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## Final Evaluation Report – March 2011

CCF Project – 834

Project delivered by



East Renfrewshire  
**Community**  
Enterprise Trust

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## Executive Summary

East Renfrewshire Community Enterprise Trust (ERCET) is a non profit distributing Community Interest Company established in 2009. The organisation brings together the best of the public private, voluntary and academic sectors to advance economic development and promote enterprise across the East Renfrewshire area. ERCET aims to deliver a range of projects across key themes including Green Issues & Sustainability, Community Facilities & Enterprise, Learning & Employability.

In March 2010, ERCET was awarded £182,930 by the Climate Challenge Fund in March 2010 to carry out their “Powerdown Barrhead Eaglesham & Waterfoot” project, along with a feasibility study into the use of Biomass to heat public buildings in the area.

The project had four anticipated outcomes:

- **Outcome 1:** More people across the authority will have awareness and understanding of how to reduce energy in their homes.
- **Outcome 2:** The households reached will be aware of micro-generation alternatives.
- **Outcome 3:** People will use less energy overall in their homes.
- **Outcome 4:** The potential for a biomass facility in Eastwood will be understood.

Against these projected outcomes, the project has achieved:

### Outcome 1

- All 9786 target households contacted during the course of the project.
- Over 2000 households provided with HECs and advice booklets.
- Direct advice given to 1047 households (10.7% of target area) including 678 face to face contacts (6.9%).
- Over 700 Home Energy Checks completed (7.4% of target area) with 199 referrals made to ESSac for other measures where appropriate.
- 56 households referred for social tariffs and 27 for benefits and tax credit checks (figures provided by ESSac).
- We held an Energy Festival in Barrhead in October 2010, attended by approximately 500 people from the local Barrhead community, generating 25 Home Energy Checks.

### Outcome 2

- All 678 face to face contacts were made aware of micro-generation alternatives during interviews and advice giving. Over 2000 households were provided with advice booklets, which included information on micro-generation measures.
- A variety of micro-renewable suppliers were in attendance to advise attendees of the Barrhead Energy Festival in October 2010 (see above).
- We held a Home Renewables Energy event in Eaglesham in February 2011, raising awareness of renewable technologies available to householders. This resulted in 8 known referrals to ESSac for renewable surveys.

### Outcome 3

- **938.35 tonnes** p.a. of CO<sub>2</sub> estimated to be saved as a result of direct behaviour change.
- **275.70 tonnes** p.a. of CO<sub>2</sub> savings through installed measures/EAP referrals (figures provided by ESSac)
- **Total CO<sub>2</sub> estimated savings of 1214 tonnes p.a.**
- **Legacy CO<sub>2</sub> estimated savings (assuming 20 year term) of 24281 tonnes.**

### Outcome 4

- Report detailing the characteristics of Biomass.
- Survey of East Renfrewshire area and investigation of potential at four sites.
- Detailed analysis and feasibility for Biomass plants at two sites – one commercial (Rouken Glen) and one domestic (Saunders Court).
- Additional report into labour market requirements and opportunities.
- Additional Community Energy Development study into the feasibility of other forms of renewable energy uses in Barrhead.



Members of the Powerdown team out in all weather!

# 1 – Project Activities & Delivery

The project had two distinct areas of activity:

1. **Powerdown** – activity focussed on providing information and assisting households to reduce energy use as well as increasing knowledge and awareness of renewables and micro-generation alternatives;
2. **Biomass Study** – the focus of activity was undertaking feasibility studies in the potential for Biomass generation in areas of East Renfrewshire and for other renewable generation options for properties in Barrhead.

The two areas of activity are dealt separately below.

## 1.1 – Powerdown

The declared aim of the project was to “**increase awareness of energy saving and reduce the amount of energy produced by households in Barrhead, Eaglesham and Waterfoot**” and to reduce CO<sub>2</sub> emissions by 504 tonnes over the duration of the project.

