



FINAL REPORT - 31st March 2011

Prepared for: Climate Challenge Fund

by: Lochwinnoch Energy Action Plan

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1.0 Project Successes

This report outlines the activities and achievement of the LEAP project from its launch at the Lochwinnoch Gala Day on 12th June 2010 to the end of the funding period, 31st March 2011.

Key Project Measures

- 1123 tonnes of CO₂ emissions saved
- 248 Home Energy Checks completed
- 22% of Lochwinnoch households actively participated in the project
- 665, 59% of households were personally contacted by the project team
- 550 villagers attended events and activities associated with the project
- 77 External Thermal Images undertaken
- 27 Internal Thermal Images undertaken
- 24 Air Permeability Tests undertaken
- 2 Draught Buster Workshops undertaken with 11 participants
- 62 Power Down Plugs Distributed
- 30 Smart Meters Distributed

Key Installations

Prompted by the Energy Adviser's recommendations in the Home Action Plans, implemented measures included, approximately;

- 150 households installed draught proofing measures
- 7 installed internal wall insulation
- 10 installed cavity wall insulation
- 75 installed loft insulation
- 5 installed floor insulation
- 15 replaced their boilers
- 15 installed hot water cylinder jackets
- 2 installed double glazing
- 5 installed room thermostats
- 10 installed wood burning stoves

Key Behaviour Changes

During the home visits, the most frequently adopted behaviour changes were:

- Turning the Hot Water Cylinder Thermostat down to 60 Degrees
- Taking shorter or timed showers
- Closing Curtains at Dusk during the winter months
- Using the dishwasher on the Eco cycle
- Clothes washing at 30 Degrees

Key Images



June 2010 - Lochwinnoch Gala Day, Launch event, Carol Gemmell, LEAP Project Manager and David Newit, Energy Saving Scotland Advice Centre (ESSac) explaining domestic energy saving opportunities available to villagers through LEAP.

June 2010, Promotional shot for the Village Newspaper – Chatterbox, and Poster campaign, introducing Rob Welsh and Alan Vince newly recruited and trained Energy Advisers.



October 2010, Thermal Image Promotion Display in the 'Shop Front Notice Board' on the High Street.

January 2011, A participant at one of the Draught Buster Workshop, draught proofing a villager's front door.



2.0 Project Activities

The project aimed to help the 1,150 Lochwinnoch households reduce the energy wasted in their homes by encouraging them to save money by making behavioural and material changes to reduce fuel bills. The full time Project Manager and 2 part time Energy Advisers conducted Home Energy Checks with follow up activities, including Home Action Plans, Thermal Imaging and targeted Cavity Wall and Loft Insulation measures to encourage domestic energy reduction.

This A5 Leaflet was used to raise awareness and encourage villagers to get involved.



Between announcement of funding in April 2010 and the launch event in June a full time Project Manager and two part time Energy Advisers were recruited. Following training (Energy Awareness, and subsequently Renewable Energy in the Home, City and Guild exams), disclosures, and sourcing public liability and professional indemnity insurance, the team got underway to deliver four core project activities:

1. Awareness Raising

to generate appointments for :

2. Home Energy Checks

then to produce :

3. Home Action Plans

to target :

4. Detailed Activities with High Potential households

2.1 Awareness Raising

It was important LEAP became a familiar aspect of the community to;

- ensure villagers understood the purpose of the project
- raise interest in the free services available from LEAP
- explain the benefits of making homes more energy efficient
- incentives participation in the project and in making energy saving changes at home.

