

**BRCT**  
BLUESKIN RESILIENT  
COMMUNITIES TRUST

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# Report: Home Energy Advice Trial

December 2012



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# 1. At a Glance

What	A joint action research project between Otago University and the BRCT
When	July 2012 – December 2012
Status	Contract Complete
Who	Scott Willis (BRCT Manager); Chris Freear (BRCT sub-contractor); Niki Bould (BRCT Projects Coordinator), Maureen Howard (Volunteer), Annie Stuart (Volunteer), Chris Le Breton (BRCT Volunteer), Janet Stephenson (CSAFE Director), Rebecca Ford (Energy Cultures), Seth Gorrie (Energy Cultures), Marie Laufiso (Brockville Community Development Initiative), Hung Lamb (NEV Project), Alex King (Transition Valley 473), Andrew Scott (Brockville Minister), all the members of the Brockville ecological and sustainability group.
How	A trial of two interventions: Home Energy Audits & Community Workshops
Why	To examine the relative effectiveness of individual home energy audits compared to community workshops in inspiring householders to take action to improve the energy efficiency and thermal comfort of their homes.
Where	Three Dunedin communities: Blueskin Bay, North East Valley, and Brockville
Key Deliverables	<ul style="list-style-type: none"><li>• Min 40 home energy visits (in Blueskin Bay and NE Valley)</li><li>• 100 home energy advice phone calls</li><li>• 3 Community Energy Advice Workshops (in Brockville area)</li><li>• 1 new community energy network set up</li></ul>

## 2. Background

The Blueskin Resilient Communities Trust (BRCT) has been very active in building community health and wellbeing through work on energy and food issues since 2008. Since inception, BRCT has worked with some of the key principals in Energy Cultures through a relationship with the Otago Energy Research Centre.

In 2009 BRCT facilitated a \$780,000+ subsidised insulation programme in conjunction with the Otago Regional Council and EECA, benefitting over 400 Dunedin households. BRCT has run information events, energy expos and free energy audits, in addition to its work on developing renewable generation and assisting community food initiatives.

Early in 2012 BRCT was approached by the Dunedin City Council to partner in an energy advice programme in conjunction with Energy Cultures. By mid 2012 this proposal had not secured funding and fell through. Energy Cultures then approached BRCT to partner in 'Home Energy Advice trial' involving free Home Energy Audits & Community Workshops, funded entirely by Energy Cultures. The purpose of this trial was to examine the relative effectiveness of individual home energy audits compared to community workshops in inspiring householders to take action to improve the energy efficiency and thermal comfort of their homes.

Researchers sought to study how households respond to different ways of offering energy advice about making changes in the way energy is used in their home. The intervention sought to inspire householders to undertake physical alterations and adopt new practices which would improve the thermal comfort and energy effectiveness of the home's insulation, ventilation, space heating and hot water systems. BRCT was contracted as a provider of energy advice and community facilitation to achieve the following three objectives:

1. to assist people to make changes to their homes or practices that will result in warmer, drier homes and/or improved energy efficiency through:
2. providing actionable recommendations to householders to help them take the best next steps in improving the health of their homes; and
3. through building/strengthening social networks with the explicit intention of facilitating peer-to-peer discussion of energy issues and enriching the 'energy culture'.

Three Dunedin suburbs participated in the trial: Blueskin Bay, North East Valley, and Brockville, with the following actions being carried out by BRCT in each suburb:

- Blueskin Bay - home audits and telephone help line.
- North East Valley - home audits and telephone help line.
- Brockville – community workshops and telephone help line.

The BRCT was responsible for soliciting participants, arranging and carrying out the audits and workshops, and writing up audit reports for each household. A total of 60 participants (20 in each suburb) were sought.

By mid July a contract to supply services was signed and by August 2012 researchers had secured ethical consent allowing the trial to begin.

## 3. The Process and Experience

### 3.1. The Home Energy Advice Trial Experience

Energy Cultures engaged the Blueskin Resilient Communities Trust (BRCT) to carry out the 'on the ground' aspects of this research project – BRCT in turn engaged Chris Freear of Ethical Power Consulting to project manage and deliver the contract for BRCT, with support from existing (and growing) BRCT staff and community volunteers.

The project sought to build on the observations of previous research on the role and effectiveness of social networks. Recruitment of participants was therefore primarily achieved by tapping into these networks.

