Here is the list of practices identified:

- 1 - Using programmable thermostats;
- 2 - Using compact fluorescent light bulbs (CFLs);
- 3 - Washing laundry in cold water;
- 4 - Turning off computer monitors when they are not in use;
- 5 - Turning off gas fireplace pilot lights in summer;
- 6 - Air drying dishes in the dishwasher;
- 7 - Using dimmers on lights;
- 8 - Unplugging electronics when away for extended periods;
- 9 - Reducing heating or cooling in certain areas of the dwelling;
- 10 - Using a clothesline or drying rack;
- 11 - Using fans for cooling in summer;

12 - Closing blinds or drapes during the hottest part of the day.

As shown in Table 2, households with incomes below \$20,000 per year are those with the fewest energy-saving practices.¹⁰ Households in which Statistics Canada identified 10 or 12 practices were mainly those with higher incomes. Only 4 practices (“turning off the computer monitor when not in use”) and 6 (“letting the dishes air dry in the dishwasher”) were seen more often in LIHs than other households. More generally, we see that people in households with incomes of less than \$ 20,000 use the fewest energy-efficient practices. This is what some experts in the field¹¹ describe as the energy efficiency deficit of low-income households.

1.5 Energy efficiency programs intended for the population as a whole generally do not apply to LIHs

Most Canadian energy efficiency programs are designed for homeowners who have the financial means to pay the initial investment costs. These programs are not designed to meet the needs of LIHs, which typically do not have the means to invest in home improvements, who cannot make these improvements because they are tenants, or who live in multi-unit rental properties that are not eligible for the program. Finally, in the case of programs operated by energy utilities that are funded through the rates charged to customers, we observe that the LIHs that cannot participate in these programs actually subsidize (through their energy bills) programs for more affluent households. Thus, not only do energy efficiency programs not meet the needs of LIHs, they actually penalize them.

¹⁰ Statistics Canada, *Households and the Environment Survey (HES)*, 2007, no. 11-526-S in the catalogue. Consulted on line at:

<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3881&lang=fran&db=imdb&dm=8&dis=2>

¹¹ Philippe Dunsky, *L’efficacité énergétique pour les ménages à faible revenu – volet privé*, PowerPoint presentation, March 8, 2007, slides nos. 6 and 7.

2 - Theories of designing energy efficiency programs with a behavioural component

2.1 How to integrate behavioural measures into energy efficiency programs

Energy efficiency (EE) programs with an educational or behavioural component are distinct from traditional energy efficiency programs. They take into account the fact that the occupants' reasons for adopting new energy use habits are influenced by social, psychological, political and moral factors.¹²

Behavioural interventions can have two objectives. On the one hand, they can change a voluntary behaviour by targeting an individual's perceptions, preferences and abilities. On the other hand, they may seek to alter the context in which decisions are made, for example, by financial rewards, legislation or providing energy-efficient equipment.

Also, energy-efficient behaviour can be divided into two categories: consumption efficiency and consumption reduction.¹³

- Consumption efficiency can be described as a behaviour performed once only aimed at reducing energy consumption. It often involves the purchase of energy-efficient equipment or technologies such as certified ENERGY STAR¹⁴ devices, or the installation of additional insulation in the basement or attic.
- Consumption reduction relates to ongoing behaviour, such as using thermostats properly and taking shorter showers to limit the use of hot water.

However, it is important to note that it is not these technological devices or applications that save energy, it is the users. Also, these two categories of energy efficiency behaviour can reduce energy consumption significantly when they are combined. For example, buying energy-efficient appliances will not result in energy savings if households use them more than standard devices (this is known as the "rebound effect").¹⁵ When households are equipped with more efficient appliances, they tend to use them more often. Therefore, within the energy efficiency program, it is not only important to integrate notions related to the technological innovation itself, but also notions related to the user's knowledge of these innovations.¹⁶

¹² K. Ehrhardt-Martinez (2008). Behavior, Energy and Climate Change: Policy Directions, Programs Innovations and Research Paths. ACEEE Report no. E-0087

¹³ Gardner, G.T., Stern, P.C. (2002). *Environmental Problems and Human Behavior*. Boston: Pearson

¹⁴ <http://oee.nrcan.gc.ca/node/6920>

¹⁵ P.H.G Berkhout, J.C. Muskensm, J.W. Velthuisen (2000). Defining the rebound effect. *Energy Policy*, 28(6/7), 425-432.

¹⁶ W. Abrahamse, et al. (2005). A review of intervention studies aimed at household energy conservation, *Journal of Environmental Psychology* 25. pages 273-291.

2.2 Targeting opportunities for behavioural change

It is clear that households can reduce energy consumption levels if they are well informed and motivated. For example, in response to the California energy crisis of 2000-2001, the U.S. government launched a number of energy efficiency programs, including a major public information campaign. In 2001, average consumption during peak summer months dropped by 10%; for the entire year, there was an overall decrease of almost 7%.¹⁷ However, this is a rather extraordinary example, and it is wise to consider what behavioural changes people are most likely to accept, and when.

In order to effectively target opportunities for behavioural change, these factors must be taken into account at the design stage of the energy efficiency program. First of all, for the entire population targeted by a program, it is important to know what energy efficiency measures are already being practiced. Second, it is important to understand which energy efficiency measures are unattractive for the targeted households due to their prejudices or their social, psychological, political or moral predispositions¹⁸. Finally, certain authors¹⁹ believe it is important to conduct research on the target populations before designing and implementing energy efficiency programs intended to modify behavioural patterns. This research will help program designers to choose better behaviour modification objectives and design messages that are more effective in motivating these changes.

2.3 Typology of behavioural intervention strategies.

Some authors²⁰ classify the strategies in energy efficiency behaviour intervention programs depending on when the user made the behavioural decision to adopt the energy source. Accordingly, two types of interventions are possible: antecedent and consequent.

2.3.1 Intervention strategies antecedent to user behaviour.

Antecedent interventions are intended to influence one or more determinants before the energy-intensive/energy-efficient behaviour occurs. By influencing these underlying behavioural determinants (e.g. knowledge) the behaviour itself will supposedly be influenced. The following interventions are regarded as interventions antecedent to user behaviour:

Commitment

¹⁷ ACEEE. (2003). Energy Efficiency Has Proven that It Can Avert a Major Energy Supply Crisis. June. Washington, D.C.

¹⁸ K. Ehrhardt-Martinez (2008). Behavior, Energy and Climate Change: Policy Directions, Programs Innovations and Research Paths. ACEEE Report no. E-0087

¹⁹ J. Berger, D. Carroll (2008) Transforming Energy behaviour of Households: Evidence from Low-Income Energy Education Programs. APPRISE. ACEEE Summer Study on Energy Efficiency in Buildings.

²⁰ K. Ehrhardt-Martinez (2008). Behavior, Energy and Climate Change: Policy Directions, Programs Innovations and Research Paths. ACEEE Report no. E-0087

A commitment is an (oral or written) act by a user who undertakes to change his or her behaviour. Most often, the commitment is accompanied by a goal or target.

Goal-setting

Goal-setting consists in providing households with a point of reference for energy saving over a period of time, e.g. achieving a target of 5% or 15% energy savings within a year. The target can be determined by the programs or by the households themselves. Goal-setting is often used in combination with other actions, such as feedback (letting households know how they are doing vis-a-vis their target), or as part of the commitment strategy.

Information

Information is a common strategy for promoting energy-saving behaviours. An information strategy can take the form of disseminating general information on energy-related issues or specific information about possible solutions, such as information on the various energy-saving measures that households can adopt. Such information helps raise awareness in households of the importance of consuming energy-efficiently and informing them of the possibilities for reducing their own consumption. EE-related Information on energy efficiency can be transmitted to households in several ways, whether through workshops, media campaigns or customized information sessions.

Modeling

Modeling, based on learning theory²¹, involves providing concrete examples of behaviour. The theory assumes that these examples will be followed if participants can understand them and find them relevant (in terms of positive results).

2.3.1 - A) The lessons of intervention strategies antecedent to user behaviour

Abrahamse et al²² conducted a review of research on the efficacy of intervention strategies antecedent to behaviours and came to the conclusions presented below:

Antecedent intervention strategies to promote energy efficiency in households experienced only a fair level of success. Commitment and goal-setting seem to bring about changes in energy consumption, especially when used in combination with other intervention strategies.²³ In general, the information strategy is not, by itself, a very effective strategy.²⁴ Media campaigns tend to result in better knowledge of energy-efficient behaviour, but little is known about the actual effects of such campaigns on energy consumption.²⁵ However, energy savings have been achieved by giving households made-to-measure information sessions accompanied by energy audits.²⁶

²¹ A. Bandura (1977). *Social learning Theory*. New York: Prentice Hall.

²² W. Abrahamse et al. (2005). A review of intervention studies aimed at household energy conservation. *Journal of Environmental Psychology*. 25. page 281..

²³ L.J. Becker (1978) Joint effect of feedback and goal setting on performance: A field study of residential energy conservation. *Journal of Applied Psychology*, 63(4), 428-433.

²⁴ J.H. Van Houwelingen, F.W. Van Raaij (1989). The effect of goal-setting and daily electronic feedback on in-home energy use. *Journal of Consumer Research*, 16, 98-105

²⁵ R. A. Winnett, S. Q. Love and C. Kidd (1982–1983). The effectiveness of an energy specialist and extension

2.3.2 Intervention strategies consequent to user behaviour

Consequent intervention strategies are based on the assumption that the presence of positive or negative consequences influences user behaviour. For example, a fuel-efficient behaviour will become a more attractive option when positive consequences are attached to it (e.g. by providing a monetary incentive) and vice versa. Feedback and rewards are considered as consequent to the user's behaviour.

Feedback

The feedback strategy consists essentially in providing households with specific information about household energy use. Because households can more easily integrate energy savings into their behaviour, they will be more motivated to choose energy-efficient habits. Feedback strategies, like information strategies, are varied; they may be continuous, daily, weekly or monthly, or even comparative.

Rewards

The strategy of the monetary award can serve as motivation for practicing energy-efficient behaviours. Such rewards, which are usually monetary, may take the form of an amount of energy saved or a fixed amount of money. For example, when a certain percentage of reduction is achieved, the household is given a certain amount of money.

2.3.2 - A) The lessons of interventions consequent to user behaviour

Abrahamse et al²⁷ conducted a review of the research on the efficacy of intervention strategies consequent to behaviours and came to the following conclusions.

In the case of intervention strategies consequent to the behaviour, the rewards are effective, but the positive effects seem to disappear once the intervention ceases.²⁸ Households benefitting from feedback strategies (especially when the feedback is frequent) have had success in reducing their energy consumption,²⁹ although there are some exceptions.³⁰ In addition, studies have shown that LIHs do not react the same way

agents in promoting summer energy conservation by home visits. *Journal of Environmental Systems*, 12(1), 61–70.

²⁶ R. A. Winett, S. Q. Love and C. Kidd (1982–1983). The effectiveness of an energy specialist and extension agents in promoting summer energy conservation by home visits. *Journal of Environmental Systems*, 12(1), 61–70.

²⁷ W. Abrahamse et al. (2005). A review of intervention studies aimed at household energy conservation. *Journal of Environmental Psychology*. 25. page 281

²⁸ W. O. Dwyer, F. C. Leeming, M. K. Cobern, B. E. Porter and J. M. Jackson, . (1993). Critical review of behavioral interventions to preserve the environment. Research since 1980. *Environment and Behavior*, 25(3), 275–321

²⁹ C. Seligman and J. M. Darley (1977). Feedback as a means of decreasing residential energy consumption. *Journal of Applied Psychology*, 62(4), 363–368.

³⁰ R. Katzev, L. Cooper, and P. Fisher (1980–1981). The effect of feedback and social reinforcement on residential electricity consumption. *Journal of Environmental Systems*, 10(3), 215–227.

as those with high income. LIHs exposed to feedback systems reduce their energy consumption, while that of high-income households increases.³¹

In the opinion of some authors,³² the first step in the design and implementation of energy efficiency programs should be undertaken only place after the problem as a whole has been studied: first, by identifying the behaviours that contribute significantly to energy inefficiency and then by examining the factors that make energy-efficient behaviour attractive or otherwise. Other authors³³ believe it is crucial that energy efficiency programs be conducted by identifying the barriers preventing consumers from changing their behaviour and by changing these barriers. Thus, the problem must be studied not only by examining what behaviours are to be targeted by the intervention, but also by identifying the determinants that lead consumers to adopt these behaviours.

2.3.2 - B) Evaluation of energy efficiency programs

The evaluation of the effectiveness of an energy efficiency program should also focus on both the behavioural determinants and the energy-efficient behaviours themselves. Analysis of the literature³⁴ on the evaluation of energy efficiency programs reveals only the degree to which the programs have achieved their objectives, without explaining the reasons for their success (or failure). However, the determinants of energy-intensive (and energy-efficient) behaviour should receive as much attention as the behaviours themselves.

³¹ R. G. Bittle, R. M. Valesano and G. M. Thaler (1979–1980). The effects of daily feedback on residential electricity usage as a function of usage level and type of feedback information. *Journal of Environmental Systems*, 9, 275–287.

³² E. S. Geller, (2002). The challenge of increasing proenvironment behavior. In R. G. Bechtel, and A. Churchman (Eds.), *Handbook of Environmental Psychology* (pp. 525–540). New York: Wiley.

³³ G. T. Gardner and P. C. Stern (2002). *Environmental Problems and Human Behavior*. Boston: Pearson.

³⁴ W. Abrahamse et al. (2005). A review of intervention studies aimed at household energy conservation. *Journal of Environmental Psychology*. 25. page 283.

3 - Typology of approaches to energy efficiency

3.1 Best practices in energy efficiency programs for low-income households

Energy efficiency programs for LIHs have been the focus of numerous studies that have contributed to a better understanding of these programs and all that they involve. Among these, the studies³⁵ published by the American Council for an Energy-efficient Economy (ACEEE) have highlighted the components, elements and modes of operation usually associated with best practices used by energy efficiency programs. Following are the major points identified:

- 13 - Partnerships are common. Energy utilities, government social service agencies and other stakeholders often form partnerships around EE programs.**
These partnerships leverage funding from diverse sources and create structures for more efficient program delivery. For example, a program may be administered by an energy utility, funded by a government department and delivered by a community organization.
- 14 - Community action organizations provide services directly to clients.**
These organizations are well known for providing services that meet the needs of LIHs. In addition, over the years they have acquired the technical expertise needed to provide low-income energy efficiency programs on behalf of utility companies.
- 15 - The various services are often grouped around a single supplier.**
This approach offers two additional benefits. A single supplier can often deliver more services at lower cost than a group of separate suppliers. Moreover, from the consumers' perspective, it is much simpler to have a single point of contact for all the services in the same program. Programs are equipped with sophisticated analytical tools and diagnostics.
- 16 - Diagnostic tools such as blower-door testing, infrared imaging and other software are often used by leading programs to identify and prioritize energy efficiency measures.**
These tools help improve the energy efficiency of the households visited, by minimizing unnecessary costs.

³⁵ M. Kushker, D. York, P. Witte (2005) Meeting the Essential Needs: The Results of a National Search for exemplary Utility-Funded Low-Income Energy Efficiency Programs. ACEEE, Report Number U053.

Disponible en ligne :

<http://www.aceee.org/sites/default/files/publications/researchreports/U053.pdf>

17 - Whole-house approaches are common

Increasingly, these programs examine each residence in relation to the entire building within which it is situated. Measurements are not analyzed separately but holistically and are determined by taking into account the interactions between them. This approach ensures an accurate diagnosis that identifies the most cost-effective measures and helps avoid the oversights that could occur if each measure were applied in isolation.

