SOUTHERN METROPOLITAN REGIONAL COUNCIL

Targeted Action Campaign on Household Energy Behaviours.

REPORT *on* PROJECT OUTCOMES

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EXECUTIVE SUMMARY

The Targeted Action Campaign project has been developed to build a new strategy to **engage the *wider* community in greenhouse gas reduction**. A number of strategies were tested in a pilot project in East Fremantle to identify what steps most residents can readily do, what they need to take the step and how to reach most residents in a community program.

The Campaign has been developed in stages through partnerships involving Towns of East Fremantle and Victoria Park and the Southern Metropolitan Regional Council (SMRC). The Town of East Fremantle contributed funds from the Australian Greenhouse Office's Community Assistance Program Grants.

Using the community-based social marketing principles, a few energy actions were explored that residents could adopt at no cost and make a significance difference to greenhouse emissions. Two hot water actions were researched with community focus groups and phone survey to identify why residents were not undertaking these actions and what was needed to support them to take the action.

One action – lowering the hot water thermostat in summer – was targeted in the pilot implementation with 250 households identified to approach.

Three methods of engagement were used to test the efficacy of each approach. The first method used information only in the form of a mailout to determine whether information alone was sufficient for residents to change the thermostat. The second method was to test the success of phone calls followed with specific information for each household. The final method was a letter followed by a home visit instead of a phone call.

The information through phone call and a followup flyer was the most successful approach, though results were not statistically reliable. The personal contact seemed to be an important aspect of this approach particularly for the barrier of people not knowing how to change the thermostat themselves.

East Fremantle residents were above average in the SMRC in taking action on energy saving initiatives involving hot water. Within this pilot program many had already lowered their thermostat or had solar hot water systems. Only 35% of households could lower their hot water thermostat in comparison to 56% of people identified in previous surveys.

In the evaluation many people gave unprompted positive feedback about the program with many saying it was a great initiative. People also requested other information from us such as energy saving pamphlets from the Sustainable Energy Development Office.

Many households within the Town of East Fremantle had already lowered their hot water thermostat so other actions are necessary to engage these households.

A statistically reliable pilot should be undertaken using the phone call with information method and addressing a suite of significant low-cost greenhouse actions within the home. A partnership is needed with a company with call centre capabilities and expertise in non-sales individualised marketing to undertake such a pilot project successfully.

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INTRODUCTION

The Targeted Action Campaign has been developed to reduce greenhouse emissions in the community sector under the Cities for Climate Protection (CCP) program.

The Campaign has been developed in stages through partnerships involving Towns of East Fremantle and Victoria Park and the Southern Metropolitan Regional Council (SMRC). The Town of East Fremantle contributed $8,000 from the Australian Greenhouse Office's (AGO) Community Assistance Program Grants.

This report presents the concept behind the targeted action approach for greenhouse actions and the results from the implementation of the pilot project.

Rationale for the Project

The rationale for this project is to develop a new strategy to **engage the *wider* community in greenhouse gas reduction**.

The campaign aims to expand beyond the traditional ways of disseminating information (usually through courses, brochures and seminars which typically reach no more than 10% of the community). The intention is to reach 70% of the population who were identified in a 2004 SMRC survey as interested in taking action and concerned about climate change.

In this project we specifically wanted to identify effective methods to engage, raise awareness and achieve energy behaviour change in a project model that can be replicated across the regional community.

THE PILOT MODEL FOR REACHING THE WIDER COMMUNITY

The pilot project model has been built with two critical areas of work, focussed on the questions of

- *what can residents do* to easily lower their greenhouse emissions and *what do they need* to take the action
- *how can residents be reached* or engaged in this busy 21st Century society.

The project steps are outlined below and in Figure 1.

Phase 1(Steps one through to three) focussed on the first question, researching household actions to target and identify community perceptions of these actions. These three steps are based on the principles of community-based social marketing (CBSM), which is discussed further in the next section. This phase was conducted as a part of the partnership between the SMRC and the Towns of Victoria Park and East Fremantle. All the associated information is within a mid-term research report and summarised later in this report.

Phase 2 (Steps four and five) built on Phase 1 in developing educational materials based on community feedback plus the development of and engagement strategy to trial.

Implementation of this second phase was carried in partnership between SMRC and the Town of East Fremantle with the funds from the Australian Greenhouse Office grant.