The main awareness raising activities included:

- development of the LEAP Logo
- LEAP website – integrated and updated through the Lochwinnoch Village website
- LEAP Letterhead Paper and Business Cards
- dedicated Phone Line
- LEAP Leaflet
- ‘Shop Front’ Notice board on the High Street
- posters, changed on a monthly basis, in the Shop Front Notice board
- regular articles in the local ‘Chatterbox’ Village Newspaper and Paisley Gazette
- presentations at local events including; Community Council meetings, Elderly Forum, Village Annual Gathering, Christmas Lights Switch On Parade
- targeted, named, mailshot letters with follow up house calls
- Draught Buster Workshop Events
- promotional initiatives included;
 - Boiler Scrappage Scheme Info
 - Free Power Down Plugs
 - Measuring Energy Consumption
 - Thermal Images
 - Insulation Deals

2.2 Home Energy Checks (HEC)

248 visits to homeowners in Lochwinnoch were carried out during the project. These prearranged Energy Adviser house calls were the primary means of engagement with the project. The meeting would last around an hour and through completion of a comprehensive questionnaire (see Appendices) priorities for behaviour change and material changes were discussed with the home owner.

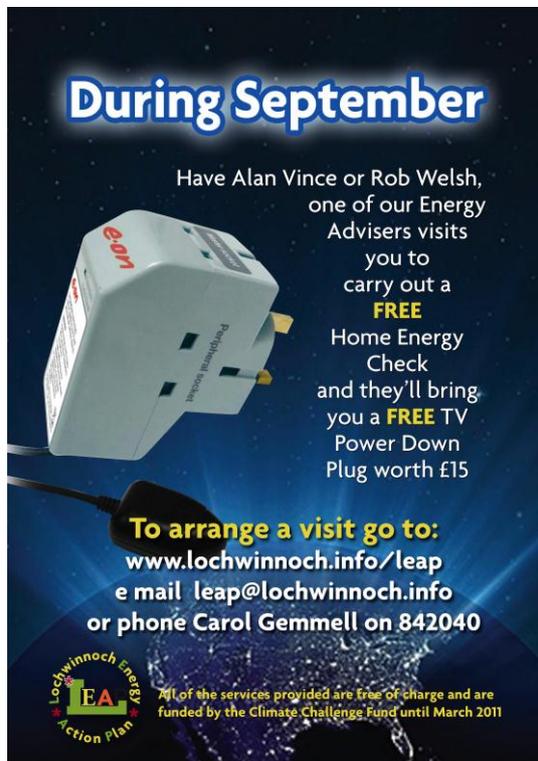
2.3 Home Action Plans (HAP) and Follow Up

Following the HEC visit the Energy Adviser would produce a detailed Action Plan for the Home Owner. The standard Energy Saving Trust (EST) Home Energy Check form would also be completed and submitted to ESSac for processing. ESSac then produced a Client Report and assess eligibility for Stages 1 to 4 of the Energy Assistance Package and would phone the Home Owner to progress assistance where appropriate.

2.4 Detailed Activities – Fuel Bill Reduction Plans

HEC visits helped identify 27 'top priority' households who agreed to work more closely with the project as part of the 'Fuel Bill Reduction Plan'. These households had a high potential for significant savings and an enthusiastic attitude towards the projects. They worked closely with an Energy Adviser over a 5 month period to maximise progress of energy saving measures in this time. Each household was supplied with an energy monitor and a full Air Permeability Test and Detailed Internal and External Thermal Image was carried out. Following implementation of many energy saving measures, 6 of these properties were repeat Air Permeability Tested. One property, an old hard to treat premises, showed a drop in Air Permeability Test score from 29 to 12.8 (New Build Housing Standard is a score of 10) with an estimated saving of 0.43 tonnes of CO₂ per annum. (See Section 4.0 CO₂ Emissions for more details.)

Examples of LEAP Promotional Posters:



3.0 Community Outcomes

Key Partners

- **Lochwinnoch Residents and Community Groups**

The 22% of residents who actively participated in the project were from a wide cross section of villagers including: Home Owners, Council Tenants, Housing Association Tenants, Private Tenants, the elderly, unemployed, single people and families across a wide income spectrum and social background. Participation was representative of the whole village community.

Community Groups such as the Community Council, The Village Website, Chatterbox, Elderly Forum; both benefited from and assisted the promotion and development of the project. Local businesses also benefited from printing and promotional activities undertaken and paid for by the project.

- **ESSac**

The Energy Saving Scotland Advice Centre played an important role in the services LEAP delivered in the village. ESSac assisted with targeted mailshots to raise awareness and assessed the EST HEC's submitted by LEAP. They promoted the relevant Energy Assistance Packages to residents. More data feedback from their assessment would have been useful for LEAP to have further supported resident who were eligible for assistance.