18 - Consumer education and awareness is often an integral part of the EE services offered

In order to produce concrete results, the energy efficiency programs involve a high degree of interaction with customers. The trend is to incorporate within the programs an educational component that relates not only to the appliances and products installed, but also the behavioural habits that the consumers themselves can adopt to reduce their energy bills.

19 - The programs are adapted to all types of energy

Like all residential customers, LIHs often use several energy sources, whether electricity, natural gas, oil or even renewable energy sources. Accordingly, the interventions carried out through the programs are fuel-neutral, making them less expensive and resulting in a maximum reduction of the participant's overall energy bill.

20 - The evaluation process is constant and integrated within the programs

Processes and outcomes are measured routinely, usually by third parties to ensure objectivity. The results of the evaluation are used to improve program performance.

In conclusion³⁶ to this study, the authors came to the following conclusions:

“Low-income energy efficiency programs work.”

“There is no one (exemplary) programming model.”

The need for energy efficiency programs for low-income households is constant and is constantly assuming greater importance due to increases in energy prices and the number of such households.

3.2 Classification of approaches

As we emphasized in the previous section, there is no single “best” energy efficiency program. To help us understand the characterization of the various approaches to energy efficiency programs, we consulted several stakeholders in the energy sector.

Subsequently, we asked an outside firm to conduct up a sampling and a characterization. Appendix 1 presents the report by The Goodman Group (TGG) entitled “Approaches and

³⁶ *ibid.* page 11

Examples for Residential Energy efficiency Programs for OC Focus Groups.”

To ensure that the characterization of the approaches is as representative as possible, we did not limit the scope of the TGG report to Canada alone. We felt this was appropriate because in our preliminary research, we discovered that there is very low variability in Canadian programs compared to programs in the United States. Moreover, as TGG points out on page 4 of its report, the states of California, New York, Florida and Massachusetts spent, \$2.7 billion on energy efficiency programs for the electricity market in 2010. In comparison, Ontario, Quebec and British Columbia spent \$812 million combined for the same year.

Also, we wanted to target approaches that incorporated both common and innovative initiatives. It was therefore imperative that TGG’s research be not limited to programs for LIHs. Finally, because the characterization was to be used to collect feedback from participants in focus groups conducted in Quebec, we wanted the approaches and programs cited in examples to be applicable and/or easily understandable by Quebecers.

3.2.1 List of approaches

Following are the approaches studied by TGG. The full TGG report is presented in Appendix 1 of this document. The relevant approaches and examples have been arranged in accordance with the degree of complexity and scope of the proposed measures. Below is a brief summary of each approach.

3.2.1 - A) Approach 1

Description:

Computerized/Web-based outreach tools

Key elements:

- Behavioural measures only;
- Establishment of a consumption profile using computerized tools;
- Comparison between the consumption of households with a similar profile;
- Comparison of current consumption of households with their own consumption history;
- Duration: a few minutes.

Objective:

The objective of this program approach is to enhance the practice of energy efficiency through software-generated personalized recommendations. No energy-saving products are installed and no insulation or waterproofing measures are carried out.

Example:

Program: “Dare to Compare” (Hydro-Quebec)

3.2.1 - B) Approach 2

Description:

Computerized/Web-based outreach tools with personalized goals and financial incentives

Key elements:

- Behavioural measures only;
- Establishment of a consumption profile using computerized tools;
- Comparison with other households with similar consumption characteristics;
- Determination of personalized goals;
- Additional financial incentives for households that meet the objectives.

Objective:

To reduce energy consumption through a diagnosis of consumption and by setting targets for the energy savings to be achieved in order to qualify for financial compensation. Note: Participants must commit to monitoring their energy consumption every month over a period of 12 months.

Example:

Program: "Team Power Smart" (BC Hydro)

3.2.1 - C) Approach 3

Description:

Home visits with light energy-saving measures

Key elements:

- Home visits;
- Between 1.5 and 2 hrs;
- Behavioural measures (personalized energy efficiency advice given by a specialized educator);
- Light measures (light energy-saving devices such as shower heads, weather stripping and sealing);
- Approximate cost of installed equipment: \$100 to \$200.

Objective:

To help disadvantaged -income households with problems caused by the aging of their home and lack of knowledge of energy efficiency. These programs usually include an educational component about energy efficiency. Personalized advice is given; the focus is on user habits but also the entire house.

Examples:

Program: “Home Energy Squad” (Xcel Energy, Minnesota)

Program: “Éconologis” (Ministère de Ressources naturelles et de la Faune, Québec)

3.2.1 - D) Approach 4

Description:

Home visits with heavy energy conservation measures.

Key elements:

- Heavy measures (installation of relatively expensive energy-saving equipment , such as windows, insulation, and replacement of heating system);
- Limited behavioural measures (related only to the use and installation of energy-saving objects or devices);
- Duration: This work may last half a day. A second visit is scheduled to perform an energy audit;
- This type of approach may also involve participants being referred to other energy efficiency programs for which they are eligible;
- Approximate cost of equipment installed: between \$1000 and \$5000 U.S.

Example:

Program: “Home Weatherization Program” (Enbridge, Ontario)

Objective:

The objectives are practically the same as in the third approach, except for the possibility of installing objects or devices that can achieve substantial energy savings on their own. This approach is more integrated than its predecessors. It allows households to qualify for other energy efficiency programs, such as ones that can help them change their appliances or purchase an air conditioner. Finally, the educational component related to this approach is smaller and is centred on the equipment installed.

3.2.1 - E) Approach 5

Description:

Support provided for every unit in the same building through a set of measures permitting a comprehensive approach

Key elements:

- Complete behavioural measurements (customized energy efficiency advice given by a specialized educator);

- Light measures (light energy-saving devices such as shower heads, weather stripping and sealing);
- Heavy measures (installation of relatively expensive energy-saving equipment , such as windows and insulation, and replacement of heating system);
- Turnkey programs designed for owners, but which also benefit tenants;
- Emphasis placed both on education (to owners and tenants) and on the installation of objects or equipment;
- Measures free when performed in LIHs;
- Two visits required (one to perform energy audits and give advice, another to install appliances).

Objective:

The programs utilizing this approach include an educational component that is as important as the installation of energy-efficient appliances. These programs address the needs of all the occupants of the building. The aim is for occupants and owners to participate in attaining major savings together.

Example:

Program : “saveONenergy for social and assisted housing ” Toronto Hydro, Ontario.

3.2.1 - F) Approach 6

Description:

Identification of a neighbourhood or district with an urgent need for improving energy efficiency and implementation of measures required.

Key elements:

- Complete behavioural measures (customized energy efficiency advice given by a specialized educator);
- Light measures (light energy-saving devices such as shower heads, weather stripping and waterproofing);
- Heavy measures (installing relatively expensive energy-saving equipment, such as windows and insulation, and replacing the heating system);
- Simultaneous interventions in neighbourhoods targeted primarily on account of the residents’ poor socioeconomic conditions;
- Behavioural measures that can be effected in groups;
- Community approach;
- Intensive marketing in the intervention area.

Objective:

The aim of this approach is to identify a street, neighbourhood or district that has the potential for very high energy savings in which the authorities plan to intervene in every household in the area. All the utility companies will join forces to achieve maximum

effective response. This kind of program is designed to reduce the cost of implementing energy-saving measures for a large number of participants.

Example:

Program: “Energy Savings Assistance Program” California.

4 - Focus groups

4.1 Methodology

In order to test these various approaches with LIHs, we conducted four focus groups with individuals who meet the eligibility criteria for these traditional programs³⁷. To ensure sustained participation, we recruited our participants from agencies providing services to LIHs. Our 90-minute focus groups all took place in Montreal in March 2012 and were each attended by 9 to 12 people. There was a total of 40 participants.

During the focus groups, the approaches and programs were presented to the participants in the same order as in the previous section. Although the facilitators used a discussion guide³⁸ to lead the discussion, the participants were free to make any comments.

The purpose of these focus groups was not to obtain quantitative data on the proposed programs and approaches, but rather to obtain feedback and qualitative comments about the latter from people living in low-income households. The usefulness of the comments resided primarily in the participants' prospective evaluation of energy efficiency programs. Since one of the problems associated with energy efficiency for LIHs is low participation, we considered it important to relate our work to the viewpoint of those targeted by our study. Finally, the "participation" of the LIHs in this research gives it a human character that is rarely found in this type of project. We believe that this factor contributes significantly towards an understanding of these issues.

4.2 Results of the focus groups

The first series of questions were intended to generate discussion and to get to know the participants' first impressions with regard to energy efficiency.

In general, the participants had little knowledge of what energy efficiency entails. Of course, some were very knowledgeable, but overall, the responses to the first set of questions revolved around generalities such as:

"Energy efficiency is what I do to lower my bill"

"Energy efficiency is avoiding waste"

"Energy efficiency is not only for me, but also the environment."

³⁷ The eligibility criteria for participating in the focus groups are based on the same criteria commonly used by energy efficiency programs for the eligibility of specific households for these programs. First, household income must be below the low income threshold as determined by Statistics Canada. Second, the household must be responsible for paying the home heating bill. The participants in the focus groups were predominantly tenants who used electricity as the main heating source. A minority of participants were owners and tenants using natural gas as the primary heating source

³⁸ The Discussion Guide used by the researchers during the focus groups is presented in Appendix 2.

Generally speaking, when it came time to give examples of energy-efficient practices, the respondents could name a few measures, but these all related to with lighting and heating and were vague. With a few exceptions, they did not cite specific measures such as lowering thermostats when they were out. The measures they did mention most often related to the purchase of energy-saving devices such as compact fluorescent light bulbs.

Finally, when we asked participants if they practiced energy efficiency at home, many said they were already doing everything they could. Some reported that they had to tighten their belts and that they were trying to save as much as possible. Some said that they were tenants and could not change anything in their homes. Few participants had heard of energy efficiency programs except for programs offering compact fluorescent bulbs at a discount and other federal government renovation programs.

4.2.1 Specific comments related to Approach 1 (Computerized/Web-based outreach tools)

The participants' views quickly polarized around three distinct points. First, several participants questioned the use of the electronic questionnaire used by the program given as an example. Since it contained relatively few questions, they had difficulty seeing how it could help toward understanding the subtleties of their energy consumption. Comments about the questionnaire included:

"It seems too simple."

"Is the software reliable? Scientific?"

"I'm able to do that without the questionnaire."

The participants then questioned the usefulness of being compared to other households. They said:

"Even though others consume a lot, I'll get a good score and won't have to make an effort."

"There are certainly some things I could learn."

Finally, the participants stated that it was difficult for them (and others) to get access to computers and the Internet:

"I don't have a computer."

"For many people, going onto the Internet is really complicated."

"I don't want to hear anything about online tests."

Finally, most were unsure that energy efficiency measures could help them save:

"If your home isn't insulated, no matter how careful you are, you can't work miracles."

While some participants were skeptical about the possibility that we could understand their situation by reading their responses to the questionnaire, some did say that the program might teach them a few things:

"There are certainly some things I could learn."

4.2.1 - A) Positive points identified by the participants

Participants did find some positive points in the computerized /Web-based outreach tools:

- It's fast and easy;
- Comparisons between neighbours can be a good incentive;
- The visual elements are easy to understand;
- It can get through to a very large number of people;
- It lets us know where we are compared to others;
- It offers solutions.

4.2.1 - B) Negative points identified by the participants

They also found some negative points; these included:

- It's for people who already know what it's all about;
- If the questionnaire is too short, there's a loss of credibility. If the questionnaire is too long, not enough few people will fill it in;
- Don't like online tests;
- Does not affect the building, the insulation;
- Should be compared to an ideal;
- You need a computer and the Internet;
- It's not very useful to compare yourself with others;
- Afraid of transmitting personal information over the Internet or to the program administrator.

4.2.2 Specific comments related to the second approach (outreach tools with personalized goals and financial incentives)

Participants were almost unanimous in assessing the financial incentive. Here's what they said:

"When there's a monetary reward , you take it more seriously."

"It's a tempting incentive, it pushes you to do your best."

While most participants said that the financial incentive was an effective motivator, when asked if, after receiving financial compensation, they would continue to make efforts throughout the year, they were unsure. The words of one participant summed up the opinion of the whole group:

"It's like going to the gym. At first, you're motivated, but in the end, you stop going."

Almost all the participants preferred the second approach to the first and it seemed to be the financial incentive that tipped the balance. It is interesting to note that during the discussions, the participants seemed more interested in the gains associated with the financial incentive than the gains associated with the reduced energy consumption. One even said:

“A check for \$75 is better than saving \$75 on a Hydro-Quebec bill”

4.2.2 - A) Positive points identified by the participants

Participants found some positive aspects to the outreach tools with personalized goals and financial incentives, these included:

- The financial incentive may get people to participate who are not really interested in energy efficiency;
- With the financial incentive, Approach 1 is more attractive than Approach 2;
- Designed for tenants too (like Approach 1);
- The financial incentive helps keep you motivated longer.

4.2.2 - B) Negative points identified by the participants

They also found some negative points; these included:

- The reward is small;
- Once we’ve received the incentive, we might stop making an effort;
- You have to have a computer;
- The incentive won’t be attractive to people who are well-off;
- It’s easier for those who waste energy to reach their goals than those who are already careful.

4.2.3 Specific comments related to the Approach 3 (home visits with light energy-saving measures)

The participants’ very first comments alerted us to their interest in this approach. From the outset, they declared that the approach seemed able to meet their needs because of the presence of qualified staff to answer their questions. Here’s what they said:

“It’s better because they’re right in your home. It’s personal, so if we have questions to ask them, we can get immediate answers.”

“When you have someone to explain the energy-saving tips to you, it’s friendly, it makes you feel more like doing things, it’s more motivating.”

“When a technician comes to your home and does some work, it gives a more concrete result, it helps to understand how to save.”

The participants were unanimous about the impact of this program on their energy bills. One said:

“Advice is good, but when on top of that, a specialist does some work, that’s sure to have an impact.”

Finally, when we asked them if they were willing to open their doors to two strangers and allow them to perform a thorough inspection of their homes, the participants were divided on the issue. Some, considering the savings that would follow, did not see any problem, while others were less trusting. Here’s what some said:

“It doesn’t bother me, I trust them and it’s to help me to save.”

“Two people who come to your house and move the furniture around. I’d need to keep an eye on them.”

In each session, we asked the participants to tell us which approach(es) they liked best and also which they liked least. Approach 3 was the one that earned the most votes in regard to the participants' appreciation, nearly 30%. We can deduce that this was the one that participants found most interesting.

4.2.3 - A) Positive points identified by the participants

Participants found some positive aspects to home visits with minor energy-saving measures, notably:

- The service is personalized;
- There is interaction with an expert;
- It's concrete;
- You're able to get answers to questions;
- The explanations are appropriate to our situation;
- You have the chance to learn a lot.

4.2.3 - B) Negative aspects identified by participants

As for the negative points, there was only one, which relates to the need to let a stranger into one's home. In fact, some participants were resistant to this idea.

4.2.4 Specific comments related to approach (Home Visits with heavy energy saving action)

The vast majority of participants in the focus groups were tenants. They first discussed the reaction they would have if their owners participated in a program endorsing this approach. Some participants said that their owner would surely be very happy about such a program. Others said that the owner would not be likely to participate in such a program. Still others said that the programs related to this approach were not relevant to them. Following are some quotes summarizing their remarks:

"If it's free, maybe my landlord will be interested."