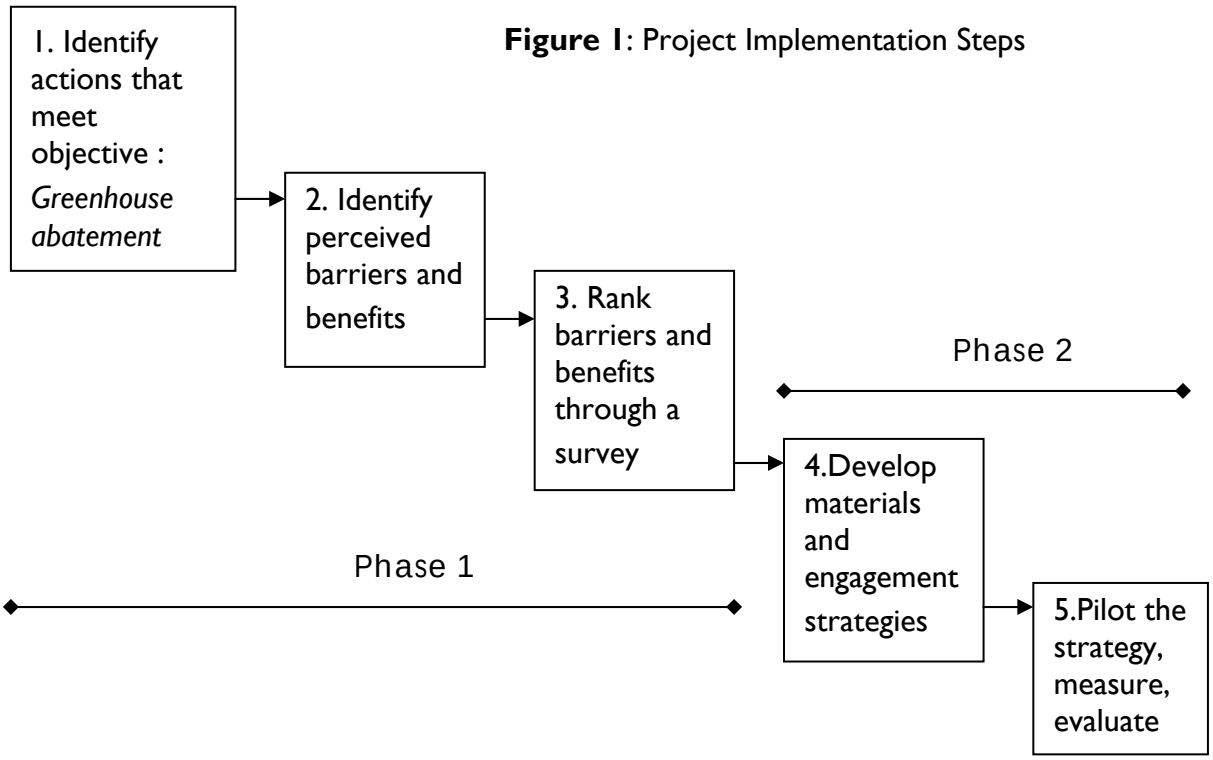


Figure 1: Project Implementation Steps

MATERIALS DEVELOPMENT: TARGETTING ACTIONS USING CBSM

The Principles Behind the Process

Materials developed for the pilot project used community-based social marketing (CBSM) principles to target change on key household energy-consuming behaviours that together will significantly reduce the residential greenhouse gas emissions.

CBSM has been pioneered by Dr Doug McKenzie-Mohr from St Thomas University, Canada (see www.cbsm.com for CBSM tools and cases studies). It focuses on building behaviour change tools that target specific actions to achieve long-term change. Traditionally, programs intending to promote sustainable behaviour have relied heavily or solely on media advertising, information campaigns or financial rebates. Although they may be effective in creating public awareness, they are limited in their ability to foster long-term behaviour change.

CBSM emphasises the importance of changing behaviour by directly targeting the individual actions through the following steps:

- Use focus groups to identify barriers of taking up the actions as perceived by residents (the target group) and what would be key motivators for people to change their behaviour.
- Use phone surveys to identify the percentage of responses for each perceived barrier or benefit and rank them for each targeted action.

- Develop and conduct a pilot program to overcome the perceived barriers uncovered in the research. This can involve removing barriers from the action the project aims to encourage while simultaneously adding barriers to the activity the project aims to discourage.
- Refine the program until reasonable confidence is attained in its effectiveness.
- Implement the program across the intended target audience.
- Evaluate/measure the effectiveness of the program.

This CBSM model was directly applied to the development of the Targeted Action Campaign materials, as can be seen in Figure 1 showing project steps.

Identifying Significant Greenhouse Actions to Target

The behaviours that were selected to be the targeted actions were chosen based on meeting the main objective of greenhouse abatement while meeting most or all of the following criteria:

- Have few known technological barrier across the community
- Have high measurability of the action and its energy saving
- One-off actions
- Low or no cost to the household

To make a significant impact on greenhouse abatement means the actions need to significantly save energy and have a high proportion of the community that are not currently carrying out these actions. There is limited data on these decision points, especially the latter. A SMRC Community Greenhouse Survey in 2004 helps with average figures of take-up for a few key behaviours across SMRegion.

Two actions were selected that appeared to achieve most of the criteria and Table 1 below shows some for the analysis of these two actions relating to hot water, the largest use of energy in a typical Perth home.

	Those who are already* (%)	Number of Homes likely* to adopt the action in a1500 home suburb	**Non eligibility:** Who is not eligible for adopting this action?	**Known hurdles** to adopting the action eg technical, structural or health-related barriers	**Energy savings** for each eligible house that adopts the action (kWh/yr)	**Total Greenhouse reduction** across a 1500 home suburb (tonnes/yr)
Lower Hot Water Thermostat	25	**425**	Solar hot water system (15%*)	old electric systems will need an electrician	671	**343**
Cold Laundry Wash	53	**281**	New self-heating washers (unknown %)	overriding automatic washing machines hot water cycles	137	**46**

* From statistical analysis of 2004 SMRC Community Greenhouse Survey

Table 1. Analysis for each action resulting in likely greenhouse gas reductions.

Findings from Phase 1 Research into Actions

In Phase 1, email questionnaires, resident focus groups and a 200 resident phone survey (by Research Solutions) were conducted to identify community knowledge, current take-up of the behaviour and perceived barriers and benefits for residents not currently undertaking the two energy actions identified.

The key results are summarised below for each action.

Action #1: Lowering the hot water thermostat

The survey found across SMRC 60% had not lowered their thermostat (lower than the 2004 Survey finding) and 17% owned solar hot water systems (who are unable to lower their thermostat). For those yet to lower their thermostat, a group of very strong perceived barriers were identified;

- Lack of awareness - 54.7% of respondents agreed or strongly agreed with the statement "*it has never occurred to me to turn down the temperature on the hot water system*".
- A perception that turning down the thermostat reduces the ability to receive steamy water – 39.6% of respondents agreed or strongly agreed with the statement "*I like having steamy hot water for showers or washing the dishes*".
- Not knowing how to turn down the thermostat – 35.8% of respondents agreed or strongly agreed with the statement "*I don't know how to change my hot water thermostat*".

The top ranked barriers for lowering the hot water thermostat in summer point to the need for information and prompts as well as some support to give confidence to those unsure of how to adjust their hot water unit.

Action #2: Switching to cold water laundry washes

47% of residents didn't wash all their laundry in cold water (matching the 2004 SMRC Survey finding) and for them the three top-ranked perceived barriers were:

- A perception that detergents don't dissolve in cold water – 48.9% of respondents agreed or strongly agreed with the statement "*some detergents don't dissolve properly in cold water*".
- A perception that cold water is not as effective as warm or hot water – 44.7% of respondents agreed or strongly agreed with the statement "*using cold water means that it is harder to get out grease and stubborn stains from clothes*".
- The washing machine automatically setting the laundry temperature – 31.9% of respondents agreed or strongly agreed with the statement "*my washing machine automatically sets the temperature either by heating the water or using hot water*".

