

International Conference on Sustainability Engineering and Science 2007
Talking and Walking Sustainability

Paper Stream: Livable Communities

Title: Changing Communities through Practical Energy Efficiency: The HEET Experience

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ABSTRACT:

Determined to see an energy efficiency programme in Huntly, local interested parties worked together to establish the Huntly Energy Efficiency Trust (HEET) in December 2001. HEET has grown substantially over the last five years and is now operating throughout the Waikato and South Auckland regions, providing a range of economic, employment, environmental, social and health benefits to the community through various energy efficiency programmes.

Key Benefits of HEET:

- Reduced use and thereby the cost of energy in homes occupied by those on low fixed incomes.
- Improved health and well being of lower income families through warmer drier homes.
- Introduction of broader economic benefits to the community through the retention of energy and health dollars for other uses.
- Training and job creation with its associated social and economic benefits.
- Allows the region to play a significant role in assisting the Government to achieve its targets under the National Energy Efficiency and Conservation Strategy and decreasing New Zealand's reliance on fossil fuels.

The Huntly Energy Efficiency Trust is a solution to many problems from inefficient homes that waste energy to unemployment among young people in the region. It meets the needs of the community for better, more energy efficient homes. It makes the families who live in the homes healthier and it saves them money. Long-term unemployed who have been trained as installers get the benefit of skills and the esteem of having a meaningful job and an income. This programme provides skills, opportunities, lasting improvements in home-owners' well-being and economic as well as environmental benefits.

The Huntly Energy Efficiency Trust is an example of a creative economic development contribution. It is an example of a group, supported by the community with the partnership of government and industry, working together to create positive, sustainable change for individuals, for families, and for our communities.

INTRODUCTION:

Investment in community based energy efficiency programmes creates a watershed of community benefits ranging from job creation and energy savings to health improvement and local economic development. These benefits cross multiple ministerial portfolios and allow communities to grow and develop in not only economic terms but in improvements of collective well being. The Huntly Energy Efficiency Trust is a prime example of a successful initiative growing beyond initial projections and bringing positive improvements throughout the communities it serves.

THE HISTORY OF HEET - Where We've Come From...Where We Are Today

Determined to see an energy efficiency programme in Huntly, local hapu Ngati Whawhakia called a public meeting in early 2001, involving Rotary, Genesis Energy, Te Puni Kokere, Work and Income, Housing New Zealand Corporation, Skills NZ and other interested parties. In December 2001, the Huntly Energy Efficiency Trust (HEET), a not for profit organisation, was established as a means of bringing the economic, employment, health, social and environmental benefits of energy efficiency to Huntly and its environs.

Officially launched with 6 staff members and a voluntary board of 7 trustees, HEET has experienced significant growth over the last 5 years and currently employs 23 staff. HEET has grown from strength to strength and is now, as recipients of the 2004 EECA EnergyWise Community Award and finalists again in 2006, nationally recognised as an organisation focused on making energy efficiency happen throughout the wider Waikato and South Auckland community.

Upon its inception, HEET was awarded a contract with the Energy Efficiency and Conservation Authority (EECA) for 75 whole house retrofits in homes occupied by families on low fixed incomes. At the same time HEET was also awarded a contract for 70 full retrofits in homes owned by the Housing New Zealand Corporation (HNZC). These 145 whole house retrofits consisted of ceiling and underfloor insulation, ground vapour barrier, hot water cylinder wrap, and draughtstops on doors and windows. During the 2006/07 financial year, HEET expects to complete 950 whole house retrofits through a variety of contracts, as well as private work, geographically covering from South Auckland through to South Waikato.

The purpose of HEET is to use energy efficiency as a basis to provide good health and well being throughout our communities, creating together a strong, viable and progressive organisation.

Making energy efficiency happen!

HEET's main income generating project is installation of energy efficiency measures (mainly insulation products) in existing housing. Approximately ninety percent (90%) of turnover is through contracts with Government and funding agencies targeting low-income households as well as contracts with Housing New Zealand Corporation (HNZC) installing insulation in Government owned residential properties. The remaining 10% comes from private (unsubsidised) supply and installation sales to individual homeowners. HEET also operate a purely charitable project distributing donated second hand curtains to low-income families which is fully funded by a committed corporate funder, Genesis Energy.