"It depends on the landlord. Most don't care, they just want you pay your rent."

"Whenever I suggest something to my landlord, he refuses."

"This is a program for homeowners. It's not up to me to change the windows or the insulation in the basement."

Participants seemed concerned about the possibility of seeing their rent increase as a result of work done through such programs. This concern also came up during the discussions following the presentation of Approaches 5 and 6. The participants were somewhat wary of Approaches 4, 5 and 6 because they feared that they might increase their rent. For example, some said that they believed such programs included work not intended for tenants.

Regarding possible changes to their energy consumption habits, some participants responded that, because the programs in to Approach 4 relegated the educational component to second place, they were not likely to alter their habits significantly. One of them said:

“If no one tells us what to do, or gives us stuff, we can’t really change our habits.”

On the other hand, other participants seemed to be motivated to install energy-saving equipment. One of them said:

“It’s certain that if they come and change my windows and better insulate the walls, I’ll be more careful too.”

Some energy efficiency programs that endorse Approach 4 offer participating households the chance to be referred to other energy efficiency programs. This is known as referencing. The vast majority of participants appreciated this aspect of Approach 4. For the participants, it seemed quite natural that energy efficiency experts would be able to direct them to a range of related services that would enable them to reduce their energy consumption. Some said or asked:

“It’s great that someone who knows all the programs can automatically refer us. It’s just logical.”

“It’s good, but wouldn’t it be easier if all these programs were centralized in one place?”

Like the last speaker, several participants noted that they appreciated not having to search for information on energy efficiency programs on their own. Finally, during the discussions, several participants remarked that they had never heard of the energy efficiency programs that were presented to them. Several were suspicious and thought that the examples simply did not exist. Others said they believed the government did not want too many people involved in these programs because they would become too expensive.

4.2.4 - A) Positive points identified by the participants

Participants found some positive aspects in home visits with relatively heavy energy conservation measures, including:

- Being able to be referred to other programs or offers;
- Major work that can be done on the building envelope;
- Improvements to the building and the fact that these could provide an additional reason for changing behaviour.

4.2.4 - B) Negative points identified by the participants

They also found some negative points, including:

- Risk of a significant increase in rent if large-scale work is done;
- The program applies to owners more than tenants;
- As little advice is given, it is difficult to know what to do to change behaviour.

4.2.5 Specific comments relating to Approach 5 (multi-family housing with a set of measures that enable a comprehensive approach)

Initial feedback from participants focused on the size of the intervention. They were concerned about the scope of work and the inconvenience, which could extend over several days. Here are some of the more significant remarks:

“That’s really too much. I’d go somewhere else.”

“Wouldn’t it be easier if everything was done in one day?”

“I’m not sure I’d want to miss a day’s work for that.”

After making these initial comments, the participants had to discuss the pros and cons of such an energy efficiency intervention for the building as a whole and for each occupant of the building. Opinions were divided on this point. Some felt that if their neighbours were more aware of EE, it would be beneficial for them. Here’s what they said:

“Sure, if the others do it, I’ll get involved too.”

“Maybe people who are not interested in energy efficiency will get involved just because all their neighbours do.”

On the other hand, other participants (or their neighbours) did not seem to think that their neighbours would have any positive effects on their energy consumption habits:

“Neighbours don’t motivate each other, we never talk to anybody anyway.”

“When you attend the [housing cooperative] meetings, you see the reality.”

On the other hand, the participants were pleased with the complete information sessions. They seemed to be interesting not just for homeowners and for the building, but also for the tenants, who have a role to play. One participant said:

“It’s knowing that we are important too, that it’s not just doing renovations to increase the rent.”

4.2.5 - A) Positive points identified by the participants

Participants found some positive aspects in the multi-family housing with a set of measures to enable a comprehensive approach. These included:

- This approach has a strong educational component
- It’s benefits both landlords and tenants
- It connects people who are maybe not interested in EE
- It has a good combination of installation of equipment and awareness raising
- It could promote support among neighbours

4.2.5 - B) Negative points identified by the participants

The negative points noted by participants in the focus groups had to do with the following elements:

- Potential for rent increase
- A lot of bother
- It depends how interested the owner is

4.2.6 Specific comments with regard to Approach 6 (by neighbourhood/by district)

The participants' initial reactions to this approach centred on the scope of the programs. Some participants felt strongly that this type of program did not really exist or that they would never benefit from it. They said:

"This is Quebec. We'll never see that here."

"It's too big as a program. It's impossible to mobilize an entire neighbourhood and the owners as well."

Other participants seemed to be rather motivated by the community spirit associated with this approach. One said:

"With this, you feel like you're part of a community of people who are becoming empowered."

As for the question of their motivation to change their behaviour, the participants were almost unanimous: this approach would allow them to do that because for most, the ripple effect caused by the neighbourhood buzz was seen as an effective source of motivation. Participants said:

"If the whole neighbourhood is talking about it, you're definitely going to feel like changing too."

"With trucks coming and going, and the installers and everything, you get the impression that it's pretty serious."

During discussions on this approach, participants noted that with this approach, they felt that the responsibility for doing environmentally responsible things was no longer solely on their shoulders but also on the wider community, on society. One participant said:

"It's fine to make an effort at home, but often it seems like industries and governments do nothing. This type of program seems more like a social project."

4.2.6 - A) Positive points identified by the participants

Participants found some positive aspects approach to the neighbourhood/district approach, these included:

- The feeling of solidarity, unity, community that the approach encourages
- The snowball effect caused by the approach, even in households that are not necessarily interested in energy efficiency
- The fact that priority is given to disadvantaged neighbourhoods
- The commitment strategy, which encourages everyone to take their consumption habits seriously

4.2.6 - B) Negative points identified by the participants

They also found some negative points:

- It is difficult to attract a lot of people from different backgrounds
- The approach involves a lot of inconvenience
- The approach is difficult to implement in Quebec

4.3 Most favoured and least favoured approaches

To enable us to get a clearer picture of the perceptions of the participants in the focus groups, we asked them to tell us their favourite approaches, i.e. the ones that would most likely make them change their consumption habits/ behaviour and become more energy-efficient. Finally, we also asked them to tell us which approaches were least likely to make them adopt that same energy-efficient behaviour. We wanted to know their point of view about the target clientele, and the approaches that would be the most interesting solely from the standpoint of the behavioural component of the intervention. Here are the results:

Table 4: Approaches most favoured by participants in focus groups

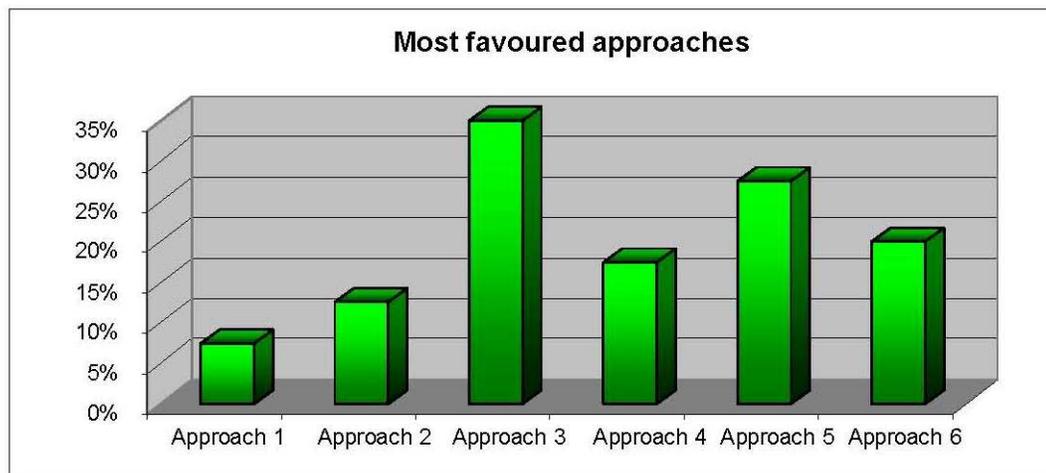
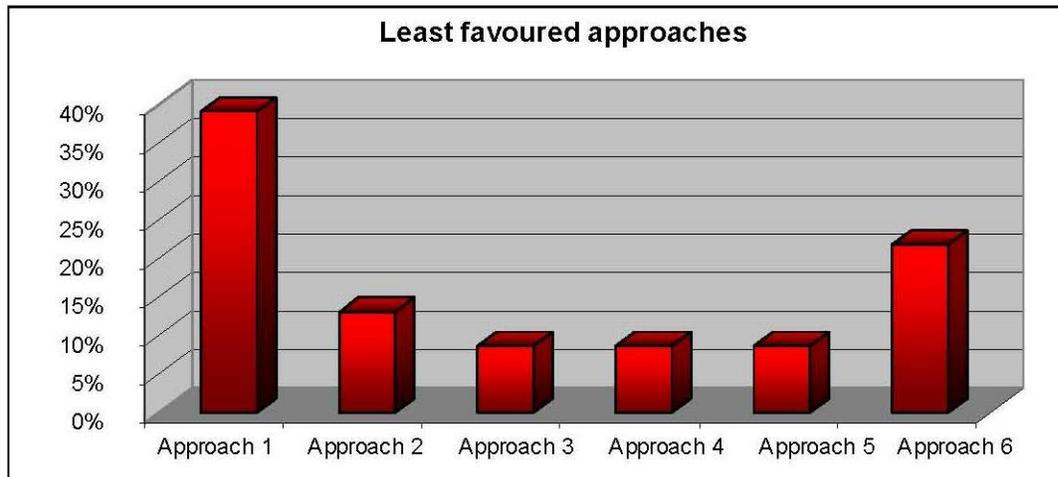


Table 4 shows the number (percentage) of participants in the focus groups who chose each approach as being one of the most likely to make them adopt more energy-efficient behaviour. These results give a good indication of the general mood that prevailed during the focus groups. We note that the two most “popular” approaches are those that generated favourable comments from several participants with regard to the educational support provided by a specialist. The comments by participants in their discussion of these approaches provided information us about their interest in them, and the ability of energy efficiency programs to adequately meet their specific needs.

As for the approaches that participants identified as being least likely to make them behave in a more energy-efficient way, the results are as follows:

Table 5: Approaches least favoured by participants in focus groups



Note in Table 4 that Approaches 1 and 6 were those that the participants in the focus groups identified as being the least likely to make them change their energy consumption habits in favour of more energy-efficient behaviour. They are also those that generated the greatest number of comments about the importance of maintaining a good balance between the complexity of the approach and its ability to adapt to the individual needs of participants. In the case of Approach 1, participants questioned the fact that an online questionnaire could address the subtleties of their respective situations. In the case of Approach 6, participants found it difficult to believe that a program requiring a high degree of organization and collaboration among multiple stakeholders (with sometimes distinct interests) could accommodate their own needs.

At first glance, these results suggest that participants are concerned about whether energy efficiency programs intended for them are actually able to take their personal situations into account. Finally, it shows that the participants want to be involved at the centre of energy efficiency programs designed for them. Just as the approaches they most approve of are those offering an individualized intervention, so the approaches they approve of the least seem to relegate the role of the participants to that of a single beneficiary, to just one of the elements in the program.

5 - Discussion and conclusion

Changes in the behaviour of the general public may help solve (or at least mitigate) several environmental problems. They may also help solve problems related to energy consumption. By adopting certain behaviours and changing their habits, citizens can reduce their ecological footprint. In addition to benefitting the planet, these energy consumers will see their energy bills reduced.

Because households with the lowest incomes are also the ones that spend the greatest share of their budgets on energy, because these consumers demonstrate the least energy-efficient behaviour, but above all because their poverty leads them to make heartrending budgetary decisions, it is they who have the most to gain by reducing their energy consumption.

In the context of an energy-rich Canada, we must never forget the plight of these households. We must also improve the supply of energy efficiency programs that will benefit them and society as a whole.

In order to permit Option consommateurs to increase its capacity to intervene to improve the provision of energy efficiency programs aimed at low-income households, we have attempted to arrive at a better understanding of possible ways of bringing about a change in their patterns of energy consumption.

The recent literature contains analyses of various energy efficiency programs and their ability to influence consumers into adopting more energy-efficient behaviour. In the light of current knowledge, we conducted focus groups to find out how people in low-income households perceive certain approaches to energy efficiency and whether they were interested in these approaches.

We found that, in order to obtain a varied range of distinct approaches, it was better not to limit our study to Canadian initiatives. It is clear that our neighbours to the south have committed themselves more intensely to energy efficiency by attempting to meet the needs of low-income households. Since 2008, financing provided through the *Recovery Act* has permitted the U.S. government to participate in 350,000 initiatives to reduce the energy consumption of low-income households.

North of the border, it is a different story. In 2009, the Canadian government ended the EnergGuide program for low-income households, thereby depriving 130,000 Canadian households of much-needed financial support. As certain authors have reported, a variety of provincial municipal or local government initiatives do exist to help low-income households to adopt more energy-efficient practices. There is no national program of this type.

5.1 Recommendations

Recommendation 1 :

Option consommateurs asks the Canadian government to reconsider its decision to end the EnerGuide program for low-income households before term.

More specifically, we believe that the federal government has a responsibility to take into account the needs of the low-income households in its ecoENERGY program. Currently, the program does not benefit low-income households, since it does not meet their particular needs. This is especially due to insufficient financial incentives and the types of housing that are eligible. As we have seen, the energy efficiency programs that are not designed specifically for low-income households cannot adequately meet their needs. We therefore ask that part of the ecoENERGY funding be set aside exclusively for low-income households.

While presenting the various approaches to energy efficiency, we highlighted a series of best practices recognized in the scientific literature.

Recommendation 2 :

Option consommateurs recommends that administrators of consumer energy efficiency programs intended for low-income households assess each of their initiatives in accordance with recognized best practices.

We further recommend that administrators and designers of energy efficiency programs consult recent publications of the American Council for an Energy-efficient Economy (ACEEE) and its Behavior and Human Dimensions program for guidance in improving their range of energy efficiency programs by incorporating more initiatives related to behavioural patterns of energy use.

Furthermore, after conducting focus groups with people from low-income households, there are some observations that we can make. The scientific literature on the practice of energy-efficient behaviour has led us to acknowledge the existence of a variety of intervention strategies to change energy-intensive behaviour into energy-efficient behaviour.

Based on the participants' responses regarding their knowledge of energy efficiency in general and concrete examples of energy-efficient practices, a wide degree of variation was noted among participants. This variation reflects the heterogeneous knowledge of low-income households. Although low-income households exist within the same income range, they do not form a homogeneous population. It is therefore difficult to reach them all with a single message or a single campaign. Accordingly, intervention strategies will not have the same effects in all low-income households. It is therefore important to characterize this population in addition to its energy use habits.

Recommendation 3 :

Option consommateurs requests that Canada's Energy Efficiency Office, in collaboration with Statistics Canada and the major Canadian energy suppliers, conduct an in-depth investigation of the use of energy-saving practices in low-income households..

For the designers and administrators of energy efficiency programs to reach low-income households, they need to have an in-depth knowledge of their energy consumption habits. They also need to know the energy-efficient behaviours already practiced in these households and those most likely to be practiced. To do this, we believe that stakeholders should be able to identify (by energy source, by housing type, by geographic region, etc.) the energy-efficient practices of low-income households.

