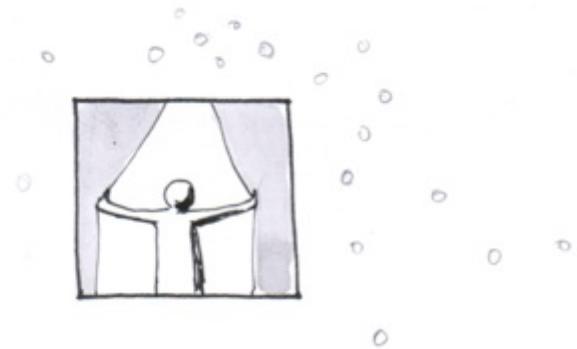




## COMMUNITY ENERGY ADVICE

REPORT on the Pine Hill project

*July 2013*



## At a Glance

**Objective:** To provide energy workshops in Pine Hill, enhance community networks and build community capacity to address fuel poverty in Pine Hill.

**Dates:** 1st Feb 2013 – 30th June 2013

**Area:** Pine Hill

**People:** BRCT: Chris Freear; Niki Bould; Scott Willis

Presbyterian Support Otago: Tracey Fuatavai,  
Melanie McNatty

Local advisors: Maureen Howard, Alex King, Peter Davidson, Eli Kerin, Peter McDonald, Christopher Le Breton. These people also make up the newly formed Transition Valley 473 Energy Group

Numerous community volunteers

**Funders:** Presbyterian Support Otago  
DCC Community Fund  
BRCT

**Partners:** Smart Energy Solutions Limited (Dean Murray)  
Pine Hill School  
The Project – North East Valley

**Website:** [www.brct.org.nz](http://www.brct.org.nz)

## Executive Summary

Through BRCT's experience and the combined expertise of our Community Energy Network partners, BRCT aims to help Dunedin residents improve the energy efficiency of their homes by ensuring there is:

1. access to the right advice about products and services such as insulation, heating and ventilation
2. education to encourage and support ongoing energy efficient actions and behaviours.

Information on improving home energy use in New Zealand is principally provided by the marketing and communications arms of the building products industry and providers of energy products. While the market may provide many good products, it is not concerned with social wellbeing, affordability, or non-market solutions. However, the challenge for non-market participants (like BRCT) who operate comfortably within the zone of social networks is how to deliver long-term results with little, or only short term funding. BRCT's approach in this project has been not only to provide access to good advice and education through workshops, but also to build local capacity through the provision of tools and networks, and seed self-sustaining action on fuel poverty in Pine Hill.

BRCT was very aware of the challenge of working within a different social network, and sought to build relationships at the beginning on the project. The quality of social networks has an effect on the effort required to maintain the information flow through networks and the engagement within each network.

Over 5 months, BRCT has run 4 workshops, trained 6 community energy practitioners, retrofitted one cold house with insulation and had a second fitted with a heat pump. Smart Energy Solutions Limited generously donated both the insulation and heat pump, and BRCT provided both online and telephone support and resources.

This report is set out in 3 sections:

- Section 1 provides context (Background and the Drivers);
- Section 2 details the process and describes what we did;
- Section 3 is a short analysis of the project and what we have learnt from it.

We cannot claim to have solved the fuel poverty issues in Pine Hill in only 5 months. However, as we discuss in the report, the seeding of what is now the Transition Valley 473 Energy Group (six trained energy practitioners) who have taken on responsibility for addressing fuel poverty issues in Pine Hill and the greater North East Valley area is what we hope will become one of the more enduring outcomes of the project. Our ultimate goal after all is to help residents save power, save money and live in warm cosy homes.



**Transition Valley 473 member Alex King and resident Cassandra Thomas, with her nephew Hemi Birch (1) watch the new insulation go up into the ceiling of Ms Thomas' home. Photo by Dan Hutchinson from the STAR.**

BRCT is a member of the Community Energy Network (CEN) and a CEN advisor for Dunedin.

BRCT provides independent advice, within a national network of Energy Practitioners providing a balance of good science and practical home implementation.