RESIDENTIAL INSULATION AND THE WIDER EFFECT

By June 2007, HEET will have installed energy efficiency measures in over 4900 homes, including 2987 whole house insulation retrofits. Not only are there numerous economic benefits achieved through this energy efficiency work but the health and wellbeing of the households has also improved. HEET's work in practical cost-effective energy efficiency brings with it environment benefits as well as creating a positive means to enhance the economy of our communities by returning energy and health dollars to the local population for other use.

THE CURTAIN BANK – GIVE WARMTH TO THE WAIKATO

A new project kicked off in July of 2006 is the Curtain Bank, a community initiative between Genesis Energy and HEET. Modeled on a successful programme operated by Community Energy Action in Christchurch, the Curtain Bank recycles donations of curtains and distributes them free of charge to families on a low income. The aim of the Curtain Bank is to help keep families warmer in the winter months and enable them to reduce the amount they spend on power. HEET relines and resizes the donated curtains, and then distributes them with assistance from social agencies. A key objective of HEET is to improve the lives of low-income families by making their homes warm, dry and energy efficient, and the Curtain Bank project supports this goal. We are very pleased have Genesis Energy as the key sponsor of this project.

BENEFIT STREAMS OF COMMUNITY ENERGY EFFICIENCY PROGRAMMES

If we invest \$2,500 in a house what will be the average savings for an average pre-1977 New Zealand home? According to EECA, the per annum financial benefits of ceiling insulation range from \$100-\$400, draught proofing saves \$61-\$75, a cylinder wrap and pipe lagging approximately \$100 savings and underfloor insulation saves between \$50-\$300.¹ But these savings only reflect the energy dollars saved; there are

¹ Estimated costs are based on an average house of 120 m² and a marginal energy cost of 16 cents/kWh for home heating and 13 cents/kWh for water heating. Energy savings will vary depending on the type, age and location of the house and the number of occupants and the lifestyle they choose to enjoy. (EECA, July 2005)

far greater benefits realised by investing in community energy efficiency programmes.

The benefit streams of introducing practical energy efficiency into our communities include:

- Reduced use and thereby the cost of energy in homes occupied by those on low fixed incomes.
- Improved health and well being of lower income families through warmer drier homes.
- Introduction of broader economic benefits to the community through the retention of energy and health dollars for other uses.
- Training and job creation with its associated social and economic benefits.
- Allows the region to play a significant role in assisting the Government to achieve its targets under the National Energy Efficiency and Conservation Strategy and decreasing New Zealand's reliance on fossil fuels.

Economic

Energy efficiency is a positive way to enhance the economy of small towns by returning energy dollars to the community for other use. The retrofit of 2987 homes has resulted in an estimated energy savings of up to 17,762,000 kWhs per year. Using local electricity prices of 18c/kWh this results in over \$3,197,000 in saved "energy dollars" each year - \$3,197,000 that is then available for householders to spend otherwise, further stimulating the Waikato and South Auckland economy.

Health

Evidence shows that cold damp housing is a major contributor to the incidence of chronic respiratory disease. These health impacts not only detrimentally affect the well being of these families, they create a financial drain on already limited resources. Effects on the wider community in terms of lost work days and increased loads on the national health system are well documented.

A recent study by the Wellington School of Medicine (Howden-Chapman, 2004) quantified the annual health savings from full home retrofits at approximately \$210 per annum per household. Considering HEET has retrofitted 2987 homes, home occupants are saving over \$627,000 per annum in health costs.

Social

Over the last five years, HEET have been able to offer training and employment to over 35 people, many of whom were previously long term unemployed. Through the creation of these job opportunities, we have brought money back into the economy of the community and increased individual self esteem, while creating role models for others to aspire to.

Environmental Benefits

The cumulative kWhs saved through the installation of energy efficiency measures effectively displaces generation required nationally and equates to a savings of over 11,000 tonnes of CO₂ emissions² annually. Through this decreased reliance on generation, this project contributes towards a reduction in New Zealand's greenhouse

² CO₂ savings of 0.62 tonnes CO₂ per MWh electricity use (EECA, October 2005)

gas emissions and reliance on fossil fuels, thus resulting in better air quality and a reduction of negative environmental impact nationally.

Based on figures provided by EECA, the work undertaken by HEET has resulted in:

- Up to 17,762,000 kWh saved per annum
- Savings of 11,000 tonnes of CO2 emissions per annum
- Up to \$3.8M savings in energy & health spending EVERY YEAR

MAKING A DIFFERENCE – SERVICE RECIPIENT FEEDBACK

“I wish to convey my sincere gratitude for including us in the programme. I am absolutely amazed at the difference in the warmth of my home in just two weeks. For once it is warmer inside than out... You have made an enormous difference to our lives.”