The three desired outcomes relating to this were:

- **Outcome 1:** More people across the authority will have awareness and understanding of how to reduce energy in their homes.
- **Outcome 2:** The households reached will be aware of micro-generation alternatives.
- **Outcome 3:** People will use less energy overall in their homes.

A summary of the activities carried out in the delivery of these outcomes is outlined in the table below:

Anticipated project outcomes	Project activities & delivery
1. More people across the authority will have awareness and understanding of how to reduce energy in their homes.	<ul style="list-style-type: none"> <li>• All project staff trained and qualified with City &amp; Guilds Energy Awareness Certificate (C&amp;G 6176-01)</li> <li>• A co-branded HEC mail-shot with ESSac, distributed to 8,000 households in the area</li> <li>• 7x leaflet drop campaigns in Barrhead and Eaglesham reaching 1928 households all with personal follow-up</li> <li>• Doorstep follow-up and engagement resulting in 156 HECs</li> <li>• Direct marketing style bag drop to 1,800 households in Eaglesham and Waterfoot and 200 in Barrhead which included an energy advice booklet and HEC</li> <li>• Over 700 HECs completed</li> <li>• Regular drop-in surgeries in public venues including libraries, sports centre and medical centre</li> <li>• Presentations and micro-surgeries to numerous community organisations, with a particular emphasis on the elderly and fuel poor, reaching over 360 households</li> </ul>

	<ul style="list-style-type: none"> <li>• Workshop for P7 school pupils in Eaglesham focusing on energy saving and renewables</li> <li>• Held an Energy Festival in Barrhead, attended by approximately 500 people</li> <li>• Weekly spot on local radio discussing energy saving topics, including renewables</li> <li>• Regular promotion and advertising in local newspapers</li> <li>• Professionally designed website with energy advice and links to relevant organisations</li> </ul>
<p>2. The households reached will be aware of micro-generation alternatives.</p>	<ul style="list-style-type: none"> <li>• All project staff trained and qualified with City &amp; Guilds Renewable Energy in the Home Certificate (C&amp;G 6176-02)</li> <li>• All face-to-face and community presentations have included information on micro-renewables</li> <li>• Availability of approved micro-renewable suppliers in attendance at the Barrhead Energy Festival</li> <li>• Home Renewables event in Eaglesham in February 2011 co-hosted with ESSac, leading to 8 Home Renewable Survey referrals in addition to confirmed referrals to the installers present.</li> </ul>
<p>3. People will use less energy overall in their homes.</p>	<p>From our direct referrals we have made the following recommendations to ESSac:</p> <ul style="list-style-type: none"> <li>• 154 loft insulations or top-ups</li> <li>• 81 cavity wall insulations</li> <li>• 83 new boilers</li> <li>• 46 EAP referrals</li> <li>• 37 benefits and tax credit checks</li> </ul> <p>Our own research has indicated that through simple energy saving advice leading to behaviour change, those householders who have been engaged with the Powerdown team have saved on average 1.34 tonnes of CO<sub>2</sub> per annum (in addition to any additional measures outlined above).</p>

Throughout the project, there has been a substantial amount of partnership work. We have forged close links with Eaglesham & Waterfoot Community Development Trust, East Renfrewshire Council, ESSac, Neilston Development Trust and Voluntary Action East Renfrewshire. ESSac have provided us with promotional support and assistance, along with the administration of our Home Energy Checks and the follow up of any referrals.

Without these key partnerships we would have been unable to deliver the project as efficiently as we have, ensuring that we were not overlapping or duplicating work that was going on elsewhere. For example, when the local authority identified areas to be targeted as part of the UHIS scheme, we agreed that the Powerdown team would not be required to actively target these, however the council promoted our energy advice service on all literature that was sent out to UHIS households. Voluntary Action and others helped us to identify the priority community groups to target our activities so that they would achieve the highest impact.



The Powerdown team with the Dunterlie 50+ Club

“We really appreciated the Powerdown team coming to speak to us, and would love to have them back again in the summer if their project continues”. (Margaret King of Dunterlie’s 50+ group)

## 1.2 - Biomass Study

We commissioned the International Resources and Recycling Institute (IRRI), a Scottish charity committed to advancing the theory and practice of resource use, to conduct research into the feasibility of developing one or more Biomass generation schemes within East Renfrewshire and to provide detailed costing and analysis. We further commissioned IRRI to consider the labour market requirements associated with renewable technologies and to identify skills gaps and opportunities.

