

Improvement Objective

IO 8 - Reducing our carbon footprint and improving our sustainability

Outcomes:

- A. Reducing CO2 emissions from our buildings and street lighting
- B. Reducing the impact of fuel poverty on householders in Caerphilly CBC, taking advantage of successful funding bids to tackle properties in specific areas of the borough
- C. Raising awareness of climate change issues with our staff and residents of the county borough to enable them to reduce their greenhouse gas emissions
- D. Reducing the impact of our travel and transport to reduce carbon emissions

Other evidence links:

 [IO 8 Media Releases - Evidence 2011-12](#)

 [Mar 2012 - OA 7 B \(IO 8\) - Energiser Invitation](#)

 [IO 8 - Evidence - SD & LE Team - Annual Report 2010-11](#)

 [IO 8 - Evidence - SD & LE Team - Annual Report 2011-12](#)

 [IO 8 SDAP - Fleet Management Report - Jan 2013](#)

 [Apr 2012 - St James School](#)

 [June 2012 - Greenhill School 1 yr on Energy Review](#)

 [May 2013 - Cwm Ifor School](#)

 [IO 8 - 3 Year Action B Progress Summary](#)

 [Sustainable Development & Living Environment Annual Report 2011-12](#)

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For 2012/13:

The overall progress and achievements made against this objective has been positive and successful. Some of the key highlights have been:

A. Reducing CO2 emissions from our buildings and street lighting.

The Authority, working with the Carbon Trust, developed and adopted a long-term Carbon Reduction Strategy in 2009, to address energy consumption and carbon emissions. During this agreement, some of the key achievements at the end of 2012/13 were:

- The implementation of projects that have accumulated lifetime carbon savings totalling 643 tonnes/year through the Local Authority Energy Fund (LAEF) scheme. Over the past 7 years, investments through this scheme now accounts for 1,588 tonnes/year carbon savings.
- The LAEF scheme has also made a provision of £75,000 to further improve street lighting controls (1,000 street lamps).
- The building of 3 new Primary Schools that will benefit from modern construction materials and technologies, replacing antiquated and inefficient buildings.
- A feasibility study was initiated for a new combined heat and power unit to be installed at Heolddu leisure centre.
- Feasibility studies have been undertaken to assess opportunities for hydroelectric schemes across the county borough.
- Our Energy Team has further developed and secured much improved performance information data systems that will enable us to better analyse and report periodic changes in energy consumption and carbon emissions.
- Sometimes, due to legislative requirements and staff/resource constraints, we are unable to persue opportunities to their full potential.

Further programme details can be seen in the 2012/13 comments against action Ai, ii, iii and iv on the following pages.

B. Reducing the impact of fuel poverty on householders in Caerphilly CBC, taking advantage of successful funding bids to tackle properties in specific areas of the borough.

Throughout 2012/13, CCBC has worked in collaboration with a number of energy providers, the Welsh Government, housing providers (public & private) and contractors to make numerous energy technology installations and changes to properties under the following schemes:

- > Strategic Energy Performance Investment programme (Arbed).
- > The Community Energy Saving Programme (CESP).

Investments throughout the year have amounted to an excess of £7.6 Million which primarily include;

- Loft Insulations (new and top-ups) = 311
- Condensing Boiler (replacements and new installations) = 276
- External wall insulation systems = 1,161

Further programme details can be seen in the 2012/13 comments against action Bi, ii, iii and iv on the following pages.

~Arbed programme: is a strategic energy performance investment programme (Welsh Government) that was established in 2009 to bring environmental, social and economic benefits to Wales and coordinate investment into the energy performance of Welsh homes. [Reduce climate change, help eradicate fuel poverty and boost economic development and regeneration]. Phase 1 (2009) and Phase 2 (2012).

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For 2012/13:

C. Raising awareness of climate change issues with our staff and residents of the county borough to enable them to reduce their greenhouse gas emissions.

