

Report to: **Audit, Best Value & Community Services Scrutiny Committee**

Date: **17 July 2015**

By: **Chief Operating Officer**

Title of report: **Carbon Management**

Purpose of report: **To provide an update on undertaken and planned activities to reduce the Council's carbon footprint.**

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## **RECOMMENDATION**

**The Committee is recommended to note and consider the report.**

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### **1. Background**

1.1 There is a direct correlation between energy usage, carbon output and expenditure on energy. The Council's annual energy bill for buildings and street lighting is approximately £6.5m. This does not include costs for other council activities e.g. travel.

1.2 Despite a recent fall in commodity prices, DECC price forecasts indicate that utility prices are expected to increase by an average of 3% to 5% each year. Appendix 1 shows DECC's most recent utility price projections.

1.3 The Council is using the following financial resources to implement projects that reduce energy use and carbon emissions:

- External funding through the Carbon Trust's Salix Finance programme. The Salix Finance programme is used by local authorities to develop a self-sustaining fund for use on projects that improve energy efficiency, which currently amounts to £1,020,500 for East Sussex County Council. Salix Finance supports projects with a maximum five-year payback period (or up to 7.5 years for some technologies). Salix can also be used in conjunction with other funding, typically through the Council's capital programme, for projects with longer payback periods.
- Funding through the Council's capital programme. In 2014/15, money was allocated from the capital programme to the Carbon Reduction Fund. From this fund, £225,700 went towards projects that did not meet (or partly met) the Salix funding criteria but which resulted in carbon reduction and improved energy ratings. In future money for this type of project is to be allocated directly from the capital programme.

1.4 Utility prices are expected to increase by between 3% and 7% in 2015/16. Despite this, as a result of the Council's energy saving programme, the annual energy bill for 2015-16 is expected to remain static or increase only slightly from £6.5m in 2014/15. There are factors that will influence our prediction, for example, the unpredictability of weather conditions, alterations to the Council's property portfolio and improvements to ICT infrastructure. Such factors make it difficult to forecast budget expenditure with any degree of accuracy.

### **2. Supporting Information**

2.1 The Council's Climate Change Strategy aims to achieve an annual 3% reduction in carbon emissions.

2.2 Appendix 2 shows a summary of activities during 2014/15 that contributed to carbon reductions and financial savings. These projects will reduce annual carbon emissions by an estimated 910 tonnes per year, and provide savings on energy bills estimated at £199,780 per year.

2.3 Appendix 3 shows a summary of estates openings, closures and capital projects (new builds, extensions and refurbishments). It is estimated that these will increase carbon emissions by 91 tonnes per year, and increase energy bills by £29,640 per year.

2.4 Overall, the Council achieved a provisional 10.4% reduction in carbon emissions in 2014/15. In terms of energy use in kWh, this equates to a reduction of 12.7%.

2.5 The decrease in emissions in 2014/15 is due in part to the milder heating season compared to the previous year. The weather adjusted carbon reduction figure is calculated at 5.0%.

2.6 The majority of the 5.0% weather adjusted reduction in carbon emissions was made through the following energy saving projects:

- Salix Finance and Carbon Reduction Fund. This included internal lighting, insulation, oil to gas boiler conversions, and heating controls. It is estimated that these projects accounted for **34%** of the Council's total carbon emission reduction.
- Invest to Save. This is a programme of street lighting work that includes the roll-out of controllable lights that either dim or turn off after midnight. The project also involves the reduction of the number of lights in some streets. This project accounted for an estimated **44%** of the Council's total carbon emission reduction.
- Behavioural change and awareness raising. This included improved boiler control (particularly identifying and reducing out-of-hours consumption) and energy awareness campaigns, including the roll-out of an energy browser for sites to view their own energy use and consumption patterns. A process has recently been put in place to better assess savings from this type of project in future.

2.7 The weather adjusted reduction in emissions demonstrates that the Council's carbon saving measures have been effective.

2.8 The Council did not meet its annual Salix Fund target expenditure of £253,399 in 2014/15, spending 73% of the target amount (£185,584). This was predominantly due to staffing issues and late allocation of maintenance budgets. This shortfall has been carried over into 2015/16, increasing this year's target to £338,793. In addition there are some challenges regarding how The Council now part funds carbon reduction projects directly from the capital programme rather than from a dedicated fund. The Council has so far committed £104,957 of the Salix Fund target expenditure for 2015-16 (31%) and intends to commit the remainder by year end. If the expenditure target is not met this year The Council may need to return the Salix fund.