For the early part of the project BRCT employed a 'soft' approach to enlist households for audits (via the BRCT e-newsletter and publications in local newsletters and school newsletters) and a direct approach for community workshops (working with community leaders in Brockville). The community workshops were largely dictated by local Brockville schedules (existing events dates) and the Home Energy Advice team (BRCT and Energy Cultures) worked in closely with Brockville leaders.

By mid point in the project household subscriptions for home energy audits had not reached levels anticipated and BRCT employed more direct marketing: personal presentations to community organisations (the gardening club, children's playgroup, knitting circle, schools). Flyers were also used in North East Valley to recruit households to the Energy Audit trial.

Members of the Energy Cultures team worked alongside BRCT to assess people's experiences of the interventions, and their effectiveness in achieving behaviour change. The assessment process consisted of the following:

- Prior to the audit (in the case of Blueskin Bay and NEV), or during the workshop (in the case of Brockville): a goal setting exercise either face-to-face or by telephone, and a survey (mainly online but on paper for some Brockville participants) of the current physical characteristics of their house, their energy-related practices, values and energy literacy
- After the audit or workshop (within the first week): an interview over the phone on participants' perceptions of the intervention
- A third assessment is planned for 4-6 months following the intervention, to assess any changes made in the intervening period.

By the end of October 2012 home energy audit subscriptions were still below anticipated levels and social networks were employed more intensely: telephone calls to community leaders, requests to previous recipients to advertise in their neighbourhoods, and advertising, in one instance, during a high profile public meeting. Community workshops (Brockville) in contrast, had precise dates and times and were all

complete by November 2012. By November BRCT team members became more active in 'forcing' the social networks to secure adequate subscriptions to the Home Energy Audit trials. To do so, the *value* (\$400 each) of audits was promoted as a selling point (a free \$400 audit) and community contacts were bombarded with promotion. In early December a BRCT staff member spend half a day signing people up outside the North End New World supermarket. These more direct interventions proved conclusive and by mid December the BRCT office had begun hearing of the spread of the free audit message to networks that had not been directly contacted by BRCT (for example, 'Women Across Cultures' – a new immigrant support group operating throughout Dunedin).

Of these approaches flyer and newsletter drops seemed the least effective. One surprising discovery was that a number of those audited in North East Valley after being directly spoken to outside North End New World subsequently reported that they had received a flyer in their mailbox but had not acted on it.



### 3.2. The Home Energy Advice Trial Process

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### 3.3. Audits

The home audit design was based on a number of relatively similar approaches to auditing that have been practiced around NZ in the last decade. At its heart was the BRANZ-developed Warm Home Energy Check which is a simple star rating scheme. The rating is an approximation to the results one could expect from BRANZ's ALF home energy modelling tool.

The star rating is on a 6 star scale with the current building code standard representing approximately a 3.0-3.5 star rating on the scale, and best practice (a fully passive solar design) achieving 6 stars.

The audits focused on four key elements: building insulation, hot water design, solar orientation and occupant behaviours/practices. On average each audit has a total time commitment of about half a day, including: booking, follow up, travel, on site (about 90 minutes) and write up.

See Appendix A for a copy of the auditing tool and sample report.

Each audit participant passes through a number of steps:



1. Phone discussion with Seth from CSAFE to carryout a goal setting exercise
2. Complete an online survey administered by Rebecca from CSAFE to establish initial levels of energy literacy etc.
3. Audit carried out by Chris, report issued
4. Follow up survey 2 (approximately 1 week later) and phone call to capture feedback and impressions of the audit process itself
5. Follow up survey 3 (approximately 4-6 months later) to capture what enduring change has actually occurred