During 2012/13 CCBC has worked with Living Environment Partners to engage with residents to raise awareness of climate change issues. Significant work has also been undertaken with staff and schools. Some key successes include:

- 56 of the county borough's 91 schools have achieved Eco Schools Green flag status by the end of March 2013 giving a figure of 62% with this prestigious award.
- 3 Climate Change Woodlands have been planted across the county borough.
- 1,580 people signed climate change pledges.
- Sustainable energy support and advice was given to 46 farms and rural businesses in eligible wards.
- A study has been undertaken to identify the key impacts of climate change on the county borough, and to engage with rural communities to develop responses
- Workshops have been undertaken with key departments within the Authority to begin to develop climate change adaptation plans

D. Reducing the impact of our travel and transport to reduce carbon emissions.

The authority has been working with South East Wales Transport Alliance (SEWTA) over the past few years to incorporate various sustainable transport initiatives into the Authority. As part of this work the authority has continued to hold the Welsh Government backed All Wales Travel Plan Award at Gold Level, a scheme introduced to recognise best practice and excellent commitment to travel planning. Work throughout 2012/13 included

- 11 Sustainable travel events were undertaken highlighting the support and initiatives available to staff to enable them to travel more sustainably.
- 191 new fuel-efficient vehicles have been delivered to our staff via the Council's Salary Sacrifice Car Scheme. On average, data shows that the new vehicles have resulted in a 35% reduction in CO2 emissions compared to the vehicles replaced.
- A Cycle to Work Salary Sacrifice Scheme was launched in June 2010 to encourage staff to cycle to work. This Government tax-saving incentive has been promoted to staff via pay slip flyers, all users email and promotional events held at the main council buildings during 2012/13. To date, 291 employees have signed up to the scheme.
- A Green Fleet Review has been undertaken of the Council's use of vehicles, including employee's use of their own vehicles on Council business. The report identified 7 key recommendations, which are being evaluated and progressed.

However, due to resource constraints, we failed to deliver a staff survey that would have told us:

% percentage of staff who now travel to work on their own, and the average level of understanding of sustainable development of our staff.

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Risks/Threats

Title	Original Date	Original RAG	Original Likelihood of occurrence	Original Impact	RAG	Likelihood of occurrence	Impact	Comment
IO8 R1 Failure to better manage, control and reduce our energy/fuel consumption will result in spiralling energy costs, which will place an increasing financial strain on the Authority and its residents/tenants	01 Apr 2010	◆	3	4	◆	2	4	Steps have been taken to mitigate this risk. We now have central billing, good systems for collecting data so the likelihood of this occurring is now less
IO8 R2 Schools and Housing Tenants may not fully understand and make best use of the modern technologies installed in their buildings/properties.....	01 Apr 2010	◆	3	4	◆	2	4	Work has been undertaken to raise understanding and therefore to reduce this risk. School caretakers have been trained to understand the technology and to know where to get support.

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Actions - A. Reducing CO2 emissions from our buildings and street lighting

