



BREAZE Climate for Change Project

Action Research Component

**Supported by the Victorian Government Sustainability Fund,
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Prepared by:

Dr Patrice Braun

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Executive Summary

This report presents the findings of two Action Research workshops conducted by the Centre for Regional Innovation and Competitiveness (CRIC) for BREAZE Inc – Ballarat Renewable Energy and Zero Emissions – as part of the Climate of Change project. The action research outcomes presented in this report are intended to assist BREAZE in identifying effective communication strategies in supporting its members and the wider Ballarat community to achieve zero emissions.

Two workshops were conducted underpinned by an Action Research (AR) methodology, a continuous process of learning, action and reflection supported by other participants, with an intention of getting things done. The AR process was designed to engage participants in conversation and sharing of experiences – whereby they hold their underlying or governing values open to examination and willingness to alter their values and ways of thinking – intended to lead to improving their own behaviour. The workshops identified several common themes, which are summarised below:

- (1) It is difficult to be 100% sustainable in one's behaviour. There are economic barriers that prevent people from being 100% sustainable. Financial barriers tend to result in more practical and innovative behaviour, e.g. reducing one's footprint by working with what is at hand, but generally prevent buy-in into bulk purchase programs or investment in sustainable infrastructure, such as solar panels.
- (2) Social conditioning has considerable impact on environmental behaviour and associated decision making processes. Habit-based expectations in terms of choices and outcomes around behaviour lead to exploration of behavioural change options.
- (3) Everyone has a different sustainable behaviour 'threshold'. Behaviour is often deep-seated, e.g., early childhood conditioning is likely to determine adult behaviour and always context-specific, such as one's physical location will determine car use; one's financial situation will determine buy-in or shopping behaviour.
- (4) Individuals champion behaviour, such as a committed parent, will determine behavioural patterns in the household.
- (5) All behaviour is 'integrated' and sustainable behaviour is interdependent, e.g. it involves a variety of stakeholders which influence behaviour, e.g., availability of infrastructure, transport, ethics and efforts by schools, work environments, shops, local council, etc.
- (6) It is important that any course of sustainable action is not seen as punitive, but rather associated with pride and where possible with a 'good behaviour' award.

Common themes are both great challenges and great opportunities for BREAZE in terms of providing its members and the wider Ballarat community with information that will encourage pro-environmental attitudes and positive behaviour change. Recommended future activities include a number of different information dissemination and information sharing considerations, which BREAZE could utilise to reach both its membership and a wider community audience:

- One size does NOT fit all

Both the BREAZE membership and the wider community consist of cross-section of people and situations. Any information made available and/or savings associated with taking action should consider rental vs. home owners and a cross-section of economic and social circumstances.

- Information needs and access range from basic to advanced

BREAZE can be the regional organisation of choice for a variety of sustainable behaviour information, ranging from basic to advanced information categories. Using the 'building block' approach suggested by one of the workshop participants, categories should be searchable from a 'sustainable behaviour for dummies' level to advanced information and tips on, for example, 'how to optimise the energy you generate from your PVs'.

It cannot be assumed that everyone has Internet access and information hence may need to be made available in multi-modal format. Information dissemination modes should be tailored to the needs of the target audience, e.g., printed format is useful in face-to-face information sessions, workshops and for physical BREAZE points of access. For time-sensitive information aimed at mass impact, billboards and newspaper inserts may be more appropriate. Whereas the BREAZE website is the logical place for all information, which should be logically organised and hence easy to access, information dissemination should be coordinated rather than automatically duplicated across all media.

- Engaging the community through user-generated information and interactivity

The results of the workshops indicate that there are an array of practical and simple to implement energy, water and transport reduction methods and tips. BREAZE can share its information dissemination workload by inviting community members to contribute their tips, news, success stories, and good practice.

Incorporating interactive elements in all BREAZE communications encourages information users, and especially BREAZE website users, to engage in (inter)active discussion in response to questions and issues. BREAZE could award the 'best tip of the week' which creates a sense of excitement and increases web traffic. This is also a good method to draw upon skills and volunteers in the community.

Blogging is another useful avenue for traffic and interaction, which could address any topical subject including, for example, changes that are likely to impact people's financial situation, such as the global financial crisis.