The research on the literature shows that such knowledge is essential in establishing a viable energy efficiency strategy. Since organizations other than public service agencies (such as utility companies, for example) are also responsible for the provision of energy efficiency programs for low-income households, we believe that the results of such a study should be made public and disseminated to all stakeholders in the energy sector.

As suggested in the literature research, energy efficiency programs aimed at changing energy consumption habits must utilize a combination of different strategies to ensure sustainability among participants. Thus, as can be seen from the comments of the participants in the focus groups, information strategies are greatly appreciated while other strategies (such as rewards and goal-setting) need to be combined if they are to motivate consumers effectively.

Recommendation 4 :

Option consommateurs recommends that the Department of Natural Resources Canada, the provincial departments responsible for energy efficiency programs, the municipalities, and the energy utilities revise their overall offering of energy efficiency programs to ensure that they meet the needs of low-income households.

We agree with the recommendations for improving low-income households proposed by the Environmental Law Centre at the University of Victoria as shown on pages 90-94 of the report entitled, *Conserving the Planet Without Hurting Low-Income Families. Option for Fair Energy efficiency Programs for Low-Income Households*.

Here is a list of the recommendations we believe are most relevant:

Incorporate relevant target-population specifics in low-income energy efficiency program design and delivery.

Establish a low-income energy efficiency program specifically for rental multi-family residential buildings and for social housing;

Maintain a dialogue between the program administrators (federal, provincial, municipal) and the main energy distributors to standardize the provision of low-income energy efficiency programs and to facilitate funding;

Commit more funding for low-income energy efficiency programs;

Collaborate with local non-profit organizations to market and deliver low-income energy efficiency programs;

Assess local workforce capacity and develop and manage it if necessary;

Investigate opportunities to provide needed health and safety repairs, and to install other energy efficiency measures;

Form a Canada-wide group of “best practices” programs, similar to the group formed by the ACEEE in the United States, to promote the development of better energy efficiency programs and the energy efficiency culture among government institutions.

Finally, inspired by the comments of the participants in our focus groups, we suggest giving special emphasis to certain of the orientations that emerge from the literature research. These are:

A) Personalized Information sessions

Participants’ seem to prefer education sessions or training in their homes. In addition to being appreciated by the households, these sessions seem to yield significant results in terms of energy savings, especially when combined with follow-up activities. These follow-up activities may at seem expensive at first, but they have already demonstrated their effectiveness.

B) Use of technological tools

The participants in the focus groups do not seem to have appreciated the approaches that utilize information technology; they do not believe that these approaches are likely to lead them to change their practices significantly. This same observation was made by authors who studied the use of software programs by an educator attempting to raise consumer awareness. As we noted with the participants in the focus groups, in addition to having to understand how these computerized technologies work, consumers tend to mistrust the results. On the other hand, there are also technological tools designed specifically for the intervention units gives them improved ability to diagnose the building itself without impinging on user behaviour. As stated in this report, we remain confident about the usefulness of diagnostic tools whose function is not educational.

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7 - Appendices

Appendix 1 - TGG Report - Residential Energy Efficiency Programs for OC

Appendix 3 - Discussion Guide

Appendix 1 - TGG Report - Residential Energy Efficiency Programs for OC

Approaches and Examples for Residential Energy Efficiency Programs for OC Focus Groups

Prepared for
Option consommateurs

by
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Table of Contents

A. INTRODUCTION AND METHODOLOGY	3
B. SUMMARY OF EACH APPROACH AND EXAMPLES	6
C. DESCRIPTIONS OF EACH APPROACH AND RELATED EXAMPLE(S).....	7
1. Approach: Information/sensibilisation only (Web-Based Benchmarking).....	7
Example: Comparez-Vous Program from Hydro-Québec Distribution (HQD)	7
2. Approach: Information/sensibilisation only (Web-Based Benchmarking) with Additional Incentives and Cash Rewards	9
Example: Team Power Smart from BC Hydro	9
3. Approach: Direct Install of Basic Measures (Home Visit)	10
Example: Home Energy Squad from Xcel Energy & CenterPoint Energy (MN) .	10
4. Approach: Direct Install of Deep Measures (Home Visit).....	11
Examples:	
a. Home Weatherization Retrofit Program from Enbridge and Union Gas (ON) .	11
b. Home Electric Savings Program (HESP)/Weatherization Services/ Appliance Replacement from Xcel Energy (MN)	11
5. Approach: Multi-family with Comprehensive Measures	13
Example: OPA’s saveONenergy Program for Social and Assisted Housing,	13
6. Approach: Whole Neighborhood with Integrated Education	15
Example(s): Energy Savings Assistance Program from California Utilities.....	15
D. ASSESSMENT OF BEHAVIORAL COMPONENTS FOR APPROACHES	17
E. GLOSSARY OF KEY TERMS.....	19
F. APPENDIX: DETAILED INFORMATION AND LINKS/COMMUNICATIONS MATERIALS FOR EACH EXAMPLE	21
1. Comparez-Vous Program from Hydro-Québec Distribution (HQD)	21
2. Team Power Smart from BC Hydro	22
3. Home Energy Squad from Xcel Energy and CenterPoint Energy (MN).....	24
4. a. Home Weatherization Retrofit Program from Enbridge and Union Gas (ON) ...	27
b. Home Electric Savings Program (HESP)/Weatherization Services/ Appliance Replacement from Xcel Energy (MN).....	27
5. OPA’s saveONenergy Program for Social and Assisted Housing	30
6. Energy Savings Assistance Program from California Utilities.....	32

A. INTRODUCTION AND METHODOLOGY

Deliverables

The Goodman Group, Ltd. (TGG) has been retained by Option consommateurs (OC) to (i) identify and describe a number of approaches to residential energy efficiency (EE) that are representative of existing programs offered throughout North America; (ii) select and describe one relevant example of each approach; and (iii) provide (insofar as available) the related communications/promotional materials associated with each example. TGG has also provided a glossary of the key terms used in this report in Section E.

Classification of Approaches and OC Direction

There are thousands of energy efficiency programs implemented throughout North America and many possible ways to classify them into various EE approaches. Major classification approaches relate to the comprehensiveness of the EE programs (going from shallow to deeper measures); the users targeted in the program (homeowners, tenants, landlords); single end-use versus multiple end-use; energy source targeted (electric, gas, other); etc.

For the purposes of this report, OC specifically requested that any EE program considered should contain a behavioral component, an element of the program that seeks to change the participant's behavior to encourage more efficient energy use. OC also requested that the approaches and examples provided should not consist solely of best practices in residential EE, or necessarily be tailored only for low-income energy efficiency (LIEE). Rather, the approaches and examples should be representative of common practices and some innovative practices that are currently being implemented in various jurisdictions throughout North America. Quebec programs that constitute examples of a particular approach could be included, but the examples selected should not be limited to Quebec and/or those that TGG judges to be most promising for Quebec. However, examples from outside Quebec should be relevant to Quebec. Thus, a range of approaches and examples should be selected, so that focus groups can provide input as to programs that could be offered in Quebec.

Methodology

As discussed in the previous section, there are many EE programs implemented throughout North America and many possible ways these programs could be classified. Given OC's requirements and direction, an exhaustive review of programs was neither necessary nor practical. Instead, the goal was to identify a set of approaches and examples that were representative and useful for this project. In this context, TGG focused on substantial programs implemented by sizable utilities/organizations in

jurisdictions with a strong level of regulatory oversight and experience with EE. TGG adopted this focus because these would be more likely to be sizable mature EE programs with a critical mass of useful marketing/explanatory materials.

As such, it was useful to “follow the money” and identify jurisdictions where there was substantial EE spending, and notably substantial residential and LIEE spending.

Extensive information regarding EE spending is provided in State of the Efficiency Program Industry: 2009 Expenditures, Impacts & 2010 Budgets

<http://www.cee1.org/files/2010%20State%20of%20the%20Efficiency%20Program%20Industry.pdf>. Notably, this report (pp. 33-60) provides EE spending levels disaggregated by energy type (electric and gas), sector (with low income (LI) separate from residential), and jurisdiction (each US state and Canadian province). This report also provides other useful indicators, such as spending per capita.

As noted in the report summary, EE activity is very concentrated in a few jurisdictions (<http://www.cee1.org/files/2010%20State%20of%20the%20Efficiency%20Program%20Industry.pdf> pp. 6-7):

Together, California, New York, Florida, and Massachusetts accounted for 50 percent (or \$2.7 billion) of the total amount budgeted for electric energy efficiency in the U.S. Ten states – California, New York, Pennsylvania, Ohio, Massachusetts, Illinois, Minnesota, Arizona, Maryland, and Oklahoma – represented over 94 percent of the growth in budgets.

Efficiency program budgets in Ontario, Quebec, and British Columbia accounted for more than 90 percent (or \$812 million CAD) of the total amount budgeted for electric efficiency in 2010 (\$896 million CAD).

Ontario alone accounts for over 40 percent of the nation’s total 2010 electric efficiency program budgets.

Thus, TGG reviewed the disaggregated EE spending data for 2010 to identify provinces and states with substantial levels of residential EE, and especially LIEE, activity for electric and gas.

We applied expert judgment to the selection of leading jurisdictions for residential and LIEE and thus approaches and examples for the OC project. We based our selections on a mix of indicators, notably (a) total residential (non LI) EE spending; (b) total LIEE spending; (c) spending levels per capita; and (d) relevance for Quebec.

The six approaches and relevant examples set out in this report are based on the programs reviewed from leading jurisdictions in Canada and the US (notably, Ontario, Quebec, British Columbia, California and Minnesota).

As specifically requested by OC, each approach and example contains a behavioral component. In this report, the approaches (and relevant examples) have been ordered from simple, lower-cost and shallow measures to more complex, higher-cost and deeper, more comprehensive measures.

LIEE spending in Canada and the US now totals more than \$700 million annually, with California alone spending over \$300 million. As confirmed by our research, jurisdictions with high levels of LIEE spending are now focusing on LIEE as an important resource to achieve sizable overall energy savings, in addition to the traditional focus on LIEE as a means to improve the living conditions of lower-income consumers. So especially for the approaches and examples involving higher-cost (and deeper, more comprehensive measures), we have focused on those that can achieve sizable overall energy savings.

More generally, it should be understood that the approaches and the program examples selected are subject to significant regulatory oversight in their respective jurisdictions, with extensive protocols for measurement of energy savings and other program evaluation.¹

¹ An extensive review of US protocols and practices is provided in Review of Evaluation, Measurement and Verification Approaches Used to Estimate the Load Impacts and Effectiveness of Energy Efficiency Programs <http://eetd.lbl.gov/ea/emp/reports/lbnl-3277e.pdf>. As shown in that report, California undertakes very extensive Evaluation, Measurement, and Verification for its EE programs (which account for a substantial portion of overall North American EE and especially LIEE spending). For additional information, see the Annual Reports filed with the California PUC regarding LIEE: <http://docs.cpuc.ca.gov/efile/REPORT/134805.pdf> (pp. 9-18, 29-31), <http://www.cpuc.ca.gov/EFILE/REPORT/134970.pdf> (pp. 12-14, 28-30) www.cpuc.ca.gov/EFILE/REPORT/134708.pdf (pp. 15-18, 44-47).

B. SUMMARY OF EACH APPROACH AND EXAMPLES

- 1. Approach: Information/sensibilisation Only (Web-Based Benchmarking)**
Example: Comparez-Vous Program from Hydro-Québec Distribution (HQD)

- 2. Approach: Information/sensibilisation Only (Web-Based Benchmarking) with Additional Incentives and Cash Rewards**
Example: Team Power Smart from BC Hydro

- 3. Approach: Direct Install of Basic Measures (Home Visit)**
Example: Home Energy Squad from Xcel Energy (Minnesota) and CenterPoint Energy (Minnesota), delivered by Center for Energy and Environment (CEE) and Neighborhood Energy Connection (NEC)

- 4. Approach: Direct Install of Deep Measures (Home Visit)**
Examples:
 - a. Home Weatherization Retrofit Program from Enbridge and Union Gas (Ontario), delivered by EnviroCentre in Ottawa**
 - b. Home Electric Savings Program (HESP)/Weatherization Services/ Appliance Replacement from Xcel Energy (Minnesota), delivered by Community Action of Minneapolis and the Energy CENTS Coalition**

- 5. Approach: Multi-family with Comprehensive Measures**
Example: Ontario Power Authority's saveONenergy Program for Social and Assisted Housing (Electricity Focus), delivered by Toronto Hydro

- 6. Approach: Whole Neighborhood with Integrated Education**
Example(s): Energy Savings Assistance Program from California (PUC regulated) Electric and Gas Utilities, including Pacific Gas & Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), and Southern California Gas (SoCalGas)

C. DESCRIPTIONS OF EACH APPROACH AND RELATED EXAMPLE(S)

Please note that links to the related communications/promotional materials and additional information (if applicable) for each of the examples in this section are provided in Section F. An assessment of behavioral components for approaches is provided in Section D.

1. Approach: Information/sensibilisation only (Web-Based Benchmarking)

Key differentiators: information only; behavioral-based EE (BBEE); web-based benchmarking; customized EE tips based on usage profile; delivered through the Internet using information technology; low-cost; initiated by residential account-holders; participants can be homeowners or tenants in either a single-family home or any multi-family or apartment unit.

Description: The information approach consists of providing information only and does not involve the installation of physical measures. As such it is a lower-cost approach than most other EE programs that provide physical measures. This is a behavioral-based energy efficiency (BBEE) approach, implying that the information provided encourages efficient energy use. In this basic information approach, the information provided consists of web-based benchmarking (i.e., information provided over the Internet allowing energy consumers to compare their energy usage (a) with other consumers with similar characteristics; and/or (b) with their own historical performance). Based on the user's profile, the program will also deliver educational information and specific suggestions as to how the user's energy efficiency can be optimized. BBEE programs represent a source of energy savings beyond traditional utility programs focused on encouraging adoption of EE technology.

Example: Comparez-Vous from Hydro-Québec Distribution (HQD)

Summary: HQD's Comparez-Vous program is a classic example of an Information-only approach. This service uses a BBEE approach to deliver information-only via the Internet. The information compares the user's household electricity usage with that of a similar customer group (type of dwelling, number of occupants, etc.), which uses electricity for similar purposes (heating, hot water, etc.). In addition, customized energy efficiency tips based on the user's profile are provided along with the comparison result. Program participants require an HQD residential billing account (Rate D or DT). They must first go to their Personal Page on HQD's website (which contains their account information) and then answer 11 questions. If they don't have a Personal Page, they

have to set one up, which is a fairly user-friendly procedure, but does require inputting the user's customer number and bill number. Once the Personal Page is accessed, the participant must answer 11 questions in order to obtain the comparison result and customized tips. HQD claims that this whole process takes just 3 minutes. Participants can check their Personal Page at the start of every billing period to see how results evolve. This program is currently being rolled out by HQD on a wide-scale throughout Quebec.

2. Approach: Information/sensibilisation Only (Web-Based Benchmarking) with Additional Incentives and Cash Rewards

Key differentiators: information only; behavioral-based EE (BBEE); web-based benchmarking; customized EE tips based on usage profile; delivered through the Internet using information technology; low-cost; incentives and cash rewards; initiated by residential account-holders; participants can be homeowners or tenants in either a single-family home or any multi-family or apartment unit.

Description: This approach has all the same features as the Information/sensibilisation Only (Web-Based Benchmarking) approach described above except that it also includes additional incentives and/or cash rewards for participants. As such, in addition to information, benchmarking with other customers, and EE tips, participants receive other incentives and motivators. These can include cash rewards and motivational tools such as goal-setting, challenges and loyalty programs.

