

Exeter City Council

Environmental Performance Report 2013

Introduction

Historically there have been three ECC strategies dealing with the environment, carbon management and climate change and they overlap in many areas.

The terms for both the Environment and the Carbon Management strategies ended in 2012 and 2013 respectively, are now need updating and it is recommended that to simplify target setting and reporting the main strands of all three strategies are drawn together into one all-encompassing document, setting out a combined strategy. It is recognised that the Council can only achieve improvements in its environmental record if it supported across all the Council's departments. To facilitate engagement and action with all departments in the Council and to provide strategic oversight an Environment and Climate Change Steering Group has been recently established. This group will set the agenda, objectives and targets for the new combined strategy.

Previous reports on the Climate Change Strategy 2008 – 2018, Environment Strategy 2007 – 2012 and the Carbon Management Programme 2008 – 2013 were made in 2010.

This report is a current state -of -play summary of relevant actions from all three strategies, with some initial proposals on future environmental and carbon management initiatives. It highlights the recent failure to significantly reduce CO₂ from council buildings and areas where progress has not been made but also positively shows that some newly implemented initiatives will save money and reduce energy use.

Background

The Council is committed to its environmental agenda, mitigating climate change and the contribution it can make in enhancing Exeter as a Green and low-carbon city. A focus on in-house energy efficiency and using fewer resources will bring financial savings and reduce harmful impacts on the Environment. The council also has a responsibility for managing its council housing and estate to ensure that energy efficiency is maximised. Other measures to encourage and support a reduction in energy use and carbon emissions in the wider community also contribute to making Exeter a greener city.

1. Energy and carbon management

Council Assets - since the last Environment/Carbon management report in 2010 the base lines have been reassessed and future reporting will use 2011/12 as the base line with new strategies and targets to mitigate climate change through carbon reduction in Council operations.

The Energy Team maintain and monitor energy consumption and carbon emissions and provide data for national targets, including all council buildings and fleet mileage. Current data shows that while CO₂ emissions from council transport have reduced those from council buildings have increased. (Appendix 1 Graphs 1 & 2). This supports the need to introduce a revised strategy with updated targets.

Emissions have mostly increased because of the museum, without the museum council buildings have used 8.5% more. The Museum uses 2.2 million kwh on its own, costing £200,000 but a 50% increase in consumption compared to a 100% larger building is a reasonable increase. (Appendix 1 – Table 1)

Recent completed projects to save money and reduce energy use and emissions include:



Solar Panels - four recently installed solar panel arrays on the MRF, Civic Centre, Oakwood House and ARK are outperforming predicted returns by 32% (October 2013). It is predicted that the project will break even in 5 years, and then continue to provide an income whilst contributing to the Council's obligations to cut carbon emissions and lessen environmental harm.

Smart meters are being installed at the Civic Centre and throughout the Council Estate (but not in Council Houses) which bring a saving through accurate billing and data management and enable better supply contracts and fuel tariffs.

A new energy strategy is to include a comprehensive programme of key projects which are vital if the council is to reduce operating costs, maintain assets and make long term financial savings and benefit from new income streams. Future projects recommended by the Energy Team range from installation of energy efficient hand driers and the removal of paper towels in the Civic Centre, to LED lighting and PV schemes for all high electricity users, such as Car Parks. Other renewable technology will be evaluated to reduce consumption and to protect against rising energy costs.

Housing

Exeter's housing stock produces 32.92% of the total CO₂ emissions in Exeter and it is one we can really influence.

Private sector

86% of housing in the city is in the private sector, either owner occupied (62%) or rented (24%). As such the Council has no direct control over them, but actively encouraging energy efficiency and reducing emissions from these private sector homes, as they represent by far the greatest proportion of city homes, must be one of the highest priorities for the Council in its bid to reduce emissions.

It is also worth noting that 5% of the private sector stock contains a Category 1 hazard for excess cold as judged on the Housing Health and Safety Rating System, leading to the possibility of residents suffering physical or mental ill health, and contributing to excess Winter deaths (i.e. deaths above normal trends attributable to low winter temperatures),

Addressing this issue is best achieved by assisting and encouraging home owners by providing accessible advice and financial assistance for energy efficiency improvements, working with private sector landlords, looking for sustainable energy options for off-gas areas, and assisting with ECO Procurement and Green Deal finance alternatives. This is directly linked to fuel poverty as according to a recent house condition survey 15% of the city's homes are fuel poor. Raising awareness of these issues with landlords and the wider community is part of the on-going involvement with tackling fuel poverty and reducing energy use.