- Modelling behaviours and practices

As suggested in the survey report, experiential education and 'how to' information is highly valued by the community. BREAZE members have a great deal of knowledge that should be captured for use by the wider community. Interactive contributions should be encouraged to create a knowledge base of 'how to' in a variety of areas (e.g., water, energy, transport, food, gardening) and multi-modal formats. Other ways of modelling behaviour would be through social networking applications such as Twitter, whereby people can follow a person in real time in a particular activity.

- Stakeholder strategies

Sustainable behaviour is interdependent on a variety of stakeholders which influence behaviour. BREAZE can work with different stakeholders to both encourage individual behaviour, e.g., work with schools, institutions, water, transport and energy authorities towards sustainable behaviour – which where appropriate could have an competition, award or prize attached to it – to create critical mass and strengthen BREAZE's advocacy endeavours.

- Capturing the Return of 'Old Ways'.

There are a variety of so-called 'old-fashioned' efficient methods of doing things. BREAZE could be known its workshop program, which may be formulated in collaboration with BREAZE partners and stakeholders, providing face-to-face 'how to' workshops and tours on sustainable living, making food, wine, environmentally friendly products, etc. This will stimulate sustainable home and business practices, generate information which can be captured and provided in alternative formats to the community, and expand opportunities for collaboration and new partnerships.

- Adopt a Sustainability Friend/Colleague

Networks are an important means through which individuals gather and disseminate information. Linking (cross-generational) people and activities can engage different members of the family as part of the BREAZE social network strategy. Especially generation Y is heavily involved in social networking, which could help involve adult family members. The creation of linkages and incentives (e.g. a competition) for schools, families, local networks is another strategy to engage new members and encourage sustainable behaviour.



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1. Introduction

This report presents the findings of two Action Research workshops conducted by the Centre for Regional Innovation and Competitiveness (CRIC) for BREAZE Inc – Ballarat Renewable Energy and Zero Emissions – as part of the Climate of Change project. The action research outcomes presented in this report are intended to assist BREAZE in identifying effective communication strategies in supporting its members and the wider Ballarat community to achieve zero emissions.

This report builds on the first report which presented findings on two surveys conducted with BREAZE in late 2008, one with the BREAZE membership and one with the wider Ballarat community. Survey findings indicated that wider Ballarat community members are looking for means to reduce their barriers to adoption of pro-environmental choices. The report also indicated that the Ballarat community has some desire and intention to change their behaviour. There was considerable interest and demand for high quality, in depth information on which individuals can base their choices and purchase decisions. Responses to the 'desirable support' questions indicated a desire for working examples and practices among both groups of respondents.

It was recommended that BREAZE focus activities on those that facilitate higher levels of information provision and provide education programs that focus on modelling exemplary behaviours, enabling individuals to see the benefits as well as the costs associated with such behaviours as an effective means of increasing the frequency of their occurrence.

To that end, two Action Research (AR) workshops were designed to examine modelling behaviour models and opportunities.

2. Methodology

Prior to scheduling the Action Research (AR) workshops, a presentation was made to the Climate for Change Steering Committee in late 2008 to introduce the concept of AR and discuss potential approaches.

It was proposed that two 3-hour workshops be conducted scheduled a week apart. The proposed AR process, endorsed by the Climate for Change Steering Committee, is outlined below.

Workshop 1 – Discuss the outcomes of the survey, shortlist specific initiatives and narrow down to 2-3 key initiatives by engaging up to 30 BREAZE members in a ‘Day Reconstruction Method’. The Day Reconstruction Method assesses how people spend their time and how they experience the various activities and settings of their lives. Participants systematically reconstruct their activities and experiences (Kahneman et al, 2004). Modelling the behaviour of participants for 1 week between workshops through a ‘day reconstruction method’ – e.g., tracking throughout the day when and what they had been doing – enables analysis of patterns and processes on how sustainable living is conducted.

Workshop 2 – designed as a Social Learning Workshop with the group of people that took part in the day reconstruction process. The social learning theory of Bandura (1997) emphasises the importance of observing and modelling the behaviours, attitudes, and emotional reactions of others. During the second workshop, participants reflect on and discuss the outcomes of Day Reconstruction, discuss initiatives that are transferable to BREAZE strategy for wider community engagement; identify methods on how best engage community; match actions with implementation/knowledge transfer; and identify potential other practices for future development.