Example: Team Power Smart from BC Hydro

Summary: Team Power Smart's program uses a goal-setting model. Participants commit to a challenge to use 10% less electricity in 12-month period. In exchange, they receive tools to help them reduce their consumption, and (if the goal is met) a \$75 reward. Participants receive feedback, social norms, energy-saving tips, and other incentives and motivational tools via website and email contact. Key feedback relates to the participants' current and historical energy use and comparison with similar neighbors.

The program is open to all residential customers. In order to maintain contact and motivation, it features regular communications and a loyalty program, as well as events and an affiliate program. To date, Team Power Smart boasts approximately a quarter million participants with 3 levels of participation (Residence (logging in), Enjoyment (attending events), Affiliation (hosting)). There were 25,000 challenge participants in 2010. As a result of the challenge, 5.2 GWhs were saved. 20% of challenges have been successful to-date (17% average savings). Among those who did not reach their goal, average savings of 4-5% have been recorded. Some participants do not achieve any savings.

3. Approach: Direct Install of Basic Measures (Home Visit)

Key differentiators: physical EE measures; basic measures; direct install; less complex installation; limited EE savings and limited improvement in comfort; educational/behavioral component but not generally the main focus; generally low cost programs; initiated by residential account-holders; participants are typically homeowners or tenants (with landlord permission) in single-family, multi-family, and high-rise apartment buildings.

Description: This approach involves the direct installation of basic physical EE measures by EE technicians during a home visit. Basic measures can include CFLs, basic weather stripping, efficient showerheads and aerators, and hot water-insulation. See glossary for more examples. This approach also typically includes programmable thermostats (an extended in-unit measure in the glossary). The installation is less complex and time-consuming than the installation of deeper measures; however basic measures generally result in smaller energy savings and/or less improvement in comfort for participants. While these programs often feature an educational/behavioral component, this component is not generally the main focus.

Example: Home Energy Squad from Xcel Energy (Minnesota) and CenterPoint Energy (Minnesota), delivered by Center for Energy and Environment (CEE) and Neighborhood Energy Connection (NEC)²

Summary: The Home Energy Squad from Xcel Energy (Minnesota) and CenterPoint Energy (Minnesota), delivered by Center for Energy and Environment and Neighborhood Energy Connection Community Action of Minneapolis, provides education and installation of basic measures and programmable thermostats. This program is available at no charge for low-income customers (who meet income criteria). The home visit generally requires 60 to 90 minutes, but can be as long as 2 hours.

² For another example of this approach (Direct Install of Basic Measures (Home Visit)), see Éconologis, from l'Agence de l'efficacité énergétique du Québec, en collaboration avec Hydro-Québec Distribution et le Fonds en efficacité énergétique de Gaz Métropolitain, delivered by Option consommateurs in Montréal <http://www.efficaciteenergetique.mrnf.gouv.qc.ca/mon-habitation/econologis/> <http://www4.gouv.qc.ca/fr/Portail/Citoyens/Evenements/vivre-en-logement/Pages/econologis-programme-budget-modeste.aspx> http://www.regie-energie.qc.ca/audiences/3709-09/Demande_3709-09/B-28_AEE-2Doc3_REV_3709_28jan10.pdf (pp. 22-24) http://www.option-consommateurs.org/conseillers/efficacite_energetique/programme_econologis.html.

4. Approach: Direct Install of Deep Measures (Home Visit)

Key differentiators: physical EE measures; deep measures; direct install; more complex installation; increased EE savings and comfort; educational/behavioral component but not generally the main focus; generally more costly programs; initiated by residential account-holders; participants are typically homeowners or tenants (with landlord permission) in single-family homes.

Description: This approach involves the direct installation of deep physical EE measures by EE technicians during a home visit. Deep measures can include deep weatherization measures (e.g. insulation in the basement or attic, window and door replacements) or extended in-unit measures (e.g. appliance replacement). See glossary for more examples. The installation is somewhat more complex and time-consuming than the installation of basic measures; however deeper measures generally result in greater energy savings and/or increased comfort for participants. While these programs often feature an educational/behavioral component, this component is not generally the main focus.

Examples:

- a. **Home Weatherization Retrofit Program from Enbridge and Union Gas (Ontario), delivered by EnviroCentre in Ottawa; and**
- b. **Home Electric Savings Program (HESP) and Weatherization Services and Appliance Replacement from Xcel Energy (Minnesota), delivered by Community Action of Minneapolis and the Energy CENTS Coalition**

Summary: The Home Weatherization Retrofit Program, offered by gas utilities in Ontario provides low-income customers with free energy efficiency measures such as draft-proofing and additional insulation. These measures can lower energy use by up to 30%. To qualify customers must meet defined financial criteria and live in Toronto, Peel, York, Durham, Ottawa, Niagara or Peterborough area. Programs are delivered through non-profits.

In Ottawa, EnviroCentre, a non-profit, offers a version of this weatherization program for both home-owners and renters (with landlord approval), who meet income and other criteria (pay their own natural gas bill, heat with a gas furnace, and (a) live in a home built before 1970 with a basement with unfinished bare concrete exterior walls and an under-insulated attic; or (b) live in a pre-1940 home with that has absolutely no insulation in the walls). For eligible participants, the program reduces energy consumption through improved insulation (usually in the basement and attic but sometimes exterior walls in much older houses), as well as better draft sealing,

which also makes homes much more comfortable. The total value of the service can be over \$5,000, which translates to energy bill savings of between \$350 and \$750 a year. Eligible participants can call the EnviroCentre to schedule a crew of trained installers for a direct installation, which often takes less than half a day. A follow-up visit is then scheduled to perform an energy audit and measure how energy efficiency has been improved. Following the home visits, some energy education is provided in order to encourage energy-efficient behavior. Envirocentre sends a mail-out, which contains tips on how to save energy, as well as instructions on how to care for the insulation.

Another example is the Home Electric Savings Program (HESP) and Weatherization Services and Appliance Replacement from Xcel Energy (Minnesota), delivered by Community Action of Minneapolis and the Energy CENTS Coalition. Low-income customers (who meet income criteria) are assessed by a certified energy inspector during a home visit and provided with basic measures (compact fluorescent bulbs) and education (energy tips). This visit can serve as a gateway to qualification for deeper measures (weatherization services and appliance replacement).

5. Approach: Multi-family with Comprehensive Measures

Key differentiators: comprehensive physical EE measures; direct install; most complex and disruptive installation; highest potential EE savings and increased comfort; important educational/behavioral component for both building operators and tenants; most costly programs; typically initiated by landlords/building owners, but with participation by landlord/owners/building operators and tenants; some measures may be free and others available with significant subsidies to owners.

Description: This approach involves the direct installation of comprehensive physical EE measures (basic and deep, weatherization and extended) by EE technicians. The installation may require several visits. Because the physical measures implemented are the most comprehensive, their installation has the potential to be the most complex, time-consuming and disruptive. Depending on the measures implemented, installation can take several days. However, these comprehensive measures generally result in the greatest energy savings and the highest increases in comfort for participants. Comprehensive measures include both basic measures (i.e. low-cost physical EE measures, such as light draft-proofing and energy-efficient light bulbs); and deep measures, such as deep weatherization measures (e.g. insulation in the basement or attic, window and door replacements) and/or extended in-unit measures (e.g. appliance replacement). See glossary for more examples. The programs typically feature an important educational/behavioral component for both building operators and tenants. Although the program is usually initiated by landlords/building owners, the joint participation of landlords/owners/building operators and tenants is essential for maximizing EE savings and improving building comfort. While some measures are provided free, the approach can involve cost-sharing between the building owner and the program provider with subsidization of a significant proportion of the EE upgrades.

Example: Ontario Power Authority's saveONenergy Program for Social and Assisted Housing (Electricity Focus), delivered by Toronto Hydro³

Summary: This saveONenergy Home Assistance Program is aimed at owners of social and assisted housing throughout Ontario. The goal is to make the buildings more energy efficient through a variety of measures, with an important education/training

³ For another example of this approach (Multi-family with Comprehensive Measures), see Rénoclimat pour les ménages à faible revenu – volet privé from l'Agence de l'efficacité énergétique du Québec http://www.regie-energie.qc.ca/audiences/3709-09/Demande_3709-09/B-28_AEE-2Doc3_REV_3709_28jan10.pdf (pp. 15-20).

component for both building operators and tenants.⁴ Substantial financial incentives are available to make assisted and social housing buildings more energy-efficient. These incentives can help assisted and social housing providers undertake energy audits to identify potential energy savings opportunities, and make upgrades to equipment, such as HVAC systems, in-suite appliances and lighting fixtures, as well as to the building envelope. Some measures are free and other upgrades are eligible for savings of as much as 50 per cent. Training, tools and resources are also offered to help tenants adopt energy-saving habits.

The saveONenergy Program is funded by the Ontario Power Authority and delivered by electrical utilities throughout Ontario. One of the best specific examples is the saveONenergy Program for Social and Assisted Housing is delivered by Toronto Hydro. Eligible multi-family buildings are a maximum of three stories high and less than 600 square metres. The Building Owner/Manager completes an application⁵ and if the application is approved by Toronto Hydro, the utility will arrange to conduct a free energy audit of the building to determine opportunities to make tenants' units more energy efficient. Where opportunities are identified by the energy audit and subject to the tenants' consent and availability of funds, energy efficient devices and products may be provided and/or installed at no cost to the Building Owner/Manager or the tenants. A complete list of comprehensive measures is available in the program are provided on pp. 4-6 (PDF) of the application document in footnote 5. The exact measures offered to each building vary according to the audit. An emphasis is placed on training for the building operator, as well as education and empowerment of tenants.

A home visit is scheduled within three weeks of application approval. The initial visit, energy assessment and installation of basic measures usually lasts about 1 – 1.5 hours. If a follow-up visit is required to install extended or weatherization measures, this visit will be scheduled at a mutually convenient time and it may take up to an additional 2 days to complete the work, depending on the complexity.

⁴ On the OPA's homepage for this program, the OPA stresses that it is important for the building owner to "[e]mpower and educate residents on the benefits of your project as it may require them to alter how they use the building. Tools and funding for resident education are available." Moreover, on the same page, details are provided on funding for resident education and the training of building operators. See <https://www.saveonenergy.ca/Business/Program-Overviews/Social-Housing.aspx> and the discussion in Section F 5 of this report.

⁵ http://www.torontohydro.com/sites/electricsystem/SiteCollectionDocuments/SOCIAL%20AND-OR%20ASSISTEDHOUSINGBUILDING%20OWNER-MANAGER%20APPLICATION%20_6_GS.pdf

6. Approach: Whole Neighborhood with Integrated Education

Key differentiators: physical EE measures; each LIEE participant receives all measures cost-effective for that participant; mix of measures implemented for each specific participant can range from basic to deeper/comprehensive; direct install; increased EE savings and comfort; educational/behavioral component integrated with measure installation; Community-based Social Marketing; Neighborhood Blitz; participants are typically homeowners or tenants (with landlord permission) in single-family and multi-family housing; typically the neighborhoods are selected by the utilities.

Description: This approach involves the direct installation of physical EE measures by EE technicians during home visit(s). In this program, whole neighborhoods (with high LI populations) are selected and targeted for the marketing and installation of LIEE measures. Participants initially receive energy education and an individualized energy audit such that they are provided with all feasible measures necessary for maximal energy efficiency measures in order to achieve all cost-effective energy savings. Measures can be basic, deep, extended in-unit measures, or comprehensive. See glossary for more examples. The behavioral components (community-based social marketing and energy education) are important and integral aspects of the Whole Neighborhood Approach, with all aspects of LIEE services (for specific participants and neighborhoods) occurring in close geographic and temporal proximity to increase ease of use for customers and program effectiveness and reduce costs.

Example(s): Energy Savings Assistance Program from California (PUC regulated) Electric and Gas Utilities, including Pacific Gas & Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), and Southern California Gas (SoCalGas)

Summary: California is now spending over \$300 million annually on LIEE and has committed to achieve all cost-effective LIEE by 2020. All LIEE activities at all utilities (regulated by the California PUC) now have the same name (Energy Savings Assistance Program) for marketing, education, and outreach. In 2008, the PUC directed that utilities adopt a "Whole Neighborhood Approach" (WNA) to marketing and installation of LIEE measures, and that EE Education shall be closely integrated with activities relating to measure installation.

In this program, the utilities select and target specific neighborhoods with high LI populations. The program consists of an assessment, then first- and second-wave installation. An assessment includes energy education and an assessment of the energy efficiency measures needed by a particular household. During this step, enrollment will also be conducted if it did not occur during the outreach process.

Assessments and 1st wave installations will be conducted in tandem under the WNA, occurring simultaneously in a specific neighborhood. The first-wave installation consists of the installation of non-infiltration measures and easy-to-install measures that do not require advanced planning, such as CFLs. The second-wave installation occurs for participants requiring the installation of specialized measures (such as attic insulation) and/or the delivery and installation of large scale appliances (such as refrigerators, air conditioners, water heaters, etc.). With this approach, measure installation should (as much as possible) occur at the same time as energy audits, minimizing the need for separate trips and home visits. The utilities are to serve all willing and eligible customers in a targeted geographic area prior to moving on to the next targeted geographic area.

California is a very large and diverse state with several major utilities and a wide range of climates, buildings, etc. So there is some degree of tailoring in terms of how each utility implements the Whole Neighborhood Approach and the Energy Savings Assistance Program. But in all cases, LIEE is provided with no charge to participants. Extensive additional detail regarding this program is provided in Section F.

D. ASSESSMENT OF BEHAVIORAL COMPONENTS FOR APPROACHES

Approaches 1 and 2, identified above, are “Information-only” and do not involve the installation of physical measures. These approaches rely solely on behavioral means to encourage consumers to take actions to save energy. These approaches are residential EE and do not specifically target LI consumers.

Approaches 3 and 4 include a behavioral component, but this component is not the main focus (unlike 1 and 2, where it is the only focus, and unlike 5 and 6, where the behavioral component is strongly integrated with the installation of comprehensive measures). The focus in Approach 3, and especially in Approach 4, is more on the physical measures.

Approach 3 (Direct Install of Basic Measures) includes a significant behavioral component as part of a home visit to install Basic Measures. Installation of these physical measures is quick, easy, and thus relatively low cost. The installers are typically EE specialists. These personnel have the skills, training, and time available to provide education to the participant as part of the home visit.

In Approach 4 (Direct Install of Deep Measures), the focus is mainly on physical measures, as opposed to education/behavior modification. Compared with Basic Measures, installation of Deep Measures requires more time, skills, and equipment, and is thus more costly. The installers for Deep Measures are typically specialized technicians/tradespersons. These personnel may not have the skills and training to be good educators, and it may not be economical to use specialized relatively high-cost installers to provide education to the participant.

Moreover in Approach 4, the energy savings are mainly a function of the deep physical measures, as opposed to ongoing behavior change. These measures substantially increase energy efficiency, so that much less energy is used to provide the same service (heating, refrigeration, etc.). The main participant action required in Approach 4 is to participate in the program.

Example 4b (Home Electric Savings Program (HESP)/Weatherization Services/Appliance Replacement from Xcel Energy (Minnesota)) is a hybrid of Approaches 3 and 4 and involves a home visit with Basic Measures, education (energy tips) and an assessment, which can be serve as a gateway to deeper measures (as described in Section C above).