Switching to cold water for laundry machine washes has entrenched beliefs to tackle relating to the effectiveness of cold water and the inability of powder to dissolve. There also seems to be a need for credible evidence on cold water's effectiveness, as well as a technical solution for overriding automatic warm/hot water use.

The results in the research stage provided the direction to develop the strategy to engage the community in these hot water actions. The top-ranked barriers and benefits as perceived by the community gave a clear indication of the necessary content in the strategy's message and some pointers to the nature of strategy delivery.

Greenhouse Concern and Behaviour Finding
The survey also found that 67% of SMRC residents feel the issue is very to extremely important. A significant finding was that there was ***no direct relationship found between the importance of greenhouse gas emission reduction and behaviour*** (i.e. either turning down the hot water thermostat or doing the laundry in cold water). This indicates ***environmental attitudes do not lead to environmental actions***, hence the importance of education programs principally focused on *actions.*

Matching Materials to Actions for Pilot Implementation

The thermostat action had a clear need for reliable information, while the laundry washing action needed materials incorporating evidence and a technical solution for automatic machines. Given the divergent nature of materials necessary to address barriers for each actions and constrained staff time and funding, only the thermostat action was targeted in the pilot project. This action was chosen because of its high energy impact and clear need for relevant information, as opposed to convincing evidence.

Information was gathered in preparing flyers that addressed:
- How to lower a thermostat for different system types
- What you can and cannot do for different system types
- The impact of the action on energy and greenhouse and shower temperature.

The information was sourced from hot water system manufacturers, salespersons, plumbers and Sustainable Energy Development Office (SEDO).

The draft flyers were circulated for comment to SEDO, ICLEI, Town of East Fremantle and all other participating Council CCP Officers as well as amongst SMRC staff.

The flyers are presented in Appendix 1 and consist of a generic flyer for all systems and two flyers for the two main system types – storage and instantaneous.

ENGAGING RESIDENTS

The other component of the project is how to reach residents to effectively distribute the materials and achieve change.

Methods of Engagement

Three engagement methods were tested to identify the importance of face-to-face or phone-based contact in the success rate. These methods were piloted with 250 residents in Town of East Fremantle in keeping with the AGO grant.

The methods piloted were:

1. Letter to the resident signed by the Mayor with the generic flyer enclosed and a phone number to call for advice

2. Letter to the resident signed by the Mayor and followup phone call with the following steps:

Step 1. Letter indicating an upcoming phone call,

Step 2. Informal phone call including what hot water unit they have and whether they have adjusted it,
Step 3. Flyer sent out for their hot water system type if requested by the resident.

3. Letter followed by a visit
Step 1. Letter indicates a upcoming visit and date of visit to the neighbourhood
Step 2. Officer visiting provides relevant information based on hot water system type and offers to adjust the thermostat at the time of visit.

The initial letters to residents for the three methods are in Appendix 2.

Method #1 was tried as a simple comparison to the methods with personal contact. If effective would be substantially cheaper than personal contact methods.

Method #2 was modelled loosely on the approach used in the TravelSmart program. The behaviour change methodology developed by Socialdata (IndiMark® - Individualised Marketing) and implemented for TravelSmart, is designed to reach the wider community on a broad-scale, by contacting people at home. It uses dialogue-marketing techniques to personally contact, motivate and support people who are willing and able to change behaviour. This model was chosen as it has achieved good success in engaging residents and achieving measurable change. From 8 evaluated TravelSmart programs, car as driver trips have reduced per person per year by –10 %, and when applied to household water programs, first in Perth and then in Melbourne, results show a relative reduction of –7 % and –10% of water used respectively per person per year (Socialdata, 2006). Due to council staff time and funding constraints, this pilot project did not have the follow-up phone calls which are typically a part of the IndiMark® methodology.

Method #3 was developed to determine whether a home visit was the necessary form of personal contact to achieve action.

Who was engaged

Approximately 250 households were selected in streets of Plympton and Woodside wards in the Town of East Fremantle (see Figure 2). The two different locations were chosen to provide a representative sample of households within the Town and common to communities within Southern Metropolitan Region. By choosing the two different wards, households with a mix of high and low density housing, home ownership and renting, age, income and other demographics could be included. Each method was trialled in both wards with the breakdown of households outlined in Table 2. Entire streets were chosen to give an indication of how the program approach would work on a larger scale with whole suburbs approached.

Figure 2: Wards in Town of East Fremantle

For Methods #1 and #2, approximately 100 households were identified to be a part of the project. For Method #3, only 50 households were identified due to the considerable time involved for staff to visit each household.

Table 2. East Fremantle Households identified to approach

Method #	Ward	Streets	Number of Households
1	Plympton	Duke, Sewell	65
1	Woodside	Irwin	40
2	Plympton	King	51
2	Woodside	Oakover	49
3	Plympton	Hubble	30
3	Woodside	Fortescue	21

Home ownership details of each household were provided by the Town of East Fremantle from their rates database. This was cross-referenced with the most recent electoral role to identify occupiers of each household. Phone numbers were accessed from the White Pages so only publicly available information was used. This was used for Method #2 and the evaluation of all methods.

Measurement and Evaluation

The program was evaluated by phoning households that had participated in the program. As mentioned previously, only publicly available phone numbers were used, so this automatically excluded several households from the evaluation.

In the evaluation, each household was asked a series of questions to determine:

- whether they remembered the pamphlet and had read the information,
- how easy the pamphlet was to understand,
- what system they had and whether it could be adjusted (for Methods #1 and #3), and
- whether they had adjusted the thermostat as a result of reading the information

For evaluating Method #3 (home visit,) any household that was not home at the time were *not* evaluated as the purpose for this method was to evaluate the importance of personal contact. When no personal contact was made, the households were not evaluated.

RESULTS

This section outlines the results of reaching residents, raising awareness and achieving change amongst the 250 households in East Fremantle for the three engagement methods and the range of flyers prepared.