In addition to the Biomass Study, we commissioned three organisations (HLM Architects Ltd, Absolute Solar & Wind Ltd and Solar Power Scotland) to advise on the potential for small scale electricity or heat generation through domestic renewable energy schemes and assess associated costs and benefits of developing a domestic scale renewables projects in the Barrhead area.

Activity and outcomes from the studies are outlined below:

- IRRI reviewed four potential sites across East Renfrewshire. These were identified following consultation with the Council and with key stakeholders including a local Housing Association and were associated with specific buildings or groups of buildings. The sites included
  - Saunders Court – 42 flatted dwellings owned and managed by Barrhead Housing Association
  - Dunterlie - a community resource centre, housing and school
  - Eastwood Park – variety of public buildings including a theatre, sports centre and school
  - Rouken Glen – a collection of commercial and public properties including a garden centre, restaurant, sports facility and training centre.
- Following an initial review of findings it was agreed to develop full feasibility for two sites – Saunders Court and Rouken Glen.
- The report concludes that Biomass production is currently not viable on the scale of Saunders Court but may be viable on the Rouken Glen site provided that it attracts Renewable Heat Incentive (RHI).
- Report further concludes that Biomass could be a contributor to East Renfrewshire’s potential to use renewable energy to increase economic development, but that the opportunity is probably small scale increasing the likelihood that individual projects may not be economically viable.
- In terms of the additional scope, the report concludes that there is a good opportunity for the development of a high profile training capability to be developed in East Renfrewshire.
- The study recommends development of an innovative Sustainable Energy Institute which will deliver courses for the Public Sector throughout Scotland, the UK and Europe in integrated Sustainable Energy Planning. In addition, it is suggested that there is capacity for the Institute’s Skills Centre to provide a set of courses for the local labour market in renewable energy training for electricians, plumbers, joiners, lawyers, etc.
- The additional reports commissioned identify a range of social housing schemes in Barrhead with suitability for renewable energy development. Recommendations are currently being developed further with appropriate landlords.

## 2 – Community Outcomes

The project target areas of Barrhead, Eaglesham & Waterfoot include a number of separate communities. There are 10 formal community councils and other smaller representative groups, for example, Barrhead has various representative groups in estates such as Auchenback and Dunterlie. We have engaged with as many of these groups as possible in each of the project areas, including:

- Regular sessions in public venues including libraries, sports centre and medical centre with advisors available to offer face to face advice and complete HECs
- Presentations and micro-surgeries to numerous community organisations, such as
  - Barrhead and Neilston Disability Forum (Dunterlie resource centre)
  - Eaglesham Age Concern
  - Auchenback 50+ (Dunterlie)
  - Golden Age Club Barrhead (Auchenback)
  - United Reform Church Friendship Club
  - Salvation Army Lunch Club
  - Eaglesham Community Council
  - Auchenback Parents & Toddler Group
  - 3rd Sector Forum (voluntary action)
- Surgeries have had a particular emphasis on the elderly and fuel poor, reaching over 360 households
- Developed and carried out a 1.5hr Energy Workshop for P7 school pupils in Eaglesham
- Energy Festival in Barrhead, attended by approximately 500 people from local communities
- Identification of and liaison with “champions” or community enthusiasts in each community to help promote the project and involve other members of each community
- Held a Home Renewables Awareness event in Eaglesham in conjunction with ESSac
- Weekly spot on local community radio (Pulse 98.4) discussing energy saving topics
- Development of strong relationship with Eaglesham and Waterfoot Community Development Trust and joint working programme to gain residents interest and support
- Regular liaison with Neilston Development Trust in order to share best practice and avoid duplication or overlap
- Press promotion and advertising in local newspapers (Barrhead News & Eastwood Extra)
- Community consultation regarding biomass heating with residents of Barrhead Housing Association properties (and consultation planned with Friends of Rouken Glen community group to discuss biomass opportunities in Rouken Glen Park)
- Liaison and team working on regular basis over past 12 months with Thornliebank Tenants & Residents Association, Giffnock Community Council and Thornliebank Community Council regarding the potential to develop allotments
- Professionally designed website with energy advice and links to relevant organisations.