Council Housing

The continuing drive to improve the energy efficiency of Council housing in the city with the installation of cavity wall and loft insulation has been achieved in 97% of the 5043 houses to date.

In addition to improving insulation, high efficiency gas boilers have been fitted in over 4569 (90.6%) of properties that have a gas supply. The Council owns 132 properties that only have an electric supply and improvements to the energy efficiency, and potential to cut the cost of heating in these properties is more limited in scope.

The external rendering and insulation to the British Iron and Steel Houses has been completed and 3 currently empty non-traditional construction properties are being brought back into use and will benefit from high levels of insulation.

The solar panels fitted to council houses on the rent-a-roof basis produce an income of £19,837 per annum and current projects for the current year 2013/14 include 39 properties having PV panels fitted in conjunction with a re-roof programme.

Water butts are promoted with a grant to assist purchase and it is hoped that compost bins may be included on each property with a garden for new tenants.

New homes

To increase the level of energy efficiency measures required in new homes built in Exeter, the Council's Core Strategy Policy (CP15) stipulates that from April 2013 all new homes must meet the code for Sustainable homes (CfSH) Level 4. Affordable homes with planning consents granted pre-2013 which are Homes and Communities Agency (HCA) grant funded will need to reach the minimum CfSH level 3 but this will rise to level 4 for applications in 2013. However this is currently under a national Communities and Local Government Review which potentially threatens this requirement being removed from Exeter's Core Strategy, resulting in a reduction of the energy saving aspects required of all new builds, contrary to Exeter's aims to reduce emissions.

Transport strategy

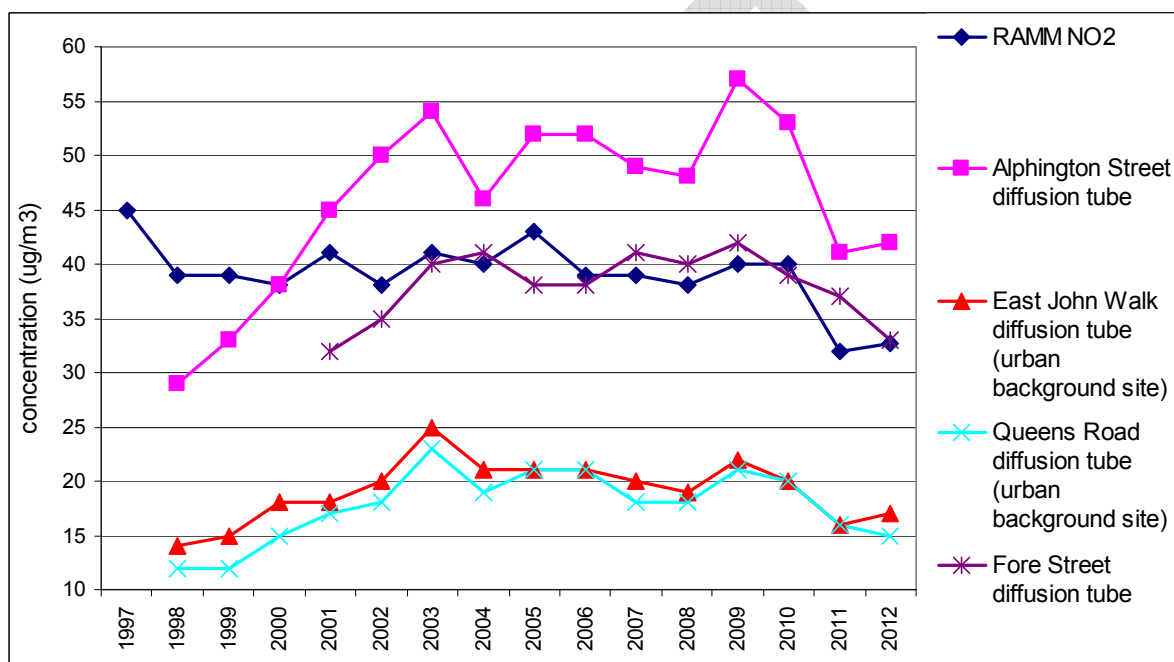
Exeter's transport produces 18.76% of total CO₂ emitted in Exeter

Exeter works closely with Devon County Council, East Devon and the Highways Agency to assess the infrastructure needed to serve the city and surrounding area, the Local Transport Plan (DCC) and other studies have informed Exeter's Core Strategy (CP18) and Sustainable Transport Supplementary Planning Document - adopted in March 2013.