Reaching the Community

Table 3 shows number of households identified in the streets in East Fremantle and the resulting number of households reached through the different methods.

The number of households possible to reach was lower for each method than the households identified because of constraints such as homes for sale or being renovated and units behind locked gates. In addition in trying to reach households by phone for Method #2, approximately 25% of households had either no current occupier details or had no phone number listed in the White Pages.

Table 3. Reaching Households identified to approach with the 3 methods

	Method #1 **Information only**	***Method #2*** **Phone call**	***Method #3*** **Home visit**	**Total**
Number of households identified	105	100	50	255
Number of households *possible to reach* using outlined method	100□	75*	42□	230
Number of households *reached* using outlined method	**100**	**46†**	**10^**	**206**

□ There were several constraints with reaching all the households for the info only and visit, including business addresses, houses for sale and units behind locked gates.
*This number was the number of households with phone numbers after cross-referencing.
†Only a fraction of people were reached because of limited calling hours
^Only a few residents were reached at the time of the visit and the remaining 34 households were left a "not home" package.

It was possible to reach all of the households for Method #1 because information could be left in the letterbox.

For Methods #2 and #3, a fraction of the households were reached using each method. This was mainly due to the difficulties of reaching people at home and limited staff times for phoning and visiting. The success rate of Socialdata in contacting households is a significantly higher due to a dedicated call centre with trained staff working at the best possible times for making contact. Socialdata achieve approximately a 90% success rate in contacting households using the phone.

Raising Awareness

Using the three different methods, approximately 200 households were reached in some way (including the 34 households that were left a not-home kit).

The program has raised awareness in the following ways:

- that hot water is a significant energy user within the home,
- changing the hot water thermostat is within the control of residents for *most* hot water systems,
- what other ways there are to reduce household energy use,
- highlighting the connection between householders energy use with greenhouse gases and global warming and,
- what the Town of East Fremantle is actively doing to reduce greenhouse gases.

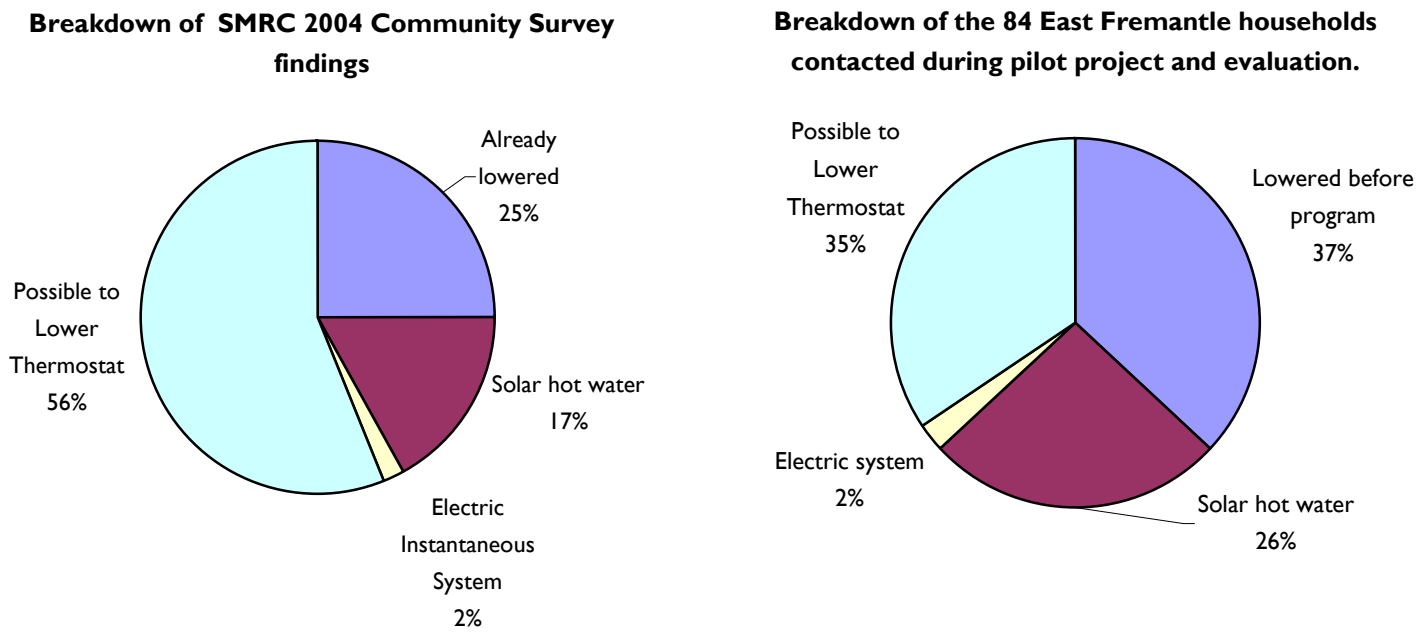
Although difficult to measure the exact level of awareness raising, many residents gave unprompted feedback on some of the above points. Many people we spoke to were surprised that hot water contributed so much to a households energy use. A lot of people were unaware that changing the hot water system was something that they could do. This is indicative of the 2005 survey results, which showed that for 54.7% of people it had never occurred to them to turn down the hot water thermostat and 35.8% of people said they didn't know how.

In 17 cases more information on energy use was requested. This included water rebate brochures, solar hot water pamphlets, fridge thermometers, how to design solar passive home brochures and Green Houses energy booklets. During the phone calls for the phone call group and for the evaluation of the information only group, SMRC staff were asked many questions regarding hot water systems and other ways to save energy. This included information about the health and safety of having a lower thermostat, how to use a manual boost on a solar system and advice about appliances for people who were renovating their home.