Title	Comment	Overall Status	% Complete	RAG
i. Good Housekeeping	<p>The authority continues to seek ways to raise awareness and provide training on good practice methods, such as switching off equipment after use, heating/cooling controls, and ensuring proper time settings on controls. These are no-cost and low-cost approaches, which result in energy savings. Throughout 2012/13, we have:</p> <ul style="list-style-type: none"> - Delivered awareness-training events to school head teachers, caretakers and governors. - Enabled Welsh Water/Aqualogic to undertake surveys in schools and leisure centres. - Enabled Welsh Water/Aqualogic to undertake staff surveys and provide water management advice. - Provided building energy management training at Pontlottyn Primary. - Given advice on water heaters to Tyn Y Wern Primary school. - Provided governor training at Oakdale Comprehensive. - Joint funded energy efficiency training through the carbon trust and a recognised consultant for all leisure centres - Delivered an energy efficiency presentation to the eco group at Blackwood Primary - Worked with Welsh Water/Aqualogic to fund improvement technology at schools and leisure centres. - Provided winter freezing advice on the intranet. - Delivered advice to all Half Hourly electricity sites on night time electrical consumption within their buildings. - Delivered a series of events throughout Climate Week, which included further training by the energy management team and the carbon trust. - Completed 17 property energy audits and presented findings to the building managers. - Completed and distributed 106 Display Energy Certificates (DEC's) across the authority. - Identified a number of high energy use buildings and held meetings with the building managers to look at ways of improving their energy efficiencies. - worked closely with The Green Team at Ty Pontllanfraith, who has played an active role in raising awareness of energy issues and implementing projects to reduce consumption. <p>Also, we continue to monitor our Street lighting accounts, which equate to approximately 27% of our carbon emissions. After public consultation, the Authority agreed (Sept 2010) to turn-off 6,000 street lights between midnight and 5:30 am, on inter-urban roads, saving approx £250,000 a year and reducing CO2 emissions by approx 898 tonnes.</p>	Fully Met	100	⬆️
ii. Invest to save	<p>In 2012/13 the Local Authority Energy Fund (LAEF) scheme was instrumental in the application of the following technologies:</p> <ul style="list-style-type: none"> - Highways: street-lighting control upgrades, with an investment of £75k. - Building energy management systems installed at Castle View Home for the Elderly. - New swimming pool cover at Bedwas leisure Centre. - Valve and flange insulation at; Bryn Primary, Newbridge Leisure, Plasyfelin Primary. - A significant £26k upgrade of energy efficient lighting and controls at Islwyn Indoor Bowls centre (which has resulted in reduced electrical consumption and improved lighting for the bowling members). <p>These LAEF projects over the 3 year sof this agreement have contributed lifetime carbon savings 643 tonnes/year whereas the past 7 years investments now give a total of 1588 tonnes/yr.</p> <p>In addition to the LAEF schemes and via funding of £200k through the carbon group and asset management, planning began on a new heat recovery system for Risca leisure Centre which will be implemented in 2013.</p> <p>The heat recovery system will have a payback rate of approximately 8 years and will provide significant long term carbon savings. The system will also make the pool area more comfortable for users by balancing the pool and air temperatures. This will rectify a long standing issue at the centre.</p>	Fully Met	100	⬆️

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Actions - A. Reducing CO2 emissions from our buildings and street lighting

Title	Comment	Overall Status	% Complete	RAG
iii. Asset management	<p>During 2012/13, some of the key works has been:</p> <ul style="list-style-type: none"> - The ESIS building is no longer under Caerphilly CBC control, as landlord status has transferred to Rhondda Cynon Taff, which reduces Caerphilly's carbon emission and future Carbon reduction Commitment charges. - A new Primary School (Cwm lfor) has been built, with significantly improved levels of insulation, energy efficient lighting, sophisticated building energy management controls and a PV installation (17kwp). The building energy management systems that can actually open and close windows to control ventilations rates. As a result of this, there is a very low air emittance value known as air leakage. The windows are double glazed and argon filled and the effects of these have resulted in a BREEAM standard of excellent. - A new school was built to replace St James Primary with much improved technologies used over that of the original site, that should improve its energy efficiencies. This school has also achieved a BREEAM excellent standard. <p>During the year, much progress to initiate the re-development proposals of a previously closed school in Caerphilly (St llans - phase 1) has begun to include; higher than needed insulation levels, a small PV scheme and the building was also considered for a solar collector. The phase 1 works is expected to be completed in 2013. A previous succes story was the completion of Greenhill Primary (May 2011).</p>	Fully Met	100	⬆️
iv. Renewable Technology	<p>During 2012/13:</p> <ul style="list-style-type: none"> - A hydroelectric scheme planned for Cwmcarn, has been considered. This will be determined pending the outcome of a 6 month flow rate monitoring process. The final stage of the on site monitoring will provide detail on the most economical size hydro scheme for the site and will include cost data for the authority to evaluate. -The newly built Cwm lfor Primary school has a PV array installed (17kwp)- Plans have already been outlined for St llans school in Caerphilly, as part of its re-development, to include a PV array during 2013. - Ynysddu Primary School is currently being considered for a biomass boiler, (a decision has yet to be made on this). 	Fully Met	100	⬆️

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Actions - B. Reducing the impact of fuel poverty on householders in Caerphilly CBC, taking advantage of successful funding bids to tackle properties in specific areas of the borough