Reducing emissions from transport is important for the health of all who live, work or visit Exeter and well as helping to reduce overall green-house gas (GHG) emissions. Exeter has

levels of local air pollution on some of its busy roads that are above Government objectives; air pollutants are monitored by the Council and an Air Quality Action Plan seeks to mitigate their occurrence. There is some evidence for a reduction in NO₂ concentrations in recent years, however it is not clear whether this is the start of a long-term trend or simply inter-annual variability as a result of changes in weather, or economic circumstances, etc. To address the exceedences of the Objectives, the Air Quality Action Plan was updated in 2012 and funding for a Low Emissions Strategy for the Exeter area is in place to target the problem areas. An area is considered to be exceeding the objectives if it is higher than 40ug/m³. The graph shows a selection of the monitoring locations throughout the city demonstrating a current trend of reducing annual concentrations. However there are areas that exceed the objective still, despite the recent slight reduction in levels”

Graph Showing the Change in Nitrogen Dioxide Levels at a Selection of Monitoring Locations Since 1997



Progress on reducing energy use and transport emissions by developing sustainable transport includes:

- DCC, with support from ECC, is implementing the Devon Metro project with new rail stations at Cranbrook, Newcourt and Marsh Barton. Major improvements made to St David’s and Central stations mostly funded by the rail industry (ECC and DCC contributed to Central Station forecourt)
- Future promotion of low emission vehicles



The Energy Team has successfully bid for a Government grant for electric vehicle charge points on public sector estates

- Exeter Walking and Cycling Steering Group (superseding the Walking Group and Cycle Exeter) consists of a wide range of interests to ensure a cohesive and comprehensive approach to improving walking and cycle links; this has a clear connect to the emerging priorities of the Exeter Health and Wellbeing Board, particularly in relation to promoting physical activity. The group are currently updating a new walking map and developing a Walking Strategy, and new shared use paths are being created at Wonford and Pinhoe playing fields, and other routes upgraded from footpaths to shared use include Heavitree recreation ground. The cycle network continues to expand with DCC's funding from the Local Sustainable Transport Fund; a signed route is being developed from the city centre to Redhayes bridge.
- Car Clubs - the Sustainable Transport Supplementary Planning Document (SPD) includes a section on contributions by major developers to include parking spaces for club cars.
- As an encouragement to reduce car journeys into and around Exeter the Council's Green Travel Policy offers a 30% discount on ticket prices for staff that uses public transport to travel to work, this policy is reflected in the Core Strategy (CP9).

ECC Fleet

Increasing the fuel economy and reducing the mileage driven by all vehicles in the Council's fleet will make savings and reduce vehicle emissions for both CO₂ and particulates which cause local pollution within Exeter. (Appendix 1 Graph1)

Mileage and fuel use

Reducing the amount of fuel used by the refuse and recycling collection service has been achieved by planning more efficient routes and the introduction the Bartec system of mobile technology. This allows real time reporting on issues such as non-presented bins and contamination, reducing the need to go back to a property, increasing the efficiency of the service and reducing the mileage. All refuse collection vehicles (RCVs) are now tracked and the mileage and fuel use are recorded for each crew.

GPS tracking will be rolled out to the remaining council fleet by the end of 2013/14 to enable closer monitoring of vehicle use, engine idling, mileage and vehicle utilisation. The target is to reduce fuel use by 5% and to remove 5 vans from the fleet through more efficient use. The installation of these trackers has been funded by savings achieved in the 2013/14 capital fleet replacement fund.

The latest two refuse vehicles are fitted with electric bin lifts with the aim of reducing fuel use – this is being monitored and the first three months indicates a 12% reduction in fuel used compared to standard refuse lorries that are fitted with hydraulic lifts. If these results are sustained, electric bin lifts will be the default equipment on future refuse collection vehicle purchases. The Council's current refuse vehicle supplier, Dennis Eagle, has launched an engine 'fuel saver pack' which is claimed to reduce fuel use in stop/start operations such as waste collection. This will be fitted to one of the Council's vehicles in 2013/14 to assess its potential.

