

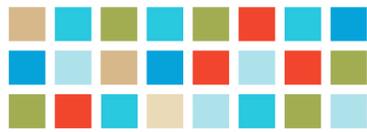
COMMUNITY-LEVEL ENERGY EFFICIENCY PROGRAMS: A LITERATURE REVIEW OF BEST PRACTICES FOR PROMOTION AND RECRUITMENT

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Summary of Report: This literature review was conducted to identify best practices for promoting energy efficient behaviour at the community-level, as well as for promoting recruitment/outreach to community-level energy efficiency programs. It was found that community-based social marketing tools have demonstrated effectiveness at bringing about pro-environmental behavioural change, and that using a combination of these tools is more effective than using a single intervention. Additionally, it was found that recruitment can be enhanced by taking time to study the target population, by involving highly motivated individuals, and by relying on existing personal contacts, neighbourly relations, and social institutions.



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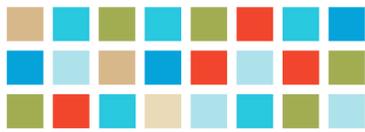
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INTRODUCTION

RESEARCH GOALS

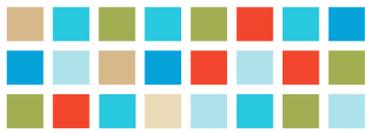
To identify best practices for: 1) promoting energy efficiency at the community-level (e.g., behavioural change strategies), and 2) promoting recruitment/outreach to community-level energy efficiency programs.

BACKGROUND

The city of Guelph is one of Canada's largest communities entirely reliant on a finite groundwater source. In order to support its future community growth, as well as to maintain affordable water services for its rate payers, the city is committed to identifying strategies for water conservation and efficiency. The Efficient Home Visit (EHV) Pilot Program reflects the inherent link between water and energy efficiency, and is an initiative that aims to assist Guelph residents to conserve both water and energy in their households. Program services consist of in-home water and energy audits, as well as installation of energy and water efficient devices. Participation in the pilot program is voluntary; community residents must contact the EHV team if they would like to schedule visits in their homes (City of Guelph, 2011). The purpose of this report is to conduct a literature review that will serve to inform Guelph Environmental Leadership (who is delivering EHV services) of best practices for promoting community-level engagement in energy efficiency programs.

Define Key Terms:

- **Efficient Home Visit (EHV) Pilot Program** A free, personalized, in-home audit service for Guelph residents aimed at identifying water- and energy-savings opportunities and conducting retrofits on-site where appropriate.
- **Guelph Environmental Leadership (GEL)** An organization that provides cross-sector collaboration to stimulate partnering among local environmental groups, heighten support for environmental improvement, and engage widespread participation in sustainable behaviours (Volunteer Centre of Guelph/Wellington, 2011); Delivering EHV services in partnership with the City of Guelph, Guelph Hydro, and Union Gas.



METHODS

SOURCES

To locate relevant research articles, the following electronic databases were searched using combinations of the terms “pro-environmental behaviour,” “energy,” “water,” “efficiency,” “promotion,” “outreach,” “recruitment,” and “community”:

- EconLit
- Canadian Research Index
- Environmental Science & Pollution Management
- PsycINFO
- Sociological Abstracts

A search for grey literature was also conducted (in Google’s search engine) by using the same search terms as above.

FINDINGS

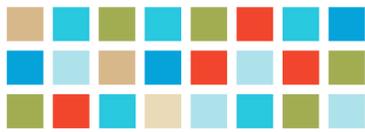
PROMOTING ENERGY EFFICIENCY AT THE COMMUNITY LEVEL

The first section of this literature review focuses on how to get people to change their behaviours and to engage in behaviours that are more energy-efficient.

Behavioural change strategies

Programs to promote pro-environmental behaviour have primarily been information-intensive. Strategies used to try to foster behavioural change this way have included media advertisement and the distribution of printed materials. With these information-intensive campaigns, program planners have typically assumed that by enhancing people’s knowledge and by encouraging them to develop attitudes in support of pro-environmental activities (e.g., recycling, water conservation), they will consequently change their behaviours (McKenzie-Mohr, 2000; 2009). This is known as the attitude-behaviour approach.