Hamilton Resident

“We are grateful to [the Trust] for our home insulation recently installed. The house has a different ‘feel’ and even the large hall in the centre has lost its fridge-like quality.”

Huntly Resident

“My home used to be very cold and damp...and I had to keep cleaning mould off the bedroom walls...It was hard to keep the house warm...[and] I usually had three chest infections each winter. My house has been much warmer and drier this winter. I haven’t had to clean mould off the walls...and the biggest bonus of all is that even though my asthma can still be unstable from time to time, I have had only one chest infection this year... A warm dry home is a much healthier home.”

Ngaruawahia Resident

“It is not often that we hear of a provider working to reduce consumption and costs for the consumer. Congratulations to all involved in this great programme. I really hope that home insulation becomes a goal for all Hamilton residents. The dream of the huge beneficial effect on energy consumption and costs as well as health improvements for us and for the environment across the region is very appealing... With best wishes to you and your team in keeping up the good work that will bring such good results for the region in the future.”

Hamilton Resident

WORKING TOGETHER - THE ENERGY EFFICIENCY COMMUNITY NETWORK (EECN)

Over the last 2 years, HEET has played a key role in developing a national network of community trusts involved in energy efficiency work. The Energy Efficiency Community Network (EECN) membership includes long standing successful community based projects as well as relatively new start up programmes throughout New Zealand. Together we work collectively to provide education and assistance to community enterprises working towards energy efficiency and conservation in New Zealand, and to promote the efficient use of energy and conservation to improve the health and wellbeing of New Zealanders. Working together we learn from each other and are able to create greater traction for our own initiatives as well as collectively encouraging greater support of these initiatives by Government.

CHALLENGES AND OPPORTUNITIES

Maintaining the sustainability of a non-profit organisation reliant primarily on external funding requires a level of adaptability, initiative and courage from its management and governance structure. Monitoring of the political and social environment, efficient and effective internal processes and strong relationship management and partnership development skills are necessary to enable continued organisational growth.

The majority of the Government contracts (EECA contracts) require substantial co-funding to be sourced locally which involves extensive unfunded time and effort. HEET's ability to continue its work is substantially impacted by this Government requirement and the challenge is increased when developing a project in an area under supported by potential funding partners. With such direct impact across multiple Government portfolios (e.g. Environment, Health, Energy, Economic Development) it is difficult to understand why Government would place the responsibility of sourcing the considerable funding necessary to meet the required co-funding level on a small community non profit organisation. HEET resources required to undertake this work limits our capacity to develop other business opportunities.

Other opportunities for community energy efficiency organisations include solar hot water heating (SWH) and the proposed Home Energy Ratings Scheme (HERS). Solar water heating loans are currently on offer from EECA and a new SWH incentive programme is in the development stages. EECA is also currently tasked with delivering a HERS programme by late 2007 that will provide an avenue for establishing an energy efficiency rating to a house building envelope, similar to the star rating of appliances. This support of SWH and HERS creates a market opportunity that community based energy efficiency organisations are well placed to service.

THE FUTURE OF HEET – Where to from here

The Huntly Energy Efficiency Trust is dedicated to continuing our work and providing further opportunities for not only the communities we serve but other organisations like HEET throughout New Zealand. As a charitable trust, our primary objective is to maximise the amount of funds we can dedicate towards improved health and housing standards through the utilisation of energy efficiency. Development of continued community partnerships with funding agencies is critical to continue our work to the benefit of the greater community.

The charity sector brings with it challenges. This sector is crowded with many worthy causes. HEET has made an investment in its image and brand and this is having a direct positive impact on its growth. This investment is paying off with further corporate support from our existing Partners and makes HEET's opportunities greater with other regional and national partnerships more likely. A continued effort in building the professional image of HEET will ensure sustainability and further growth.

HEET is a solution to many problems from inefficient homes that waste energy to unemployment among young people in the region. It meets the needs of the community for better, more energy efficient homes. It makes the families who live in the homes healthier and it saves them money. Long-term unemployed who have been trained as installers get the benefit of skills and the esteem of having a meaningful job and an income. This programme provides skills, opportunities, lasting improvements in home-owners' well-being and economic as well as environmental benefits.

HEET is an example of a creative economic development contribution. It's taking what we have as a community, looking at our needs, and bringing them together. It is an example of a group, supported by the community with the partnership of government and industry, working together to create change for individuals, for families, and for our communities.

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