The examples provided for Approaches 3 and 4 are a mix of targeted LI and residential EE programs. These approaches can, but do not have to, target LI consumers. Approaches 5 and 6 both feature a significant and strongly integrated behavioral component. There are some key differences between Approaches 5 and 6 and the other approaches (1 through 4). Approaches 5 and 6 install comprehensive physical measures, and the behavioral component is closely integrated with measure installation. Another key difference is that the programs provided as examples for these approaches are designed to target lower-income consumers living in a cluster, either in social/assisted housing or a neighborhood. Clustering is key to the integration of the behavioral/education and marketing aspects of these approaches. Education is not delivered in a vacuum, but in relation to the installation of the comprehensive physical measures.

The broad changes relating to comprehensive measures will alter how residents (tenants and homeowners) use their buildings and the how the building operators (managers, landlords and homeowners) run their buildings. Thus, it is understood that to maximize energy efficiency, tenants and homeowners should be educated and empowered to adopt energy-efficient behavior; and building operators should be trained to operate the buildings in a more efficient manner. Approaches 5 and 6 involve a higher level of interaction among LI participants, between LI participants and landlords/building operators, and between LI participants/landlords/building operators and program delivery organizations (utilities and/or community organizations). Overall, these approaches emphasize community interaction, cooperation and empowerment.

The behavioral component in Approaches 5 and 6 is in direct contrast to that of Approaches 1 and 2, which influence consumers to take individual action to save energy. Approaches 5 and 6 are premised on the fact that barriers to low-income participation are not merely a lack of information or a need to modify behavior. Approaches 5 and 6 are the highest cost programs and result in the highest energy savings. As discussed in Section A, jurisdictions with high levels of LIEE spending are now focusing on LIEE as an important resource to achieve sizable overall energy savings, in addition to the traditional focus on LIEE as a means to improve the living conditions of lower-income consumers. Approaches 5 and 6 recognize that in order to deliver sizable energy savings, a behavioral component must be integrated with comprehensive physical measures in such a way that empowers the community and leads to deep changes in participants' energy consumption.

E. GLOSSARY OF KEY TERMS

KEY TERM	DEFINITION
Basic or shallow measures	Lower-cost physical EE measures, some of which do not require direct installation and/or require minimum installation. These include CFLs, smart power bars, efficient showerheads, efficient aerators, hot water tank pipe insulations, hot water tank insulation, basic weather-stripping/caulking, draft-proofing, plastic window covering, etc.
Behavioral-Based Energy Efficiency (BBEE)	Provides residential end-users with information on their energy use, comparisons with usage by others, goal setting, rewards and additional tactics that encourage efficient energy use. BBEE programs represent a source of energy savings beyond traditional utility programs focused on encouraging adoption of EE technology. Utilities and others in the energy industry are now using BBEE as a means for encouraging energy efficiency and savings.
Building envelope	The building envelope is the physical separator between the interior and the exterior environments of a building. It serves as the outer shell to help maintain the indoor environment and (together with the mechanical conditioning systems) facilitate its climate control.
Community-based Social Marketing (CBSM)	Promoting behavior change in a community using social networks to facilitate the change.
Comprehensive measures	Include basic/shallow and deep measures
Deep measures	Include more costly physical measures that require direct installation (extended in-unit and deep weatherization measures)
Direct Install	The home installation of EE measures by an EE specialist or technician.
Extended in-unit measures	More expensive physical EE measures that are installed within the unit and do not affect the building envelope. They include replacement of appliances and other equipment (refrigerator, freezer, air conditioner, dehumidifier, furnace, and hot water heater), and the installation of programmable thermostats, etc.
Home visit	A home visit typically includes a visit to a home by an EE specialist or technician to install various EE measures and to educate inhabitants on behavior to increase EE in the home; and/or to provide education that is integrated with the installation of EE measures.

KEY TERM	DEFINITION
Information/sensibilisation program	A low-cost program that provides information only and does not involve the installation of physical measures. Strictly behavioral-based energy efficiency (BBEE). See D of Approaches 1 and 2 in Section C.
Multi-family building	Generally defined (in EE programs) as a low-or mid-rise building with multiple units, which share a floor and/or a ceiling with another unit.
Neighborhood Blitz	This approach involves strategic and coordinated delivery of EE measures in a particular neighborhood. Installation teams will be simultaneously present in the neighborhood, conducting a door-to-door campaign to deliver residential-level services to as many households as possible.
Weatherization measures	Energy efficiency measures that affect the building envelope and reduce the building's energy consumption. They include both shallow and deep weatherization measures. Shallow weatherization includes basic weather-stripping/caulking, draft-proofing, plastic window covering, etc. Deep weatherization includes attic insulation, wall insulation, basement insulation, replacement of older windows with energy-efficient windows, replacement of older doors, and even installation or repairs of roofing, building wrap, siding, and skylights, etc.
Web-based benchmarking	Information provided over the Internet allowing energy consumers to compare their energy usage (a) with other consumers with similar characteristics; and/or (b) with their own historical performance.

F. APPENDIX: DETAILED INFORMATION AND LINKS/COMMUNICATIONS MATERIALS FOR EACH EXAMPLE

1. Approach: Information/sensibilisation only (Web-Based Benchmarking) Example: Comparez-Vous Program from Hydro-Québec Distribution (HQD)

Links to Description on HQD Website

French: <http://www.hydroquebec.com/residentiel/comparez-vous/index.html>

English <http://www.hydroquebec.com/residential/comparez-vous/index-services.html>

A good summary description of this program (as contrasted with ENERGY WISE Home Diagnostic) <http://www.hydroquebec.com/residential/comparez-vous/faq-services.html>

Communications Materials/Efforts

Website:

French: <http://www.hydroquebec.com/residentiel/comparez-vous/index.html>

Video: <http://www.hydroquebec.com/residentiel/comparez-vous/video.html>

English: <http://www.hydroquebec.com/residential/comparez-vous/index-services.html>

Video: <http://www.hydroquebec.com/residential/comparez-vous/video.html>

2. Approach: Information/sensibilisation only (Web-Based Benchmarking) with Additional Incentives and Cash Rewards

Example: Team Power Smart from BC Hydro

Background on BBEE

Team Power Smart is a BBEE (behavior based energy efficiency) program. As explained in <http://www.bpa.gov/Energy/n/behavior.cfm>:

BBEE programs are growing in prominence around the country, and represent a source of energy savings beyond traditional utility programs focused on encouraging adoption of EE technology. There is a substantial body of knowledge and experience associated with behavior change that is rooted in the social sciences. Waste management, healthcare and transportation industries have been applying behavior based approaches for some time. Utilities and others in the energy industry are now using it as a means for encouraging energy efficiency and savings. While the promise of BBEE programs (in terms of energy savings) is significant, there is much to be learned about effective strategies and tactics to motivate consumers, persistence, and effective methods to evaluate the energy savings.

Additional information regarding BBEE programs is provided in http://www.bpa.gov/Energy/n/pdf/Behavior_Change_Report_Dec_2010_July_5.pdf, with specific examples of programs at Canadian and US utilities (pp. 26-37), including BC Hydro Team Power Smart (p. 27).

Communications Materials/Efforts/Links to Description on BC Hydro Website

Website Homepage/Join Team Power Smart:

<https://www.bchydro.com/youraccount/teampowersmart/Join.do>

Contests:

http://www.bchydro.com/powersmart/team_power_smart/prizes.html

Celebrities on the Team:

http://www.bchydro.com/powersmart/team_power_smart/celebrity_team_roster.html

Community Challenge:

<https://www.bchydro.com/youraccount/teampowersmart/CommunityStatsPageExternal.do>

How It Works:

http://www.bchydro.com/powersmart/team_power_smart/how_it_works.html

Benefits:

http://www.bchydro.com/powersmart/team_power_smart/Team_PS_benefits.html

Save 10%, Get A Reward (\$75)

http://www.bchydro.com/powersmart/team_power_smart/Team_PS_benefits/teamPS_reward_program.html

3. Approach: Direct Install of Basic Measures (Home Visit)

Example: Home Energy Squad from Xcel Energy (Minnesota) and CenterPoint Energy (Minnesota), delivered by Center for Energy and Environment (CEE) and Neighborhood Energy Connection (NEC)

Detailed Information/Communications Materials/Efforts

[http://www.xcelenergy.com/Save_Money_&_Energy/Find_a_Rebate/Home_Energy_Squad - MN](http://www.xcelenergy.com/Save_Money_&_Energy/Find_a_Rebate/Home_Energy_Squad_-_MN) (emphasis [bold] in original, emphasis [highlight] added):

Overview

Does your home have leaky doors, an old thermostat and inefficient incandescent bulbs? The Home Energy Squad can fix these in one visit – quickly, efficiently and affordably.

Energy saving packages, starting at just \$50*, include compact fluorescent light bulbs, programmable thermostats, weather stripping and more – you pay only for materials and the installation labor is free – a \$200 value! See Details below for prices.

[...]

Income-qualified customers who receive their electricity and natural gas from Xcel Energy may be eligible for free materials in addition to labor."

[...]

Benefits

With your energy savings package, you'll

- Receive a quick assessment of your home's energy efficiency
- Get an in-home visit from local efficiency experts who discuss the home improvements and install the equipment for you
- Immediately begin saving energy and money!

Details

The Home Energy Squad will quickly assess your home's efficiency and make the energy saving installations for you– in about two hours or less. When they're done your home will be more efficient, comfortable and you will see the savings on your bill. A Home Energy Squad visit is ideal for homeowners who have completed a Home Energy Audit and who need someone to implement some of the energy-saving measures.

Choose a package that fits your needs:

Basic Squad Service (\$50)

Choose any two items:

- 10 spiral compact fluorescent lights (CFLs)
- Programmable thermostat
- Weather stripping for one exterior door

You'll also receive:

- High-efficiency showerhead

- Faucet aerators
- Water heater temperature assessment
- Refrigerator thermometer

Premium Squad Service (\$80)

Includes all Basic Squad Services (above) and your choice of any two of these items:

- Four decorative CFLs
 - Water heater insulation
 - 10 more spiral CFLs
 - Programmable thermostat
 - Weather stripping for one exterior door
- Additional items are available as options.

As noted in Details section above, additional items are available as options

<http://www.homeenergysquad.net/services/>:

Add additional services a la carte*

These items are available for an additional cost. Ask your installer for details and prices

- Decorative CFLs
 - Spirals
 - Globes
 - Floods
 - 3-way lights
- Programmable thermostat
- Weatherstrip additional doors
- High efficiency shower head
- Kitchen aerator
- Bathroom aerator
- Refrigerator thermometer
- Water heater insulation
- Smart power strips

* Customer directly pays Home Energy Squad for all services. Charges may not be added to existing utility bills.

As noted above, fees for materials are waived for income-qualified customers. Program delivery, including Income qualification, is via two community organizations:

Center for Energy and Environment (CEE)

<http://mncee.org/Find-Programs-Financing/Home-Energy-Squad/>

Neighborhood Energy Connection (NEC)

<http://thenec.org/programs/home-energy-squad>

Income qualification matches the eligibility standards of the Energy Assistance Program (EAP), a state/federal program that helps pay home heating costs and furnace repairs for income-qualified households.

<http://thenec.org/programs/home-energy-squad>

<http://mn.gov/commerce/energy/consumers/Heating-Assistance/index.jsp>

FAQs: http://thenec.org/energy-tips#home_energy_squad

Reward for referrals, NEC: <http://www.homeenergysquad.net/>

Comments on Behavioral Component and Ease of Use for Customers

The behavioral component and ease of use for this program are identified as important factors in positive response by customers

<http://mncee.org/News/10,000-Homeowners-Sign-Up-For-Savings/> (emphasis added):

10,000 Homeowners Sign Up For Savings

November 3, 2011

Xcel Energy announced the 10,000th Home Energy Squad visit, a milestone the company says it reached earlier than expected due to positive customer response. Since its launch in January of 2010, the program has saved enough energy through installed energy saving improvements to provide nearly 1,300 homes with electricity and natural gas for a year.

“Customer feedback has been so positive that we recently expanded the program to St. Cloud and Northfield,” says Hammer. “Customers like getting expert advice on saving energy and money while at the same time making their own decisions about which measures to implement. The ease of having someone in the home who can consult and install, all in less than two hours, is a favorite feature of this program.”

4. Approach: Direct Install of Deep Measures (Home Visit)

Examples:

- a. **Home Weatherization Retrofit Program from Enbridge and Union Gas (Ontario), delivered by EnviroCentre in Ottawa**

Detailed Information/Communications Materials/Efforts:

General Description Home Weatherization Retrofit Program on Enbridge website
https://www.enbridgegas.com/assets/docs/CG%20030%206268%20Helping%20Manage%20Your%20Energy%20Costs%20NOV%202011_web.pdf (see p. 1 on the PDF)

Website/Specific Description of EnviroCentre's Home Weatherization Retrofit Program
<http://envirocentre.ca/services/low-income-programs/weatherization-program/>

Application Form in English and French (at the back):

<http://envirocentre.ca/wp-content/uploads/2011/02/Enbridge-Application-Package.pdf>

Posting and a media blitz in Ottawa community newspapers and on local CBC to let people know about the program:

<http://envirocentre.ca/wanted-gas-heated-old-homes-outside-greenbelt%e2%80%a6/>

<http://www.cbc.ca/news/canada/ottawa/story/2011/11/30/ott-free-insulation.html>

<http://envirocentre.ca/wp-content/uploads/2011/02/Weatherization-Poster.pdf>

- b. **Home Electric Savings Program (HESP)/Weatherization Services/ Appliance Replacement from Xcel Energy (Minnesota), delivered by Community Action of Minneapolis and the Energy CENTS Coalition**

Detailed Information/Communications Materials/Efforts

http://www.xcelenergy.com/Save_Money_&_Energy/For_Your_Home/Home_Efficiency/Income_Qualified_Services_-_MN (Show/Expand Details section)

Home Electric Savings Program Visit

A certified energy inspector will come to your home or apartment to show you the small changes you can make to lower your energy bill. Best of all, it's absolutely free.

During the appointment, we'll:



- Replace four of your incandescent light bulbs with energy-efficient compact fluorescent bulbs **and**
- Help you determine if you qualify for other free energy savings programs

Weatherization Services

You may also qualify for free weatherization services:

- Weather-stripping to stop air leaks around doors and windows
- Attic and/or wall insulation to help keep cold drafts out and heat in

Appliance Replacement

If your major household appliances are more than 10 years old, they likely use a great deal of energy and cost a lot more to run than newer, energy-efficient appliances. If you qualify, we may:

- Provide funding for emergency replacement of your natural gas furnace or water heater
- Replace an old refrigerator, freezer or window air conditioner with a new energy-efficient model
- Recycle all appliances being replaced free of charge (including second refrigerators, freezers or window units)

These programs are available to income-qualified Minnesota residential electricity or natural gas customer of Xcel Energy.

http://www.xcelenergy.com/Save_Money_&_Energy/For_Your_Home/Home_Efficiency/Income_Qualified_Services_-_MN (Show/Expand Who Qualifies section)

Program delivery, including Income qualification, is via two community organizations:

Community Action of Minneapolis <http://www.campls.org/>
<http://www.campls.org/programs/home-energy-conservation/utility-conservation-programs>
 (on west side of the Twin Cities metro area or outside the metro area)

Energy CENTS Coalition: <http://www.energycents.org/>
<http://www.energycents.org/conservation.html>
 (on east side of the Twin Cities metro area)

Income qualification matches the eligibility standards of the Energy Assistance Program (EAP), a state/federal program that helps pay home heating costs and furnace repairs for income-qualified households.

