

ECO-ACTIVE

ENERGY EFFICIENCY SERVICE

Annual Report - 2012



States
of Jersey




Jersey Electricity

energy
saving
trust
endorsed
advice

Contents

Foreword

Summary

1. Introduction

- 1.1. What is the Energy Efficiency Service?
- 1.2. What does the Energy Efficiency Service provide?

2. The Home Energy Scheme

- 2.1. Setting the standard

3. Community Buildings Programme

- 3.1. Community Buildings Case Study – St Lawrence Parish Accommodation
- 3.2. Community Buildings Case Study – St Ouen's Parish

4. Energy Advice Line

5. Jersey Heat Loss Map

6. Outreach and education

- 6.1. Advertising
- 6.2. Events
- 6.3. Education
- 6.4. Graph showing the total number of HES applications in 2012

7. Forward Look

8. Energy Efficiency Service - 2012 Statistics

- 8.1. Work programme achievements 2012
- 8.2. Scheme statistics against targets for 2012
- 8.3. Budget 2012

9. Improvements delivered through the Home Energy Scheme in 2012

- 9.1. Home Energy Reviews (*For flats and houses built after 1996*)
- 9.2. Loft insulation
- 9.3. Cavity Wall Insulation
- 9.4. Draught proofing
- 9.5. Hot water cylinders
- 9.6. Heating controls
- 9.7. Pipe lagging
- 9.8. Low energy light bulbs
- 9.9. Boiler replacements
- 9.10. Storage heater replacements
- 9.11. Other works

10. Energy, fuel cost and carbon savings delivered

- 10.1. Annual energy, fuel cost and carbon dioxide savings for all measures installed
- 10.2. Lifetime energy, fuel cost and carbon dioxide savings for measures installed

Appendix 1- Budget Spend in 2011 and carbon savings from installed measures

- A.** Energy Efficiency Service 2011 Budget spend report
- B.** Annual energy, fuel cost and carbon dioxide savings for all measures installed – based on data extracted from EES database on 12th March 2012 and provided to the EST
- C.** Lifetime energy, fuel cost and carbon dioxide savings for measures installed - based on data extracted from EES database on 12th March 2012 and provided to the EST

Foreword

I am delighted to provide a short foreword to the EES annual report for 2012. I do so on behalf of my fellow independent Board Members: Andrea Cook, Chris Ambler, David Lord and Peter Cadiou. Our task is to provide oversight and good governance to the EES as it goes about its work.

During 2012 we have consolidated the work undertaken in 2011. We continued to provide energy saving measures to socio-economically disadvantaged groups in the Island as well as developing advice and support for the services provided. We believe that the UK Energy Saving Trust endorsed advice, which we are able to give people, helps them to make the right judgments about the measures they might take to reduce their energy use and thereby save themselves money as well as reduce Jersey's carbon emissions

The Board has focused in particular on seeing that the funds provided by the States of Jersey and the £0.5m initial donation, in 2009, by Jersey Electricity are used efficiently and effectively. I believe they have been so used and congratulate the EES on the tight control they keep on both the funds and the outcomes of the services they provide.

We have also been concerned to ensure that the figures for energy saving and carbon reduction are reliable. To that end the Energy Saving Trust in the UK verifies the figures we produce and confirm that they are accurate in the conditions which prevail in Jersey.

The Island Heat Loss Map was introduced in 2012 and the site has been visited on a great number of occasions which shows that there is widespread interest in the question of energy efficiency. Standing next to the Minister in the Royal Square in front of the map and fielding questions from interested home owners was one of my abiding memories of 2012.

Also during 2012 JET offered comments on the draft Island Energy Plan which sets out the way in which Jersey might meet its international commitments in the Kyoto Protocol to reduce by 80% its carbon emissions by 2050 against a 1990 baseline.

JET and EES believe it is important that the Energy Plan should be approved during the current year. The formal adoption of the Plan will enable a much wider range of properties to be included in our work. The JET and EES have been making provisional plans for schemes which might be appropriate when the scope of our work is enlarged to include the built environment across the whole Island.

Finally I would like to pay tribute to my colleagues on the Board and also to those who work in the EES. With a small group of dedicated workers they achieved in 2012 remarkable results.

Sir Nigel Broomfield
Chairman Jersey Energy Trust

Summary

Introduction

This report covers the work of Energy Efficiency Service (EES) of the Department of Environment for 2012. The EES's work is overseen by the Jersey Energy Trust, a Board comprising independent Non-Executive Directors appointed for a fixed term. The EES and JET is funded by an annual budget of c.£1million from the States of Jersey as well as an initial 'seed' donation of £0.5m donation from Jersey Electricity plc.

Services Provided

The EES has, in 2012, provided two main operational schemes and a public advisory and support function. The operational schemes consist of the Home Energy Scheme and the Community Buildings programme. Both are aimed at socio-economically vulnerable groups in Jersey and are 100% funded grant schemes. They are supported by a telephone support service - Energy Advice Line - which received requests for advice from 775 callers in 2012 and the Jersey Heat Loss Map which has received over 10,000 visitor since its launch in 2011.

The Home Energy Scheme

Over time, and with the agreement of the JET Board and the Minister, the eligibility criteria for this scheme have been extended so that more can benefit from the funds available. In 2012 this scheme provided a wide range of energy efficiency improvements to 324 qualifying private households. The key statistics for the scheme are given in the table below.

WORK STREAMS	End 2012
Home Energy Scheme (HES)	
Pre-2012 applications	1231
Applications received in 2012	319
<i>Owner-occupiers</i>	235
<i>Privately owned (landlord)</i>	84
Home Energy Package (houses & bungalows built pre-1996)	284
Home Energy Reviews (flats & houses built post-1996)	25
<i>Not eligible for assistance</i>	10
Projected number of eligible clients *	2165
Community Buildings Programme	
New applications received in 2012 (Organisations)	4
Completed insulation works in 2012	2
Completed heating system works in 2012	4
Energy Advice Service	
Advice provided via Energy Advice Phone Line	775

**This figure comprises all those in receipt of Income Support, the Westfield Health Plan and GST Food Cost Bonus as of 2012 that are not in State's Housing and have not already been assisted by the EES It excludes potential applicants falling within the 70+ with limited saving criteria.*

The Community Buildings Programme

The Community Buildings Programme provides funding for energy efficiency improvements to charities and not-for-profit organisations that give a service within the local community to socio-economically vulnerable groups. The improvements are similar to those in the Home Energy Scheme. During the year the scheme received 4 new Community Building applications as listed above.

The case study gives an example of just one of the organisations which have received help during 2012.