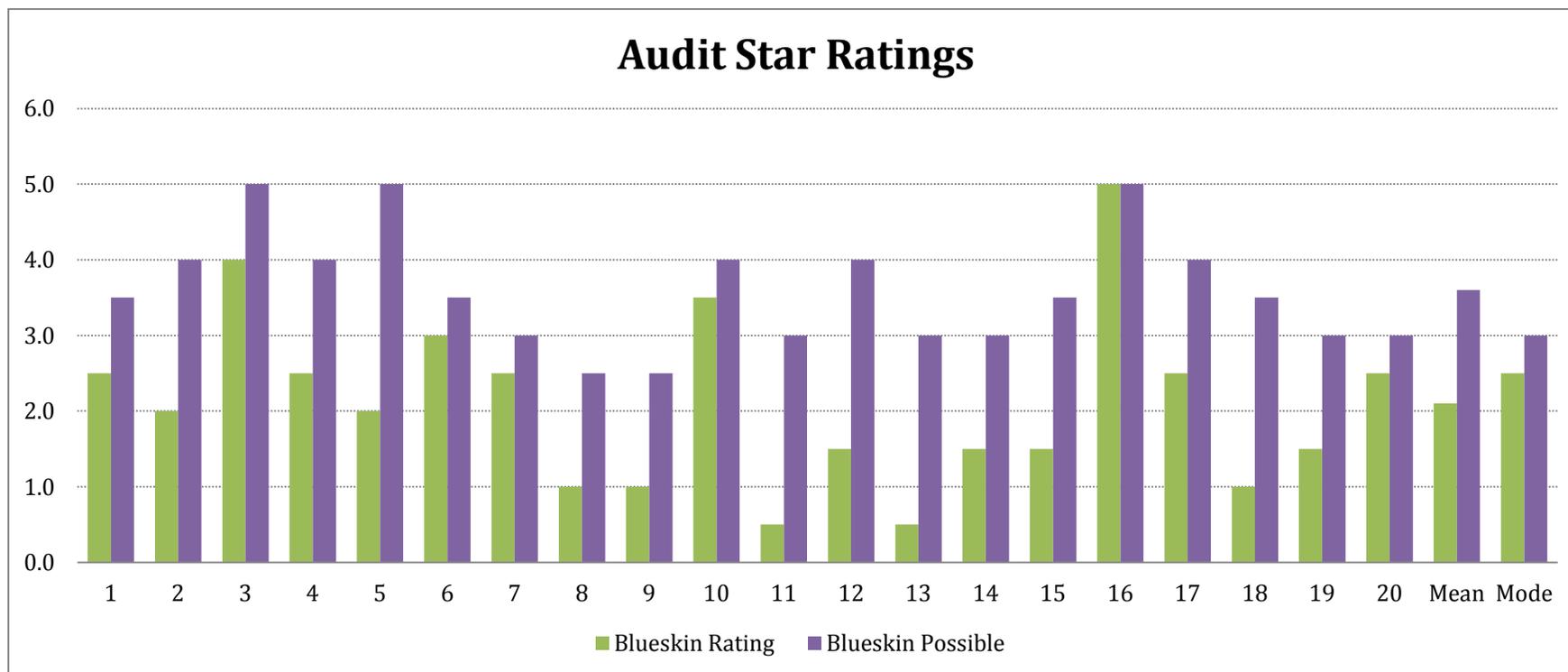
At least 20 audits were carried out in Blueskin Bay and North East Valley communities respectively.

### 3.3.1. Blueskin

Blueskin Bay is a collection of small coastal settlements. The recorded uptake of audits notes the following numbers and settlements:

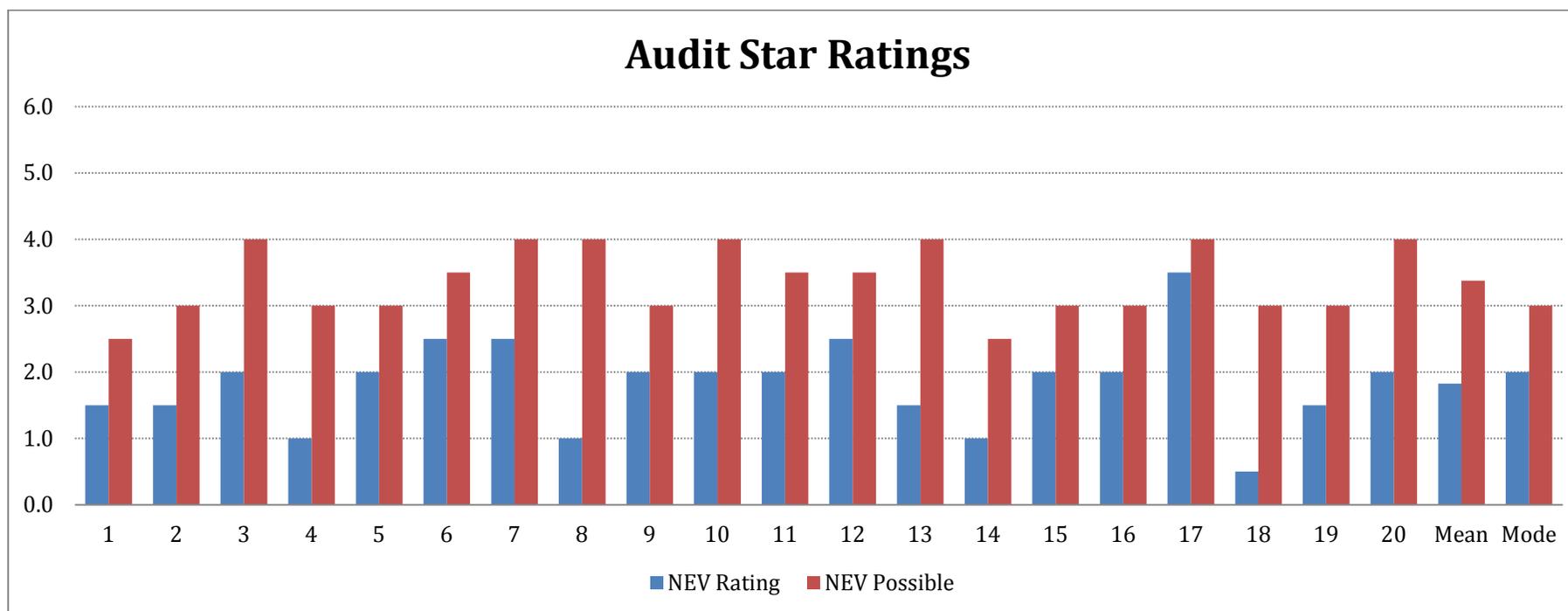
- Warrington 5
- Long Beach 1
- Purakaunui 3
- Waitati village 4