Title	Comment	Overall Status	% Complete	RAG
i. Retrofitting homes with innovative measures including, solid wall insulation and renewable technologies such as solar panels and heat pumps	CCBC and British Gas entered into a joint agreement under the Community Energy Saving Programme (CESP) installing 137 external wall insulations to properties in Markham and Panside. CCBC also entered into an agreement with SWALEC (CESP) and installed 545 external wall installations to properties throughout Porset/Landsbury Park, Rhymney, Gilfach, and Fochriw. Additionally, in the Brithdir, Trethomas, Cefn Hengoed and Bryn Carno Rhymney area's, United Welsh Housing Association, in conjunction with energy companies, other contractors and the Welsh Government, have programmed to install 479 external wall installations, as private housing CESP projects.	Fully Met	100	➔
ii. Identifying a number of properties in areas of deprivation to receive cavity and loft insulation (free of charge to the home owner /tenant) to help reduce fuel bills	CCBC entered into an agreement with SWALEC (under CESP) and installed 241 loft insulation upgrades to properties throughout Porset/Landsbury Park, Rhymney, Gilfach, and Fochriw, with a further 70 loft insulation upgrades planned for properties at Cefn Hengoed.	Fully Met	100	➔
iii. Running programmes of replacement of old boilers with condensing boilers and increasing the number of renewable energy installations	For the programmed works this year: CCBC and British Gas entered into a joint agreement under the Community Energy Saving Programme (CESP) installing 49 condensing boilers to properties in Markham and Panside. CCBC also entered into an agreement with SWALEC (CESP) and installed 147 condensing boilers/heating renewals to properties throughout Porset/Landsbury Park, Rhymney, Gilfach, and Fochriw, with a further 42 installations planned for properties at Cefn Hengoed. Additionally, for Cefn Hengoed, EDF Energy have programmed to install 38 condensing boiler renewals in the private homes sector.	Fully Met	100	➔
iv. Actively seeking to secure funding to enable us to continue to undertake energy efficiency improvements to properties in the county borough	In 2009, a Strategic Energy Performance Investment Programme (Arbed, which means to save) was introduced by the Welsh Government, to bring social, environmental and economical benefits to Wales and co-ordinate investment into the energy performance of Welsh Homes. In 2012/13 CCBC was successful with a bid for an Arbed project at Fochriw. This project has recently commenced on site and is being project managed by Melin Homes. There are some 300 plus private sector properties that will benefit from a mixture of measures made up from External Wall Insulation, Gas condensing boilers, voltage optimisers and positive input ventilation. The estimated value of the works is £2.5 million and will be funded by the Welsh Government. A further bid has also been submitted for upgrading the energy efficiency of the private dwellings at Hollybush. This bid has been provisionally accepted and is being taken forward for surveying in 2013/14.	Fully Met	100	➔

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Actions - C. Raising awareness of climate change issues with our staff and residents of the country borough to enable them to reduce their greenhouse gas emissions

Title	Comment	Overall Status	% Complete	RAG
i. Promoting the uptake of the Climate Change Commitment with individuals, businesses and organisations will be a key element of delivering this element of the objective	Although this action was completed in 2011/12, we still continue to receive pledges, particularly at events, so have continued to record them	Complete	100	⊖
ii. Plant a further 2 climate change woodlands, and working with our schools to ensure that more of them achieve Green Flag status under the Eco Schools programme	This action was completed in 2011-12, with four Climate Change Woodlands being planted: <ul style="list-style-type: none"> • The Sir Harold Finch Memorial Park Climate Change Woodland. • Darran Valley Climate Change Woodland Restoration Project. • Fochriw and Deri Schools' Climate Change Woodland. • Plas Mawr Community Centre. 3 further woodlands were planted in 2012/13 - Ty Sign, Oakdale and Abertwssyg	Complete	100	⊖
iii. Working with our schools to ensure that more of them achieve Green Flag status under the Eco Schools programme	Although we completed this action in 2011/12, we continued to undertake additional work well into 2012/13. Which has resulted in 62% of our schools achieving a Green Flag (the highest award) under the Eco Schools programme. Twenty-five schools have achieved their second Eco School Green Flag award, with thirteen schools also achieving their third flag and working towards their platinum award. Four schools have achieved the coveted Eco Schools Platinum Award, three primary and one infant school.	Fully Met	100	⊖
iv. Expand the energisers programme and working with our housing partners to help residents to reduce their carbon emissions	For the worked planned in 11/12 we declared that this action was completed. However, the work is still ongoing with energisers recruited by United Welsh Housing Association and Charter Housing. Training has been undertaken with the Energy Savings Trust and the programme is being further expanded.	Fully Met	100	⊖
v. Through our Rural Development Plan Programme, work closely with farms and the rural community to address climate change issues and to promote sustainability	Although this work was complete for 2011/12, we identified the need for ongoing work in 2012/13, which has been undertaken by the RDP Sustainable Energy Officers	Complete	100	⊖