3.1. Community Buildings Case Study – St Lawrence Parish Accommodation

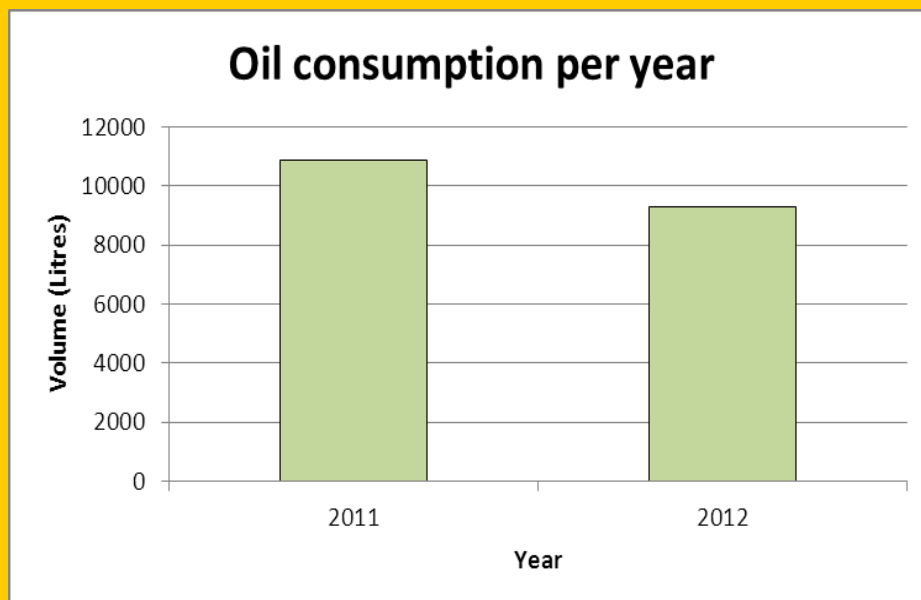
The Organisation

The Parish of St Lawrence provides sheltered housing for the elderly, prioritising those who have a connection to the Parish. The Parish houses approximately 14 people, all of whom are at least of retirement age (65 for men, 60 for women) which is funded via the Parish Rates.

Below is a summary of the performance results for the heating installation at St. Lawrence Parish Accommodation:

- Amount of oil saved since 2011 = 6,939 Litres
- Amount of Energy saved since 2011 = 71,477kWh
- Amount of CO₂ emissions saved since 2011 = 18,941kgCO₂
- Average annual saving of CO₂ emissions = 5,828kgCO₂
- Average annual saving in fuel costs = £1,451.95
- Annual energy saving = 16.31%*

**Based on predicted consumption*



Quality Assurance Programme

The EES delivers complex services into the homes of its clients supported by an after care service beyond the completion of the contract. In addition a quality assurance check is carried out at a sample of properties treated to ensure that all work meets the required standards.

All contractors have checks on their technical and security qualifications. Applicants are also invited to complete a feedback report and, if they wish, to allow EES to access their properties and review their energy bills. Of those applicants who responded, 97% rated the EES process as either good or very good.

Future Work

There remains an enormous opportunity in Jersey to reduce energy bills or improve comfort levels, as well as to reduce the islands carbon emissions. The investment in this work has the additional benefit of supporting the local economy with what are essentially locally delivered services. During 2013 the EES will be continuing its current programmes while waiting for approval for the Island Energy Plan - Pathway 2050 - which was put out for public consultation in November 2012.

Once the Plan is adopted it will enable the EES to expand its activities into the 'able to pay' sector. Among the schemes under development is the Home Energy Audit which was piloted in 2012, this scheme should help home owners to take action to reduce their energy consumption and their carbon emissions long into the future.

1. Introduction

This report provides information on the activities and spends of the Department of the Environment's Energy Efficiency Service in 2012. An update on the budget spends and carbon savings from the installed measures in 2011 is given in Appendix 1.

1.1. What is the Energy Efficiency Service?

The Energy Efficiency Service (EES) was launched by the Minister for Planning and Environment in April of 2009. It is funded by an annual budget in the region of £1 million from the States of Jersey, as well as an initial seed donation of £500,000 from the Jersey Electricity Company. The scheme provides energy efficiency improvement advice to all Islanders through its telephone advice line as well as a programme of incentives and grants to certain eligible Islanders.

The work of the EES is overseen by the Jersey Energy Trust (JET). The JET board provides an advisory function to the Minister for Planning and Environment on the development of the EES's work programme. Together with Department of Environment, the JET board provides leadership, independence and oversight on the corporate governance of the EES. The JET board is chaired by Sir Nigel Broomfield and the non-executive members comprise Chris Ambler (CEO of Jersey Electricity Ltd), David Lord (Operations Manager, Jersey Cheshire Home), Peter Cadiou (Managing Consultant, Jersey Energy) and well as Andrea Cook OBE who has extensive UK experience in developing and delivering energy efficiency programmes.

The EES is based within the Department of Environment at Howard Davis Farm, and has three full time employees whose role it is to develop and administer the scheme and carry out marketing and awareness raising activities. The team reports to the Director of Environmental Policy and specific areas of technical support are provided by Jersey Energy.

1.2. What does the Energy Efficiency Service provide?

The EES currently has two grant schemes providing support for members of the local population meeting a set of eligibility criteria. The programmes are the Home Energy Scheme and the Community Buildings Programme. In addition, since 2011, the EES expanded to provide a public advisory and support function through the Energy Advice Line and developed an awareness raising programme including the Jersey Heat Loss Map.

2. The Home Energy Scheme

The core scheme offered by the EES is the Home Energy Scheme which provides a wide range of energy efficiency improvements to eligible households. With agreement from the JET Board and the Minister, the eligibility criteria of the scheme have expanded since the scheme was set up, to now include:

- Households registered on Income Support
- Recipients of the Westfield 65+ Health Plan
- Recipients of the GST Food Costs Bonus
- Individuals over 70 with limited savings

It was estimated that at the time of the Social Security mail out in October 2012 there were 2,279 individuals that qualified for the service, under the top three criteria. There have been 1,378

applications to the scheme under the first three criteria giving a response rate of 37% which compares favourably to similar energy efficiency grant schemes in the UK.

The EES operates a fully supported service from start to finish in order minimize the disturbance and disruption that is inevitable when carrying out works in a private home. This is particularly important given the client group. All works are coordinated by the EES through their team of approved contractors and applicants are kept up to date through regular written and telephone communications as well as on site visits.

Works that qualify for 100% grant funding through the scheme include:

- Home Energy Reviews (HER)
- Loft insulation
- Cavity wall insulation
- Draft proofing
- Hot water cylinders
- Heating controls
- Pipe lagging
- Low energy lamps
- Energy advice and information
- Boiler replacement
- Storage heater replacements

The heating system improvement programme was introduced in September 2010. The aim of this programme is to improve the efficiency of older heating systems by upgrading the system to achieve a minimum improvement in efficiency of 15% compared to the system that is replaced. The scheme is only open to owner occupiers with heating systems over 10 years old. This service has been offered to applicants who applied to the Home Energy Scheme prior to 2010 and is also offered to new applicants to the scheme.

2.1. Setting the standard

The EES process does not finish when the works at a property are complete. A quality assurance process is carried out on a sample of properties treated to ensure that the contractors' works meet necessary industry specific standards and statutory legislation. All contractors working for the scheme undergo a competitive tender process including checks on professional qualifications and accreditations and Disclosure Scotland (a criminal reference security check) to ensure their suitability.

Applicants are also invited to complete a feedback process and, they allow us to access and review their energy bills to demonstrate savings made over the initial years. Over 97% of applicants who have responded with the feedback have rated the EES process as either good or very good.