## Background

Pine Hill is one of Dunedin's northern most suburbs and the city entrance for those arriving in Dunedin by the Northern Motorway. While Brockville, North East Valley and South Dunedin have seen increased resourcing through Department of Internal Affairs (DIA) funding and as Dunedin City Council (DCC) pilot areas, Pine Hill has been a somewhat neglected piggy in the middle. Presbyterian Support Otago (PSO) recognised the gap in Pine Hill and discussions between PSO and Blueskin Resilient Communities Trust (BRCT) began in mid 2012 on a collaboration to address Pine Hill fuel poverty.

Since its formation in 2007 the Blueskin Resilient Communities Trust (BRCT) has provided independent expert energy advice to the communities of Dunedin and beyond. From its Blueskin base BRCT has initiated a number of projects including: home insulation retrofit programs; community energy literacy campaigns; partnering in active research projects and energy practitioner training. In 2012 under contract to the Otago University's Energy Culture Research Network, BRCT delivered Energy Advice programmes in three distinct communities: Blueskin, Brockville and North East Valley. This experience led to a project design that promoted tools not just services. With an agreed joint PSO-BRCT approach by late 2012, BRCT was able to prepare a detailed work plan, and the Pine Hill Community Energy Advice Project was formally kicked off on the 1<sup>st</sup> of February 2013.

## Drivers

More than 340,000 New Zealanders live in cold houses and struggle to afford to heat them through winter. Sometimes they will choose food over heating. This is 'Fuel Poverty' (the need to spend more than 10% of annual household income on *all* household fuel use<sup>1</sup>). It is estimated that 'fuel poverty' is affecting approximately 47% of households in Dunedin, with many recording a temperature range of 8 - 10°C (far below the World Health Organisation standard of 18 - 21<sup>2</sup>). Healthcare is one of the biggest costs associated with poor quality housing. A large number of both young and old Dunedin residents suffer unnecessary respiratory conditions as a result of living in cold houses. Substandard housing and poor health results in a situation where inaction costs us more in the long term than taking action now<sup>3</sup>.

The key drivers for this project are:

1. Pine Hill (a northern suburb)
2. Dunedin's health (cold homes make people sick)
3. Dunedin's welcome or manaakitanga (a great small city should not be cold and unhealthy)
4. Strong Cohesive Communities (where we care for each other and look out for each other)
5. Better Homes (affordable, energy efficient and cosy housing).

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<sup>1</sup> Fuel poverty, as referred to by Bob Lloyd, March 2006, Fuel Poverty in NZ

<sup>2</sup> Housing, Energy and Thermal Comfort, World Health Organization, 2007, p 4

<sup>3</sup> As stated by Jo Wills, Executive Officer of Community Energy Network [http://www.communityenergy.org.nz/fuel-poverty-awareness-campaign-launched/]

## 1.0 Community Energy Workshops

Preliminary results from earlier BRCT work with the Energy Cultures team combined with anecdotal feedback demonstrated very clearly the value of Energy Workshops in inspiring people to engage in actions to improve the warmth, dryness and comfort of their homes. An initial 'scoping meeting' was held with community leaders and advocates in Pine Hill to float the proposal, to gauge interest, obtain feedback and suggestions as to how the approach we had used (in Brockville) could be better tailored to work in Pine Hill. BRCT continued to seek feedback as the workshop programme progressed to refine what was being delivered to the community.

BRCT collaborator Chris Freear was contracted to deliver the project beginning in February 2013. The contract required weekly team meetings and reports, detailed team planning, helpline provision (one day a week) and development of online resources in addition to delivering actions (workshops and energy practitioner training). BRCT is a close-knit organisation and values all members of the BRCT team.