Achieving Change

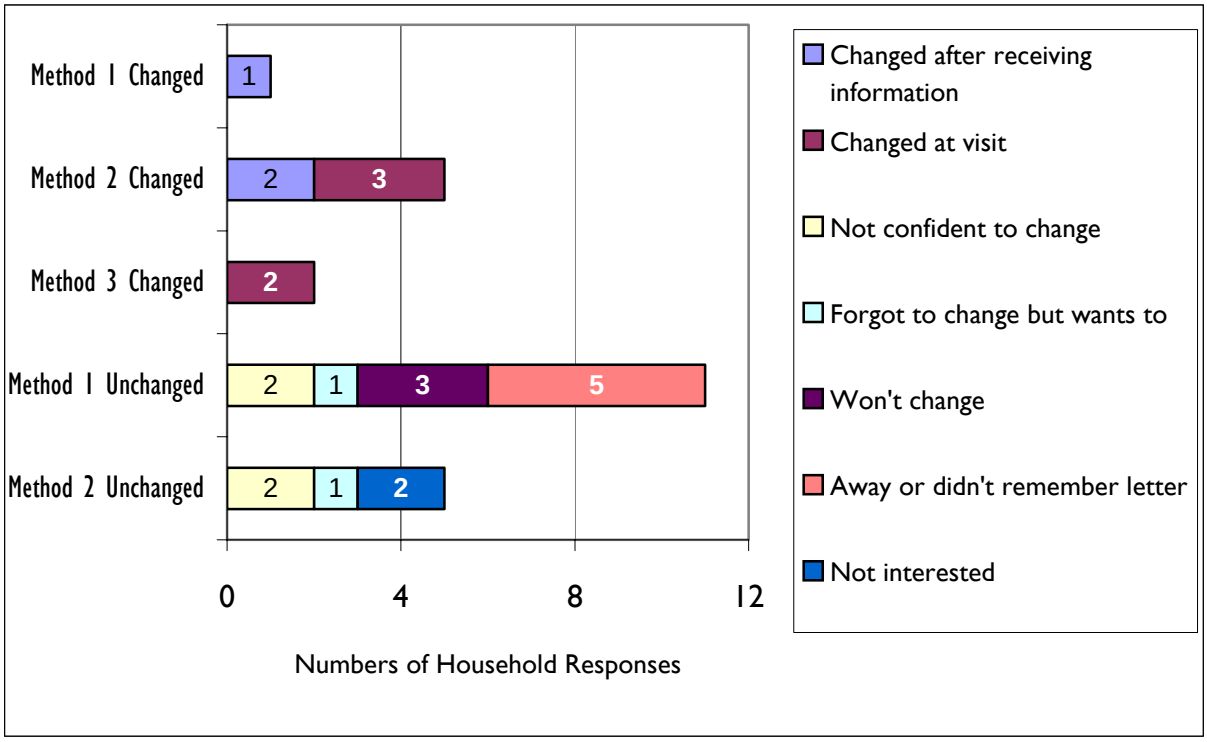
Residents in the Town of East Fremantle showed a higher percentage of people that *engaged in the desired action* than the rest of the southern metropolitan region of Perth (from 2004 research from Research Solutions). In this program, 37% of households in the Town of East Fremantle had lowered their thermostats in comparison to the SMRC average of 24.9% in the 2004 survey. Also, 26% of residents in the program had solar hot water systems compared to 16.7% in a 2005 survey from Research Solutions. Figure 3 showed this comparison graphically.

Figure 3: The proportion of households able to lower their thermostat in SMRC and East Fremantle.



With around 35% of participating East Fremantle households found to be able to lower their thermostat, Figure 4 below shows the responses to the three methods to engage these households in taking this step.

Figure 4: A look at who did and didn't change their thermostat and reasons given.



From those households who did lower their thermostat it is anticipated to deliver annual greenhouse savings of 5.4 tonnes per year.

The results are now explained and discussed in more detail in the following three sections on each method.

Method #1 Information only group:

Of the 105 households that were only receiving the information, 31 households were contacted at the end of the program to evaluate its effectiveness. Of the 31 households in the evaluation:

1 household changed the hot water thermostat as a result of our information
11 had already lowered their hot water system *prior* to receiving the information
5 had a solar hot water system that couldn't be lowered
11 households took no action
3 households couldn't be determined because of language barriers.

There were a variety of reasons given as to why people hadn't changed the thermostat. These were:

1 house had an electric instantaneous system
3 people were not comfortable with changing the temperature themselves
1 person with a gas instantaneous unit thought low water pressure stopped them
1 person said because winter was on the way.

Conclusion: Information mailout does not engage residents in action, even though it may raise awareness.

Method #2: Phone call group:

Of the 46 households that we were able to contact via the phone call group 13 households requested the flyer. The remainder could be broken down into the following groups:

19 households had already lowered the thermostat
12 households had solar hot water systems
2 weren't interested in the program.

For the 13 households that requested the flyer, the information was hand delivered. In three cases the residents were home at the time of the visit and all three requested that the thermostat be changed on the spot. During this visit, the officer demonstrated to the resident how they could change the thermostat themselves.

The remaining 10 households were phoned later in the evaluation process. Only 6 residents could be contacted. Two households had changed the thermostat with 4 households not changing the thermostat.

The four households that had requested a flyer but hadn't changed the thermostat, the reasons given for not changing the thermostat were:

1 household had an electric storage tank that could not be changed by the user
1 resident responded that he didn't think he was "allowed to open the box" of the gas instantaneous system
1 person was having a plumber fix the system and said he would ask the plumber about changing the temp
1 person hadn't got round to it but thanked us for the reminder.

Conclusion: Personal contact via the phone does support some residents to lower their thermostat. The option of a visit is needed for many residents to gain confidence in opening the unit and adjusting this largely unfamiliar technology for the first time.

Method #3: Home Visit Group

The home visit occurred on a Saturday morning with the following outcomes:

34 households did not have anyone at home so were left a not-home kit
2 households adjusting the thermostat while we were on site
1 household had already adjusted the thermostat
5 households had solar hot water systems
2 households requested the flyer
6 households couldn't be reached because of fences for units, homes for sale or other barriers.

At the home visit we could engage the residents in conversation and determine if there was any other information that they may require. This included leaving residents Green Houses booklets and information from Sustainable Energy Development Office.

There was no evaluation of the households that were left a not-home kit. This is because the pilot project wanted to ascertain if *personal contact* resulted in a higher rate of thermostat change. Without the personal contact, the households were only given information and thus fell into the information only method.