Eco driving

To ensure that Cleansing Department drivers are using fuel as efficiently as possible Eco driving training courses for all drivers are scheduled for 2013/14. The GPS tracker units being rolled out across the whole fleet also record engine idling and excess speed; this information is already being used to tackle individual driver behaviour to reduce fuel use as well as wear and tear.

A new system of booking pool cars through 'Outlook' (the Council's electronic diary system) is part of a policy to encourage the use of fuel efficient pool cars instead of the 'grey fleet' of officer owned cars that may not be fuel efficient or low in emissions, (Council pool cars are selected for fuel economy and low emissions).

Electric vans and bio-fuel

Previously the Council had two electric vans in the fleet, but these have not been replaced as currently no electric vans are available on the market to suit the Council's requirements. Similarly the 5 refuse RCVs that were running on bio-fuel as a trial have now reverted to diesel as the bio fuel supplier has gone into receivership and it has not been possible to source another reliable supply of bio-fuel. Whilst this is disappointing in the short-term, it is anticipated that there will be future opportunities for replacing fleet with low emission vehicles, and sourcing reliable supplies of bio-fuel.

Hybrid fleet

From July 2013 tenders for new fleet vehicles require an option for fully electric and hybrid combustion/electric drive systems in order to ensure a comprehensive consideration of the options.

2. Waste and recycling

Reducing waste and recycling materials saves money and raw materials and the Council should be aiming to set a good example with its own practices to support the promotion of recycling and waste minimisation across the city.

In-house

Paper use – It is planned to extend the monitoring of paper usage to all council sites, not just the Civic Centre, this will give a more accurate record of effectiveness of recently introduced new technology (Electronic Document and Records Management and Duplex printers). While much of the paper purchased for the Council is made from recycled material it is hoped that in future to increase this proportion by reviewing purchasing arrangements across the organisation.

The re-invigorated Green Champions made up of staff volunteers will be monitoring waste and recycling from all offices across the council in an effort to further increase in-house recycling.

Residential and commercial recycling

Commercial recycling

The council's commercial recycling service offers businesses the opportunity to reduce their waste bills (recycling collections are less costly than sending waste to landfill) as well as increasing their green credentials. Glass and food waste have been identified as materials for which there is a demand for separate collections and the feasibility of this is being investigated. Glass collections would be in-house and a partner organisation has agreed to offer separate food waste collections. By the end of 2013/14, trade waste customers will be offered the option to present their recycling co-mingled in wheeled bins. This will help to remove one of the barriers to commercial waste recycling by tackling the perception that sorting waste for recycling is too time-consuming.

Residential

Garden waste / home composting

The collection of garden waste increases the Council's recycling rate and makes a profit. However the most sustainable system of dealing with garden waste is to encourage more composting at home.

Home composting continues to be promoted with the sale of cost-price composters, but sales have reduced (from 213 in 2011/12 to 151 in 2012/13) and a new initiative to encourage more home composting 'Community Master Composters' is being considered. Another option being considered is to provide all new council house tenants that have gardens, with compost bins and information packs.

Kerbside collections & Bring banks for dry recycling

The tonnage collected through kerbside collection and bring banks continues to fall and this is reflected in a drop in the overall recycling rate from 36.2% in 2011/12 to 34.9% in 2012/13. A similar recycling rate for 2013/14 is anticipated. A Devon Waste Partnership project has been formed by the Devon local authorities to consider opportunities for cost savings and improved waste performance. These could be achieved through harmonised service standards, shared management costs and cross-boundary working. The results of the initial feasibility study will be available by December 2013.

New opportunities to recycle other materials have been introduced with four new bring bank sites for waste electrical items and two glass/paper bring banks at Commercial Road and Waitrose. Streamlining of materials collected via banks in 2011 to only glass at most sites (6 prime sites retain paper banks) has reduced the mileage travelled and saved money and emissions.

Promotion of recycling

Schools continue to receive a recycling collection which is well supported by the efforts of the Green Teams in all the city's schools and Exeter's contribution to Don't Let Devon Go to Waste (DLDTGW) continues to raise the profile of recycling and reuse in the city.



Children from Ladysmith Junior School receive a 'leaf' for their achievements; and on completion of a branch a cheque for £50 to spend on green projects

3 The Environment and Adaptation to Climate Change

Land use and land use change produce 0.42% of Exeter's CO2 emissions

Parks and Open spaces

Energy: PV panels have been installed on the mower shed at Belle Isle, with surplus electricity feeding into the grid

Water

Water use in the parks and recreation areas continues to be monitored and sub-meters have been installed to enable consumption to be monitored from separate activities on the same site, e.g. watering flower beds. This also enables any leaks in the supply to be determined more efficiently.

