

**TITLE OF REPORT:** Reducing Carbon Emissions - progress update

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## Summary

This report presents a progress report on initiatives to reduce carbon emissions within Gateshead Council, and the borough as a whole. Issues and challenges for further investigation are also suggested.

OSC is requested to note the progress made, and consider proposals for issues to be investigated further.

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## Background

The Sustainable Communities Place OSC has agreed that it receive annual progress reports on reducing carbon emissions, following on from its consideration of a carbon reduction case study within its work 2010-11 programme.

In Gateshead's Community Strategy, Vision 2030, Gateshead has targets to reduce energy and carbon emissions. The Gateshead Strategic Partnership has also adopted a Climate Change Strategy in March 2010, to deliver these targets, and the Council Plan 2012-2017 identifies "Reducing Carbon Emissions" as one of Gateshead's Strategic Needs, to be addressed through the Green Gateshead Strategic Intervention.

The Council also has its own Carbon Management Plan, adopted in March 2009, which is aiming to cut Council carbon emissions by 35%.

The Council has also made several public declarations on its aspirations to tackle climate change and reduce carbon emissions, as follows:

Nottingham Declaration on Climate Change  
Eurocities Declaration on Climate Change  
EU Covenant of Mayors

Previously, the OSC agreed that more needs to be done to achieve the above ambitious carbon emissions targets, and has reviewed this as case study in January 2011, and received progress report in April 2012, April 2013, April 2014 and June 2015.

### 3 Reducing Carbon Emissions

The Energy Services Team within Communities and Environment group lead the Council's strategy for reducing carbon emissions, and co-ordinating programmes of carbon reduction initiatives. For clarity, the topic of reducing carbon emissions is split into two areas; Council carbon emissions, and community carbon emissions.

#### 3.1 Reducing Council Carbon Emissions

##### Current position up to 2014/15

The Council's Carbon Management Plan was adopted in March 2009 and now has a target of reducing Council carbon emissions by 35% by the end of 2016.

As of March 2016, actual greenhouse gas emissions from Gateshead Council operations fell again by almost 13%, and are now 26% lower than in 2007/8. This is most savings that have been achieved in a single year, since the Carbon Management Plan began. Accounting for variability in annual temperatures, weather-corrected emissions are 27% lower

Approximately 9% of the reduction was due to actual energy consumption reducing. The further 4% was due to the carbon content of UK electricity returning to normal levels, following a temporary increase during 2014/15.

In terms of energy consumption across all buildings and streetlights, the Council is using 22% less energy, than in 2017/8.

Notable progress is as follows

- Building energy consumption overall is now 19% lower than in 2007/8, with notable changes as follows:
  - The Civic Centre continues to lead the way in savings, with energy consumption down again, to 24% below 2007/8, in due to the installation of solar panels.
  - Electricity consumption fell by 6% in 2015/16 due to further energy efficiency, and solar PV installations - and this has included growth due to new school construction, and increased occupation of the Council's managed workspaces.
  - A colder than normal Spring led to a small increase in actual gas consumption but the weather corrected figures show an 11% reduction.
- Streetlight consumption now stands at 44% less than in 2007/8, showing the significant effect of the continued streetlight upgrade works to date
- Business travel figures show that travel emissions have fallen further and are now 46% lower than in 2007/8.
- Fleet transport emissions remained the same as last year, which is 24% less than in 2007/8.
- Landfill gas emissions have dropped significantly during 2015/16 and are now at 51% of 2007/8 levels, as a result of improved gas capture and flaring at a number of sites.

The financial benefit of the above is clear, with the reduced energy consumption over the past 8 years avoiding £2.0m of increased energy costs to the Council, Schools and Gateshead Housing Company.

### **What has been achieved in 2015/16?**

#### **SALIX invest to save Fund**

Since last April, an additional £258k of energy efficiency projects has been delivered, bringing total invested since 2009/10 to £1.96m of projects.

Almost all projects delivered in 2015/16 focused on installing LED lighting, which is becoming the highest priority measure. Projects included:

- Replacement LED lighting throughout at Gateshead Leisure Centre commenced (completion due December 2016)
- Replacement LED lighting installed in Blaydon and Heworth Leisure Centre gyms, coordinated with the lease renewal for gym equipment.