The home visit was a difficult approach because of people's unwillingness to answer a door to strangers. A few of the not home kits were left at households where people were obviously aware of our presence but not answering the door.

Conclusion: Without a pre-arranged time, this method is unsuccessful as too few people are at home during limited visiting hours and door-to-door salespeople have made residents wary of unfamiliar faces.

Community Feedback and Satisfaction

Many of the residents we had contact with, either during the program or as part of the evaluation, had positive responses. This included:

- 11 unprompted positive responses either about the program or the information from the 31 households for the information only evaluation. Three people mentioned they seasonally adjust the thermostat but reminders were good.
- 7 people gave us unprompted positive feedback of 46 households in the phone call group. This includes a resident who is a water wise plumber who thought the program was an excellent idea and the information was very clear and easy to understand.

The flyers were also highly rated for their readability and coverage of useful information.

Some comments included:

Good idea. The flyer was easy to read and is a good reminder to check your system.
Sewell St resident

I know how to adjust my hot water system already, but with the pamphlet I'll check to see if it is on the right setting.
Sewell St resident

My husband read the information and then turned it down.
Irwin St resident

Excellent program!
Irwin St resident

A good program to help save money and the environment.
King St resident

It was a great reminder as we usually adjust the thermostat seasonally but hadn't yet this summer.
Oakover St resident

CONCLUSIONS

The Targeted Action Campaign shows that behaviour change can be achieved on significant greenhouse actions in the home.

Key Conclusions Summary

To achieve the action, both appropriate materials/information and an effective individual engagement strategy are needed.

The key findings on these two elements are:

- **Individual actions have distinct barriers perceived by residents and materials for residents need to respond to these perceived barriers**
- **A suite of greenhouse actions (and associated materials) are needed to provide a useful service for all households and communities**
- **The phone call method was the most successful approach to deliver the materials and engage residents to complete the desired action. Information only via mailout or door-to-door visits are ineffective in engaging residents in action**
- **Engaging residents through a letter with followup phonecalls and information (Method #2) holds much promise based on this pilot project and results from projects using a similar individualised marketing model in Travelsmart and Watersmart in Perth households.**
- **A pilot with 250-300 households is needed on this model to gain statistically reliable data on participation rates and subsequent action.**

Discussion of Findings

The research phase and pilot implementation of the Targeted Action Campaign drew out many useful lessons for this and other community education and behaviour change programs.

From the research phase:

- Focus group and survey findings brought very useful results to build the education strategy, identifying distinct perceived barriers for each action.
- At little extra cost, a large pool of actions can be explored in focus groups to provide a wide choice of actions to select from and explore in the more costly phone survey
- Ranking of the perceived barriers is important to identify the key message or nature of the materials. A phone survey of 200 rather than 100 per council region would have helped with statistical accuracy.
- Partnerships are useful to share costs for undertaking survey and development components

From the pilot implementation:

- Posted information was read, appreciated and raised awareness, however it did not, on its own, lead to the action being taken. Personal contact via the phone supported

residents in taking this action. Door-to-door visits were ineffective in achieving personal contact.

- The engagement method of a letter followed by a phonecall (#2) was the most successful in achieving actions, though results were not statistically reliable.
- In some cases the option of a home visit would have helped those still not confident enough to open their system and/or adjust the thermostat.
- The materials in the form of flyers and letter were remembered, read and liked.
- This 250-home pilot showed the value of testing first on a small scale at low cost.

In general this project, focussed on 2 specific hot water actions, showed greenhouse actions can vary considerably from council to council. Hence

- a suite of actions would make the engagement more useful to the resident and be more cost-effective.

Support for this extension is indicated by the requests for a range of energy information by East Fremantle residents contacted by phone.

LOOKING AHEAD

In the lead up to future implementation, materials need to be developed for a suite of top energy actions using community-based social marketing methods. This will ensure households who have already engaged one action can still engage other energy saving actions. The following steps need to be undertaken to achieve this:

1. Researching top energy saving actions to meet the key greenhouse objective and other criteria such as few structural barriers and low cost. Some of the leading greenhouse actions are likely to be:
    - Installing a waterwise showerhead
    - Choosing the clothesline over the dryer
    - Choosing greenpower for home electricity use
    - Switching off the second fridge
    - Installing a ceiling fan instead of air conditioning
    - Shading east and west-facing windows with adjustable awnings
    - Installing roof insulation
2. Running focus groups on these actions to identify the perceived barriers
3. For the top 5-6 energy saving actions, conduct a 200+ household survey to rank the barriers.
4. Identify the materials and tools needed in response to the survey results.
5. Test these materials across households in a mix of communities and refine method.

Council officers at SMRC can undertake Steps 1 and 2. Step 3 will require the services of a market research company and require grant funding along with Steps 4 and 5. A Federal Government grant has been applied for by SMRC to fund a project along these lines.

To undertake a statistically reliable pilot project with 250-300 households using the Method #2 (based on letters, information and phonecalls), a partnership is needed with a company with call centre capabilities and expertise in non-sales individualised marketing.

Socialdata is an obvious choice for a partnership as their IndiMark model is a more sophisticated version of Method #2 and they have considerable experience in delivering it in the Travelsmart program (via Department of Planning and Infrastructure) with councils.

A State Government grant has been applied for by SMRC to fund a project partnership to deliver the energy service to residents following Travelsmart delivery in Canning and Victoria Park. This proposed project would give an accurate indication of the true effectiveness of this engagement method in energy reduction with residents already engaged through Travelsmart.

In the medium term, widespread implementation of this approach will need State and/or Federal Government funding. This has been the basis for largely funding the Travelsmart programs. There are also opportunities for partnerships with Western Power, Alinta Gas and Water Corporation. This has been the case in some NSW Councils addressing some of the above actions.