<http://www.campls.org/programs/home-energy-conservation/utility-conservation-programs>

<http://www.campls.org/programs/energy-services/energy-assistance>

<http://mn.gov/commerce/energy/consumers/Heating-Assistance/index.jsp>

Program Brochure:

<http://www.xcelenergy.com/staticfiles/xe/Marketing/Files/MN-Res-Low-Income-Brochure.pdf>

Comments on behavioral component

The behavioral component (energy conservation education) is identified as an important and integral aspect of the Home Electric Savings Program and as a gateway to deeper measures (Weatherization Services and Appliance Replacement).

<http://www.campls.org/programs/home-energy-conservation/utility-conservation-programs> (emphasis added):

The HESP program provides home energy conservation education to approximately 750 households annually in the Minneapolis service area, with installation of over 550 new appliances.

<http://www.xcelenergy.com/staticfiles/xe/Marketing/Files/MN-Res-Low-Income-Brochure.pdf> (p. 1, emphasis [bold] in original, emphasis [highlight] added):

Based on your eligibility and individual needs, we will provide you with customized solutions to help you save energy and money.

Home Electric Savings Program Visit

Our Home Electric Savings Program visit starts with an appointment with a certified energy inspector. We'll come to your home or apartment to give you advice on simple ways to lower your energy bills and show you how to make small changes in your household that can help you save even more. While we're there, we'll replace four of your incandescent light bulbs with energy-efficient, compact fluorescent bulbs. We'll also help you determine if you qualify for other free energy savings programs.

[...]

Weatherization Services

[...]

Appliance Replacement

5. Approach: Multi-family with Comprehensive Measures

Example: Ontario Power Authority's saveONenergy Program for Social and Assisted Housing (Electricity Focus), delivered by Toronto Hydro

General Description on the OPA's saveONenergy Website:

<https://www.saveonenergy.ca/Business/Program-Overviews/Social-Housing.aspx>

Specific Description on the Toronto Hydro Website:

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/pages/homeassistanceprogram.aspx>

http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/Documents/HOME%20ASSISTANCE%20Program%20FAQ_FINAL.pdf

Application Forms (for Toronto Hydro's Delivery of this Program)

http://www.torontohydro.com/sites/electricsystem/SiteCollectionDocuments/SOCIAL%20AND-OR%20ASSISTEDHOUSINGBUILDING%20OWNER-MANAGER%20APPLICATION%20_6_GS.pdf

Note: This application form also provides extensive info on the very comprehensive basic, extended and weatherization measures available in the program.

Description of Educational and Training Component Offered in the saveONenergy Program

<https://www.saveonenergy.ca/Business/Program-Overviews/Social-Housing.aspx>

(emphasis added)

Resident Education

Residents can have a significant impact on reducing energy consumption in assisted and social housing buildings. We offer funding of \$200/kW calculated based on saving from building upgrades to support tenant education. When your application is approved and your project is in progress, we will send you a resident education kit. It will provide information and tips about energy conservation and the benefits of an energy-conscious lifestyle.

Training

Building Operator training to support improved operation of your heating, mechanical and electrical systems will be available to building operators, managers and maintenance staff. This training will provide your staff with an in-depth look at the best ways to manage your facility, from information on the latest technologies, to tips, techniques, and best practices in energy efficiency and conservation opportunities.

Communications Materials/Efforts

saveONenergy Website:

<https://www.saveonenergy.ca/Business/Program-Overviews/Social-Housing.aspx>

Ad:

[https://saveonenergy.ca/getattachment/Consumer/Home-Assistance/Resident/Home-Assistance_SocialHousing_OPA_FINAL-\(1\).pdf.aspx](https://saveonenergy.ca/getattachment/Consumer/Home-Assistance/Resident/Home-Assistance_SocialHousing_OPA_FINAL-(1).pdf.aspx)

Toronto Hydro Website:

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/pages/homeassistanceprogram.aspx>

Eligibility:

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/Pages/EligibilityHousingProvider.aspx>

Benefits:

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/Pages/HAPBenefits.aspx>

Application forms (which include extensive information on the programs):

<http://www.torontohydro.com/sites/electricsystem/electricityconservation/residentialconservation/Pages/ApplicationForms.aspx>

http://www.torontohydro.com/sites/electricsystem/SiteCollectionDocuments/SOCIAL%20AND-OR%20ASSISTEDHOUSINGBUILDING%20OWNER-MANAGER%20APPLICATION%20_6_GS.pdf

6. Approach: Whole Neighborhood with Integrated Education

Example(s): Energy Savings Assistance Program from California (PUC regulated) Electric and Gas Utilities, including Pacific Gas & Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), and Southern California Gas (SoCalGas)

Detailed Information/Communications Materials/Efforts

Background

As is often the case for California energy issues, the Energy Savings Assistance Program is very large scale, multi-faceted, and thus somewhat complex. As more fully explained and documented below, the Energy Savings Assistance Program incorporates all of the Low Income Energy Efficiency (LIEE) activities at each of the investor-owned electric and gas utilities (IOUs) regulated by the California PUC. The PUC has directed that utilities adopt a "Whole Neighborhood Approach" to marketing and installation of LIEE measures, and that EE Education shall be closely integrated with activities relating to measure installation.

The approach now being adopted is part of a major revamping and expansion for California LIEE. For background, please see Ian Goodman's California PUC 2010 testimony for Greenlining Institute:

http://www.thegoodman.com/pdf/TGG20100519_GLI_EconDevtTest.pdf (pp. 28-33). To very briefly summarize, California has a long history of significant LIEE, but historically budgets were constrained such that only a relatively small portion of eligible customers could receive services. LIEE was seen mainly as an equity program (designed primarily to reduce the burden of energy bills of participating customers and promote their comfort and safety), rather than as a resource to achieve significant overall energy savings. Now, in order to achieve reduction in GHGs and other goals, California has committed to rapidly achieving all cost-effective energy efficiency, including LIEE. A major evolution in LIEE is thus underway, with PUC approved spending for the period 2009-2011 of over \$400 million at PG&E and almost \$1 billion at all the IOUs.

Whole Neighborhood Approach with Integrated Education

As part of this major revamping and expansion for California LIEE, the PUC has directed that utilities adopt a "Whole Neighborhood Approach" to Marketing and Installation of LIEE Measures, and that Energy Efficiency Education Shall Occur Near the Time of Measure Installation. See Decision 08-11-031

http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/93648.PDF



- “IOUs Shall Adopt a “Whole Neighborhood Approach” to Marketing and Installation of LIEE Measures. IOUs shall minimize costs and greenhouse gas emissions in delivering LIEE measures to low income households. By focusing efforts on whole “neighborhoods.” (p. 4)
- “We expect the IOUs to minimize the number of times they visit a home. We expect measure installation to occur at the same time as energy audits, except where impossible. Through the Whole Neighborhood Approach, we anticipate that audit and installation personnel will be present in the neighborhood at the same time, minimizing the need for separate trips.” (pp. 12-13)
- “We implement the Whole Neighborhood Approach model to reduce program costs, leverage the availability of resources at a community level, and serve a greater number of customers.” (p. 20)
- “By following the Whole Neighborhood Approach, the utilities should continue to demonstrate reduced overhead, transportation and installation costs. The utilities should serve all willing and eligible customers in a targeted geographic area prior to moving on to the next targeted geographic area.” (p. 32)
- “Energy Efficiency Education Shall Occur Near the Time of Measure Installation. We require that the IOUs' energy efficiency education – in which the IOUs inform and teach low income customers about the benefits of energy efficiency – occur close in time to installation of measures, rather than in a vacuum. We allow IOUs to fund facilitated education, including workshops, provided such workshops target low income persons eligible or likely to be eligible for LIEE and take steps to enroll customers in LIEE.” (p. 4)
- “We strongly support energy efficiency education that happens at the same time as installation of energy efficiency measures. However, we deny funding for energy efficiency education that occurs on its own and does not result in prompt LIEE measure installation. [...] the IOUs and their contractors deliver substantial energy education as part of the assessment process they use to bring customers into the LIEE program, and this will not change. However, we question the efficacy of balkanized education efforts by individual IOUs, especially if they lead to no actual measure installation or concomitant energy savings.” (pp. 54-55)

Implementation of the Whole Neighborhood Approach was then reviewed in a follow-up California PUC proceeding (A.08-05-022/A.08-05-024/ A.08-05-025/A.08-05-026).

Whole Neighborhood Approach CPUC Energy Division Draft White Paper www.cpuc.ca.gov/EFILE/RULINGS/101799.pdf

CPUC July 21, 2009 Workshop: Utility Presentations

PG&E: <http://www.cpuc.ca.gov/NR/rdonlyres/67EE91CD-32E9-4709-8542-15AAD93D37F8/0/PGEWNA.ppt>

SCE: <http://www.cpuc.ca.gov/NR/rdonlyres/6896973B-6EE7-4513-90C0-9C2BFE954D2E/0/SCEWNA.pptx>

SDG&E: <http://www.cpuc.ca.gov/NR/rdonlyres/36609A7F-A685-41F3-8127-619A2E532C67/0/SDGEWNA.pptx>

SoCalGas: <http://www.cpuc.ca.gov/NR/rdonlyres/71916B51-FD1E-425A-9B36-6539D8B37EF6/0/SOCALGASWNA.pptx>

Whole Neighborhood Approach Evaluations

PG&E: <http://docs.cpuc.ca.gov/efile/REPORT/134805.pdf> (pp. 9-18)

SDG&E: <http://www.cpuc.ca.gov/EFILE/REPORT/134970.pdf> (pp.12-14)

SoCalGas: www.cpuc.ca.gov/EFILE/REPORT/134708.pdf (pp. 15-18)

Energy Savings Assistance Program: Statewide

As part of this revamping and expansion for California LIEE, all activities at all utilities now have the same name (Energy Savings Assistance Program) for marketing, education, and outreach. As summarized on the California PUC website <http://www.cpuc.ca.gov/PUC/energy/Low+Income/liee.htm>:

The Energy Savings Assistance Program provides no-cost weatherization services to low-income households who meet the CARE income guidelines. Services provided include attic insulation, energy efficient refrigerators, energy efficient furnaces, weatherstripping, caulking, low-flow showerheads, waterheater blankets, and door and building envelope repairs which reduce air infiltration.

Income limits are effective June 1, 2011, through May 31, 2012:

Household Size	LIEE Income Limit
1 to 2	\$31,800
3	\$37,400
4	\$45,100
5	\$52,800
6	\$60,500
Each additional	\$7,700

Energy Savings Assistance Program: PG&E

<http://www.pge.com/myhome/customerservice/financialassistance/energysavingsassistanceprogram/> (emphasis added for behavioral/education component):

PG&E's Energy Savings Assistance Program provides income-qualified renters and homeowners with easy, free solutions to help manage their energy use and save money on their monthly energy bills.

You may be eligible for the following services provided by PG&E

- Improvements to your house, apartment or mobile home including compact fluorescent lights, caulking, showerheads, minor home repair and more
- Replacement of your old refrigerator, furnace and/or water heater¹
- **Energy savings tips**

¹Furnace and water heater repair or replacement may be available to eligible homeowners when PG&E determines existing natural gas units are inoperative or unsafe.

On-line referral form: <https://www.pge.com/forms/epsignup.shtml>

FAQs

<http://www.pge.com/myhome/customerservice/financialassistance/energysavingsassistanceprogram/faqs/>

Annual Report on LIEE for Program Year 2010

<http://docs.cpuc.ca.gov/efile/REPORT/134805.pdf> (see pp. 9-18, 29-31 for Evaluation, Measurement and Verification)

Energy Savings Assistance Program: SCE

<http://www.sce.com/residential/income-qualified/ema/energy-savings-assistance.htm>:

The Energy Savings Assistance Program helps income-qualified households conserve energy and reduce their electricity costs. SCE pays all the costs of purchasing and installing energy-efficient appliances and equipment, which are free to eligible customers.

Video: <http://www.youtube.com/watch?v=s9vzvJbz8uY>
<http://www.sce.com/residential/income-qualified/ema/energy-savings-assistance-program-video.htm>

Comments: The webpage provides a quick summary and very much focuses on appliances vs. any other measures. Video also focuses on appliances but provides good explanation of process and is worth watching.

More detail and explanation of measures other than appliances (including weatherization services) are provided on the linked How Does It Work webpage: <http://www.sce.com/residential/income-qualified/ema/how-does-program-work.htm>

Energy Savings Assistance Program: SDG&E

<http://sdge.com/residential/assistance-programs/energy-savings-assistance-program>:

Save energy and money with this service

The Energy Savings Assistance Program is designed to help lower your monthly bill, while making your home more comfortable.

You may rent or own, and if you qualify, SDG&E's authorized contractors will come to your home and may provide free:

- New, energy-efficient refrigerators, air conditioners, and lighting
- New or repaired doors and windows
- Microwaves, water heaters and high-efficiency clothes washers
- Insulation, weatherstripping and caulking to lower heating and cooling costs

Video: http://sdge.com/modal/no_js/video/2698

Annual Report on LIEE for Program Year 2010

<http://www.cpuc.ca.gov/EFILE/REPORT/134970.pdf>

(see pp. 12-14, 28-30 for Evaluation, Measurement and Verification)

Energy Savings Assistance Program: SoCalGas

<http://www.socalgas.com/for-your-home/assistance-programs/esap/> (emphasis [bold] in original; emphasis [highlight] added for behavioral/education component):

Energy Savings Assistance Program

Southern California Gas Company (SoCalGas) offers no-cost energy-saving home improvements and furnace repair or replacement services for qualified limited-income renters and homeowners.

Available energy-saving services may include:

Attic insulation

Door weather-stripping

Caulking

Low flow shower heads and faucet aerators
Water heater blankets
Pipe insulation
Faucet aerators
Minor repairs to exterior doors and/or windows

Energy Education

Furnace and water heater repair or replacement (owner-occupied only)
High-efficiency clothes washers and more

Annual Report on LIEE for Program Year 2010

www.cpuc.ca.gov/EFILE/REPORT/134708.pdf

(see pp. 15-18, 44-47 for Evaluation, Measurement and Verification)

Comments on behavioral components and ease of use for customers

The behavioral components (community-based social marketing and energy education) are identified as important and integral aspects of the Whole Neighborhood Approach, with all aspects of the LIEE process occurring in close geographic and temporal proximity to increase ease of use for customers and program effectiveness and reduce costs. As explained in Whole Neighborhood Approach CPUC Energy Division Draft White Paper www.cpuc.ca.gov/EFILE/RULINGS/101799.pdf:

“the WNA incorporates a step-by-step approach to serving LIEE customers and utilizes the theories of community-based social marketing (CBSM) and the neighborhood “blitz” approach. CBSM consists of promoting behavior change in a community using social networks to facilitate the change. The neighborhood blitz approach involves strategic and coordinated delivery of energy efficiency measures in a particular neighborhood. Installation teams will be simultaneously present in the neighborhood, conducting a door-to-door campaign to deliver residential-level services to as many households as possible.” (p. 4, emphasis added)

“Assessment and 1st Wave Installation

An assessment includes energy education and an assessment of the energy efficiency measures needed by a particular household. During this step, enrollment will also be conducted if it did not occur during the outreach process. Assessments and 1st wave installations will be conducted in tandem under the WNA, occurring simultaneously in a specific neighborhood.