3. The Community Buildings Programme

The community buildings programme was introduced in 2010. This programme provides funding for energy efficiency improvements to charities and not-for-profit organisations that provide a service within the local community to the socio-economically vulnerable target group. The measures received by qualifying organisations are similar to those provided in the home energy

scheme. From the start of the programme in January 2010, to the end of 2012, 20 charities and not-for-profit organisations providing support and assistance to 300 individuals received energy efficiency support through the programme.

The case studies below give more information on organisations that have benefitted from the Community Buildings Programme in 2012.

3.1. Community Buildings Case Study – St Lawrence Parish Accommodation

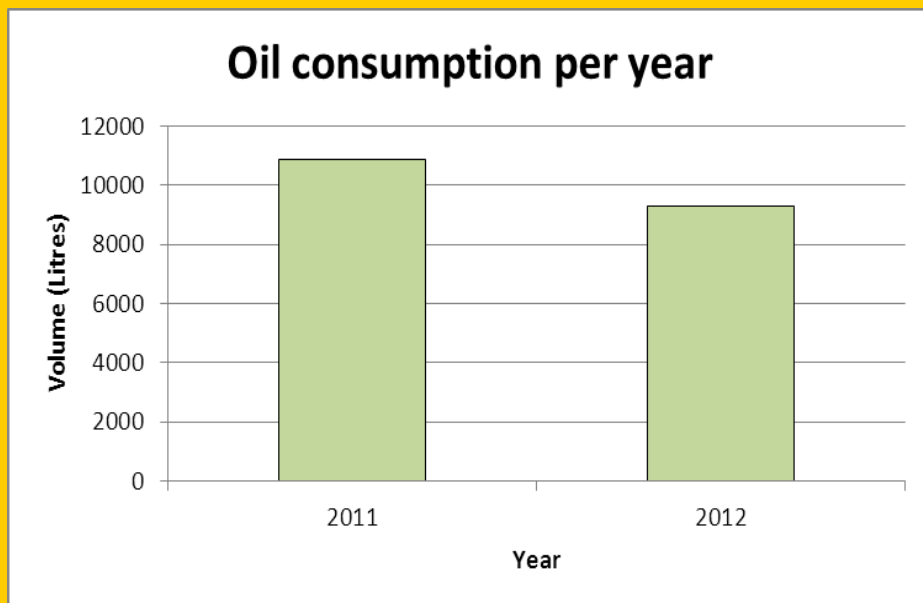
The Organisation

The Parish of St Lawrence provides sheltered housing for the elderly, prioritising those who have a connection to the Parish. The Parish houses approximately 14 people, all of whom are at least of retirement age (65 for men, 60 for women) which is funded via the Parish Rates.

Below is a summary of the performance results for the heating installation at St. Lawrence Parish Accommodation:

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- Amount of CO₂ emissions saved since 2011 = 18,941kgCO₂
- Average annual saving of CO₂ emissions = 5,828kgCO₂
- Average annual saving in fuel costs = £1,451.95
- Annual energy saving = 16.31%*

**Based on predicted consumption*



3.2. Community Buildings Case Study – Clos de Mahaut and Jardin de la Rue (St. Ouen's Parish)

The Organisation

The Parish of St Ouen provides sheltered accommodation to its elderly residents, prioritising the sick and less mobile who require easy access to local amenities. The Parish houses approximately 49 people over the age of 65 with the majority of residents being over the age of 75. This is funded via the Parish Rates.

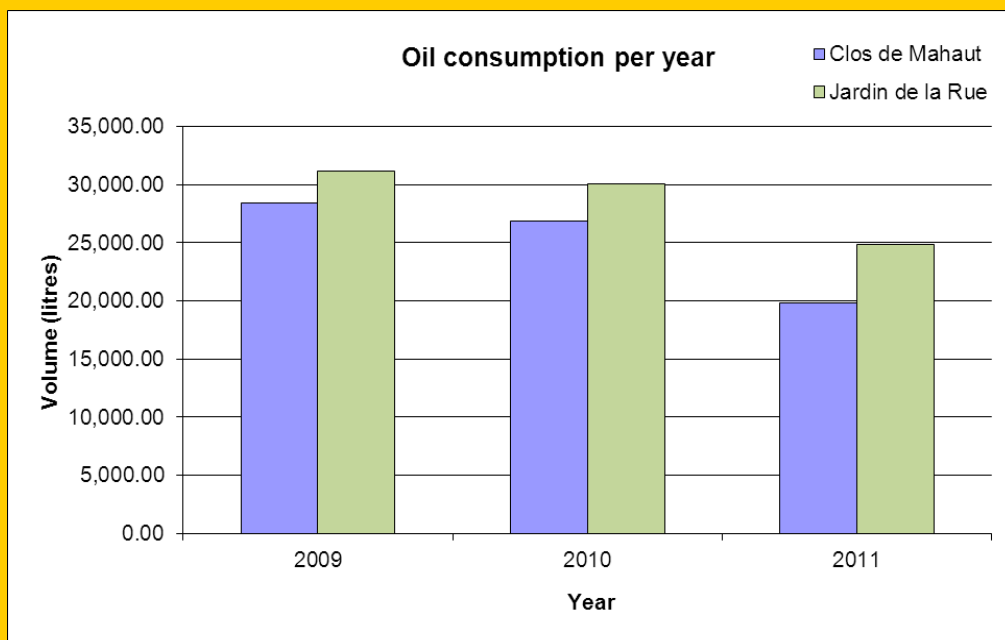
The Energy Efficiency Service funded the following improvements to the buildings and heating systems servicing at Clos du Mahaut and Jardin de la Rue:

- Insulation upgrade- completed mid 2010
- Boiler replacement- commissioned Aug 2011

Below is a summary of the performance results for the heating installation at Clos de Mahaut:

- Amount of oil saved since 2011 = 11,431 Litres
- Amount of Energy saved since 2011 = 117, 742kWh
- Amount of CO₂ emissions saved since 2011 = 31,202kgCO₂
- Average annual saving of CO₂ emissions = 11,346kgCO₂
- Average annual saving in fuel costs = £4,413.76
- Annual energy saving = 23.16%*

**Based on predicted consumption*



4. Energy Advice Line

Over the last 12 months the EES dedicated telephone energy advice line has received 775 energy related enquiries from members of the public. In addition the EES have spoken to approximately 310 individuals at public events.

Advice calls provide accurate and relevant energy saving advice which is tailored to the callers lifestyle, home type and occupancy. Advice is given on a many subjects which may provide energy saving opportunities, e.g. behaviour changes, heating system upgrades and loft and cavity wall insulation.

The EES energy advice line is endorsed and verified by the Energy Saving Trust (EST), an eminent UK energy saving organisation which assists with the development and delivery of energy saving schemes and programmes with government, local authority, third sector organisations and business. Formed in 1992, the Energy Saving Trust is a social enterprise with a charitable Foundation. The EST through partnerships offers impartial advice to communities and households on how to reduce carbon emissions, use water more sustainably and save money on energy bills.

The EST endorsement ensures that all advice provided by the EES is delivered by staff who have been trained to deliver good practice advice in line with their standards. All EES staff are assessed twice yearly against the standard set by the EST. Additionally all facts and figures in EES documents are checked by the EST prior to publication and the carbon dioxide and financial savings for consumers have been checked and verified by the EST using Jersey specific data.