APPENDICES

Appendix 1: Brochures for Adjusting the Hot Water Thermostat

#1 Generic Flyer

For *Gas Storage* units	For *Electric Storage* units
You can safely lower the thermostat on all gas storage units. Look for the dial typically at the base of the tank. It may be behind a cover you can lift up.	You can <u>only</u> lower the thermostat on your electric storage tank, if it has a <u>visible control</u> as shown below. (It may be behind a small plastic cap)
	
Your water in the storage tank still needs to be hot (at 60 degrees Celsius*). To test this, hold a thermometer under the closest hot water tap half a day after making the adjustment. Check whether you need to adjust it up or can lower it further. Note also Vacation Mode – turn down the dial to this setting when you leave for holidays and turn it back up when you return.	Otherwise you will need to **call your local Electrician**, as it is not safe for you to access the control. These systems typically have red warning labels behind a fixed metal plate.
	

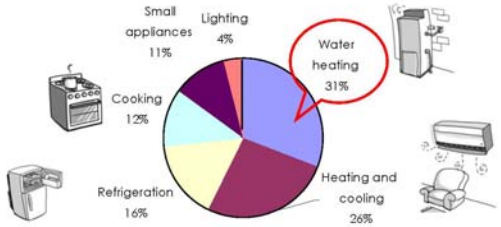
* AS 3500 Regulation – water in storage units needs to be maintained at 60°C or above to avoid Legionella bacteria growth.

TOWN OF EAST FREMANTLE

Acting together to secure our climate

WHAT IS THE HIGHEST USER OF ENERGY IN THE HOME? HOT WATER !

According to research done by WA's Sustainable Energy Development Office, hot water uses 31% of the energy used in a typical Western Australian home.



Australia's household hot water use produces 16.8 million tonnes of greenhouse gases a year. That's equivalent to nearly 4 million cars! If every household in Australia reduced it's hot water use by 30% we would save over 5 million tonnes of carbon dioxide. That's equivalent to taking nearly 1.2 million cars off the road!

It would also save each household a substantial amount of money in energy bills.

So what is one way to save energy used by the hot water heater?
The best way to make a big difference is by turning down the hot water thermostat.

How? This brochure shows you the steps for common hot water units.

Concerned that you won't have steamy hot showers? Lowering the hot water thermostat doesn't mean having lukewarm showers. You can still have a steamy hot shower at 40°C while saving energy, money and greenhouse gases. Units can be set at 70°C - a scalding temperature.

HOW TO LOWER YOUR THERMOSTAT

Firstly, identify **what type of water system you have**. Once you have identified your system, you can follow the directions later in this brochure.

Find your hot water system and see what it is powered by:
gas, electricity or solar?
Most hot water systems in Perth are gas. You should be able to identify a gas system because it will have a gas connection. If you're unsure, call the manufacturer.

Solar systems will have their thermostat preset around 60 degrees, a necessary temperature for storage systems. Use a timer or switch to boost as needed in winter.

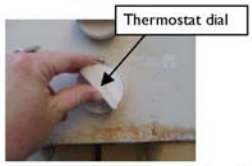
Is it a storage or instantaneous system?

Storage System	Instantaneous System
Storage systems are designed to hold the water after it has been heated. You can identify storage systems because they have a tank to hold the water.	Instantaneous systems are designed to heat the water only as you use it. It is generally a box situated on a wall.
	

Note that **electric instantaneous systems cannot be turned down.** They are big users of energy when in use, so carefully manage your hot water use.

For *Gas Instantaneous* hot water systems

You can safely lower the thermostat on all gas instantaneous systems. The controls vary from system to system. In new systems you may have a remote control inside in your house. Older systems will have sliders or dials.



Systems with dials may have two controls– one for ignition and/or flow and one for temperature – you want to lower the one for temperature – typically the bottom control.

Your unit may have a cover that you can lift or unscrew to reach the thermostat.

Lower the thermostat to a temperature you are comfortable with.

#2 Storage System Flyer

More Ways to Avoid Energy Wastage in Hot Water *Storage* Systems

There are several things you can do to improve the performance of your hot water storage unit and reduce energy wastage. Have you undertaken the following steps?

- **Mixer taps –** make sure the tap is on cold when cold is all you need. In the middle position they use 50% hot water!
- **Installing a water-efficient showerhead**

Invest in a high quality water-efficient showerhead and you can reduce energy and water wastage by saving up to 100litres of hot water per shower.

- **Insulating the first metre of hot water pipe**

STEP 1: Find the hot water pipe at top of hot water system.
Heat loss from the tank will be occurring at the outlet.
Beware: it will be very hot if hot water is being used.

STEP 2:
Look for 1metre of pipe insulation (foam rubber) at your local hardware. Domestic water pipes need insulation with a 13mm internal diameter. Cut the insulation foam if it does not have a split already

STEP 3:
Fit the tube from the outlet for 1metre or as far as it is accessible. You may want to tape the split tube to hold it in place.

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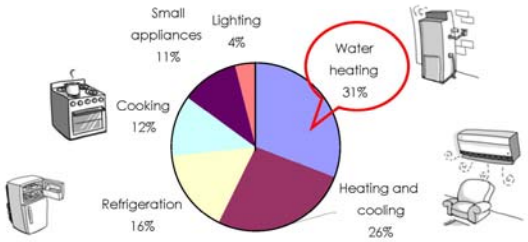

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How? This brochure shows you the steps for common hot water units.

Concerned that you won't have steamy hot showers? Lowering the hot water thermostat doesn't mean having lukewarm showers. You can still have a steamy hot shower at 40°C while saving energy, money and greenhouse gases. Units can be set at 70°C - a scalding temperature.

Produced by the Greenhouse Team at Southern Metropolitan Regional Council in conjunction with the Town of East Fremantle.

For Gas Storage Units	For Electric Storage Units
You can safely lower the thermostat on all gas storage units. Look for the dial typically at the base of the tank. It may be behind a cover you can lift up.  Your water in the storage tank still needs to be hot (at 60 degrees Celsius*). To test this hold a thermometer under the hot water tap nearest your hot water unit half-a-day after making the adjustment. Check whether you need to adjust it up or can lower it further. Note also Vacation Mode – turn down the dial to this setting when you leave for holidays and turn it back up when you return.	You can only lower the thermostat on your electric storage tank if it has a visible control as shown below (it may be behind a small plastic cap).  Otherwise you will need to **call your local electrician**, as it is not safe for you to access the control. These systems typically have red warning labels behind a fixed metal plate. 