There is ongoing funding for investment on new water infrastructure (£20,000 over 2 years) and low water use shower heads in changing rooms have been used where replacement has been required.

A new Splash Pool has replaced one of the two Paddling Pools in the city which will reduce water use as Splash Pools can be decontaminated without requiring emptying and re-filling.

Mulching

New Permitting Regulations for on-site composting resulted in a change of use for the ECC composting site at Water Lane. It is now only used for storage of un-shredded parks waste prior to its transfer for processing by Ecosci at Clyst St Mary. Additional shredders were purchased to enable green waste to be shredded on-site, greatly reducing GHG emissions and transporting costs. The resulting mulch is used around newly planted trees and other plants to aid establishment by conserving water in the soil and suppressing weeds.

Trees

The Exeter Tree Strategy was adopted in 2009 and is still operational, though the Tree Warden Scheme has not been continued, due to lack of volunteer commitment. Budgetary restraints have reduced opportunities for tree planting schemes, but partnering arrangements with others such as the Devon Wildlife Trust, and Exeter Wild City projects with schools and community groups continue to improve the city treescape. Wild City projects and the design philosophy of Council Owned Buildings' projects include edible species to illustrate the ease and sustainability benefits of growing fruit and nut trees for local residents to harvest the produce, and orchards continue to be planted and enlarged.

Partnering with Devon Wildlife Trust and local schools has also increased the numbers of bird and bat boxes installed and wildlife meadows have also been planted.

Allotments and Resident's Groups

Exeter's Allotments continue to flourish with St. Thomas's Allotment winning 1st prize at the Exeter Food and Drink Festival for Sustainable Food and Vegetables.

All the 14 Residents Groups', supported by ECC, won awards in the Royal Horticultural Society 'It's your Neighbourhood' achieved awards in 2013??, with Digby winning 'Outstanding'.

Future Proposals

Future proposals include supporting the use of Exeter's Green Open spaces for community composting initiatives where residents show an interest in setting up and running schemes. There is also great potential for green open spaces to play a significant part in helping to encourage improvements in the physical activity of citizens, a developing theme in Exeter's Health and Wellbeing draft strategy.

Planning

A green infrastructure study and strategy has been completed. The evidence from this informed the Core Strategy 2012 (CP16 and CP18). Further work is being undertaken to reinforce the importance of both existing and future green infrastructure.

4 Water consumption

The delivery of clean water has a significant cost both financially and in terms of the carbon used to process and deliver it. Increases in population will increase demand on water resources, and this along with changes in the rainfall patterns in the UK will put pressure on water resources nationally. It is a responsibility of the Council to continue to support initiatives that reduce water use wherever possible. The cost of water in 2012-13 was £140,000 compared to £210,000 the previous year, indicating a significant improvement for that period.

Council Assets – the Energy Team undertook a water audit and managed a project where water efficient equipment was fitted to all high-use sites, such as introducing waterless urinals at Paris Street toilets; the total saving in 2012-13 was a surprising £81,000! Future recommendation being considered includes sensor taps at the Civic and throughout the council estate and rain water harvesting at the Civic Centre.

As mentioned above the Parks Department have also undertaken water saving initiatives.

5 Environmental procurement

Currently much procurement is undertaken independently by each department; keeping track of how much purchasing is done following the sustainable purchasing guidelines are hard to determine. The proposal to introduce a new Corporate Procurement Section that would be able to coordinate sustainable procurement and develop e-tendering and e-billing would ensure that future procurement was in line with established sustainable policies, and maximise on bulk purchasing economies of scale.

The Green Accord is a sustainable supply chain tool developed by the City Council to support businesses. It meets Government requirements for sustainable procurement and enables us to ensure all our suppliers have sustainable business operations in place, as well as enabling a business to demonstrate their sustainability credentials. The scheme is a respected one, endorsed by the Audit Commission and a wide range of Industry Awards.



The Green Accord has been already been adopted by the MET Office, Exeter University, Midas and Land Securities amongst other businesses. This environmental accreditation scheme has the potential to expand its user base far beyond Exeter.