Both workshops were underpinned by an Action Research methodology, a continuous process of learning, action and reflection supported by other participants, with an intention of getting things done. Participants learn with and from each other by working on real problems and reflecting on their own experiences. This process involves dialogue in all its phases (Reason & Bradbury 1999).

Facilitated as a Double Loop Learning process (Argyris & Schon 1978), the AR process was designed to engage participants in conversation and sharing of experiences – whereby they hold their underlying or governing values open to examination and willingness to alter their values and ways of thinking – intended to lead to improving their own behaviour. In extrapolating potential behavioural modelling, a Triple Loop Learning process was adopted, which moves beyond the individual level of change and involves the questioning of the entire ‘system’ (organisation/community) and its embedded culture. This learning process is intended to generate knowledge which is socially accountable, reflexive in nature (Gibbons et al, 1994) and potentially community enhancing.

3. Workshop Process

Participants

BREAZE was provided with a list of people who had indicated during the 2008 survey that they would be interested in participating in follow-up research. These survey participants were contacted by BREAZE and invited to participate in the AR workshops. It was intended to get up to 30 people to participate and achieve a mix of both community and BREAZE members.

A total of seven people, two men and five women, participated in the workshop, all of which were BREAZE members and included two BREAZE project staff. Numbers may have been small due to the considerable time commitment involved in participating in two 3-hour workshops and maintaining a diary in between. While numbers were small, it enabled a focused and in-depth discussion, which might not have been achieved with a larger number of participants. Workshops were conducted on April 29 and May 6, 2009.

Workshop One

At the start of workshop one participants were asked to introduce themselves and talk about their interest in being involved. The workshop facilitator presented a brief overview of Action Research, followed by the salient outcomes of the two surveys.

Rather than asking participants to shortlist and narrow down potential foci for the Day Reconstruction Method, it was decided in collaboration with BREAZE that the main three foci, based on the main information needs identified in the surveys, namely:

- Water use and saving water
- Transport/ reducing car use
- Energy efficiency (whitegoods/appliances)

Prior to engaging in a discussion around their behaviours pertaining to aforementioned foci, workshop participants were asked to identify what factors influenced their decision-making process. Below table provides an overview of responses.

Impact	Self	Family	Community	Environment
Savings	Health	Kids	Local	Weather
Income	Finance	Partner	Regional	Social pressure
Research	Feeling (gut)			
Time	Belief			
Pain	Values			
Humour	Ability			
Temperament				
Mood				
Need vs. wants				

Workshop participants were then shown the following slide, displaying factors that influence decisions, including

- Your environment
 - Essential
 - Non-essential
- Your family, friends
 - What would x say/think?
 - Doing it for x
 - Can it work for everyone in the household?
- Intentions
 - Choices
 - Existing behaviour (habits!)
- Expectations
 - Always a certain way
 - Control

Next, participants were asked what factors influenced their water/ energy/ transport decisions keeping the above factors in mind. A discussion on motivation influencing behaviour generated language such as *availability* [of water]; *laziness*; *convenience*; *setting an example*; *guilt*; *reward*; and *willingness to reuse*.

Water comments included: *Is the tank going to last the year? Can I be bothered carrying out the bucket of saved water? Should I wash up today? What washing cycle should I use? Which trees need watering? Do I need to use hot water for this?*

Energy use comments included: *What is this costing me? What can I turn off? Is this the right equipment?*

Transport comments included: *How long have I got to get there? What is the weather like? Do I really need to go into town or can it wait? Do I want to walk today? Do I have to carry goods? Is public transport available? Do I need a car at all?*



For purposes of change, all opinions and differences were recognised. Any action ideas brought up during the discussions were recorded under the headings water, energy, transport and tools (Appendix One).

Towards the end of the workshop participants were provided with a Day Reconstruction spreadsheet both in hardcopy, which was also distributed electronically for ease and consistency of recording (Appendix Two). Participants were explained how to record their behavioural choices, why they made the choice, the result of their choice and potential changes or issues encountered resulting from their choice. Participants were also provided a Diary Commitment Sheet (Appendix Three), which they were asked to fill in during the workshop. A commitment sheet helps to cement participant's commitment to the task at hand.

Workshop Two

Workshop Two started with a brief review of the Action Research process, pointing out that action and recalling had been done and that this workshop was about reflecting on the process and synthesizing issues, ideas and actions.