With the balance of properties located rurally (outside the settlements). Looking at the most common result for the community (ie the mode) we see star ratings of 2.5 and 3.0 for present rating and possible rating respectively.



### 3.3.2. North East Valley

In North East Valley the model results were 2.0 and 3.0 for present rating and possible rating respectively. These results suggest that while the potential of the housing stock in both communities is broadly the same, the Blueskin community has already made larger advances in terms of realising the energy efficiency potential of their homes. This is a preliminary finding/assumption that may not be verifiable.



### 3.4. Community Workshops: Brockville

In Brockville the intention was to work with existing social networks and community leaders, and to provide information and advice in a way that inspired people to talk with one another and ideally to start a 'snowball' of conversation and action. To this end, prior to the project kicking off, contact was established with Marie Laufiso of the Brockville Community Development Initiative (as well as members of the North East Valley Development Initiative and Transition Town 473).



The same research format was used as for the audit programme with the one difference: Goal setting and survey 1 information was captured at the same time or immediately following the intervention.

With BRCT as a community organisation with a specific geographical focus (Blueskin Bay) connection with the Brockville community was required. BRCT needed a local advocate or advocates. Once the project was formalised, Chris Freear engaged with the leaders of the Department of Internal Affairs funded Brockville Community Development Project and the Brockville Community Church. Most of the 'on the ground' support from the Brockville community for the energy work associated with the Home Energy Advice trial came from the BCDP's Ecology and Sustainability team. Three workshops were proposed and held.

Workshop 1 utilised an existing community gathering – the monthly church pot-luck tea. At these social gatherings there is usually a guest speaker and so the project team shaped the first workshop to fit this format. 'Energy' as a theme seemed to generate significant community interest (this event apparently secured one of the largest ever pot-luck tea turnouts).

In total three workshops were run, all at the Brockville Community Hall. Each built on insights from each the previous event and from the feedback from the follow-up interviews with participants.

- **Workshop 1** – 'Guest Speaker' style presentation on home energy advice and principles. The evening started with an introduction before dinner by Janet describing how previous research in this community had brought us to this point. After dinner the kids went downstairs to watch a DVD while Chris presented to the adults. After the initial talk people broke off into small groups. Discussion and questions about energy in these groups was assisted / seeded by Chris and Maureen Howard. The event had 15 households participate.
- **Workshop 2** – 'Hands on': a chance for people to see, touch and try installing different insulation products. Feedback from workshop 1 revealed a general desire within the community to look at practical solutions. Workshop 2 was designed around **seeing, touching and doing**. The night was affected by a storm event and also involved



participation by all the children (as the DVD supervisor did not turn up). Children proved to be an ‘ice-breaker’ by being willing to ‘do’ things, i.e. try fitting the thin film double glazing to the trial window where some adults were initially hesitant. In addition several of local residents helped lead the activities at a two the demonstration areas. The event had 14 households participate, including 5 new ones.

- **Workshop 3** – ‘Aspirations’: demonstrations of renewable generation, motivational stories, etc. At this workshop we heard from two residents who presented stories of change by people in the community. Workshop 3 was our most well attended workshop. It is likely that this was because the workshop was part of a much bigger suitability day organised by the Ecology and Sustainability team and it could also be explained in part by both the profile the energy work had achieved by workshop 3 and by the interest residents had in looking at aspirational goals – renewable generation (the Thinair 102 turbine particularly) was a strong attraction. The event had all the households participate, including 8 new ones.