Research, however, has not supported the above claim. In fact, in numerous studies it has been found that education alone often has little or no effect on sustainable behaviour. For instance, in studies by Geller and colleagues in the early 1980s (Geller, 1981; Geller, Erickson & Buttram, 1983), no behavioural changes were observed among household residents who either participated in workshops on residential energy conservation or who received booklets describing the relationship between water use and energy use (even though significant changes in knowledge and attitudes were found). Some research has even



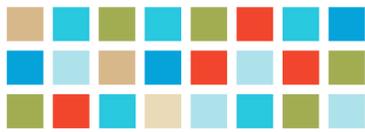
indicated that there is disconnect between people's expressed concern for the environment and their own energy use. In one study, for example, it was found that even when people expressed strong views in favour of energy efficiency and claimed to be performing energy conserving activities, data on their *actual* energy use revealed that a great deal of exaggeration had been made in these claims (McDougall, Claxton, Ritchie, & Anderson, 1981).

A second point of view is one that assumes people will make changes to their behaviour if provided with information that something is in their financial best interest (McKenzie-Mohr, 2000; 2009). This approach, known as the economic self-interest approach, has also demonstrated to be ineffective at bringing about change in behaviour. For example, researchers in California found that, despite the 200 million dollars spent annually by state utility companies on advertisements encouraging household residents to save money by closing their blinds during the day, these campaigns had very little effect on energy use (Costanzo, Archer, Aronson & Pettigrew, 1986).

It is felt that, in order to bring about change in any given energy conserving behaviour, there needs to be more than just the distribution of information; there also needs to be an understanding of the barriers that exist to performing the behaviour (McKenzie-Mohr, 2000; 2009). Community-based social marketing seeks to address these barriers. According to McKenzie-Mohr (2009), community-based social marketing consists of the following steps: 1) selecting the behaviour to be promoted, 2) identifying the barriers and benefits associated with the behaviour, 3) developing a strategy that utilizes behaviour change tools to address barriers and benefits, 4) piloting the strategy, and 5) evaluating the program's impact after it has been implemented broadly. In Canada, community-based social marketing has surfaced as an attractive alternative to information-only campaigns, and has demonstrated to be an effective way of fostering behavioural change (McKenzie-Mohr, 2000; 2009). In this literature review, particular attention will be paid to strategies for addressing barriers and benefits. First, a Canadian social marketing case study will be presented.

Community-based social marketing: A case study

Community-based social marketing strategies were adopted in a study to encourage water efficiency among residents in the Durham Region of Ontario (Durham Region, 1997). In this particular study, survey techniques and direct observation were first used to reveal barriers to water-efficient lawn care. Pilot households were then visited by a student employee who spoke to residents about efficient water use. At this time, residents were provided with a gauge to use to overcome the barrier of not knowing when they had watered their lawns enough. Residents were also given prompts to place beside their water faucets, reminding them of dates and times when they were permitted to water the lawn, and they were asked to sign a contract committing to adhere to the watering schedule. Control households received information only (e.g., a packet on efficient water use). Findings revealed that while the intervention group decreased watering by 54%, the control group actually increased lawn



watering by 15%. Additionally, lawn watering for over one hour at a time decreased by 66% in the intervention group but increased by 96% in the control group.

Community-based social marketing strategies: Research evidence

As the case study above demonstrates, there are a number of social marketing strategies that can be employed to overcome barriers to energy efficient behaviours and to promote behavioural change. Research evidence for the following tools will be briefly reviewed: prompts, commitment, social norms, social diffusion, effective communication, incentives, and convenience strategies.

Prompts

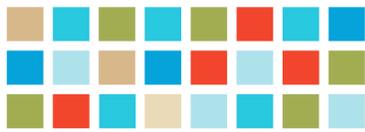
Since, as humans, we are prone to forgetting, prompts represent a helpful way of reminding us to carry out desired behaviours (McKenzie-Mohr, 2009). In studies that have used prompts, it has been found that they can reduce water use when placed near household apparatus such as taps (Kurtz, Donaghue & Walker, 2005), and can reduce energy use by fostering behavioural changes such as the closing of blinds/shutters (Luyben, 1984). Based on the available evidence on prompts, it is suggested that prompts be made noticeable, be self-explanatory (e.g., include pictures/graphics), be presented as close in time and space as possible to the targeted behaviour, and be used to encourage pro-environmental behaviours rather than to encourage avoidance of harmful actions (McKenzie-Mohr, 2009).

