Nottinghamshire County Council

Report to Finance & Property Committee

21 March 2016

Agenda Item: 7

REPORT OF SERVICE DIRECTOR ENVIRONMENT, TRANSPORT & PROPERTY

ENERGY COSTS AND PROCUREMENT

Purpose of the Report

1. The purpose of this report is to:

   - update Committee with regard to the procurement of energy for the Council's buildings and street lighting;
   - update on projected costs of energy for this financial year and advise on estimated costs for the 2016-17 financial year;
   - report on the Council's carbon emissions and costs associated with mandatory participation in the Carbon Reduction Commitment Energy Efficiency Scheme; and
   - provide a brief update on current carbon and energy cost saving measures.

Information and Advice

Energy procurement

2. This report updates information reported to this Committee on 23 February 2015 and relates to energy and carbon management performance reported to Environment and Sustainability Committee on 19 November 2015.

3. Some of the Council's energy supplies, covering about 70% of its consumption for street lighting and buildings, are purchased under a flexible, variable procurement model, whereby energy is purchased in advance of and during the supply period (financial year). The remaining 30% is purchased prior to the supply period. This should be borne in mind when noting the predicted energy costs in the following section.

4. Procurement of gas and electricity takes place through the Council's appointed central purchasing body, Crown Commercial Service (CCS). The supply contracts for gas and electricity are also made available to state schools in Nottinghamshire through a participation agreement, which most schools take advantage of. The CCS performance review for 2014-15 shows that for the energy baskets from which the Council's supplies are procured, CCS continues to achieve better than average wholesale market prices, outperforming the market average by up to 8%.

Energy costs

5. Table 1, below, shows the predicted energy costs (electricity and gas combined) for this and next financial year, compared to actual costs for 2013-14 and 2014-15 for the current contract portfolio. Predictions for next financial year show an expected decrease for both gas and electricity costs, with an average decrease for gas of around 14% and for electricity of around 3%. Wholesale costs have fallen for both gas and electricity, however for electricity this drop is largely offset by significant increases in the non-commodity costs (including transportation and distribution), which now account for about 50% of the final bill.

Table 1. Summary of predicted electricity and gas costs for 2015-16 and 2016-17

	2013-14 actual	2014-15 actual	2015-16 predicted	2016-17 predicted	Difference compared to 2015-16 (% change in brackets)
Schools*	£8,587,281	£8,662,381	£8,854,877	£8,201,033	-£653,844 (-8%)
Traffic signals	£373,926	£317,155	£291,463	£287,092	-£4,371 (-1.5%)
Street lighting	£4,169,074	£4,111,757	£3,930,831	£3,797,618	-£133,213 (-3%)
Council buildings	£2,391,752	£2,359,015	£2,458,854	£2,298,653	-£160,201 (-7%)
Total cost excluding schools	£6,934,753	£6,787,927	£6,681,147	£6,383,363	-£297,784 (-4%)

*Schools meet their own energy costs

6. Members should be aware that these predicted costs are very much best estimate figures based on anticipated consumption, predicted prices and the limited amount of energy purchased in advance, with many variable factors that can influence actual costs. Street lighting and traffic signals comprise around 60% of the Council's combined electricity and gas costs, whilst schools meet their own costs.

Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES)

7. Reducing emissions of carbon dioxide, including those from the Council's own estate and operations, is one of the Council's Strategic Plan priorities. Carbon emissions for the financial year 2014-15 arising from the use of energy in Council buildings (excluding schools) and street lighting, as declared in the Council's annual report under the Government's Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES), amounted to 36,310 tonnes of carbon dioxide, representing a total cost of £566,436. This figure is the first reported under Phase 2 of the CRCEES, which now excludes emissions from our schools, but includes those from our street lighting, signs and signals. Phase 2 also allows participants to purchase allowances in advance at a reduced rate, which the Council has done, purchasing allowances for 2014-15 at

£15.60 per tonne as opposed to £16.40 per tonne purchased in arrears. Total emissions (without any weather correction) from all Council buildings (including schools) and street lighting fell 12% from 92,454 tonnes in 2013-14 to 81,685 tonnes in 2014-15.

8. Table 2 below shows the County Council's carbon emissions from its buildings and street lighting over the last 5 years, with those from its buildings also shown corrected to take account of the effect of warmer or colder than usual weather on energy consumption, making year on year comparisons more meaningful. This shows that when the effect of weather is taken into account (which the CRCEES does not do), a year on year decrease in emissions from County Council buildings has been achieved. Total emissions for street lighting and buildings are now 21% lower than they were in 2010-11. This sustained improvement in performance is likely due to a combination of Council investment in energy efficiency and renewable energy; changes to the Council's building portfolio; and, for Phase 2 of the CRCEES, favourable changes to the conversion factors used to convert energy consumption figures into tonnes of carbon dioxide, arising from the reduced carbon intensity of energy generation.

Table 2. County Council carbon emissions

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)	12,101 (13,735)	1,881 (1,941)	59,357 (64,195)	22,328	**81,685**	36,310

9. Table 3 summarises predicted costs of CRCEES up until 2017-18, excluding any further saving from forward purchasing beyond 2015-16 and assuming emissions remain at 2014-15 levels.

Table 3. Predicted costs under CRCEES

Predicted CRCEES costs (Based on 2014-15 emissions, assuming these remain constant)					
	2014-15 emissions (tCO_2)	Year and cost per tonne			
		2014-15 (actual cost, purchased in advance at £15.60)	2015-16 (predicted, purchased in advance at £16.10)	2016-17 £17.40 (estimated)	2017-18 £17.90 (estimated)
Corporate buildings	12,101	£188,776	£194,826	£210,557	£216,608
Street lighting	22,328	£348,317	£359,481	£388,507	£399,671
Pensions portfolio	1,881	£29,344	£30,284	£32,729	£33,670
Total	36,310	£566,436	£584,591	£631,794	£649,949

Measures to reduce energy costs and carbon emissions

10. The Council has a number of key programmes in place to tackle energy consumption and reduce its carbon emissions. These include:

(i) A revolving loan fund of £1.3million for investment in energy efficiency measures, of which £0.55million of funding has been provided by the Carbon Trust, via Salix Finance.