6 Exeter businesses

Exeter's Industrial and Commercial business produce 47.9% of total CO₂ emitted in Exeter

The council aims to support low carbon energy efficient businesses and the Green Accord is an Environmental Accreditation that supports businesses to introduce sustainable working practices, reduce costs and cut carbon.

The University's Centre for Business and Climate Solutions is currently using the Green Accord to help SME's improve their business operations and make environmental and cost savings, with free support until 2015. Exeter Sustainable Businesses Network is run by Zero 2050 and the Exeter Chamber of Commerce & Industry, supported by Lloyds Bank and the Environment Agency, with the aim of assisting in the creation of a low carbon economy in Exeter. The Council is represented on the board from the business and economy aspect of the environment.

LCTF and District heating - waiting for contribution

7 Community and Staff engagement

Community

As mentioned above, the Green Team in schools continues to be a successful method of engaging the community and has the potential to be expanded to include a Community Master Composter network.

The ENLITEN Project – Energy Literacy through an Intelligent Home Energy Advisor

Exeter City Council is collaborating with the Universities of Bath and Oxford on a project aimed at reducing CO₂ emissions from energy use by developing a low cost intelligent home energy advisor to provide actionable prompts to householders that they can use to save money and energy. Data from 200 ECC housing stock is being collected by sensors in the homes: temperature, relative humidity, CO₂ concentrations, room occupancy, gas and electric consumption and boiler status. This data, along with surveys on attitude, behaviour, habits and other psychological/social factors relevant to energy use will be used to develop a framework to provide insight into the most effective ways of changing energy habits and attitudes. This will inform the design of the iBERT (Interactive Behaviour-Energy Relationship Tool) which will be installed in 40 of the households.

The research will make a significant contribution to Exeter City Council's understanding of domestic energy consumption and behaviour. It will provide in-depth understanding of building properties and energy behaviour, enabling property managers to prioritise actions and effectively reduce fuel poverty."

A community energy purchasing initiative to enable Exeter residents to get a better deal on their home fuel supply called 'Exeter Together' was run throughout the city during Feb – March 2013, and an estimated total of £35,325 saving were made by residents in reducing their fuel bills. This initiative was extremely valuable in gaining experience about social marketing in an area outside of the Council's normal sphere of influence, and with an issue that is becoming increasingly important to the public.

Community Energy Fit was a pilot project in Exeter, running from March – December 2013, led by National Energy Action (NEA) and EON, chaired by ECC. It provided the opportunity for residents to receive training and skills in energy efficiency and for some their active involvement in volunteering to take the message to their local community to help residents tackle fuel poverty. As part of a continuation strategy for the project E. ON has made £20,000 available for groups to bid into to be able to continue to raise awareness of the benefits of energy efficiency and local assistance that is available to householders. Exeter CVS successfully bid for this legacy fund to be able to continue offering advice to residents

on fuel efficiency but with a particular emphasis on the private rental sector. The Community Energy Fit project highlighted that private tenants were often at risk of fuel poverty because they did not know whether they were permitted to make changes to their homes, or to switch energy tariff. This investment will mean a specific focusing of money saving and green energy advice to private tenants, and to give them a stronger voice in the local housing market about a range of issues. The new project will be called ExeTRA (Exeter Tenants' Resource Association)

The council supported Transition Exeter is running a project to increase awareness about energy efficiency and to help households cut their fuel costs. It helped run 'Energy: Save it yourself' workshops from March to June 2013 providing information about practical affordable actions to save costs and carbon in three areas of Exeter – Newtown, Exwick and St David's. The project engaged with local communities and included a survey to find out peoples' concerns and priorities about energy efficiency and fuel costs. The project was supported by a grant from the Department of Energy and Climate Change, Local Energy Assessment Fund (LEAF).

The promotion of environmentally friendly behaviour at work is being revived by a new group of in-house Environment Champions. As previously mentioned they will be monitoring recycling and waste and working with the Energy Team to promote reductions in energy and water consumption and deliver a better working environment.

The ECC intranet and the Council Website currently have outdated information but will be updated as soon as the new policies have been agreed with the Environment and Climate Change Steering Group.