### 1.1 Workshop #1: Introduction to Energy (28<sup>th</sup> Feb 2013: Pine Hill School)

The first workshop was held as part of the regular community dinners (held in the school hall once a term). As a 'clip on' to an existing community event, the important element of this workshop was an introduction of energy as a subject to the community. These Pine Hill community dinners are primarily attended by people with children at the Pine Hill School – a 'loose' social network. Two presentations were given (general

home energy principles and the Blueskin story) followed by musical numbers and songs performed by Pine Hill students. For people to make changes and investments in their homes, something more than just knowledge and understanding is required. Support and approval of people who are trusted – close friends and family are very important. Discussions were held around the shared meal and following the presentations and performances. The event was well attended with some engagement from participants, and well attended by members of the initial contact groups. By the close of the event four people had signed up as potential members of a new Pine Hill energy group.



### 1.2 Workshop #2: Demonstration (24<sup>th</sup> March 2013: Pine Hill School)

Held again as part of a planned community event (part of the city wide 'Neighbours Day') this workshop was a 'hands-on' workshop demonstrating ceiling and under-floor insulation, plastic film double-glazing, insulation and draft stopping materials. As in workshop #1 it was open door (i.e. no attendee list). Once again this event was well attended with a steady stream of people coming to discuss energy related issues at an open community event. Observations and feedback during this event led to an additional networking meeting (with the 'coffee mums' group) and to replace transport (our initial suggestion for the theme for workshop #3) with information about the various funding sources available to help assist people to insulate and make other improvements to their homes. The New Zealand government also made changes to its home insulation programme at this time with changes being primary designed to focus efforts on getting insulation into the homes of the most disadvantaged members of the community.





### 1.3 Workshop #3: Funding (18<sup>th</sup> June 2013: Pine Hill School)

This evening workshop combined two events: a funding workshop and a presentation by internationally renowned Canadian economist Nicole Foss. Unlike the previous two workshops that took place as part of existing planned community events, this workshop was the first 'energy only' event and was attended by approximately 25 people. This is a low number compared to typical Blueskin events, however we are mindful that energy literacy work in Blueskin only attracted small numbers in the early days as well (2007).

DCC Energy Manager Neville Auton presented the DCC's 'Warm Dunedin targeted rate, Smart Energy's Dean Murray presented the 'Warm Homes' Dunedin project and BRCT's Chris Freear presented eco-funding options from Kiwi Bank and Prometheus Finance. Discussion was held during and after each presentation. Nicole's presentation (which followed) gained high praise. From discussion about concrete funding opportunities to make concrete energy efficiency improvements, discussion moved to investment principles in general and the value of investing in

tangible assets. As a result of the workshop two families have signed up to receive funding from the Warm Homes Dunedin project.



### 1.4 Workshop #4: Cosy Home Makeover (26<sup>th</sup> June 2013: 14 Hislop Street, Pine Hill)

Making use of a house lot of insulation and heat pump generously donated by Smart Energy Solutions, the group of newly trained advisors and the people they have been advising were invited to participate in a 'TV's mucking in' style workshop to completely retrofit a deserving member of the community's home. While this might sound like an easy thing to 'give away' it proved to be trickier than we expected.

Our first nomination was April Mokomoko, but when we came to measure up her home it was found that because of its construction it was not able to be simply retrofitted. Other nominations involved people living in Housing NZ homes, however these could not be done as Housing NZ has a preferred insulation contractor. The home of Cassandra Thomas, located at 14 Hislop Street was finally selected (her ex-state house was

built at a time when there was no requirement for insulation to be included in any buildings) and it was an ideal candidate for the Cosy Home Makeover. The community team (9 people - with Smart Energy Solution's assistance to inspect and finish it off) installed: Ceiling and underfloor insulation and installed draft stopping on the front door (given that the home's glazing had been replaced with aluminium joinery there was no need to do any draft stopping treatment to the windows). Smart Energy Solution's donated heat pump was not required in Cassandra's home and Smart Energy Solutions agreed to install the heat pump in April Mokomoko's home. This workshop both gave newly trained energy practitioners practical experience in insulating a cold home and allowed members of the Pine Hill community who had benefited from free energy audits to reciprocate and 'muck in'.