- **Thermal Image UK Ltd**

This supplier provided the detailed Thermal Image and Air Permeability Tests undertaken in the village. Tom Barbour, Managing Director worked closely with the project to develop and refine these unique services as the project progressed to develop best practice.

- **Renfrewshire Council**

LEAP developed a very good working relationship with Ron Mould of the Property Investment Team at Renfrewshire Council and was able to successfully escalate energy saving issues identified in council tenant properties.

- **Other CCF Funded Projects**

Much was gained, particularly in the early 'set up' stages of the project, in speaking with other CCF funded community groups working on similar issues. In particular Callander and Climate Change, Guildtown and Wolfhill Carbon Community Action Project, Muthill Community Development Association, Transition Edinburgh University and Going Carbon Neutral Stirling provided invaluable guidance, assisting the project to get up and running quickly.

Impact Survey

During February and early March 2011 a survey (Survey Monkey Online) was undertaken to measure community engagement with the project and to assess potential ongoing interest. 109 individuals replied (9.5% of village households). The principle findings were:

- 97% of respondents said they would support the continuation of the LEAP project for another year.

Finding out about LEAP:

- 75% said they used Chatterbox, the village magazine, to find out about LEAP news
- 49% used the Shop Front Notice board on the High Street
- 46% used the Website
- 30% found out about initiatives from Leaflets
- 25% from Posters
- 70% said they had become interested in the project through word of mouth

Ideas for the extension of the project for a further 12 months were tested in the survey and the findings used to shape an application for further funding for LEAP 2.

Participant Feedback

Feedback from some of the villagers who participated in the project and completed the survey included:

"I implemented Rob's plan and the floor feels so much cosier now"

Ann Fairful

" my wood burning stove is the best thing I've put in my house – ever ! "

Bryony White

" I expected inhibitively expensive recommendations, but was impressed with the practical, cost effective things suggested, it really opened my eyes to what we could do"

Peter Livingston

“ I learned a lot more than
I thought I would ”
George Edgar

"the Thermal Image showed me even the thinnest
curtains make a big difference"

Bryone White

“ I’ve been singing the praises of the
workshop to people I know ”
Gary Affleck

“ working with LEAP has been excellent, thanks for all Alan’s
help over the past year, we’ve learnt a lot. ”

Villager

“ great project, well managed and engaged in really trying to get
a low carbon Lochwinnoch in an inclusive way. ”

Villager

“ useful, friendly, informative service. It would be greatly advantageous
to the community and myself for this service to
continue and grow in scope. ”

Villager

3.0 CO₂ Emission Reductions

1123.30 tonnes of CO₂ were saved due to LEAP Project Activities

Against a funding target of 1076 tonnes of CO₂

These CO₂ saving calculations are based on guidance from the Energy Saving Trust (EST) and ESSac. Explanation of these calculations and assumptions are in the Appendices.

The total is made up of the following key savings:

248 Home Energy Checks (HEC) and Home Action Plans (HAP)

Undertaken by Energy Advisers with householders, 22% of all occupied domestic houses in Lochwinnoch. $248 \times 3.67 \text{ t CO}_2 = \mathbf{910.12 \text{ t CO}_2}$

(3.67 t CO₂ / HEC is taken from EST who performed a study in the Strathclyde area which showed that the average house who received energy advice reduced their Carbon emissions by 1 tonne / yr. This is then converted to CO₂ by multiplying by 3.67)

Some months after the HECs and HAPs, a 43% sample (102 households) was contacted at random and details of the measures these households were collated. = 77.4 t CO₂

Savings came from a range of measures including:

Solid Wall Insulation(13.9t), Cavity Wall Insulation(6.4t), Loft and Top Up Loft Insulation(13.1t), Draft Proofing (11.1t), Replacement Boiler(14.8t), Hot Water Tank Jackets (1.2t), Pipe Work Lagged(0.2t), Room Thermostat Installed(.7t) Double Glazing(0.8t), Wood Burning stoves(7.9t), Energy Saving Light Bulbs(.4t), Replacement of Appliances(.2t), The figures in brackets show the total savings accumulated from these measures across the 102 households.

