

3 November 2016**Agenda Item: 4****REPORT OF THE SERVICE DIRECTOR FOR TRANSPORT, PROPERTY AND
ENVIRONMENT****PERFORMANCE REPORT – ENERGY AND CARBON MANAGEMENT –
2015-16 OUTTURN****Purpose of the Report**

1. This report provides information on the Council's energy and carbon management performance for the 2015-16 financial year.

Information and Advice

2. The energy and carbon management function provides a service on behalf of the Council's corporate estate, including schools, to ensure supply of electricity, gas and wood fuel is available at competitive rates; to promote and support investment in energy efficiency measures; to support investment in renewable energy technologies; to ensure compliance with energy-related legislation and to manage consumption data to enable effective monitoring, forecasting and reporting.
3. The Council is currently obliged to report its annual carbon emissions under the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES), and is also required by the Government to report and publish its greenhouse gas emissions. In addition, Council buildings over 250m² in floor area are subject to legislation requiring them to be assessed for their energy performance, resulting in a Display Energy Certificate (DEC) showing a rating from A to G, which needs to be displayed in a prominent place.
4. CRCEES performance and the Council's local greenhouse gas emissions are only reported annually. Due to the burden of reporting under the CRCEES, the Council has taken the decision to limit its greenhouse gas emissions report to those emissions covered by the CRCEES, which now include those from energy use in street lighting in addition to emissions from Council buildings.
5. Further to the above, the energy and carbon management service is also measuring the change in the average annual DEC score for non-school Council buildings over 1000m², these being the buildings which are required to have their DEC annually renewed. This change has been adopted as measure of environmental performance for the Council's delivery plan.
6. The total annual costs for electricity and gas for the Council's properties and street lighting for 2015-16 were about £16.6million, of which the schools (and Academies) share was £9.5million, non/school buildings were £2.8million, and that for street lighting and signals

£4.3million. Crown Commercial Services (CCS, formerly GPS – Government Procurement Service), the Council's appointed central purchasing body for gas and electricity, continues to deliver better than average market prices for the Council's energy supplies.

7. A summary of key performance data is detailed in Appendix 1. This indicates that overall energy and carbon management performance is still good, with a high take up of the Local Authority Energy Finance (LAEF) funding scheme for quick payback energy efficiency measures and an encouraging return from the Council's investment in solar energy. There has also been a welcome decrease in carbon emissions from the Council's non-school buildings compared to 2014-15 and an impressive 18.5% decrease in those from street lighting, highway signs and signals.
8. Table 1 below shows the County Council's carbon emissions from its buildings and street lighting over the last 6 years, with those from its buildings also corrected to take account of the effect of weather on energy consumption, making year on year comparisons more meaningful. Note that for phase 2 of the CRCEES emissions from schools are excluded, whilst those from street lighting are now included.

Table 1. County Council carbon emissions (tonnes)							
Year and phase of CRCEES	Buildings (weather corrected figures shown in brackets)				Street lighting	Total	Emissions reported under CRCEES
	Schools	Non-schools	Pension portfolio	Total			
2010-11 Phase 1	56,311 (54,918)	18,201 (17,751)	4,066 (3,966)	78,579 (76,635)	24,619	103,198	78,579
2011-12 Phase 1	48,983 (52,843)	15,693 (16,684)	2,777 (2,877)	67,453 (72,404)	24,515	91,968	67,453
2012-13 Phase 1	55,228 (52,503)	15,434 (14,875)	2,738 (2,671)	73,400 (70,030)	24,772	98,172	73,400
2013-14 Phase 1	51,809 (53,745)	13,837 (14,232)	2,825 (2,889)	68,473 (69,543)	23,981	92,454	68,471
2014-15 Phase 2	45,375 (48,519)	13,014 (13,735)	1,882 (1,941)	60,271 (64,195)	20,533	80,804	36,310
2015-16 Phase 2	44,893 (44,984)	12,957 (12,921)	927 (928)	58,777 (58,833)	16,735	75,512	30,619

9. In addition to this, Committee should note that up to the end of March 2016, the Council's recycling energy efficiency fund (LAEF scheme) has invested £2.5m in Council buildings (including schools) and street lighting, yielding annual savings of over £0.6m and 3,500 tonnes of carbon dioxide. The fund has £450,000 available to invest in further quick payback energy efficiency measures in 2016-17 and a promising pipeline of projects in place.