Participants were first asked what it was like to keep a diary. Responses ranged from *learned about myself; to [learned about] routine; [behaviour] at home versus being out; conscious of trying to limit my energy use; motivation; awareness; conflict; changed behaviour through tracking; realized how much we use the microwave; reflect upon the old days and what my predecessors chose to do.*

Next participants were asked what worked and what didn't work for them. Some felt it worked as they were more conscious of their behaviour; others found themselves to be more conscientious about their behaviour driven by the impending requirement to share their experience in the second workshop; several participants felt a sense of achievement. When asked what made them 'fall over', participants responses ranged from *availability or lack of [water, transport]; convenience, fluctuating energy levels at a given time; social pressure; lack of planning; unexpected events; schedule issues; safety; occupational health and safety; habit; financial issues; and inter-dependence [others in the household affecting behaviour].*

Over the course of the week of April 29-May 6 all participants recorded their water, energy and transport patterns, which they brought back to the second workshop in various forms. Some used the electronic spreadsheet provided, others simply jotted down notes. One participant memorised all actions for the week and filled in the spreadsheet from memory, which prompted a brief discussion on actual vs. remembered routines. Another participant drew graphs of the distance travel and via which mode (Figure 1) and green house gases emitted/saved (Figure 2) during the week, as reflected below.

Figure 1

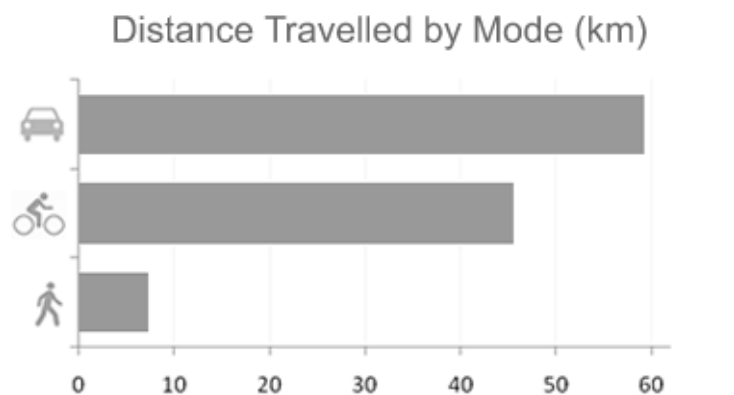
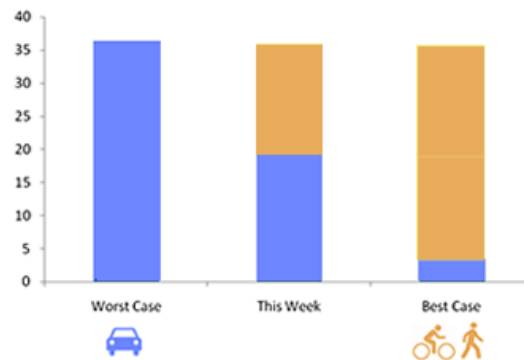


Figure 2
Green House Gases **Emitted** and **Saved** (kg)



Participant's graph comments:

*I travelled 112 km during the week (walk 7.3 km; bike 45.5 km, car 59.2 km. My car averages 14L/100km; Petrol is about 2.3kg GHG per Litre. Potential GHG emissions if I drove everywhere for the week: $112 \times 14 / 100 \times 2.3 = 36.1$ kg. Walking and biking reduced that total by **47%** which is **17.0 kg** saved*

Of the remaining car travel, if I really put my mind to it, I could have reduced the total by 91% (33kg) bringing it down to just 3.1 kg! Why didn't I do that?

- *convenience, it just takes longer to walk and bike;*
- *energy levels, on top of riding and walking 53km in the week, I taught 5 gym classes; and went to 2 others;*
- *Social: having dinner, don't want to arrive all sweaty;*
- *Planning, ran out of food and had to do a supermarket dash.*

One participant, who mentioned in Workshop One that he had installed a ball valve on his showerhead at home (to turn off the water while lathering up) brought in the shower head and ball valve components and demonstrated the ball valve use and installation process.