(Data: EST Energy Saving Checklist)

This data was then extrapolated to determine CO₂ savings in the remaining 146 houses:
 $77.4 / 102 = 0.758 \text{ t CO}_2 \times 248 \text{ households} = \mathbf{187.9t \text{ CO}_2}$

Additional Savings were also achieved through the following activities:

30 Smart Meters Distributed

Estimated these meters save 5-10% on electricity bills. The average home in Lochwinnoch consumes 4.1kW of electricity (Data: DECC IGZ)

$7.5\% \text{ of } 4,100 = 308 \text{ kWh} \times 30 \text{ Monitors} = 9,240 \text{ kWh saved per house}$

$9,240 \times 0.544 = \mathbf{5.1 \text{ t CO}_2 \text{ saved}}$

62 Power Down Plugs Distributed

EST estimates these plugs save up to £25/yr on electricity bills. At approximately £0.10 / kWh this equates to: $(25 / 0.1) \times 0.544 = 135.5 \text{ kg CO}_2$ x 62 Power Down Plugs = **8.4t CO₂**

27 Air Permeability Tests

As part of the Fuel Bill Reduction Plan, 27 Air Permeability Tests were undertaken in households. This provided a certified test and report in compliance with ATTMA TS1 (recognised UK standard) and an Air Permeability Score for the property. Video footage showed locations of air leaks in the houses, highlighting during the test using a smoke pencil. Following draught proofing measures 6 of the properties were retested and the reduction in Air Permeability Score was converted into a CO₂ saving.

(Data: Thermal Imaging UK Ltd) The average saving per traditional stone property was 0.43t CO₂ per annum and for timber framed properties 0.31t CO₂. These results suggest that the maximum benefit to be gained from this sort of testing and draught proofing initiative is in older stone build (traditionally harder to treat) properties.

These figures were averaged across the 27 properties to give a total saving of **10.1t CO₂**

2 Draught Buster Workshops

11 attendees participated in 2 Draught Buster workshops in villager's homes. Attendees had a 'hands-on' opportunity to install draught proofing material on wooden door and window surrounds and were provide with materials to undertake draught proofing at home. The workshops were well received. 73% of attendees fed back that they found the workshop helpful; they carried out draft proofing measures thereafter and would recommend the workshop to friends and neighbours.

$11 \times 0.152\text{t} = \mathbf{1.67\text{t CO}_2}$ saved

(Data: EST Energy Saving Checklist)

104 Thermal Images

Following discussions with ESSac and EST, LEAP were unable to identify data attached specifically to the preparation of Thermal Imaging, therefore the CO₂ savings resulting from this work have been accounted for in the average savings for measures installed based on the 102 households surveyed. The Images were evocative and helped householders identify cold spots, damp and poorly installed cavity wall insulation.

4.0 Project Legacy

- **Ongoing CO₂ Emission Reductions**

1123 Tonnes of CO₂ were saved over the first year of this project. These savings will continue each year.

- **Further Implementation**

248 personalised Home Action Plans were prepared for individual households in Lochwinnoch. Not all actions were completed during the project period. Many householders still plan to undertake activities in the forthcoming months and years. In particular there are planned installations of cavity wall insulations, loft insulation and Photo Voltaic Solar Roof Panels during Spring and Summer 2011. The Energy Advisers have raised awareness with householders about actions that could sensibly be carried out at a future date when other renovation work is being undertaken, this may be 1, 2 or even 3 years away, but it is more likely now that good insulation practices will be included when these property repairs are next undertaken. This is particularly true for under floor and internal solid wall insulation.

- **Training and Employment within the Local Community**

The project has offered the opportunity of employment, training and work experience to local people. The skills and experience gained by the steering group, project manager and energy advisers will remain in the local community and be of benefit to these individuals and the local community in the future.