Projects have been commissioned with some design works commenced in 2015/16 for:

- LED Lighting at Gateshead International Stadium (out to tender)
- LED Lighting to Dunston Leisure Centre Gym (completed April 2016)
- LED Streetlighting to South Shore Road + various Parks
- BMS optimisation/inverter driven pump installation at the Civic Centre, Priory Court and Warwick Court

In addition, energy efficiency works at schools and academies continued:

- £33k of energy efficiency works at Windy Nook Primary School was completed.
- £12k scheme to install LED lighting + BMS optimisation at Brandling Primary School.
- Interest-free loans have also been secured to progress energy efficiency works in 2016/17 at Bensham Grove Nursery and Heworth Hall.
- The Council secure and delivered £450k energy efficiency scheme for Joseph Swan Academy. Furthermore, the Council made a successful bid to the Condition Improvement Fund for a further £490k to fund asbestos cleaning, which will allow the final LED Lighting works to be installed during summer 2016/17

Projects commissioned to date will be saving the Council and schools

- Ca. £600k per annum
- Over 3400 tonnes of CO2 per annum (which accounts for more than one third of all the reductions in carbon emissions to date)

#### **Streetlighting upgrade**

Between April 2015 and April 2016 an additional 1,749 residential street lighting columns were fitted with more efficient LED lanterns, completing the current phase of streetlight upgrades.

New trials of streetlighting dimming commenced:

- From Jul 2015, ca. 1200 main road lights, on strategically selected roads, were switched off at midnight and switched back on at 5.30am each morning.
- From September 2015, ca. 19,000 residential LED lanterns were dimmed, starting at 50% power, then reducing to 25% power from midnight until 5.30am, then back to 50% power.

Apart from a few changes required to a few of the main road lights dimmed, due to localised traffic management concerns, the trials have been successful, with little or no issues arising.

Approvals were put in place for further streetlighting upgrades, which are scheduled for future years:

- Approximately 1000 concrete lighting columns left in the borough which still have HID lanterns. These are currently being replaced by new tubular steel columns with LED lanterns. This project is due for completion 2017/18.
- Funding has also been approved for the replacement of 10,000 existing main road lanterns with LED lanterns (these were upgraded at the start of the upgrade programme, but technologies and costs have progressed to make the conversion of these lanterns to LED viable). This project is currently in the tender stage, with installations projected to start mid 2017.

Overall, the streetlighting upgrade has so far achieved the following

- A 44% reduction in electricity consumption, equivalent to at least £800k per annum in electricity costs at current rates (not including reduce maintenance costs, and inflation of electricity rates)
- Over 3,700 tonnes of CO<sub>2</sub> per annum (equal to 8% cut in Council carbon emissions)

### Solar PV installation programme

During 2015/16, a total of £2.8m of solar PV schemes were installed, totalling 2 MW, across 34 buildings. In summary, the installations included:

- 0.62 MW installed on 7 operational Council buildings
- 0.62 MW installed on 17 maintained schools
- 0.27 MW installed on 4 academies
- 0.15 MW installed on 4 Diocese of Hexham and Newcastle schools
- 0.34 MW installed on 2 public sector partner buildings

The panels have been confirmed to be performing as expected, and will recover all finance costs and generate an estimated £2.5m in surplus income or savings over their 20 year life.

The scheme is estimated to have cut Council carbon emissions by 900 tonnes per year, or a further 3% towards the Council's target of 35%.

## Council transport

The Council Travel Plan (CTP) has been reviewed and revamped with a more interactive and responsive approach to promotion of sustainable and active travel. A website for employees to easily access information about public transport, corporate passes, cycle loan or purchase, pool car booking, etc., is now in place - see [www.travelsmartergateshead.co.uk](http://www.travelsmartergateshead.co.uk) Staff can also view profiles of colleagues who commute and/or make business journeys sustainably, and a different aspect of the website is highlighted monthly in the Council Info email. The website will continue to be regularly refreshed to ensure it remains current and relevant.