Additional comments on issues encountered by other participants included: *my own behaviour is ok, but my husband's is not; my husband wanted to use an electric heater – got huffy! Need to be more flexible; too busy to [various actions]; learned that I could do better; found that my motivation was both survival and health related; found a way to not use my car for the day; who am I doing this for? I now know that I am doing this for my kids; there is a threshold of willingness vs. tradeoffs.*

4. Discussion and Future Steps

The following discussion outlines notable findings from the AR workshops, and discusses some of the implications of these findings. The areas discussed pertain to opportunities for BREAZE to model behaviour and provide the wider Ballarat community with information that will encourage pro-environmental attitudes and behaviour change.

Common Themes

The workshops identified several common themes, which are outlined below.

- (7) It is difficult to be 100% sustainable in one's behaviour. There are economic barriers that prevent people from being 100% sustainable. Financial barriers tend to result in more practical and innovative behaviour, e.g. reducing one's footprint by working with what is at hand, but generally prevent buy-in into bulk purchase programs or investment in sustainable infrastructure, such as solar panels.
- (8) Social conditioning has considerable impact on environmental behaviour and associated decision making processes. One participant, for example, felt that it would be inappropriate to ride a bike at night to a social event and arrive sweaty. Another participant was concerned about credibility and 'looking good', directing a group of visitors to the 'clean water' toilet instead of exposing them to the grey water toilet in the house. When discussing this type of social conditioning, participants became acutely aware of their habit-based expectations in terms of choices and outcomes around these issues, which in turn led to the exploration of behavioural change options.
- (9) Everyone has a different sustainable behaviour 'threshold'. Behaviour is often deep-seated, e.g., early childhood conditioning is likely to determine adult behaviour ('my father always told me to turn the lights off when I left a room') and always context-specific, such as one's physical location will determine car use; one's financial situation will determine buy-in or shopping behaviour.
- (10) Individuals champion behaviour, e.g., a committed parent will determine behavioural patterns in the household, e.g., making a deliberate choice to live central within walking distance of shopping, school and bus stop.
- (11) All behaviour is 'integrated' and sustainable behaviour is interdependent, e.g. it involves a variety of stakeholders which influence behaviour, e.g., availability of infrastructure, transport, ethics and efforts by schools, work environments, shops, local council, etc.
- (12) It is important that any course of sustainable action is not seen as punitive, but rather associated with pride and where possible with a 'good behaviour' award.

Above themes are both great challenges and great opportunities for BREAZE in terms of providing its members and the wider Ballarat community with information that will encourage pro-environmental attitudes and positive behaviour change.

Future activities

There are a number of different information dissemination and information sharing considerations that have come to the fore and which BREAZE could utilise to reach both its membership and a wider community audience.

- One size does NOT fit all

Both the BREAZE membership and the wider community consist of cross-section of people and situations. Any information made available and/or savings associated with taking action should consider rental vs. home owners and a cross-section of economic and social circumstances.

- Information needs and access range from basic to advanced

BREAZE can be the regional organisation of choice for a variety of sustainable behaviour information, ranging from basic to advanced information categories. Using the 'building block' approach suggested by one of the workshop participants, categories should be searchable from a 'sustainable behaviour for dummies' level to advanced information and tips on, for example, 'how to optimise the energy you generate from your PVs'.

It cannot be assumed that everyone has Internet access and information hence may need to be made available in multi-modal format. Information dissemination modes should be tailored to the needs of the target audience, e.g., printed format is useful in face-to-face information sessions, workshops and for physical BREAZE points of access. For time-sensitive information aimed at mass impact, billboards and newspaper inserts may be more appropriate. Whereas the BREAZE website is the logical place for all information, which should be logically organised and hence easy to access, information dissemination should be coordinated rather than automatically duplicated across all media.

- Engaging the community through user-generated information and interactivity

The results of the workshops indicate that there are an array of practical and simple to implement energy, water and transport reduction methods and tips (see Appendix One). BREAZE can share its information dissemination workload by inviting community members to contribute their tips, news, success stories, and good practice.

Incorporating interactive elements in all BREAZE communications encourages information users, and especially BREAZE website users, to engage in (inter)active discussion in response to questions and issues. BREAZE could award the 'best tip of the week' which creates a sense of excitement and increases web traffic. This is also a good method to draw upon skills and volunteers in the community. Blogging is another useful avenue for traffic and interaction, which could address any topical subject including, for example, changes that are likely to impact people's financial situation, such as the global financial crisis.