- **A More Environmental Village Identity**

The high profile and levels of participation in the project have assisted in moving the subject of Energy Saving, Climate Change and CO₂ Reduction into mainstream thinking within the village. Taking responsibility for these issues, as individuals and a community have become more integrated into everyday thinking and behaviour. Being aware of and acting to reduce energy consumption has become a greater part of the character and profile of the village due to the LEAP project.

6.0 Project Summary

6.1 Project Details

CCF Reference Number	CCF – 753
Project Name	LEAP – Lochwinnoch Energy Action Plan
Organisation Name	LMEG – Lochwinnoch Millennium Events Group
Development Officer	Stephanie Clark (Keep Scotland Beautiful)
CCF Progress Reports	Monitoring and Evaluation Reports 31 st August 2010 - Progress Report Submitted 30 th November 2010 - Progress Report Submitted 31 st January 2010 - Progress Report Submitted 31 st March 2010 - Final Report
Project Team	Project Manager - Carol Gemmell Energy Advisers - Alan Vince - Rob Welsh LEAP Chairman - Stephanie Williamson and Steering Group Members - Peter Livingston - Martin Mansell - Dave Mellor LMEG Directors - Davie Arthur - Duncan Bremner - David McCusker - Sue Richardson - Graeme Skelton
Email Address	leap@lochwinnoch.info
Web Site Address	www.lochwinnoch.info/leap
Leap Helpline	01505 842 040
Postal Address	The Old Bakery 19 High Street Lochwinnoch PA12 4DB



6.2 Financial information

Total Funding Approved	£65,900																						
Total Funding Claimed /Paid	<table> <tr> <td>Claim 1 11/06/2010</td> <td>£ 8,813.93</td> </tr> <tr> <td>Claim 2 25/06/2010</td> <td>£ 1,346.57</td> </tr> <tr> <td>Claim 3 10/08/2010</td> <td>£ 7,118.37</td> </tr> <tr> <td>Claim 4 10/09/2010</td> <td>£ 7,594.12</td> </tr> <tr> <td>Claim 5 26/10/2010</td> <td>£ 5,733.79</td> </tr> <tr> <td>Claim 6 26/11/2010</td> <td>£16,716.95</td> </tr> <tr> <td>Claim 7 17/12/2010</td> <td>£ 5,188.58</td> </tr> <tr> <td>Claim 8 11/02/2011</td> <td>£ 3,835.94 – 56,348.25</td> </tr> <tr> <td>Claim 9 31/03/2011</td> <td>£ 3137.47 - 59,485.72</td> </tr> <tr> <td><i>Claim 10 31/03/2011</i></td> <td><i>£ 4,467.71 –</i></td> </tr> <tr> <td>Total Claimed:</td> <td>£ 63,953.43 97%</td> </tr> </table>	Claim 1 11/06/2010	£ 8,813.93	Claim 2 25/06/2010	£ 1,346.57	Claim 3 10/08/2010	£ 7,118.37	Claim 4 10/09/2010	£ 7,594.12	Claim 5 26/10/2010	£ 5,733.79	Claim 6 26/11/2010	£16,716.95	Claim 7 17/12/2010	£ 5,188.58	Claim 8 11/02/2011	£ 3,835.94 – 56,348.25	Claim 9 31/03/2011	£ 3137.47 - 59,485.72	<i>Claim 10 31/03/2011</i>	<i>£ 4,467.71 –</i>	Total Claimed:	£ 63,953.43 97%
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Total Claimed:	£ 63,953.43 97%																						
Principle Expenditure Items (Rounded)	<p>Energy Advisers & Project Manager Fees and Expenses – 60%</p> <p>Air Pressure Testing – 8%</p> <p>Thermal Imaging – 7%</p> <p>Training and Qualifications – 7%</p> <p>Awareness Raising & Publicity – 7%</p> <p>Administration – 5%</p> <p>Draught Buster Workshops – 3%</p> <p>Energy Monitoring Equipment – 3%</p>																						
Under Spend	<p>£5,900</p> <p>From funding approval it took around 7 weeks to recruit the team. Budgeted Fees and Expenses were accordingly under spent.</p>																						