Commitment

Getting participants to commit to making a change has also been found as an effective strategy in actually changing behaviour. Research indicates that the most effective behavioural change occurs when commitments are written (rather than verbal), non-coercive, made in public, made as part of a group, and combined with other behavioural change techniques (McKenzie-Mohr, 2009).

Social norms

Several researchers have studied the impact that social norms can have upon individuals engaging in pro-environmental behaviours. In one study, researchers placed flyers on the windshields of cars in a library parking lot. As people made their way out of the library and returned to their cars, they were exposed to one of two conditions. Half of the people were exposed to an accomplice who walked past them, picked up a bag of littered trash and placed it in the garbage. For the remaining half, the accomplice simply walked past and left the littered trash on the ground. While almost no one in the intervention group chose to litter their flyers, it was found that over one third of the people in the control group littered (Cialdini, Reno & Kallgren, 1990). While research on social norms has produced mixed results, evidence accumulated over time has pointed to the following recommendations



when using social norms to promote behaviour change: Make the norm noticeable, present the norm at the time the targeted behaviour is to occur, use norms to get people to engage in pro-environmental behaviours (rather than avoiding environmentally harmful ones), and be careful using descriptive norms when an undesirable behaviour is common (McKenzie-Mohr, 2009). This last point comes from research showing that when people understand behaviour to be common, they are more likely to view it as acceptable. It would be a poor strategy, for example, to point out that most people leave the tap running while brushing their teeth if your program aims to reduce water usage.

Social diffusion

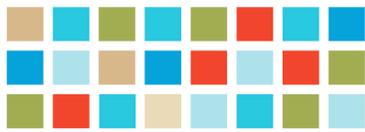
Social diffusion strategies draw on the fact that we are often influenced by those around us (e.g., friends, family and neighbours). Best research evidence for promoting pro-environmental behaviours using social diffusion suggests that program developers carefully identify who to target, ensure that the behaviour they are promoting is visible, and gain commitment from early adopters to speak to others about the behaviour (McKenzie-Mohr, 2009). An example of a social diffusion strategy occurred in Nova Scotia where, to enhance the visibility of composting behaviour, households were asked to place stickers on their curbside recycling containers if they composted.

Effective communication

The notion that communication is a powerful marketing strategy is exemplified in an experiment that was conducted for Pacific Gas and Electric (PG&E). During the 1980s, PG&E offered both free home energy assessments and zero-interest loans for home energy improvements. After disappointing numbers of households requesting assessments were found to have actually carried out assessors' recommendations, it was decided that assessors would be accompanied by a social psychologist during home visits. The group of psychologists who took part determined that assessors had been poorly trained in effective communication. As a result assessors were taught to use specific vivid examples, to personalize the material wherever possible, to frame statements in terms of loss rather than gain, and to bring about a commitment from the homeowners. Assessors who went through this training persuaded 60% of their customers to follow their recommendations. This was more than three times the previous average (Aronson 1990). While there is a long list of recommendations for how to form a persuasive message to consumers, some of these strategies include the following: frame the message around what the individual is losing by *not* acting as opposed to what he or she is saving by acting, make instructions for desired behaviour clear and specific, and use personal contact to deliver the message whenever possible (McKenzie-Mohr, 2009).

Incentives

Research suggests that, where motivation is low, financial incentives (e.g., rebates for home energy retrofits, electricity rates that increase with use) can provide motivation for



people to perform an activity that they already engage in more effectively, or to begin an activity that they would otherwise not perform (McKenzie-Mohr, 2009). Gardner and Stern (1996) recommend the following guidelines regarding the use of incentives: 1) make sure the incentive is large enough to be taken seriously; 2) closely pair the incentive with the behaviour; 3) make the incentive visible; 4) use incentives to reward positive behaviour; 5) be cautious about removing incentives; and 6) prepare for people's attempts to avoid the incentive.

Convenience strategies

Finally, it is important to note that behaviours that are inconvenient have low participation rates. In the area of energy reduction, for example, McKenzie-Mohr (2009) points out that it can be inconvenient for homeowners to themselves purchase and install energy efficient equipment in their homes. To overcome this barrier, he suggests that a door-to-door service to provide and install devices can be effective at promoting behavioural change.

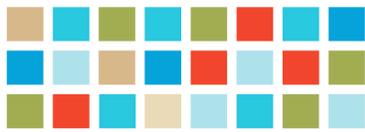
It is important to conclude that interventions to promote energy efficient behaviours cannot rely on a single strategy. Rather, it is the case that interventions employing a combination of strategies (e.g., Durham Region water conservation study) tend to be more effective in achieving change (DEFRA, 2007).