As part of the CTP review, staff bus passes (Go North East Key Cards) for business journeys have been put in place to facilitate staff travelling by bus; these have been very well-received and are proving popular. A project to install 2 electric bikes (plus storage and charging facilities) for staff business use is now complete. These and pool pedal bikes now benefit from an improved and more prominent storage location, as well as regular maintenance. As part of the travel plan, the Council has 18 pool cars including 3 electric ones, 16 based at the Civic Centre; these are provided to reduce dependency by employees on use of private cars or additional purchase of a car purely for work purposes.

## Future work and challenges

Ongoing work and challenges are as follows:

- Energy efficiency works in schools continue to be offered, but take up by schools is challenging, and availability of interest free loan finance is reducing, particularly for academies.
- Energy efficiency projects are focusing increasingly on LED lighting replacements, and its expected that the pipeline of projects will continue for several years across operational buildings.
- 2016/17 will see further work on progressing connections of more Council buildings to the Town Centre District Energy scheme, in particular for Park Road, Shearlegs Road, Gateshead Leisure Centre, Central Library and Prince Consort Road.
- The Council had allocated up to £11m to invest in solar PV on Council buildings, schools and Council homes. However, new installations were halted from September 2015, due to the government issuing consultation regarding the future of Solar FITs. From January 2016, Feed in Tariffs were significantly reduced, making the case for installing solar PV less viable, and the weakening strength of the pound in recent months has increased the cost of some components. While the Council is exploring potential further solar PV installations, installation costs need to come down considerably, before these become viable again

## **3.2. Reducing Community Carbon Emissions**

## Current position

We can report on 2 years progress of carbon emissions, having revised the timing of this report. Gateshead's carbon emissions fell over 2013 and 2014, by 2% then 8% respectively, now standing at 30% less than in 2005.

The main cause of this decrease was significant reductions in both domestic emissions (19%) and employers emissions (17%) - while this was in part due to a return to average winter temperatures, after the colder 2012, this does not explain the majority of the change, which must be down to better energy efficiency.

Employers' energy use is also now 34% less than in 2005. It is encouraging to see emissions overall still reducing, while the economic recovery from the recession in 2009 continues, suggesting increasing energy efficiency is taking effect within businesses.

Carbon emissions from traffic also continues to fall, albeit at a slower rate - and transport carbon emissions in Gateshead are now 15% less than 2005 levels. This is a 1% drop from 2012, despite traffic volumes increasing by 2% over the same period, indicating that vehicles and fuel continue to become more efficient and lower carbon.

## What has been achieved in 2015/16?

### Energy efficiency in homes:

The Council continued to promote the North East's "Warm up North" partnership. While Warm up North has faced significant challenges, particularly managing changes to national grant funding, over 50% of the spend of Warm up North across the region has been within Gateshead, with a corresponding high proportion of outputs delivered in Gateshead.. Progress in 2015/16 includes:

- Warm Up North has to March 2016 completed 322 measures to support affordable warmth, funded by £460k of grants (including 144 new boilers / heating systems, and 178 insulation measures).
- Works were ongoing to 210 Gateshead Council properties in Leam Lane and Heworth Grange are to benefit from External Wall Insulation, to be completed by May 2016. The cost of this scheme is £1.5m, with £180k grant funding supplied by British Gas.
- Final proposals were agreed for improvements to 144 homes across 3 high rise blocks - Beacon, Lough and Fell Court - which will receive new windows, External Wall Insulation and new roof covering, The scheme is due to commence May 2016 and be complete November 2016. Cost of this scheme £2.3m, with £445k grant funding provided by British Gas.
- The Council has promoted a new Free Gas Boiler scheme for qualifying households via Warm Up North, with articles in the Council News, leaflet distribution for promotion - located within Council premises, email distribution to Private Sector Landlords.

Outside of Warm up North, the Council and the Gateshead Housing Company (TGHC) remains committed to improving energy efficiency across the social housing stock. During 2015/16, the following progressed:

- 456 boilers were renewed with modern A rated appliances. In addition to the boiler replacement, any undersized radiators are replaced; thermostatic radiator valves were stalled and modern thermostats and controls installed to give customers greater control over their central heating and energy use.
- 665 homes had their single glazed timber windows replaced with modern efficient Upvc double glazed units.
- In addition to traditional element replacements targeted work has been carried out in 414 properties. This work has seen insulation improvements in specific locations that have been prone to heat loss, cold bridging or mould growth.
- The Council and TGHC also submitted an outline application for ERDF grants, to fund new district heat and power schemes for up to 750 high rise homes, in the Gateshead HEIGHTs scheme (High-rise Energy Infrastructure for Gateshead Housing Tenants).