Analysis

10. The reduction in emissions from street lighting are due to significant investment in LED lighting and dimming programmes. For buildings, the reduction in the average annual DEC rating for the Council's larger non-school properties (34 sites) by 6.1% shows an encouraging trend in improving the energy efficiency of the Council's larger buildings stock, although it is still a bit of mixed picture with 22 buildings having an improved score and 9 with a worse score. This average score has moved from 108 in 2013-14 (equivalent to DEC Band E) to 96 in 2015-16 (Band D). These larger buildings account for around 50% of the total energy consumed by the Council's non-school buildings. However, the slight decrease in carbon emissions across all buildings would suggest that the Council's smaller buildings performance for 2015-16 in terms of carbon dioxide emissions largely offsets improvement in larger buildings. The reduction in emissions from the Pension portfolio is considered to be a reflection of the changes in that portfolio.
11. Committee should note the figures show that over 5 years from 2011-12, weather corrected carbon dioxide emissions from the Council's corporate estate (non-schools, non-pension portfolio) have decreased by 27%, whilst total emissions from buildings and street lighting have also decreased by the same amount, knocking 27,686 tonnes off its annual emissions from buildings and street lighting – equivalent to the average annual emissions from over 2,000 households.
12. Income received through Feed in Tariff (FiT) payments for electricity generated by solar (PV) arrays on Council buildings for 2015-16 amounted to £118,973 - almost double that received in 2014-15 (£65,401). Savings estimated from on-site consumed electricity from these panels amounted to a further £57,547, giving a total benefit of £176,520, some of which supports their on-going maintenance. The Council now has 36 sites with roof-mounted PV arrays receiving FiT payments, which are generating in total about 0.7MWh of electricity each year.
13. Action to improve performance in the emissions from energy used in street lighting, signs and signals rests with Highways, who have been assisted by the Energy and Carbon Management team to access further interest-free loans from Salix Finance to accelerate their LED conversion and dimming programmes throughout the county.
14. To complement and extend the reach of the LAEF scheme, the Council established a new Additional Capital for Energy (ACE) fund in 2014-15, which is now starting to bear fruit, with a number of investments completed and the prospect of some significant projects to come.

Cost implications

15. Every tonne of carbon emitted under the CRCEES incurs a cost to the Council. Under Phase 2 of this Scheme the Council has been able to take advantage of a discounted advanced purchase price for buying its annual allowances, representing a saving of £39,805 compared to paying the 'compliance' price. Any surplus allowances beyond those that need to be surrendered to meet the reported emissions can be 'banked' for use in future years. The costs of carbon emissions for 2015-16 are shown in Table 2.
16. Although the cost of carbon to the Council is significant, whilst one tonne of carbon dioxide emitted costs £15.60, the energy costs associated with one tonne of carbon dioxide are of the order of ten times greater or more. Looking at the total cost of energy for our buildings (excluding schools) and street lighting, of around £7.1million, the average energy cost per

tonne of carbon emitted is about £239. Put another way, every tonne of carbon saved is roughly worth an additional £239 in saved energy costs

Table 2. Cost of carbon emissions for 2015-16 under the CRCEES (at advance purchase price of £15.60)		
Source	Carbon emissions (tonnes)	Cost (£)
Corporate estate	12,957	202,129
Pensions portfolio	927	14,461
Street lighting	16,735	261,066
Total	30,619	477,656

Other Options Considered

17. None – this is a report for noting only.

Reasons for Recommendations

18. Energy and carbon management is a significant area of spend for the Council, and has a major impact on the environmental and economic well being of the County. It is essential therefore that the Environment and Sustainability Committee is fully briefed on issues which impact on the delivery of the service.

Statutory and Policy Implications

19. This report has been compiled after consideration of implications in respect of finance, equal opportunities, human resources, crime and disorder, human rights, the safeguarding of children, sustainability and the environment and those using the service and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

Implications for Service Users

20. Performance in this service area has a major impact on schools in Nottinghamshire, with over 90% of state schools buying electricity and gas through the Council's electricity and gas supply contracts. For schools and non school sites alike, good energy management and sensible investment can help limit the impacts of the predicted upward trend in energy costs and even yield budget savings, in addition to the environmental benefits accrued from reducing carbon emissions and pollution associated with the use of fossil fuels.

Recommendation

21. That Committee notes the contents of the report.

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For any enquiries about this report please contact:
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Constitutional Comments

22. This report is for noting only.

Financial Comments

23. The financial implications are as set out in the report.

Background Papers

The County Council's local greenhouse gas emissions report can be found at

<http://site.nottinghamshire.gov.uk/thecouncil/plans/councilplansandpolicies/policy-library/?entryid100=541781&q=11026943~greenhouse~11026959~Countryside+and+Environment~>

Electoral Divisions

All