5. Jersey Heat Loss Map

The Jersey Heat Loss map was launched in November 2011 and has received over 10,000 visitors. It provides an easily accessible way to see whether a property is losing heat and potentially wasting energy.

The map was created using imagery captured by an adapted plane flying over the Island on the evenings of 17th February & 3rd March 2011. The plane's thermal camera captured images of the surface of the Island which were then converted to heat loss information and overlain onto the 2008 base map of the Island providing a snapshot of heat loss for every building in Jersey.

The information is available on www.gov.je/energyefficiency by following the links to the heat loss map. The map is postcode based and enables a property owner to enter their post code to receive an instant result. Properties with high levels of heat loss are shown in red, properties that have low levels of heat loss are shown in green.

The aim of the Jersey Heat Loss Map is to encourage Islanders to think about how much heat and energy they are losing from their property. If a property owner discovers that their building is losing heat, there are links to the EES contact details and also on-line advice to assist any subsequent action that may wish to undertake.

6. Outreach and awareness

The EES runs a full programme of public awareness initiatives which are outlined in the sections below. The EES is actively promoted on-site at local events using the Greener Living Trailer where members of the public can ask questions about eligibility for the grants programme, energy efficiency in general and also check out their property's energy performance on the Heat Loss Map.

6.1. Advertising

- Featured in a total of seven articles within the JEP appearing in January, March, June, August, September, October & November.
- A total of four ¼ page adverts placed in the JEP appearing in June, July, August and October.
- Adverts placed throughout the JEP Jersey Diary 2012.
- Prime Time magazine article and a ¼ page advert in their summer edition.
- Featured in the West Show JEP supplement in July.
- Featured in the Home Life Show JEP supplements in both May and November.
- Featured in an article in the October edition of the JEP Homelife supplement. ¼ page advert also placed.
- ¼ page advert and article in the October edition of Don't Move Improve magazine.
- Articles in the summer editions of St Martin and St Lawrence Parish magazines.
- Article in the autumn edition of the departmental Environment Update.
- 1 litre green (March-June) and ½ litre blue (October-December) milk carton adverts which featured on approximately 872,500 cartons in total.
- Summer (July-September) and winter (October-February) internal bus posters.
- 3mx1m banner at the Jersey Bowls Club during August & September.
- A total of 2,000 A6 Energy Surgery postcards sent out to all advice line enquiries and distributed to island-wide locations such as Parish Halls.
- Direct mail out to 1,301 individuals receiving the Food Cost (GST) Bonus who were yet to apply for the Home Energy Scheme. Sent throughout week commencing 23rd July.
- Direct mail out to 2,279 individuals receiving Income Support, Food Cost (GST) Bonus or Westfield who were yet to apply for the Home Energy Scheme. Sent on the 18th October.

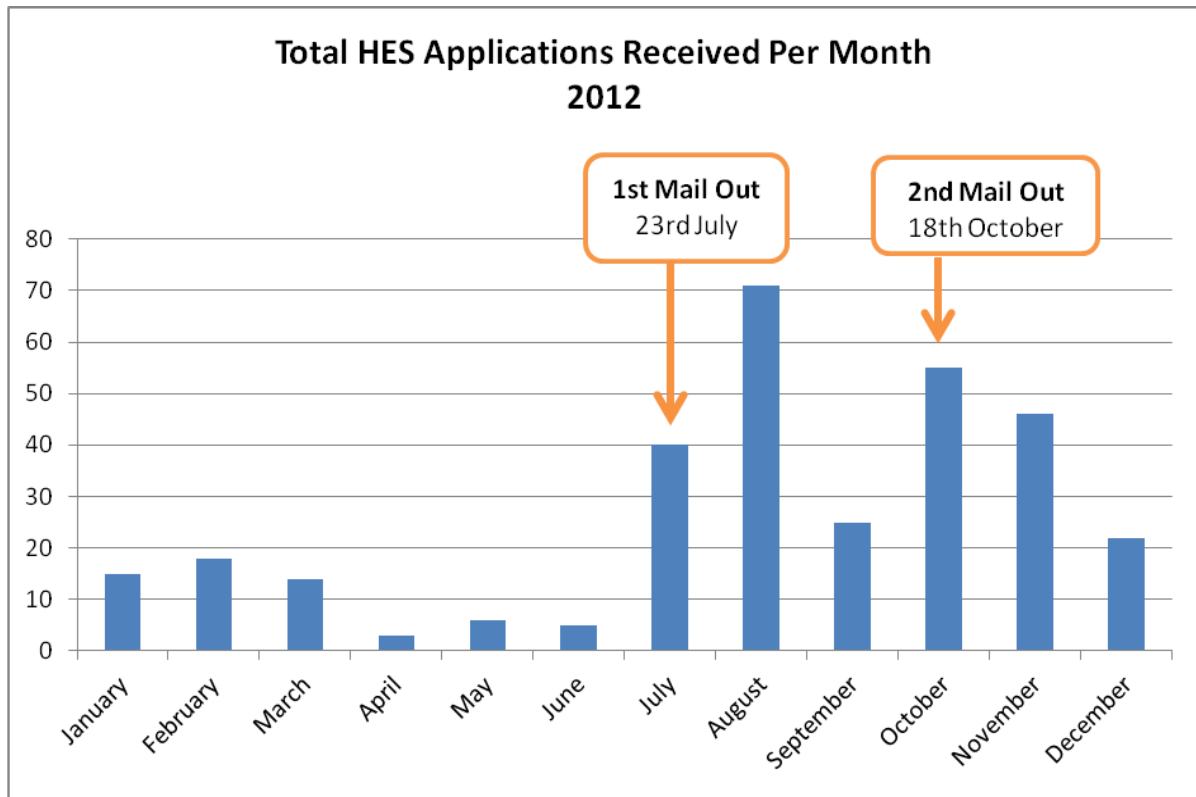
6.2. Events

- Trailer at D'Auvergne Summer Fete on the 30th June.
- Trailer at the West Show on the 7th & 8th July.
- Trailer at Durrell Days on the 14th & 15th July.
- Attended two Car Boot sales, on the 19th August and 18th November.
- Trailer at the Grouville Autumn Fayre on the 8th September.
- Energy Surgery at St Pauls Centre on the 26th October to celebrate Energy Week.
- Trailer at Fort Regent Home Life Show on the 9th-11th November.
- Regular outreach at Social Security, B&Q and both the town and country Co-op. Community Markets and WI meetings also attended towards the end of the year.

6.3. Education

- Energy School Packs available to all schools on request.
- Three Primary Schools visited:
 - Springfield on the 12th June
 - La Moye on the 27th November
 - Trinity on the 5th December
- Attended the Eco-Active schools awards ceremony on the 21st June.
- Attended the JCG Prep school Eco-Fayre on the 7th & 8th November.

6.4. Graph showing the total number of HES applications in 2012



- A total of 319 applications were received in 2012
- A total of 60 applications were received between January-June, increasing dramatically to 259 being received between July-December.
- Two spikes can be clearly seen on the above graph following each direct mail out to eligible customers via the Department for Social Security's benefits Database.

The statistics within this report focus on 324 private homes that completed the Home Energy Scheme process in 2012. The EES is an important delivery mechanism for reducing Jersey's carbon emissions and increasing the affordability of energy for the Island's most vulnerable Islanders.