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Actions - D. Reducing the impact of our travel and transport to reduce carbon emissions

Title	Comment	Overall Status	% Complete	RAG
i. Take positive steps to encourage alternative modes of transport	<p>The authority has been working with South East Wales Transport Alliance (SEWTA) over the past few years to incorporate various sustainable transport initiatives into the Authority. As part of this work the authority has continued to hold the Welsh Government backed All Wales Travel Plan Award at Gold Level, a scheme introduced to recognise best practice and excellent commitment to travel planning.</p> <p>11 events promoting sustainable travel, and highlighting the support and initiatives available to staff to enable them to travel more sustainably were run in 2012/13. Cycle to work salary sacrifice road shows were held at the main council offices throughout the year and a selection of events were held to promote National Bike Week.</p> <p>National Bike Week (June 18th to 22nd 2012) encouraged staff to leave their cars at home and cycle to work. A variety of events were held during the week including cycle training, electric bike training, sustainable travel events at Penallta House and Pontllanfraith House.</p> <p>A Salary Sacrifice Car Scheme as part of a government-sponsored initiative to provide a leasing arrangement for low emission cars was introduced and promoted since 2011.</p> <p>Through partnership with the CCBC Transport section and Sustrans we developed local cycle maps for the Caerphilly County Borough.</p>	Fully Met	100	🟢
ii. Encourage our staff to 'cycle to work' or 'car share'	<p>A Cycle to Work Salary Sacrifice Scheme was launched in June 2010 to encourage staff to cycle to work. The tax efficient scheme has been promoted to staff via pay slip flyers, all users email and promotional events held at the main council buildings during 2012/13. To date 277 employees have signed up to the scheme.</p> <p>Also, during 2012/13, 191 new fuel-efficient vehicles have been delivered to our staff via the Council's Salary Sacrifice Car Scheme. On average, data shows that the new vehicles have resulted in a 35% reduction in CO2 emissions compared to the vehicles replaced.</p> <p>Promotional work for these initiatives will continue beyond the life of this improvement objective.</p>	Fully Met	100	🟢
iii. Improve the use of our fleet vehicles	<p>Improvements to the age and use of our fleet is an ongoing priority for the organisation. In 2012 an independent green fleet review was completed and the findings and recommendations were duly evaluated, with follow up actions taken, for example, in order to reduce vehicle downtime, reduce maintenance costs, better control fuel consumption and emissions and ensure front line services are maintained, the council has, through a rolling programme, changed its fleet so that the majority of its front line vehicles are less than 5 years old.</p> <p>Almost 85% of the Authority's vehicles are now operating with Euro4 and Euro 5 Engines. We have improved our driver training, vehicle inspections, vehicle tracking and telematic systems, and route mapping, which has led to better driver behaviour/attitude and vehicle performance.</p> <p>Despite ever increasing demands on our services, between 2010 and 2013, we have reduced our fleet CO2 emissions by 323 tonnes.</p> <p>A number of electric and hybrid vehicles have been demonstrated to and tested by the authority, but currently, they do not offer any major benefits.</p>	Fully Met	100	🟢

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How much did we do?