Up to the end of September 2015 this fund had invested over £2.4million in the Council's schools and other buildings, saving over 3,000 tonnes of carbon dioxide and £580,000 in energy costs per year. Measures funded include low energy lighting, energy management systems, improved heating controls and voltage optimisation, with the lifetime savings from investment in such measures amounting to over £6.7million and 37,000 tonnes of carbon dioxide.

(ii) A substantial street lighting energy saving project approved by Policy Committee in September 2013.

This on-going project has so far seen around 24,000 LED lights installed county-wide, with plans approved for a further 8,000-10,000 a year for the next 3 years. Interest-free funding has been secured from Salix Finance totalling over £6 million with a further bid pending. This is a spend-to-save scheme, with the expenditure saved in the energy budget paying for the new infrastructure, therefore not costing the authority any additional money. To date the project is on target to reach its £1.5

million savings commitment, with additional savings being realised as the project progresses. Once the loans have been repaid, the street lighting energy budget should be reduced by a between £800k - £1m per year, with the added benefit of improved street lighting and more easily maintained stock throughout the County.

(iii) Investment in photovoltaic (PV) panels on the roofs of various Council properties.

By the end of 2014-15 the SunVolt programme was generating an annual income to the Council of over £75,000, with additional annual savings from avoided electricity costs worth more than £25,000. Further investment, bringing the total to over £1.4m, has now brought the number of PV installations on non-school Council buildings to 32, amounting to an installed capacity of about 750kW and providing a net, inflation-linked benefit of about £175,000 p.a. for the next 20 or so years.

(iv) A £2million programme to replace remaining ageing coal, oil and LPG boilers in Council properties with modern biomass heating systems.

This programme, completed in April 2015, utilises the Government's Renewable Heat Incentive (RHI) to repay the capital costs, and generates an income for the Council to cover boiler maintenance costs and fuel purchase. The annual income from the RHI, which is index-linked over 20 years, is estimated to be around £110,000. This programme follows on from previous activity, which has resulted in over 60 Council sites heated by modern biomass boilers, saving each year over 6,000 tonnes of carbon dioxide, and brings the Council's installed renewable heat capacity to over 10MW.

(v) An additional capital fund of £3million over 3 years to support energy efficiency measures and renewable energy projects in non-school buildings that fall outside of the funding criteria set for the Council's revolving loan fund.

Surveys and feasibility work have identified a healthy pipeline of projects, which include a number of interesting renewable heat projects utilising water source heat. This fund will be used to complement the Property capital maintenance programme to help reduce ongoing energy costs at Council offices, such as Sir John Robinson House, Arnold and Chancery Lane, Retford.

11. The Council will also be limiting its energy costs and carbon emissions through its continuing programme of property rationalisation and the creation of more energy efficient working environments. This has included the integration of energy efficiency measures into office refurbishments, energy efficient design for new Council buildings, and the use of low carbon technologies, such as ground source heat pumps.

12. All Council new build projects are designed to meet current building regulations and incorporate, where possible, daylight sensitive lighting controls, natural ventilation, sustainable drainage, rainwater harvesting, and other measures that save energy and reduce running costs. Use is increasingly being made of modular construction methods, which reduce time on site, help minimise waste and meet requirements for improved air tightness. Where refurbishments, such as the Schools Capital Refurbishment Programme, are being undertaken, every opportunity is taken to upgrade the buildings and services to meet the current regulations and reduce future energy use.

13. The Council is rolling out performance profiles for each of its property assets. These profiles bring together key information for each building, including running costs and energy performance ratings, and enable an assessment of each property's performance from both a building and service perspective. These profiles have already been actively used to provide information to support decisions regarding which assets to retain or sell, and allow target setting in respect of the performance of retained assets. Furthermore, they assist with more effective prioritisation of spending, including that on energy efficiency measures, thus optimising the use of available funds and supporting the drive towards reducing costs. In addition, high level indicators for the performance of the property portfolio have been developed and were approved by Finance and Property Committee in May 2014. These indicators include general energy performance information. The Council is also progressing with the 'One Property' central government initiative that seeks to promote the shared use of property. One of the direct effects of this is to reduce the carbon footprint of each sharing organisation. On-going and accelerating work to rationalise the property portfolio will continue to have a significant effect on reducing energy consumption and resultant costs.

Other Options Considered

14. Not applicable.

Reason/s for Recommendation/s

15. This report is for noting only.

Statutory and Policy Implications

16. This report has been compiled after consideration of implications in respect of finance, the public sector equality duty, 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.

Financial Implications

17. Energy costs to the Council are predicted to fall by about 4% in 2016-17. The Council has a number of programmes in place to tackle energy consumption and reduce carbon emissions. These will further help to reduce energy costs and militate against expected future price increases charge for the Council's carbon emissions under CRCEES.

RECOMMENDATIONS

1) Committee is recommended to note the contents of this report.

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Constitutional Comments (CEH 23.02.16)

18. The report is for noting only.

Financial Comments (SES 24.02.16)

19. The financial implications are set out in the report.

Background Papers and Published Documents

20. None.

Electoral Division(s) and Member(s) Affected

21. Ward(s): all
    Member(s): all

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SP: 3016
Properties affected: 09998 - Various NCC Properties/non-property item