7. Forward Look

During 2012 the EES team, in consultation with the Jersey Energy Trust, began to develop a home energy audit programme that will be introduced following the adoption of the Jersey Energy Plan¹. This programme will be available to all members of the community, not only those meeting the eligibility criteria for the home energy scheme. The home energy audit has been evaluated and adapted in response to feedback received from the pilot group.

The Home Energy Audit has been developed to address a number of barriers that are commonly cited as preventing home owners, from taking action to reduce their energy consumption. The final of three evaluation phases of the Home Energy Audit comprised of the completion of an online home energy check for 20 homes, followed up by a visit from a qualified home energy advisor. The householder was provided with an independent, bespoke costed action plan outlining the energy efficiency improvements for their individual property and circumstances. The householder was also provided with a tool-kit to assist them in gathering quotes for any work that they chose to carry out as well as assistance in assessing and choosing a contractor to complete it. The participants that took part in the pilot scheme were asked for a £50 contribution towards the cost of the energy advisors visit. The participants were then supported in taking forward the actions recommended with a £200 voucher towards the cost of specific insulation measures. The purpose of the voucher was to incentivise action and to provide a method of quality control, as only EES approved contractors were able to redeem the voucher. To date the response to the Home Energy Audit Pilot has been very extremely positive. Out of the 62 participants from all three phases we have received feedback from 47 and 98% of them rated the programme as either excellent or good.

The EES is recognised in the draft Jersey Energy Plan as a key delivery mechanism for reducing Jersey's carbon emissions and increasing the affordability of energy for the Island's most vulnerable Islanders. The EES and JET look forward to the adoption of the Energy Plan by the States of Jersey in 2013.

¹ The Department of the Environment launched 'Pathway 2050: An Energy Plan' for Jersey for public consultation in November 2012 to January 2013. The proposed policies within this document expand the work of the EES from the socio-economically vulnerable sector into the whole community.

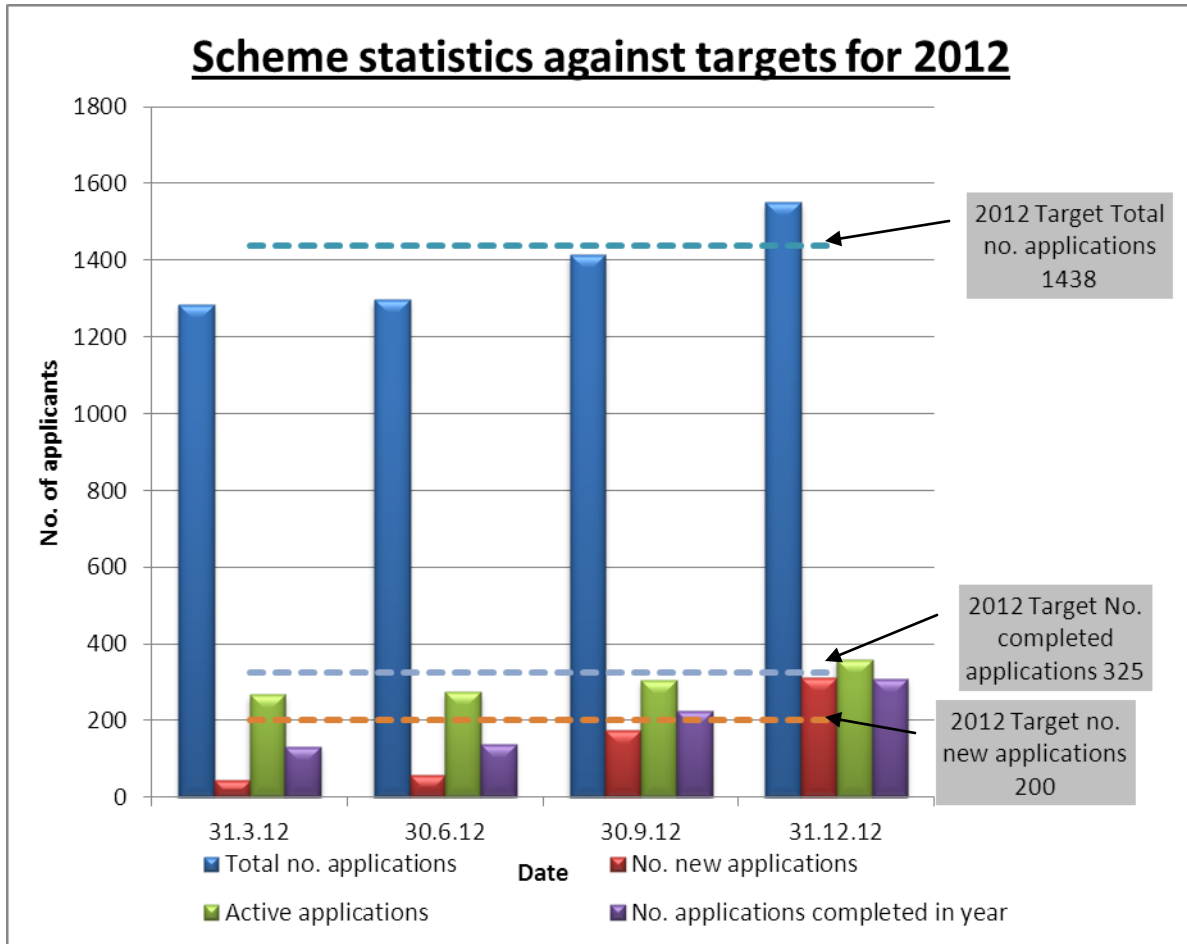
8. Energy Efficiency Service - 2012 Statistics

8.1. Work programme achievements 2012

WORK STREAMS	End 2012
Home Energy Scheme (HES)	
Pre-2012 applications	1231
New applications received in 2012 (no. of households)	319
<i>Owner-occupiers</i>	235
<i>Privately owned (landlord)</i>	84
Home Energy Package (houses & bungalows built pre-1996)	284
Home Energy Reviews (flats & houses built post-1996)	25
<i>Not eligible for assistance</i>	10
Remaining number of eligible clients as of Feb 2013*	2165
Community Buildings Programme	
New applications received in 2012 (Organisations)	4
Completed insulation works in 2012	2
Completed heating system works in 2012	4
Energy Advice Service	
Advice provided via Energy Advice Phone Line	775

*This figure comprises all those in receipt of Income Support, the Westfield Health Plan and GST Food Cost Bonus as of 2012 that are not in State's Housing and have not already been assisted by the EES It excludes potential applicants falling within the 70+ with limited saving criteria.

8.2. Scheme statistics against targets for 2012



Key points:

- 319 new applications received in 2012 against target of 200 for year
- 324 applications completed in 2012 against target of 325 for year
- 360 active households applications being progressed through the scheme
- 1191 completed applications since 2009
- 34 applicants awaiting eligibility checks from Social Security Department
- 160 applicants awaiting assignment to contractor
- 122 applications with works in progress
- 22 with works complete awaiting QA check and / or sign off

8.3. Budget 2012

During 2012, the EES spent and committed £1,027,449, of which £816,887 was in the form of direct grant aid.