1st wave installation consists of the installation of non-infiltration measures and easy-to install measures that do not require advanced planning, such as CFLs. Natural gas appliance testing can also be performed at this time. Assessors and 1st wave installers shall work alongside one another in a specific neighborhood, with assessment quickly followed by 1st wave installation. By following the neighborhood identification and outreach processes outlined under the WNA, the assessment and 1st wave installation should be easy to carry out, as eligible and willing households will be located in the same geographic area.

Many households only require non-infiltration measures. For these households, LIEE program delivery will be complete after the 1st wave installation, aside from the inspections. With assessors and the 1st wave installers working simultaneously within a neighborhood, the coordinated and geographic approach to program delivery will minimize the number of visits to households. As such, less of a burden is placed on customers to be home for a scheduled appointment.

By simultaneously assessing and treating households in specific geographic segments, the WNA will result in reduced transportation and overhead costs.” (p. 10, emphasis added)

“2nd Wave Installation

2nd wave installation occurs in households requiring the installation of specialized measures, such as attic insulation. The delivery and installation of large scale appliances, such as refrigerators, air conditioners, water heaters, etc. is also included in this step. The appointment for the 2nd wave installation should be scheduled during or shortly after the assessment and 1st wave installation is complete. Like the prior stages of program delivery, the 2nd wave shall be coordinated based on a specific neighborhood.” (p. 11, emphasis added)

Appendix 2 - Discussion Guide

**Projet ic6 2011-2012 : Transférer les connaissances en efficacité
énergétique auprès des ménages à faible revenu - les méthodes les plus
efficaces**

Guide de discussion

1.0 Introduction

Bienvenue et merci de participer à cette discussion. Nous voulons connaître vos opinions, c'est-à-dire non pas ce que vous pensez que les autres croient, mais bien ce que vous pensez, vous!

Vous pouvez être d'accord ou en désaccord. Et même si vous êtes la seule personne du groupe à avoir un certain point de vue, cela peut vouloir dire que vous représentez des centaines de milliers de personnes qui ont la même opinion que vous.

Vous n'êtes pas obligés de me formuler directement vos commentaires. Vous avez tout à fait la possibilité d'échanger des idées avec les autres participants ou de leur faire part de vos arguments.

La discussion est enregistrée. Ça me permettra d'avoir des points de repère pour rédiger mon rapport.

Je prendrai peut-être aussi des notes pendant le débat pour ne pas perdre de détails.

À la fin de la discussion, je vous remettrai des honoraires pour vous remercier d'avoir participé à la séance.

Nous allons faire un tour de table afin que chacun d'entre vous s'identifie et nous parle un peu de lui-même, c'est-à-dire votre métier et qui habite avec vous.

1.1 Connaissances générales de l'efficacité énergétique

Qu'est-ce que l'efficacité énergétique ?

- A) Concepts généraux
- B) Exemples concrets ?
- C) Est-ce que vous savez quoi faire pour réduire votre consommation / facture d'énergie ?
- D) Pourquoi vous ne le faites pas ?

Comment avez-vous acquis les connaissances que vous possédez en ce moment ?

- A) bouche à oreille
- B) habitudes / traditions
- C) médias
- D) formations

1.2 Connaissances générales des programmes et offres d'efficacité énergétique

Avez-vous entendu parler de programmes ou d'offres d'efficacité énergétique résidentielle ?

- A) Lesquels
- B) Ces programmes/offres semblent-ils vous être adressés ?
- C) Quelles sont vos premières impressions sur ces programmes/offres ?
- D) Avez-vous déjà participé / bénéficié de ces programmes

2.0 Présentation des approches en efficacité énergétique

Nous vous présenterons maintenant des grandes approches en matière d'efficacité énergétique. Nous vous demanderons de commenter ces approches.

PREMIÈRE APPROCHE :

Outils de sensibilisation informatisés / web

ÉLÉMENTS CLÉS :

- Mesures comportementales uniquement
- établissement d'un profil de consommation à l'aide d'outils informatiques
- comparaison avec d'autres ménages semblables ou un historique de consommation
- durée : quelques minutes

OBJECTIF :

L'objectif de ces programmes est de valoriser la pratique de l'efficacité énergétique à travers des recommandations personnalisées produites par un logiciel. Il n'y a pas d'installation de produits économiseur d'énergie ni de mesures d'isolation ou d'étanchéité

EXEMPLE :

Programme **Comparez-vous d'Hydro-Québec**

Voir vidéo :

<http://www.hydroquebec.com/residentiel/comparez-vous/index.html>

QUESTIONS :

- 1- Quelles sont vos impressions générales face à ce type de programme ?
- 2- Croyez-vous que vous pourriez bénéficier vous-même de ce genre de programme ?
 - a. De faire des économies ?
- 3- Seriez-vous en mesure de remplir un questionnaire en ligne ?
 - a. ou en version papier ?
 - b. Pensez-vous connaître assez bien votre domicile ou vos habitudes de consommation d'énergie pour répondre aux questions ?
- 4- Êtes-vous intéressés à comparer votre consommation d'énergie avec d'autres ménages comme le votre ?
 - a. ...À comparer votre consommation d'énergie avec celles des années précédentes

- 5- Est-ce que vous croyez que des recommandations produites par un logiciel vous permettrait de faire des économies intéressantes ?
- 6- Quels éléments de cette approche sont susceptibles de vous inciter à modifier vos habitudes de consommation ?
- 7- Quels éléments de cette approche sont susceptibles de ne pas vous inciter à modifier vos habitudes de consommation ?

FEUILLE DE COMMENTAIRES

DEUXIÈME APPROCHE :

Outils de sensibilisation avec objectifs personnalisés et incitatifs financiers

ÉLÉMENTS CLÉS :

- Mesures comportementales uniquement
- établissement d'un profil de consommation à l'aide d'outils informatiques
- comparaison avec d'autres ménages semblables ou un historique de consommation
- détermination d'objectifs personnalisés
- incitatifs financiers additionnels pour les ménages qui rencontrent les objectifs fixés

OBJECTIF :

Réduire la consommation d'énergie à travers un diagnostic de la consommation d'énergie et la fixation d'objectifs d'économie d'énergie à atteindre pour recevoir un incitatif financier. Les participants sont invités à suivre mensuellement leur consommation d'énergie. Les participants doivent donc s'engager pour une période de 12 mois.

EXEMPLE :

Team Power Smart (BC Hydro)

http://www.bchydro.com/powersmart/team_power_smart/how_it_works.html

QUESTIONS :

- 1- Quelles sont vos impressions générales face à ce type de programme ?
- 2- Croyez-vous que vous seriez significativement plus intéressés à faire des efforts pour modifier vos habitudes de consommation si un incitatif financier était proposé ?
- 3- Est-ce qu'un montant de 75\$ vous semble adéquat ? Plus / moins ?
- 4- Quelle quantité d'énergie croyez-vous pouvoir économiser en participant à ce programme ?
- 5- Auriez-vous assez de motivation pour suivre votre consommation pendant 12 mois ?
- 6- Pensez-vous que vous maintenez vos habitudes éconergétiques après avoir reçu le cadeau de 75\$?

- 7- Est-ce que vous pensez que la majorité des gens qui participent à ce programme réussissent à atteindre leurs objectifs ?
 - a. Quel est selon vous le % de participants qui ont réussi à obtenir leur 75\$?
 - b. Selon vous quelle sont les économies moyennes réalisées par l'ensemble des participants à ce programme ?
- 8- Quels éléments de cette approche sont susceptibles de vous inciter à modifier vos habitudes de consommation ?
- 9- Quels éléments de cette approche sont susceptibles de ne pas vous inciter à modifier vos habitudes de consommation

FEUILLE DE COMMENTAIRES

TROISIÈME APPROCHE :

Visites à domicile avec mesures légères d'économie d'énergie

ÉLÉMENTS CLÉS :

- Visite à domicile
- Durée de 1h30 à 2hrs
- Conseils d'efficacité énergétique personnalisés donnés par un éducateur spécialisé
- Installation de mesures légères d'économie d'énergie sur le champ en plus de thermostats électroniques (100-200\$)

OBJECTIF :

L'objectif de ce type de programme est de venir en aide aux ménages principalement défavorisé qui ont des problématiques liés à la désuétude de leur résidence et au manque d'information relativement à l'efficacité énergétique. Habituellement ces programmes comptent un volet de sensibilisation à l'efficacité énergétique personnalisé. Les conseils personnalisés sont donnés relativement à l'ensemble de l'habitation mais ont comme sujet principal les habitudes des usagers.

EXEMPLE:

Home energy Squad (Xcel Energy, Minnesota)

Éconologis : Un programme de l'Agence de l'efficacité énergétique du Québec livré par un ensemble d'organismes locaux

Vidéo de Home Energy Squad :

<http://www.youtube.com/watch?v=80jyuqFooRw>

Voir vidéo sur Éconologis :

http://option-consommateurs.org/conseillers/efficacite_energetique/programme_econologis.html

QUESTIONS :

- 1- Quelles sont vos premières impressions face à ce type de programme / d'approche ?
- 2- Est-ce que vous êtes à l'aise avec le fait que des gens entrent chez vous pour faire une évaluation énergétique ?

- 3- Pour les locataires, auriez-vous l'impression que ce type de programme pourrait vous causer des ennuis avec le propriétaire de votre logement ?
- 4- Est-ce que vous croyez qu'un employé d'un organisme communautaire peut vraiment vous aider à faire des économies d'énergie ?
- 5- Est-ce que vous croyez que vous pourriez faire beaucoup d'économies grâce à ce genre de programme ?
- 6- Quels éléments de cette approche sont susceptibles de vous inciter à modifier vos habitudes de consommation ?
- 7- Quels éléments de cette approche sont susceptibles de ne pas vous inciter à modifier vos habitudes de consommation

FEUILLE DE COMMENTAIRES

QUATRIÈME APPROCHE :

Visite de domicile avec installation de mesures plus lourdes

ÉLÉMENTS CLÉS :

- installation d'équipement d'économie d'énergie plus coûteux
- sensibilisation davantage reliée à l'utilisation et à l'installation des mesures lourdes (fenêtres, chauffe-eau, chaudières, isolation des sous-sol et greniers)
- plus grandes économies d'énergie
- les travaux peuvent durer une demi-journée en plus d'une autre visite pour faire un audit énergétique (mesure des économies, entre 1000 et 5000\$)
- ce type d'approche permet souvent après une première visite d'avoir accès à tout un ensemble de programmes ;

EXEMPLE :

Home Weatherization Retrofit Program

<http://envirocentre.ca/services/low-income-programs/>

OBJECTIF :

Les objectifs sont à peu près les mêmes que pour la 3^e approche sauf qu'il devient possible de faire l'installation d'appareils et de mesures plus lourdes qui à elles seules permettent de réaliser des économies d'énergie substantielles.

Aussi, ce genre d'approche est davantage intégrée que les précédentes, et permet de « préqualifier » les ménages afin de les référer à d'autres programmes d'efficacité énergétique, comme le changement des électroménagers, ou de climatiseurs d'air.

QUESTIONS :

- Quelles sont vos premières impressions face à ce type de programme ou d'approche ?
- Concernant vos habitudes de consommation d'énergie, croyez-vous que vous seriez plus enclin à modifier vos comportements, ou plutôt bénéficier des économies que vous apportent les installations d'équipement plus lourdes ?
- Est-ce que ce genre de programme / approche pourrait vous inciter à changer vos habitudes ? Pourquoi ?
- Est-ce que vous préférez choisir vous-même les programmes, ou vous préférez que l'on vous réfère automatiquement ?
- Quels éléments de cette approche sont susceptibles de vous inciter à modifier vos habitudes de consommation ?

- Quels éléments de cette approche sont susceptibles de ne pas vous inciter à modifier vos habitudes de consommation

FEUILLES DE COMMENTAIRES

CINQUIÈME APPROCHE :

Multi-logement avec mesures complètes

ÉLÉMENTS CLÉS :

- mesures complètes (des conseils personnalisés, à l'installation de fenêtres et d'isolation de murs)
- programmes destinés aux propriétaires, mais bénéficient aussi aux locataires
- met l'emphase autant sur l'éducation (du propriétaire et des locataires) que sur l'installation de mesures lourdes
- mesures gratuites lorsque qu'effectuées chez des MFR
- souvent 2 visites (1^{ere} pour audit énergétiques et conseil, 2^e pour installation lourde 1-2 jours)
- clé en main pour les propriétaires et locataires

OBJECTIF :

Ce type de programme inclut autant l'installation de mesures lourdes qu'un volet éducationnel important. L'objectif visé par ces programmes est de traiter l'ensemble des besoins des occupants. Que ce soit des mesures légères, des mesures lourdes, un volet éducationnel pour les occupants comme pour les propriétaires. On vise donc à faire participer les occupants et les propriétaires pour qu'ils atteignent, ensemble, les économies les plus importantes.

EXEMPLE :

Rénoclimat MFR – volet privé

Vidéo : <http://www.youtube.com/watch?v=7ry3yyuu9Og>

QUESTIONS :

- Quelles sont vos premières impressions ?
- Croyez-vous que ce genre d'approche pourrait s'appliquer pour vous ?
- Croyez-vous que la nécessité d'approbation de votre propriétaire pourrait être un obstacle à la réalisation de ce programme chez vous ?
- Croyez-vous que votre propriétaire serait intéressé par un programme de ce genre ?
- Est ce que vous croyez que ce genre de programme vous inciterait davantage à modifier vos habitudes de consommation ?
 - o Pourquoi ? Comment ?

FEUILLE DE COMMENTAIRES

SIXIEME APPROCHE :

De voisinage / par quartier

ÉLÉMENTS CLÉS :

- toutes les mesures d'économie d'énergie sont envisagées
 - o mesures légères et lourdes
 - o mesures comportementales
- les mesures comportementales sont effectuées en parallèle de l'installation de mesures physiques
 - o mesures comportementales peuvent être des ateliers de groupes ou individuels
- détermination sur mesure des besoins
- approche communautaire / mise en marché agressive dans la zone d'intervention

OBJECTIF :

Cette approche vise à identifier un quartier, une rue ou un voisinage à très haut potentiel d'économie d'énergie. À travers cette approche, l'ensemble des distributeurs d'énergie s'unissent pour réaliser le maximum d'intervention sur un même territoire. D'un point de vue de commercialisation de ce type d'intervention, les autorités visent à intervenir auprès de tous les ménages dans une zone prédéterminée. Les préoccupations relatives à l'admissibilité sont moins importantes. L'intérêt d'un tel programme est de réduire les dérangements et les coûts liés à la mise en œuvre des mesures d'économie d'énergie.

EXEMPLE :

Energy Savings Assistance Program (Californie)

Les activités découpent en 3 étapes

- 1- mesures comportementales et évaluation des besoins
- 2- installation des mesures légères qui ne requièrent pas de planification (fluo-compactes, économiseurs d'eau, etc) (en même temps que phase 1)
- 3- installation de mesures lourdes

QUESTIONS :

- quelles sont vos premières impressions ?
- Pensez-vous pouvoir bénéficier d'un programme de ce type ?
- Pensez-vous que votre voisinage / quartier / rue pourrait être un bon endroit pour ce genre d'initiative ? Pourquoi ?
- Quels éléments de cette approche sont susceptibles de vous inciter à modifier vos habitudes de consommation ?

- Effet d'entraînement des voisins
- Quels éléments de cette approche sont susceptibles de ne pas vous inciter à modifier vos habitudes de consommation ?
 - Les mesures feront les économies à ma place

Fin de la rencontre

Merci de votre participation