Evidence

Period	Title	Actual	Target	Intervention	RAG	Result 12 Months Ago	Comment
2012/13	Number of Climate Change Woodlands created	3.00	2.00	1.00	–	4	Yearly measure. During 2012/13, 3 woodlands were planted at - Ty Sign, Oakdale and Abertysswg
Q4 12/13	Number of farms and rural businesses advised on sustainable energy issues	46.00	30.00	25.00	–	28	Monitored Quarterly and Accumulative. Sustainable Energy Officers employed through the Rural Development Programme have provided advice and support to 46 farms and rural businesses in eligible rural wards.
Q4 12/13	Number of staff on our "Car Share database"	342.00	400.00	340.00	–	321	This measure records the number of staff maintained on the care-share register. The rate at which staff have registered on the scheme has slowed recently despite 11 sustainable travel events being held, and the scheme being promoted
2012/13	Number of sustainable Travel events held	11.00	12.00	10.00	↓	13	Annual measure. 11 events have were held in 2012/13
2012/13	The number of education for sustainable development training sessions	89.00	80.00	60.00	↑	102	Annual measure. 89 events run in 12/13. The aim is to run less training sessions with more schools attending each session, reducing the amount of officer time required to support schools on sustainable development, and encouraging schools to work together to support each other
2012/13	The number of individuals that have signed the Climate Change Commitment	1580.00	0.00	-1.00	–	3953	This measure was planned to be deleted for 2012/13 due to changes in programme delivery and resource constraints. However, at particular events, members of the public wanted to continued to sign pledges, hence the result reported for 12/13 against a target of 0.
2012/13	The number of organisations that have signed the Climate Change Commitment		0.00	0.00		50	This measure was deleted for 2012/13 due to changes in programme delivery and resource constraints.
2012/13	The number of staff on the cycle to work scheme	291.00	200.00	180.00	–	221	Annual measure. This measure records the number of staff maintained on the cycle to work register.

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How well did we do it? & Is anyone better off?

Evidence

Period	Title	Actual	Target	Intervention	RAG	Result 12 Months Ago	Comment
2012/13	The average level of understanding of SD by our staff		2.60	2.50		2.50	Staff Survey was not completed as planned due to a reduction in staff resources. Therefore, we cannot report a result for this year.
2012/13	Stock with Energy Rating SAP 65+ compliant with WHQS	10438.00	10713.00	10218.20	⬇️	10513	Measures stock maintained at SAP>65. During the year a number of properties have had Cavity Wall Insulation (CWI) removed due to water ingress, which has altered their SAP ratings. The original target identified in a housing stock assessment in 10/11 was set at 10756, but this was later revised to 10,713 at the beginning of 12/13.
Q4 12/13	Number of Solar energy efficiency measures installed (Borough wide stock)	228.00	200.00	150.00	➡️	635	This result shows the installations for 2012/13 only. However, since 2010, there has been a total of 1,107 installations. Target setting for this measure, was difficult, as the results are very dependant upon National Government Incentives (such as; Feed-in-Tariffs - which were substantially reduced in 2011/12 and Renewable Heat Incentives) to install renewable technologies. The targets are set here to simply contextualise results, as any/all installations are beneficial and therefore a positive result or action towards reducing our reliance on fossil or other fuels for our energy supplies.
2012/13	Average annual carbon emission savings (Tonnes of CO2) from Council buildings - Resulting from LAEF schemes that have been implemented	101.00	300.00	100.00	⬇️	230	The target/result is for 2012/13 achievements only. Many projects have continued to be implemented through the "LAEF Scheme" to help reduce our carbon emissions and over the past 7 years, we have implemented projects that show cumulative annual(accumulative) carbon savings of 1588.28 Tonnes/Yr. However, it should be noted, that the 'quick win-high returns' technologies (where possible) have already been installed to many of our properties, with the more costly, complicated technologies remaining, which generally offer lesser-returns on carbon savings. Also, during 2012/13 the number of schemes implemented was lower than anticipated due to a reduction in staff resources and a focus on legal requirements such as the Display Energy Certificates (DECs).
2012/13	% of schools with the highest (green flag) award under the Eco Schools programme	62.00	60.00	55.00	⬇️	58	Annual measure. 56 of the county borough's 91 schools achieved Greenflag status by the end of March 2013 giving a figure of 62% with this prestigious award
2012/13	% of our staff that travel to work in a car on their own		70.00	65.00		70.3	Staff Survey was not completed as planned due to a reduction in staff resources. However, through the Council's Salary Sacrifice Car Scheme. 191 vehicles have been delivered to staff throughout 2012/13 and on average, the new vehicles have resulted in a 35% reduction in CO2 emissions compared to the vehicles it replaced.