Summary

Although this report highlights the Council's successes it also demonstrates the need for a sustained and focussed strategy across all Departments to Green our assets with an inspirational aim to be a carbon-neutral council. The Council has already made moves towards this goal and further developments on existing initiatives should be made a priority. These include:

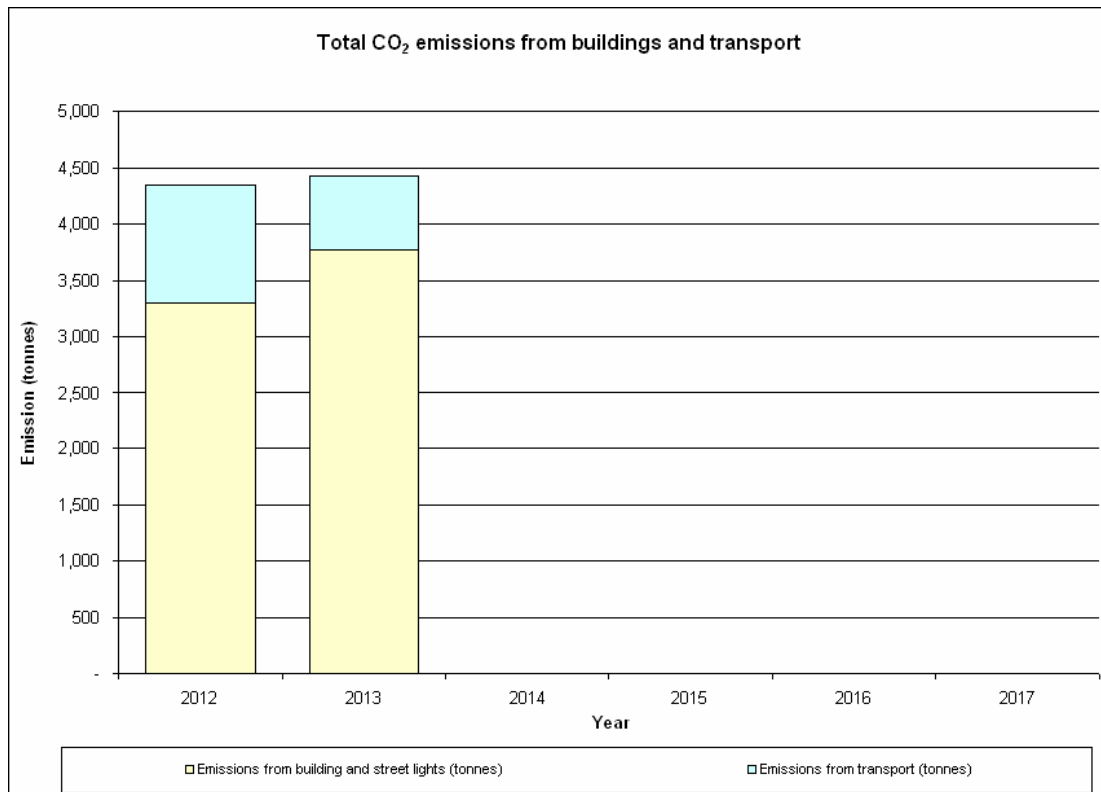
- Ensuring that all Council owned buildings are managed in the most energy efficient way
- Facilitating carbon reduction in private homes by insulation, fuel efficiency, renewable energy and behavioural change (ENLITEN)
- Assisting businesses in carbon reduction – Green Accord
- Working in partnership to prevent carbon use – Low Carbon Task Force and District Heating Networks

Appendix 1

Table 1

| | | Consumption (kWh) | Est. Spend | Increase Consumption (2012) | Increased kWh | Increased Spend |
|-------------------------------|--|----------------------|-------------|-----------------------------------|------------------|--------------------|
| Assets | ECC Offices/ Museum | 2,573,321 | £270,456.04 | 8% | 196,113 | £20,611.52 |
| Assets | Museum | 2,137,707 | £181,918.87 | 45% | 960,667 | £81,752.76 |
| Housing | Communal areas | 1,842,406 | £193,636.87 | 4% | 69,258 | £7,279.02 |
| Car Parks/ Public Realm | Car Parks/ Canal/ Street lighting | 1,677,396 | £176,294.32 | 16% | 271,257 | £28,509.11 |
| Estates | Landlord Supplies | 509,635 | £53,562.64 | 37% | 187,445 | £19,700.47 |
| Facilities/P arks | Depot/ Cemeteries | 185,689 | £19,515.91 | 27% | 50,792 | £5,338.24 |
| Cleansing | Public Convenienc es | 89,314 | £9,386.90 | 12% | 10,772 | £1,132.14 |
| | | 9,015,468 | £947,525.69 | 19% | 1,746,304 | £183,536.59 |

Graph 1



Graph 2