"Its amazing how fast a home can be transformed with the right skills and materials" Alex



## 2.0 Audit Training

Presently there is no nationally recognised certification for energy practitioners (however the Community Energy Network is developing a NZQA compatible training programme to be offered later in 2013). BRCT's Chris Freear has worked in the energy industry or in energy programmes since 1993 and notably has managed his own energy auditing consultancies for 23 years and provided all training. Ethical Power Consulting – Chris's company – is providing the team members with ongoing pro-bono support.

## 2.1 Audit Training Preparation

BRCT training was built on a programme originally developed by EECA and BRANZ and contained a HER (Home Energy Rating tool) known as the Warm Home Energy Check. In February and March, two training days were held with community volunteers who had signed up for energy practitioner training. Note, due to a lack of a national accreditation programme at this stage, training preparation involved group discussion and it became rapidly clear that there was a consensus among the volunteer energy practitioners undertaking the training to focus on renewable energy solutions ("We will not recommend fossil fuel options. (Coal, oil or gas heating)"). This consensus signals a very comprehensive, integrated approach to Energy Advice. All of the Trainees from the North Dunedin community had some previous knowledge about energy use, efficiencies or housing construction.

## 2.2 Training 'Energy Practitioners'

Energy Practitioner training took place over two days in the week of the 13<sup>th</sup> of May where trainees were provided with detailed information on energy efficiency and conservation around housing, how to assess it, and the relevant advice to give to home owners. Detailed information on house construction, insulation standards and methods of retrofitting, hot water systems, home heating appliances and heating methods, were all covered and will all be in the national CEN programme. Training included two home audit practices sessions: one theoretical (a house described on paper), and the other practical (a visit to a house where trainees spent time carrying out an audit under guidance).



"I have found the training given by Chris Freear very useful. In particular it was very valuable to learn how to audit a home in a standardised way that will assist us to prioritise recommended actions to improve the efficiency and warmth of a home." Maureen



"There is a lot of information to get your head around – its little wonder people get so confused with all the choices out there" Peter

### 2.3 'Energy Practitioners' in action

Following training, the six community energy practitioners began partially supervised community audits in Pine Hill (energy practitioners conduct an unsupervised energy audit, prepare a report, and have the report peer reviewed). To date 15 energy audits have been completed in Pine Hill. The final training activity took place during the Cosy Homes Makeover workshop alongside community members whose homes had been audited. The TV473 Energy Group plan to provide ongoing household energy audits and advice to householders within the wider community (North East Valley, Pine Hill, Dalmore, Opoho, and Normamby) as they are able on a volunteer basis. They aim will advertise their work in the local community newsletter "The Valley Voice" which goes to all Pine Hill residents, and may seek assistance from the NE Valley Development Initiative to assist with programme costs.

### 3.0 Online Resources

The BRCT website ([www.brct.org.nz](http://www.brct.org.nz)) contains or portals the user to a vast wealth of information and resources. BRCT is building resources on an ongoing basis and also acts as a trusted conduit to proven sources of reliable energy advice.

### 4.0 Helpline

The helpline and email enquiry option has been in operation since February. Early use of the service was initially light but as the advisory team has become established and as awareness of BRCT's service has grown, telephone enquiries and email enquiries have risen as well. BRCT advertises its helpline as available Monday to Friday between 10am – 2pm, providing "free

advice on home energy efficiency including saving power, high bills, cold homes, condensation, funding and subsidy advice, renewable generation for households. We can also recommend local Energy Practitioners who provide detailed home energy checks for a fee."<sup>4</sup>

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<sup>4</sup> <http://www.communityenergy.org.nz/energy-advice/find-an-advisor/>

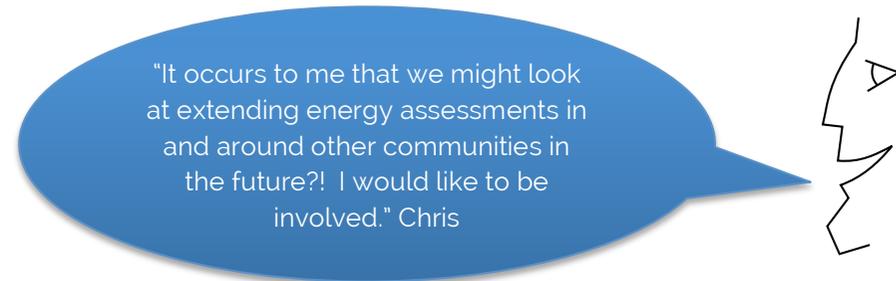
## Analysis

It was envisioned that through this project BRCT would continue to develop its experience as Dunedin's foremost independent energy advocate and that Pine Hill would establish its own capacity to provide ongoing independent energy advice, by:

- Continuing to build connections within and between the social networks of Pine Hill
- Training a team of 'energy practitioners'
- Delivering a series of community workshops on household energy use and energy efficiency in order to raise awareness and improve the understating of these issues within the Pine Hill community
- Seeding and supporting self-sustaining action on fuel poverty in Pine Hill.

By utilising social networks as the primary conduit for energy information we hoped to increase energy literacy in the community. As the project progressed it became evident that the quality of the social networks we work in is critical in the speed of information uptake and penetrations or 'stickability' of information and advice. For people to make changes and investments in their home, more than just knowledge is required. The support and approval of trusted people – close friends and family – is also necessary. The key to this work is in the power of social networks. All over the world the story is the same: people know that insulating their homes, using energy efficient lights, etc. are necessary, however they just don't get round to making these improvements unless they have overwhelming economic incentives or a 'culture' of energy innovation exists (or both).

Communities are messy things and people are social animals. Engaging with community effectively is not an easy task but it has enormous rewards.



The 'stepping up' and enthusiasm of the TV473 Energy Group is one of the most exciting outcomes of the Pine Hill Community Energy Advice project. Not only are the TV473 Energy Group energy practitioners continuing to provide energy audits in Pine Hill, they have also undertaken to make funding applications to help support their work in the greater TV473 area (North East Valley, Pine Hill, Dalmore, Opoho, and Normamby).

Meanwhile the Pine Hill Community Energy Advice project has taken place within the context of growing interest in energy issues within the city and nationally. For example:

- The Community Energy Network is developing a national 'Energy Practitioner' qualification;
- DCC's proposed Energy Plan seeks to strongly support initiatives to improve the quality of Dunedin's housing stock;

- The Energy Cultures research team will publish the results of their BRCT partnered energy research late 2013;
- EECA has three more years of funding for home insulation – this time targeted at those in most need;
- Smart Energy Solutions is currently running a program for fully subsidised insulation for 170 homes in Dunedin there are ~100 places remaining;
- BRCT is working with OCT and the DCC to facilitate a city wide Cosy Home workshop.

The project objective (“To provide energy workshops in Pine Hill, enhance community networks and build community capacity to address fuel poverty in Pine Hill”) has been met. Something more has begun as well. Over time, BRCT’s independent energy advocacy service has grown in partnership or collaboration with other groups and agencies. Despite resource constraints BRCT maintains online tools and a helpline while seeking to expand services and reach. A unified approach to addressing the challenge of making every home in Dunedin warm and cosy is now closer than ever before to becoming reality. BRCT remains committed to building relationships to grow a unified vision for the city and draws on its national partnerships to deliver local outcomes with the goal of making Dunedin “one of the worlds great small cities” where social wellbeing is enjoyed by all.

### Acknowledgements

Many of the people, both paid and voluntary who put work into making the Pine Hill Community Energy project a success have been acknowledged already, however there are a few more people and organisations who need additional mention. Nicole Foss, whose ongoing generosity as a public speaker was a wonderful addition to our Workshop #3 – thank you Nicole. DCC Energy Manager Neville Auton, whose dedication to reducing fuel poverty in Dunedin is well known and whose contributions are always valuable, was as generous as ever, and a great big thank you to Dean Murray of Smart Energy Solutions, who donated a houselot of insulation and a heatpump to the project, as well as SES staff to assist. Finally, BRCT is indebted to the wider Community Energy Network community and in particular to participants in the ‘Practitioners Hub’ CEN pilot. While you Energy Practitioners may not all know it, this forum and the discussions enabled within the hub have been both timely and inspirational to BRCT.