	Spend	2012 Budget agreed by JET	Notes:
MANPOWER COSTS	120,152	129,126	
Tech Support Fees	28,964		<i>Energy consultancy fees for Community buildings initial surveys and QA leading to sign off.</i>
Education, Outreach & Other Supplies & Services	35,396		<i>Education, outreach events and materials and marketing of the scheme.</i>
Other Travel	1,320		
SUPPLIES, SERVICES & ADMINISTRATION	65,680	53,000	
Fruitless payments	24,740		<i>Additional costs incurred as a result of heating system QAs leading to problem resolution</i>
Other operating expenses	24,740	0	
Home Energy Scheme	679,173	450,000	<i>Overspend on HES to be taken from underspend on CBP, unallocated budget and JEC drawdown.</i>
Community Buildings Programme	137,704	220,000	
<i>Cheshire Home</i>	23,636		
<i>Little Sisters of Poor</i>	83,470		
<i>Parish of St.Ouen</i>	4,056		
<i>Silkworth Lodge</i>	8,336		
<i>St Lawrence</i>	13,798		
<i>Maison des Landes</i>	471		
<i>Woman's refuge</i>	230		
QA checks & Misc	3,707		<i>Energy reviews and final QA checks to be completed in January 2013.</i>
Home Energy Audit Pilot	7,803	10,000	
Other	13,370	70,941	<i>Low energy lamps, Carbon Monoxide alarms, smoke detectors, EST accreditation.</i>
GRANTS AND SUBSIDIES	816,877	750,941	
TOTAL	1,027,449	933,067	

9. Improvements delivered through the Home Energy Scheme in 2012

The following tables show all work that was commissioned in 2012. It should be noted that some of the measures were carried out over the year end period (consistent with the 3-year budgeting programme). To avoid double counting, all the work commissioned within 2012 is reported below even though some balance of payments has been made in 2013.

9.1. Home Energy Reviews (*For flats and houses built after 1996*)

- 24 properties have received Home Energy Reviews (HER)
- Average cost per property of £122.50

Home Energy Review	Actual Amount	No. of properties	Av cost per property
HER to Flat or Bedsit	£2,640.00	22	£120.00
HER to Bungalow	£150.00	1	£150.00
HER to House	£150.00	1	£150.00
Total	£2,940.00	24	£122.50

9.2. Loft insulation

- 135 lofts insulated (42% of properties)
- 7,409m² of loft insulation quilt laid
- £156,080.81 spent on insulating lofts and associated works
- Average cost of £1,156.15 per property including loft clearance, floor board removal, fire protection, cold water tank insulation and bye-law compliance

Loft Insulation	Actual Amount	No. of properties	Av cost per property
Cold water tank insulation jacket	£6,058.50	51	£118.79
Loft Clearance including remove and dispose of existing insulation and remove and replace nailed floor board (where appropriate)	£31,948.60	130	£245.76
100mm thick loft insulation	£1,576.56	7	£225.22
200mm thick loft insulation	£16,532.03	45	£367.38
300mm thick loft insulation	£66,491.82	101	£658.33
Other insulation works (e.g. rafters, garages, floors, brush, airbrick, vent etc)	£348.30	5	£69.66
Cold water tank insulation quilt	£3,750.00	47	£79.79
Cold water tank lid	£5,775.00	48	£120.31
Cold water tank bye law kit (including associated products)	£3,400.00	41	£82.93
Cold water tank bye law kit (excluding associated products)	£450.00	8	£56.25
Cold water tank bye-law kit (including insulation & lid)	£19,750.00	52	£379.81
Total	£156,080.81	135	£1,156.15

9.3. Cavity Wall Insulation

- 58 properties cavity wall insulated (18% of properties)
- 5969.32m² cavity wall insulation installed
- £58,754.12 spent on cavity wall insulation and associated works
- Average cost per property = £1,013.00

Cavity Wall Insulation	Actual Amount	No. of properties	Av cost per property
Insulation to 65mm wide cavity wall	£23,145.60	21	£1,102.17
Insulation to 75mm wide cavity wall	£34,476.00	36	£957.67
Insulation to 90mm wide cavity wall	£854.88	1	£854.88
Miscellaneous items (brush, airbrick, vent etc)	£277.64	4	£69.41
Total	£58,754.12	58	£1,013.00

9.4. Draught proofing

- 52 properties have received draught proofing
- 459m² of draught proofing has been completed
- Average cost per property of draught proofing = £94.54

Draught proofing	Actual Amount	No. of properties	Av cost per property
Draught stripping to exterior door	£2,053.90	48	£42.79
Draught stripping to windows	£778.00	3	£259.33
Draught stripping to letterbox	£346.60	9	£38.51
Draught proofing labour	£1,737.50	25	£69.50
Total	£4,916.00	52	£94.54

9.5. Hot water cylinders and jackets

- 5 properties have received hot water cylinder insulation jackets at an average cost per property of £83.66
- 50 properties have received new hot water cylinders at an average cost per property of £871.05

Hot water cylinders	Actual Amount	No. of properties	Av cost per property
Hot water cylinder jacket (46x18 inch)	£0	0	£0
Hot water cylinder jacket (30x18 inch)	£360.00	4	£90
Hot water cylinder jacket (58x20 inch)	£58.32	1	£58.32
Total	£418.32	5	£83.66

Hot water cylinders	Actual Amount	No. of properties	Av cost per property
Replacement hot water cylinder (150l)	£23,923.60	29	£824.95
Replacement hot water cylinder (170l)	£12,207.22	13	£939.02
Replacement hot water cylinder (210l)	£7,421.56	8	£927.70
Total	£43,552.38	50	£871.05

9.6. Heating controls

- 71 properties received heating control improvements
- 37 properties have received room thermostats
- 57 properties have received thermostatic radiator valves
- 34 thermostatic radiator valves have been installed
- 48 properties have received heating / hot water programmer
- 11 properties have received water heating time clocks
- Average cost of heating controls per property = £476.86

Heating controls	Actual Amount	No. of properties	Av cost per property
Electrical room thermostat	£3,744.09	37	£101.19
Thermostatic radiator valve (per valve)	£21,583.89	57	£378.66
Hot water cylinder thermostat	£2,134.22	34	£62.77
Two channel programmable heating controller	£5,317.12	48	£110.77
Water heating time clock and boost	£1,078.06	11	£98.01
Total	£33,857.38	71	£476.86

9.7. Pipe lagging

- 73 properties have received pipe lagging
- Total of 1642.5m of pipe lagging has been installed
- Average per property cost of pipe lagging = £148.57

Pipe lagging	Actual Amount	No. of properties	Av cost per property
Pipework lagging 13mm thick to 22mm pipe	£6,199.00	43	£144.16
Pipework lagging 19mm thick to 22mm pipe	£1,031.98	10	£103.19
Pipework lagging 25mm thick to 22mm pipe	£1,683.90	8	£210.48
15mm thick pipework lagging	£290.39	13	£22.34
22mm thick pipework lagging	£1,130.89	25	£45.24
28mm thick pipework lagging	£509.22	15	£33.95
Total	£10,845.38	73	£148.57

9.8. Low energy light bulbs

Low energy light bulbs	Price of lamps	No. of properties	No. of lamps installed	Av cost per property
Low energy lamp replacement	£7,968	192	2656	£41.5

In addition to the costs above, £1,723.00 has been spent on purchasing of light bulbs, at an average cost of £3 per light bulb this equates to approximately 574 light bulbs. These lamps were given to members of the public at Marketing and Outreach events as an EES giveaway.