### 3.5. Help-Line

During the entire program BRCT also offered an energy help line available between 9-5 two days per week. Promotion of this service was disseminated via all the same channels as the audit programme. Over the trial period only half a dozen calls were lodged. The advice sort was extremely varied and at times detailed. Two enquiries were about household insulation (types, schemes, prices, priorities), one enquiry was related to the trial itself and availability and three enquiries were quite specifically related to water and waste water systems, their cost and relative efficiency – quite detailed enquiries! Surprisingly most of the enquiries were not related directly to the interventions.

The goal of 100 help line enquiries answered was not met as these enquiries did not materialise. This was a surprise outcome as BRCT has, ever since its role in the 2009 insulation retrofit programme, received a relatively steady but low flow of energy enquiries. While these enquiries had dropped off in 2012, it was anticipated



that they would rise again once the Home Energy Advice trial had been publicised. That has not been the case. In parallel, BRCT is aware of a growth of 'informal expertise' within the Blueskin community generally, and therefore it seems reasonable to assume that peer-to-peer energy advice may be growing or at least active within Blueskin. Despite the lack of telephone energy advice enquiries, BRCT has seen a rise in enquiries from other groups and the energy sector generally (the new Dunedin Curtain Bank, for example).

### 3.6. New Community Network

While the Transition Valley 473 group has been operating for approximately three years they had not yet grown their capacity to include an Energy Working group within their structure. Their focus has been on food, transport and health. Through this Home Energy Advice project BRCT has worked with TV 473 and has encountered interest from TV 473 members in establishing an energy working group as part of its transition portfolio. BRCT anticipates facilitating the growth of this group and training, or involvement of its members, during forthcoming Pine Hill workshops (see 'Looking Ahead').

## 4. Observations from the BRCT team

The data from the research process will be analysed by the Energy Cultures team over the next few months, and findings shared with BRCT in due course.

However the BRCT team's experience in running the intervention trial, and conversing with participants, suggests the following:

- For most people, the journey to warmer, dryer and more comfortable homes is a complex one – consequently the advice and support of friends and family is a critical input into the process.
- Providing an environment where energy issues are discussed with people who are trusted is of key importance.
- Having a base level of energy literacy seems to be a necessary but not sufficient prerequisite to inspire action.
- Making sense of the huge amounts of 'sales' spin about the different products available is another key precondition – thus making access to expert, independent advice a critical element of any program.
- Vetting of suppliers to ensure the removal of 'cowboys' is also important.
- Services which remove the 'capital cost' barrier are also needed – programs such as DCC's targeted rate are an exciting development in this regard.
- Recruitment of participants via social networks has a significant time lag as the information filters through the network. This process can be 'driven' but that requires a lot of effort with 'face to face' time being the critical ingredient.
- Funding for independent energy advice programmes is extremely difficult to secure and does not appear to be a priority for those who we might assume would be stakeholders in addressing fuel poverty issues or energy literacy.
- Finally and most importantly, sharing local stories of change and success are critical to inspiring on going cultural change within the community.

If BRCT were involved in providing a similar service in the future one thing we would seek to do differently is to allow greater resourcing and more time to build community relationships with community partners to allow a trust based relationship to develop (and so invite stronger participation).

## 5. Looking Ahead

Inspired by these preliminary results the BRCT is working on ways to make Community Energy Advice into an enduring service which is offered city wide.

### 5.1. Pine Hill

In partnership with Presbyterian Support Otago, and with a DCC grant, BRCT in 2013 will work with (and train) a number of the 'energy team' from Transition Valley 473 while delivering a series of community workshops on household energy use and energy efficiency. In addition BRCT will also develop and maintain web based resources and an Energy Help line that will support the 'energy team' as they transition to taking over all aspects of maintaining this initiative in the Pine Hill community.

### 5.2. North East Valley

BRCT is working with NEV leaders to offer a similar service as prepared for Pine Hill.

### 5.3. Cosy Home Symposium

BRCT is currently in discussions with DCC, Otago Community Trust and Well Dunedin Health Trust to organise, facilitate and follow up on a 'Cosy Home Symposium' in 2013 where all parties interested in making Dunedin's housing Warm & Cosy come together in a collaborative environment to establish just what we each can bring to a single vision for Dunedin households.

## 6. Appendix A