The above activities have helped to increase both awareness and engagement in Powerdown.



Susan & Callum at Barrhead Library

The changes that we have achieved in our communities have been substantial, through educating schoolchildren to improve their awareness of energy usage, through to helping the fuel poor to reduce their carbon emissions and financial outgoings. We have raised awareness of incentives and projects such as HIS, UHIS, the EAP and promoted social tariff referrals. The people who have engaged with us have been overwhelmingly positive in their support for the project - 84.5% felt that the advice we had given was useful and worthwhile. Several groups have also indicated that if the project were to continue, they would like follow up presentations and workshops.



Peter at his weekly Pulse 98.4 Magazine Show slot.

### 3 - CO<sub>2</sub> Emissions Reduction

An estimated total of **1213.7 tonnes pa** of CO<sub>2</sub> has been saved through a combination of direct behaviour change (**938.35 tonnes pa**) and installed measures/EAP referrals (**275.7 tonnes pa**). Legacy CO<sub>2</sub> savings arising from the results, over 20 years, are estimated to be **24281 tonnes**.

The estimated reduction in CO<sub>2</sub> savings as result of **behaviour change** was established by conducting an on-line customer survey of householders who completed a HEC. 20% of those who completed a HEC were surveyed, with an 11% response rate. The survey cohort was selected to reflect the same demographic of households completing HECs. 84% of respondents found the advice given by the Powerdown Team to be useful and acted on the advice. 100% reported that behaviour changes were sustainable in the long term.

The customer survey identified the behavioural changes had been made by the householder, such as installing energy saving light bulbs, closing doors, etc. We allocated each of these behavioural changes with a carbon reduction figure (through GCNS Carbon Calculator). By using this as statistical sample data, we established a notional average saving for each household who responded to our survey and extrapolated that information to the overall HEC completion rate.

Each **installed measure or EAP referral** was also allocated a carbon saving using data provided by ESSac. We were able to establish an accurate carbon reduction figure, however it should be noted that these figures were obtained in early February and ESSac have been unable to provide us with more up to date information.

The tables below outline how these carbon saving figures have been calculated:

**Table 1 - Behaviour changes**

Measure	% of responses	Weekly carbon saving	Total weekly carbon saving (based on 700 HECs)	Total ANNUAL Carbon saving
Switching off appliances	58%	1.257kg	510kg	26538kg
Switching off lights	67%	0.359kg	168kg	9260kg
Turn heating down by 1 degree	75%	7.539kg	3958kg	205816kg
Washing clothes at lower temperature	25%	0.212kg	37kg	1929kg
Closing doors and curtains to prevent draughts	50%	29.4kg	10290kg	535080kg
Installing Low Energy bulbs (average response 6 per household)	50%	8.776kg	3072kg	159723kg
Total ANNUAL Carbon saving (Kg)				<b>938346Kg</b>
Annual Tonnes				<b>938.35 Tonnes</b>

(All figures calculated using GCNS Weekly Carbon Savings)

**Table 2 – Installed Measures**

Measure	Anticipated Saving per Measure (tCo2/year)	Annual Carbon Saving (Tonnes)
58 Cavity Wall Insulation	0.532	30.86
62 Loft Insulation	1.068	66.22
10 Loft Top Ups	0.301	3.01
12 Boiler Replacements	0.95	11.4
69 Stage 4 EAP Referrals	2.38	164.22
<b>Total:</b>		<b>275.71</b>

(All data on installed measures/EAP referrals provided by ESSac)



Giving Advice at the Barrhead Energy Festival, October 2010

## 4 – Social, Economic & Environmental Impact

The Powerdown project has had a direct and measurable impact within each of the communities it has been based.