9.9. Boiler replacements and heating controls

- 55 properties have received boiler replacements. The package of measures comprising boilers and heating control installation will vary from property to property and variation around the mean can be large. Associated works such as the requirement for scaffolding or asbestos removal may also be required in a boiler replacement. The costs of these additional measures are included in Table 9.11 'Other works' below.

Boiler replacement works	Actual Amount	No. of properties	Av cost per property
12-15kW Oil replacement condensing boiler	£3,907.00	2	£1,953.50
16-20kW Oil replacement condensing boiler	£30,327.00	11	£2,757.00
21-25kW Oil replacement condensing boiler	£41,953.85	16	£2,622.12
26-35kW Oil replacement condensing boiler	£42,609.26	16	£2,663.08
36-45kW Oil replacement condensing boiler	£8,911.00	3	£2,970.33
12-15kW Gas replacement condensing boiler	£2,814.00	3	£938.00
16-20kW Gas replacement condensing boiler	£5,062.00	3	£1,687.33
26-35kW Gas replacement condensing boiler	£1,155.00	1	£1,155.00
Flue specification and location	£13,029.58	22	£592.25
Condensate pipework (and pump if required)	£2,496.32	20	£124.82
Purpose built lime soak away (condensate sump)	£72.46	2	£36.23
Central heating pump	£1,707.41	13	£131.34
Pipework / feed modifications	£5,833.97	23	£253.65
Fire valve	£406.70	9	£45.19
Automatic bypass	£628.16	17	£36.95
Frost thermostat	£66.00	3	£22.00
2 port zone valve	£2,303.59	19	£121.24
Building Control Officer	£4,860.00	54	£90
Commissioning and issue of CD10 and Building Control notification	£0	17	£0
Commissioning and issue of CD11 and flue gas analysis	£636.50	12	£53.04
Miscellaneous heating review charge (other measures not itemized)	£101,471.79	89	£1,140.13
Total	£270,251.59	55	£4,913.67

9.10. Storage heater replacements

- 44 properties have received storage heater replacements
- Average per property cost of storage heater replacements and associated works = £1,000.12

	Actual Amount	No. of properties	Av cost per property
Storage heater replacement works			
Replacement electrical storage heater	£3,052.00	4	£763
Storage heater rated < 1kW	£342.24	2	£171.12
Storage heater rated 1kW - 2kW	£6,341.15	18	£352.29
Storage heater rated 2kW - 3kW	£15,329.20	31	£494.49
Storage heater rated 3kW - 4kW	£15,668.13	24	£652.84
Comfort heat main switch	£171.60	3	£57.20
Storage heater consumer unit	£493.88	13	£37.99
Storage heater miniature circuit breaker	£467.58	22	£21.25
Main bonding of necessary services	£434.52	12	£36.21
Twin and earth 16mm cabling with clips and trunking	£868.33	4	£217.08
Heating point twin and earth mini trunk DP switch	£563.48	9	£62.61
16mm meter tails	£195.92	13	£15.07
Trunking	£77.12	2	£38.56
Total	£44,005.15	44	£1,000.12

9.11. Other works

	Actual Amount	No. of properties	Av cost per property
Smoke detector installation	£521.45	141	£3.70
Carbon Monoxide alarm	£1,122.60	18	£62.37
Carbon Monoxide alarm (EES stock for 2013)	£997.00	100	£9.97
Minimum charge for lamps and detectors	£1,400.00	28	£50.00
Miscellaneous Charge (e.g. ecological bat roost survey)	£1,207.54	10	£120.75
Asbestos survey, sample & removal	£6,048.00	12	£504.00
Scaffold (CWI & boiler replacements)	£3,664.20	7	£523.45
Building works	£880.00	8	£110.00
Heating system labour (heating engineer & electrician)	£57,304.00	74	£774.38
QA Survey for House/Bungalow/Flat	£1428.00	14	£102.00
Total	£74,572.19		

NB: The total spend shown in the tables in Section 9.1 to 9.11 differs from the actual total spend shown in Section 8.3 because of how work has been categorised within the Client Relationship Management System and also due to the 'year end' dates of financial accounting systems i.e. some work was 'committed' in 2012 but not paid for until 2013.

10. Energy, fuel cost and carbon savings delivered

Estimations of the energy, cost and carbon savings associated with the measures installed under the Home Energy Scheme and Heating System Improvement scheme as detailed in section 9 above are provided in this section.

Note that the energy, cost and carbon dioxide savings for the Community Buildings Programme work are not incorporated in the figures below.

10.1. Annual energy, fuel cost and carbon dioxide savings for all measures installed

Home Energy Scheme ¹	Average Annual savings per measure ²				Total Annual savings per measure installed ³			
	Av cost per measure (£)	Energy saved (kWh /year)	Financial saving (£/year)	CO2 saved (kgCO2 /year)	Total cost (£)	Energy saved (kWh /year)	Total financial saving (£/year)	CO2 saved, (kgCO2 /year)
Home Energy Reviews	£123	-	-	-	£2,940	-	-	-
Total loft insulation	£1,156	3470	£277	674	£156,081	510,128	£40,683	99,144
Cavity Wall Insulation	£1,013	3808	£314	703	£58,754	220,891	£18,204	40,775
Draught proofing	£95	559	£47	92	£4,916	31,331	£2,636	5,140
Hot water cylinder jacket and hot water cylinder replacement	£84	816	£66	165	£418	44,046	£3,541	8,887
Heating controls	£477	587	£500	515	£33,857	88,596	£75,474	77,772
Pipework lagging	£148.57	235	£19	57	£10,845	18,585	£1,463	4,494
Low energy light bulbs (units)	£3	318	£26	53	£7,968	29,933	£2,487	4,942
12-45kW Oil replacement condensing boiler	£2,622	4,564	£340	1,115	£41,954	219,080	£16,331	53,537
12-35kW Gas replacement condensing boiler	£1,687	4,807	£632	883	£5,062	33,651	£4,423	6,180
2Kw-3Kw rated storage heater replacement	494	1275	£96	117	15,329	118,618	£8,920	10,913
TOTAL					£338,125	1,314,861	£174,161	311,784

¹ Refer to Section 9, sub-sections 9.1-9.11 for further information on the breakdown of these figures.

² These figures are all average figures according to the fuel type, housing mix and in some cases the type of measure installed.

³ These figures are a sum of all of the individual property savings for each measure. Some measures will have different savings as they are determined by house type and fuel mix.