* AS 3500 Regulation – water in storage units needs to be maintained at 60°C or above to avoid Legionella bacteria growth.

If you are at all uncertain, give the SMRC Greenhouse Team a call on 9316 3988, your local plumber or the unit manufacturer.

#3 Instantaneous System Flyer

Adjusting the Temperature

To adjust the temperature with a sliding thermostat it's as easy as sliding the dial to the desired temperature.

Thermostat slider

Systems with dials may have two controls – one for ignition and/or flow and one for temperature. You want to lower the one for temperature, typically the bottom control.

Thermostat dial

You can immediately check the water temperature to see if it is warm enough. Once you are familiar with changing the thermostat it is a good idea to seasonally adjust the temperature – making it cooler in summer and warmer in winter.

Energy tip: Many gas hot water systems will have a holiday or vacation mode. You can save energy further by using this setting when you go away.

If you are at all uncertain, give the SMRC Greenhouse Team a call on 9316 3988, your local plumber or the unit manufacturer.

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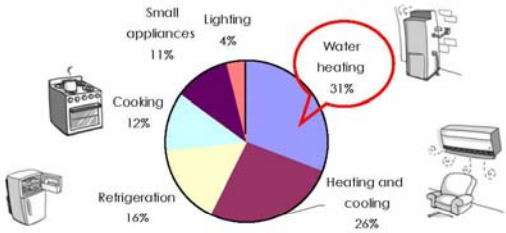

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Storage System	Instantaneous System
Storage systems are designed to hold the water after it has been heated. You can identify storage systems because they have a tank to hold the water. 	Instantaneous systems are designed to heat the water only as you use it. It is generally a box situated on a wall. 

Note that **electric instantaneous systems cannot be turned down.** They are big users of energy when in use, so carefully manage your hot water use.

For *Gas Instantaneous* hot water systems

You can safely lower the thermostat on all gas instantaneous systems.

The controls vary from system to system. In new systems you may have a remote control inside in your house where you can monitor the temperature. Older systems will have sliders or dials on the hot water system.

Some units have the temperature controls easily accessible on the front of the hot water system. Other units have a cover that you can lift or unscrew to reach the thermostat controls. If the cover hasn't been opened for a while, keep in mind there may be spiders inside. If this is a concern, you may want to wear some simple gardening gloves.

Energy tip: To help save energy for instantaneous systems, it's a good idea to only use hot water when absolutely necessary. Instantaneous systems use a lot of energy every time a hot tap is turned on. Decide when you really need hot water and only use it at those times.

Appendix 2: Letters to Residents

Method #1 Information only

TOWN OF
EAST FREMANTLE

28 February 2006

[redacted] Duke St
EAST FREMANTLE WA 6158

To [redacted],

The Town of East Fremantle is committed to reducing greenhouse gas emissions by taking local initiatives where possible.

A grant has been awarded to the Town of East Fremantle from the Australian Greenhouse Office to assist in the reduction of greenhouse gas emissions. This money has been dedicated to a program to help residents reduce their energy use. The Southern Metropolitan Regional Council Greenhouse Team are helping deliver this program.

Hot water heaters use more energy in the home than any other appliance. According to the Sustainable Energy Development Office, approximately 30% of energy in an average Western Australian home is used for hot water alone. It is for this reason that the Town of East Fremantle is supporting a program to help you reduce hot water energy by lowering your hot water thermostat. This single action can significantly reduce your energy use and save money on your gas or electricity bills.

Provided with this letter is some information on

- Identifying what water heater you have,
- where you are likely to find your thermostat and
- some general instructions on how to turn one down.

If you have an electric heater unit without a safely accessible thermostat, you will need to call an electrician.

If you are unsure how to turn the thermostat down yourself, you can contact the Esther or Stephanie on the Greenhouse Team on 9316 3988.

If you have already lowered your thermostat – well done! You are likely saving the planet over 200 kilograms in greenhouse emissions each year.

Yours sincerely,

Stuart Wearne
Chief Executive Officer
Town of East Fremantle

COMMUNICATIONS TO
Chief Executive Officer
PO Box 1097
Fremantle WA 6959

OFFICE HOURS
Monday - Friday
8.30am - 5.00pm

TELEPHONE
9339 9339
FACSIMILE
9339 3399

EMAIL
admin@eastfremantle.wa.gov.au

COUNCIL OFFICE
135 Canning Highway
East Fremantle
WA 6158

Method #2 Information following Phone Call

TOWN OF EAST FREMANTLE

22 February 2006

[redacted] Hubble St
EAST FREMANTLE WA 6158

To [redacted],

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To help you reduce your hot water energy use, a Greenhouse Team member will be in your street on Saturday February 25th to leave information or if you're home, discuss how to lower your hot water thermostat.

If you are interested in lowering your hot water thermostat (and haven't done it before), try locating the thermostat beforehand. This way you can attempt to turn the thermostat down yourself and discuss any difficulties you may have had in the process when we visit. Note that if you have an electric heater unit without a safely accessible thermostat, you will need to call an electrician.

If you would like to get some advice from the Greenhouse Team by phone, contact Esther or Stephanie on 9316 3988.

If you have already lowered your thermostat – well done! You are likely saving the planet over 200 kilograms in greenhouse emissions each year.

Yours sincerely,

Stuart Wearne
Chief Executive Officer
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WA 6158

Method #3 Information with Visit

TOWN OF EAST FREMANTLE

22 February 2006

[redacted]
[redacted] Oakover St
EAST FREMANTLE WA 6158

To [redacted]

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To help you lower your hot water thermostat, a Greenhouse Team member will be calling you within the next week to discuss what hot water heater you have and how to turn the thermostat down. If needed, they can then send you information specific to your hot water system.

If you have already lowered your thermostat – well done! You are likely saving the planet over 200 kilograms in greenhouse emissions each year.

Yours sincerely,

Stuart Wearne
Chief Executive Officer
Town of East Fremantle.

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