From a social and environmental perspective, we have raised awareness of energy efficiency, both in terms of its impact on CO<sub>2</sub> emissions and on the cost benefits to householders. The project has reached over 4500 households and can measure a reduction of 1213 tonnes p.a. of CO<sub>2</sub> as a direct result of activity.

The economic impact has also been substantial, and is outlined below:

EST estimated financial savings for practical insulation measures:

Practical Measure	Annual Saving
Cavity Wall Insulation	£110
Loft Insulation	£145
Loft top-up Insulation	£45

Measures installed under the Energy Assistance Package:

Measure	Quantity	Year 1 Saving	Legacy saving
Cavity Wall Insulation	25	£2,750	£55,000
Loft Insulation	37	£5,365	£107,300
Loft Top-up	0	£0	£0
	<b>Total</b>	<b>£8,115</b>	<b>£162,300</b>

Measures installed in priority households:

Measure	Quantity	Year 1 Saving	Legacy saving
Cavity Wall Insulation	4	£440	£8,800
Loft Insulation	6	£870	£17,400
Loft Top-up	0	£0	£0
	<b>Total</b>	<b>£1,310</b>	<b>£26,200</b>

Measures installed at households' expense:

Measure	Quantity	Year 1 Saving	Legacy saving
Cavity Wall Insulation	29	£3,190	£63,800
Loft Insulation	19	£2,755	£55,100
Loft Top-up	9	£990	£19,800
	<b>Total</b>	<b>£6,935</b>	<b>£138,700</b>

Based solely on installed measures, there are total annual savings to householders of £16,360 p.a. and a legacy of £327,200. In addition to figures from installed measures, there have been significant financial savings from referrals to social tariffs. ESSac have confirmed that there have been a total of 46 referrals to social tariffs as a direct result of the Powerdown project, resulting in an estimated annual saving of £8,400 (based on an average saving per household of £150p.a.) and a legacy of £168,000.

Overall the project has achieved an annual saving for householders of **£24,760** and legacy savings of **£495,200**.



Barrhead Energy Festival, October 2010

## 5 – Project Legacy

The legacy of the project as outlined in our application was:

**“The lasting legacy will be a firm decrease in energy consumption over many years in the householders and community groups reached, and a cultural and attitude change among hard to reach and deprived communities.**

**Furthermore, this work will determine a way ahead for investing and funding a network of environmental projects in a sustainable fashion in the future and determine the appetite from the communities in which we will work for further projects focused on carbon reduction”**

Based on our own survey results, we have established a legacy carbon saving of **24281 tonnes**. This figure, and the fact that 100% of respondents to our survey indicated that all of the behavioural changes they had made were sustainable in the long term, clearly shows that there will be a substantial and long term reduction in energy use from the households reached. In order to ensure a lasting legacy within deprived communities, we targeted our community based efforts on groups which dealt mainly with the fuel poor, in areas identified by the local authority as having lower than average incomes etc. Our survey work, and the anecdotal evidence we have received from some of these groups suggests that by highlighting the environmental and financial benefits of saving energy in the home, along with the simple, easy to follow advice that we gave has resulted in a change in attitude.

Powerdown has generated a level of awareness and momentum within our communities that ERCET and others are committed to taking forward. Throughout the project we have worked closely with the local authority, community organisations and community members and have identified a range of additional initiatives in key areas such as sustainable travel and local food production each of which will contribute to further CO<sub>2</sub> savings and increase the overall legacy of the project. There is a strong likelihood that the work carried out this year will be picked up and continued in communities by other organisations, for example, Eaglesham & Waterfoot Community Development Trust, with whom we worked closely with.

In terms of our people, we have 3 highly qualified and experienced Advisors who hold two City & Guilds qualifications and are experienced in dealing with environmental issues at a grass roots level.

Longer term, the additional activity that this project has delivered, namely the Biomass Feasibility and Renewables studies, will support the development of community energy schemes and micro-generation for many years to come resulting in untold carbon and cost savings.