10.2. Lifetime energy, fuel cost and carbon dioxide savings for measures installed

Home Energy Scheme ¹	Average lifetime saving per measure ²				Total lifetime savings per measure installed ³			
	Av cost per measure (£)	Energy saved (kWh/Year)	Financial saving (£/year)	CO2 saved (kgCO2/Year)	Cost (£)	Total energy saved (kWh)	Total financial saving (£)	CO2 saved (kgCO2)
Home Energy Reviews	£123	-	-	-	£2,940	-	-	-
Total loft insulation	£1,156	133,367	£5,678	25,920	£156,081	20,405,130	£868,789	3,965,780
Cavity Wall Insulation	£1,013	152,339	£6,703	28,121	£58,754	8,835,642	£388,757	1,631,019
Draught proofing	£95	10,444	£624	1,713	£4,916	626,629	£37,460	102,791
Hot water cylinder jacket and hot water cylinder replacement	£84	8,157	£545	1,646	£418	440,462	£29,447	88,873
Heating controls	£477	1,436	£554	719	£33,857	216,779	£83,668	108,536
Pipework lagging	£148.57	3,261	£182	788	£10,845	371,705	£20,797	89,871
Low energy light bulbs (installation & purchase)	£3	5,636	£345	931	£7,968	529,811	£32,406	87,472
12-45kW Oil replacement condensing boiler	£2,622	54,770	£3,288	13,384	£41,954	2,628,963	£157,810	642,440
12-35kW Gas replacement condensing boiler	£1,687	57,687	£6,105	10,595	£5,062	403,812	£42,738	74,164
2Kw-3Kw rated storage heater replacement	£494	15,306	£927	1,408	£15,329	1,423,419	£86,198	130,955
TOTAL					£338,125	35,882,351	£1,748,069	6,921,900

¹ Refer to Section 9, sub-sections 9.1-9.11 for further information on the breakdown of these figures.

² These figures are all average figures according to the fuel type, housing mix and in some cases the type of measure installed.

³ These figures are a sum of all of the individual property savings for each measure. Some measures will have different savings as they are determined by house type and fuel mix.

Appendix 1 – Budget Spend in 2011 and carbon savings from installed measures

Table A shows the 2011 budget spend. Associated carbon and energy savings, as verified by the EST, are shown in Tables B and C.

A. Energy Efficiency Service 2011 Budget spend report

	Spend to date	Notes:
MANPOWER COSTS	117,488	<i>Contract staff</i>
Tech Support Fees	111,350	<i>This amount covers all technical support between 2009 and 2011 and was funded from the JEC grant</i>
Education, Outreach & Other Supplies & Services	2,518	<i>Education, outreach events and materials and marketing of the scheme.</i>
Other Travel	0	<i>none</i>
SUPPLIES, SERVICES & ADMINISTRATION	113,868	<i>Overspend on supplies and services to be taken from JEC drawdown (£61,180).</i>
Ex gratia payments	9,222	<i>Problem resolution</i>
Other operating expenses	9,222	<i>(Additional costs incurred as a result of heating system issues leading to problem resolution)</i>
Home Energy Scheme	677,150	
Community Buildings Programme	263,969	
<i>Energy Saving Trust Endorsement</i>	13,621	
<i>Thermal Imaging Project</i>	23,370	
GRANTS AND SUBSIDIES	978,110	
TOTAL	1,218,688	

Energy, fuel cost and carbon savings delivered

Estimations of the energy, cost and carbon savings associated with the measures installed under the Home Energy Scheme and Heating System Improvement scheme are provided in this section.

Note that the energy, cost and carbon dioxide savings for the Community Buildings Programme work are not incorporated in the figures below.

B. Annual energy, fuel cost and carbon dioxide savings for all measures installed – based on data extracted from EES database on 12th March 2012 and provided to the EST

Home Energy Scheme	No. of measures (unit)	Average Annual savings per measure				Total Annual savings per measure installed			
		Cost per measure (£)	Energy saved (kWh /year)	Financial saving (£/year)	CO2 saved (kgCO2 /year)	Total cost (£)	Energy saved (kWh /year)	Total financial saving (£/year)	CO2 saved, (kgCO2 /year)
Home Energy Scheme Total	8,599	£3,018	11,023	£706	2,384	£1,037,295	3,229,484	£201,475	617,178
Loft insulation	507	£522	2,373	£145	521	£264,907	1,203,138	£73,352	263,965
Cavity Wall Insulation	164	£829	6,013	£381	1,305	£135,902	986,083	£62,477	214,043
Draught proofing	277	£67	437	£28	84	£18,625	121,024	£7,893	23,274
Hot water cylinder jacket	51	£117	746	£54	147	£5,957	38,027	£2,753	7,485
Replacement hot water cylinder replacement	118	£1,017	796	£51	169	£120,020	93,888	£6,000	19,904
All heating controls (properties)	1,602	£244	538	£38	136	£103,742	228,770	£16,339	57,860
Pipework lagging	373	£94	97	£6	21	£35,129	36,309	£2,205	7,905
Other work (water efficiency, smoke detectors, misc works)	-	-	-	-	-	£306,494	261,597	£15,248	11,497
Home Energy Check (HEC)	238	£124	-	-	-	£29,589	-	-	-
Low energy light bulbs (units)	5,269	£3.2	23	£2.7	1.9	£16,931	260,649	£15,206	11,246
Heating system Improvement	203	£2,103	4,460	£289	974	£355,420	753,678	£48,758	164,623
TOTAL	8,802	-	-	-	-	£1,392,716	3,983,162	£250,233	781,801
Rounded						£1.4 million	4GWh	£250,000	781tCO2

C. Lifetime energy, fuel cost and carbon dioxide savings for measures installed - based on data extracted from EES database on 12th March 2012 and provided to the EST

	No. of measures	Average lifetime saving per measure				Total lifetime savings per measure installed			
	No. of measures (unit)	Cost per measure (£)	Energy saved (kWh/Year)	Financial saving (£/year)	CO2 saved (kgCO2/Year)	Total cost (£)	Energy saved (kWh/year)	Total financial saving (£/year)	CO2 saved (kgCO2/year)
Home Energy Scheme Total	8,599	£3,018	11,023	£706	2,384	£19,939,361	100,336,709	£6,244,173	20,931,850
Loft insulation	507	£522	2,373	£145	521	£10,596,296.40	48,125,502	£2,934,082.91	10,558,592
Cavity Wall Insulation	164	£829	6,013	£381	1,305	£5,436,081	39,443,334	£2,499,090	8,561,701
Draught proofing	277	£67	437	£28	84	£372,490	2,420,484	£157,855	465,482
Hot water cylinder jacket	51	£117	746	£54	147	£71,488	456,322	£33,042	89,822
Replacement hot water cylinder replacement	118	£1,017	796	£51	169	£1,440,235	1,126,660	£72,004	238,847
All heating controls (properties)	1,602	£244	538	£38	136	£1,244,899	2,745,237	£196,068	694,323
Pipework lagging	373	£94	97	£6	21	£351,288	363,087	£22,054	79,048
Other work (water efficiency, smoke detectors, misc works)	-	-	-	-	-	-	-	-	-
Home Energy Check (HEC)	238	£124	-	-	-	£59,178	-	-	-
Low energy light bulbs (units)	5,269	£3.2	23	£2.7	1.9	£367,405	5,656,083	£329,978	244,035
Heating system improvement	203	£2,103	4,460	£289	974	£4,265,046	9,044,132	£585,097	1,975,475
TOTAL	8,802	-	-	-	-	£24,204,407	109,380,840	£6,829,269	22,907,325
Rounded						£24 million	109 GWh	£6.8 million	22,907 tCO2