In terms of performance, as of March 2016, 55% of all homes in Gateshead now exceed the recommended energy efficiency rating (SAP = 65), compared to only 14% 10 years ago in 2003. Over 34,000 homes have been improved into the highest energy efficiency band.

#### New housing and development

- Felling Local Centre opened in April 2016, and the development achieve BREEAM Good, and features 2 electric charging points, air source heat pump system, solar thermal hot water system, roof mounted photovoltaic system, and LED lighting.
- The Gateshead Regeneration Partnership built 33 units in Saltwell and 40 units in Birtley, each achieving Code for Sustainable Homes Level 4, including solar panels on the roof, enhanced insulation and energy efficient boilers. The Partnership also secured planning permission for a further 147 units to be built to the equivalent of Code 4.
- In June 2015, the Council started construction of the Energy Centre for the Gateshead Town Centre District Energy Network. In January 2016, construction of the heat and power network commenced. The initial phase aims to include commercial customers, including Hilton Hotel, and Baltic Place offices, in addition to the 6 public and domestic buildings to be connected.
- Other Progress since then includes:
  - Gateshead Energy Company was incorporated in October 2016, and has been awarded the contract to operate the network for 40 years.
  - The Council progressed further feasibility work, funded by the government's Heat Network Delivery Unit. to explore extensions to other areas in the town centre. On the back of this, the capital programme now includes funding for potential extensions of the

district energy network, to the Gateshead Leisure Centre area, and Trinity Square.

- Contractors have also been commissioned to start feasibility studies on District Energy schemes for the Metrocentre and Team Valley, which will be carried out from June 2016.

### Transport

The Government supported 'Go Smarter To Work' initiative ~~is promoting~~ continues to promote sustainable travel promotion in the workplace. The initiative is focussed on the A1 corridor, including Team Valley, Metro Centre and central Newcastle/Gateshead, with each area having its own dedicated team of practitioner the programme is currently supported by Sustainable Travel Transition Year (STTY) funding, and a bid to the Access Fund for Sustainable Travel is being prepared for Sept 2016 submission. If successful, this would cover the period 2016-20.

The Schools Go Smarter programme, supporting sustainable travel to school projects, also continues to be fully implemented, with a combination of funding from STTY and NSRI sources. The profile of sustainable and active travel is much higher in schools as a result of the complementary initiatives, and cycling levels in many primary schools have risen markedly.

Local Transport Plan and other funding continues to be used to give priority to promoting alternatives to the car. This includes a range of measures to improve the attractiveness of public transport, cycling and walking across Gateshead.

### Future work and challenges

- High-cost home energy efficiency measures, like solid wall insulation, still remains challenging to deliver for private and social housing, as the funding from the Energy Company Obligation (ECO) has been further reduced, making this measure unviable for social landlords or homeowners. Lower cost alternatives are being explored, through Warm up North.
- The challenge going forward is to seek more innovative ways to tackle the hard-to-heat property types - tower blocks, and solid wall housing - which still require gap-funding. Funding bids have been made to ERDF for tower block schemes, but these are yet to be confirmed, and still subject to developments regarding the UK's exit from the EU.
- It remains challenging for the Council to require new developments to reach energy standards higher than building regulations. In addition, in March 2015, the government scrapped the Code for Sustainable Homes, preferring to use Building Regulations to enforce the move to more sustainable housing.
- But opportunities remain still. 2016/17 will see the start of operation of the town centre District Energy Scheme, and approval of extensions to the network, which will further reduce carbon emissions whilst providing cost savings to private, public and domestic customers.



- The opportunity to deliver, and potentially expand, other energy schemes, at Team Valley, Metrocentre, and incorporating new battery storage technologies, continues to be explored, which offer opportunities to continue to reduce carbon emissions, save energy costs, whilst generating income for the Council, and attracting new businesses and sustainable housing to Gateshead, boosting economic and housing growth.

#### 4. Recommendations

- OSC are requested to note and provide comments on the current position, progress made so far, and future work and challenges.
- OSC to receive a report at a future meeting on progress with those items identified

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