- Modelling behaviours and practices

As suggested in the survey report, experiential education and ‘how to’ information is highly valued by the community. BREAZE members have a great deal of knowledge that should be captured for use by the wider community. Interactive contributions should be encouraged to create a knowledge base of ‘how to’ in a variety of areas (e.g., water, energy, transport, food, gardening) and multi-modal formats, e.g., printed information sheets that can be made available at particular events and workshops or a community member might make a YouTube video on things to do with a thermos; ‘how to install a ball valve on the shower to save water’, etc.

How to examples enable individuals to see the benefits as well as the cost savings associated with such behaviours and are considered an effective means of increasing the frequency of their occurrence. Other ways of modelling behaviour would be through social networking applications such as Twitter, whereby people can follow a person in real time in a particular activity.

- Stakeholder strategies

As indicated earlier, individual behaviour can only go so far and is interdependent on a variety of stakeholders which influence behaviour. BREAZE can work with different stakeholders to both encourage individual behaviour, e.g., work with schools, institutions, water, transport and energy authorities towards sustainable behaviour – which where appropriate could have a competition, award or prize attached to it – to create critical mass and strengthen BREAZE’s advocacy endeavours. In collaboration with stakeholders, BREAZE can introduce new programs and expand its membership base, particularly if run in conjunction with the social network program discussed above.

- Capturing the Return of ‘Old Ways’.

There are a variety of so-called ‘old-fashioned’ efficient methods of doing things. BREAZE could be known its workshop program, which may be formulated in collaboration with BREAZE partners and stakeholders, providing face-to-face ‘how to’ workshops and tours on sustainable living, making food, wine, environmentally friendly products, etc. This will stimulate sustainable home and business practices, generate information which can be captured and provided in alternative formats to the community, and expand opportunities for collaboration and new partnerships.

- Adopt a Sustainability Friend/Colleague

Networks are an important means through which individuals gather and disseminate information. Linking (cross-generational) people and activities can engage different members of the family as part of BREAZE’s social network strategy. Especially generation Y is heavily involved in social networking, which could help involve adult family members. The creation of linkages and incentives (e.g. a competition) for schools, families, local networks is another strategy to engage new members and encourage sustainable behaviour.

5. Appendices

List of appendices

Appendix One: Day Reconstruction Spreadsheet

Appendix Two: Diary Commitment Sheet

Appendix Three: Action Areas

Appendix One: Action Areas

Action Areas: **Transport**

- Need more than one reason to use the car
- Car pool
- Walking school bus
- Ride to school
- Shopping habits – plan ahead and shop less frequently
- Extra-curricula activities – plan ahead and combine with other activities

Action Area: **Water**

- Reuse water by putting a bowl in the sink,
- Bucket in the shower
- Install ball valve in shower head
- Only use dishwasher when full
- Eat as a family – impact on (dish) washer use
- Only boil a kettle when you need it
- Share bath water between family members

Action Area: **Energy**

- If PV connected don't use 2 appliances at once to ensure 'use what you produce'
- Dress code (dress to be warm in cold weather) and turn thermostat down
- Use gas rather than electric appliances in your household
- Close the curtains to keep the heat in
- Use thermos/ hot pot, insulate, slow cook, noodles/hot dogs
- Renovation – investigate sustainable building
- Have a TV free day
- Time your activities when PVs are most active
- Bubble wrap your (bathroom) windows

Action Area: **Tools**

- Make it easy
- Signage
- Consider interdependence between energy, water, transport activities
- Decision-making process – no 2nd car
 - Ride a bike to reap health benefits
- Talk to others
 - Adopt/help a friend
 - Adopt sustainable practices in both your home and work environment.

Appendix Two: Day Reconstruction Spreadsheet

	DAY ____	TIME STARTED	TIME FINISHED	ENERGY USED (Appliances/ Whitegoods)	WATER USED	TRANSPORT USED	SAVINGS/ CHANGES IN USE	ISSUES ENCOUNTERED
ACTIVITY								
ACTIVITY								
ACTIVITY								
ACTIVITY								
ACTIVITY								

Appendix Three: Diary Commitment Sheet



BREAZE Workshop

My Focus for the Week

During the week of April 29 to May 6th I commit to monitoring my

- Water use and saving water
- Transport/ reducing car use
- Energy efficiency/whitegoods/appliances

(√ any that apply)

The actions I expect to undertake as part of this commitment:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.