OUTREACH/RECRUITMENT STRATEGIES TO COMMUNITY-LEVEL ENERGY EFFICIENCY PROGRAMS

This section of the literature review focuses on how participants can be recruited into energy efficiency programs.

It has been stressed that time spent studying the target population is important. Fuller et al. (2010) draw on Rogers' diffusion of innovation theory (that theorizes how, why, and at what rate new ideas and technology spread) to explain how a "blanket approach" to marketing could lead to disappointing results. These authors suggest that program planners should choose to specifically target innovators (the small percentage of the population who are quick to try new things) and early adopters (those who tend to be opinion leaders and who enter the market after the innovators) since ensuring that these two groups have a positive experience with the innovation (or behaviour) is considered to be critical for further market penetration. This is because both peer-modelling as well as having opinion leaders act as local champions are considered to be effective methods for encouraging action among others (Fuller et al., 2010).

Fuller et al. (2010) further suggest that program planners might choose to target their outreach efforts based on any of the following: demographics, values, hot issues, likelihood of significant energy savings, and entry point. For example, it might be more effective to focus on a

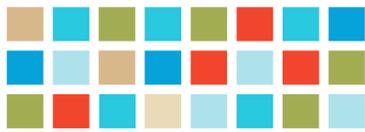


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demographic group that research shows to correlate with an interest in home energy improvements, or on a group that is already motivated by a “hot issue” such as concerns related to mould or allergies.

Other research indicates that choosing to become an engaged citizen is dependent upon an infrastructure of personal contacts and neighbourly relations (Verba, Schlozman & Brady, 1995). This corroborates with research that finds that people are more likely to listen to their neighbour than to listen to a higher authority (Preston, White, Lloyd-Price & Anderson, 2009). In Verba and colleagues’ research, potential participants for community activities were found to be especially motivated by acts of neighbourliness. Examples of such neighbourly acts included being asked personally by someone who was familiar to them, as well as through sharing of information via community-circulars or newsletters. It was also found that existing social institutions (e.g., churches) can serve as the foundation for such personable recruiting efforts. Finally, Verba et al. (1995) determined that, in any given neighbourhood or small community, there exists a group of people who commit to an exceptional level of community engagement. They suggest that these highly motivated individuals can be drawn upon to stimulate the “marginal” activity of the majority of people who prefer to keep their participation to a minimum. This reinforces the notion of using local champions that was mentioned previously by Fuller et al. (2010).



CONCLUSIONS

Key findings of this preliminary literature review of best practices for promoting community-level engagement in energy efficiency programs are as follows:

FOR PROMOTING BEHAVIOUR CHANGE

- Information-only campaigns do not necessarily translate into action;
- Community-based social marketing provides effective tools for bringing about behavioural change;
- Using a combination of interventions is more effective than using a single intervention.

FOR RECRUITMENT/OUTREACH STRATEGIES

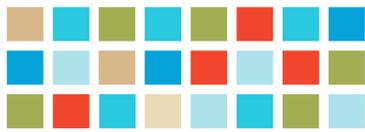
- Time spent studying the target population is important;
- Recruitment into community energy programs is dependent upon an infrastructure of personal contacts and neighbourly relations;
- Existing social institutions can be used as the foundation for personable recruiting efforts;
- Highly motivated individuals can be drawn upon to stimulate the “marginal” activity of the majority of people who prefer to keep their participation to a minimum.

LIMITATIONS OF THE REPORT

This literature review is not meant to be a systematic review of best practices in the area of community-level energy efficiency programs. Rather, it represents a preliminary review of the extent and nature of the existing literature.

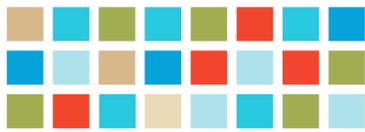
IMPLICATIONS OF THE FINDINGS

The findings of this literature review may help to inform the Guelph Environmental Leadership of ways to optimize recruitment into the EHV pilot program, as well as inform them of strategies for achieving pro-environmental behaviour change among the program’s participating households.

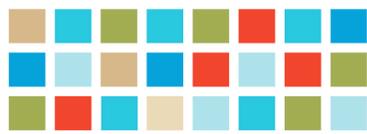


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