2.9 To mitigate the risk of not meeting the Salix Fund expenditure target this year, the Energy Team are working closely with Maintenance to identify further opportunities in the planned programme. In addition, the Energy Team are for the first time building a programme of planned works for the following year 2016/17.

### ***Other developments since the last report***

2.10 The annual 3% carbon reduction target is intended to allow ESCC to contribute in line with the national goal of an 80% reduction on 1990 levels by 2050. The annual target has been in place since 2008 and is currently under review as it may need to be increased to allow ESCC to meet the 2050 target. An update will be provided in next year's report.

2.11 Due to changes effective from the 2014-15 financial year, the Council is not required to participate in Phase 2 of the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme. This means that the Council does not currently need to pay the CRC carbon tax, which cost £346,596 in 2013/14. The CRC tax was funded across departmental budgets, but as it was not required in 2014/15 this money was used to supplement savings across the authority.

2.12 As a number of Local Authorities no longer qualify for CRC in Phase 2, Central Government reduced the 2015/16 settlement to recoup the loss in revenue. The Council's 2015/16 settlement was reduced by approximately £150,000, resulting in a net saving of around £195,000 (CRC saving minus 2015/16 settlement reduction). This amount was again used to supplement departmental savings.

2.13 The Council will be excluded from the CRC Energy Efficiency Scheme until at least 31st March 2019, after which Phase 3 will commence. The full details of the qualifying criteria for Phase 3 are not yet known.

2.14 A new user-friendly energy browser (TEAM Energy Viewer) has been rolled out to schools, and has started to be rolled out to corporate sites (example screenshots in Appendix 4). This allows sites to more easily identify where energy is being wasted so that corrective action can be taken. Workshops have been held to demonstrate to school bursars and the Library Management Team, and will be rolled out to other corporate sites in the months ahead.

2.15 During the 2014-15 heating season, the Energy Team carried out regular checks to ensure that automatic loggers on gas meters were working as they should be and raised jobs where appropriate to get these fixed. This avoids costly catch-up bills for sites and possible over-estimates, in addition to making sure we have accurate data for reporting.

2.16 A number of corporate sites have been identified for the installation of roof-mounted solar photovoltaic (PV) systems. Of these sites, an initial three sites have been put out to tender – County Hall, Conquest Centre and Hailsham Resource Centre. Tender submissions are being assessed in July, after which a decision will be made by the Solar Project Board on whether to proceed with installation and roll out to other sites.

2.17 The Council continues to keep under review its property portfolio and in particular opportunities of how assets might be used for the purposes of renewable energy regeneration.

2.18 In 2014/15, The Council began providing West Sussex County Council (WSSC) with a utility bill validation service via an SLA. This generates an income, which is used to offset staffing costs for the internal functions of the Energy Team. The Council also continues to provide this service to Sussex Police, East Sussex Fire and Rescue, EMCOR and Peacehaven Town Council.

2.19 Discussions are underway with WSSC to expand the provision of the bill validation service to include districts and boroughs in West Sussex. The possibility of providing additional energy management services to WSSC are also being discussed, including managing the provision of Display Energy Certificates, energy budget management, running energy training sessions for sites, and legislative reporting.

2.20 The Council has also been working closely with our orbis partners (Surrey County Council) to understand how both organisations might benefit from providing our bill validation service to Surrey County Council. Discussions are ongoing.

2.21 During 2014/15, the Energy Team resolved 1,250 utility bill and database queries and successfully reclaimed £66,430 for ESCC corporate and school sites. For external clients, 2,005 queries were resolved and £49,920 was reclaimed and passed back to clients.

### **3. Conclusion**

3.1 The report summarises actions to reduce carbon emissions in ESCC's estate using available resources. The Committee is recommended to note and consider the report and comment on actions taken.

#### **KEVIN FOSTER**

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#### **BACKGROUND DOCUMENTS**

Annex M – DECC Fossil Fuel Price Projections 2014

Carbon Management Action Plan 2005

Corporate Sustainable Buildings Strategy

Appendix 1 – Utility price projections

Appendix 2 - Projects contributing to carbon reduction in 2014/15

Appendix 3 - Estates openings, closures and capital projects affecting carbon emissions in 2014/15

Appendix 4 – TEAM Energy Viewer

## Appendix 1 – Utility price projections

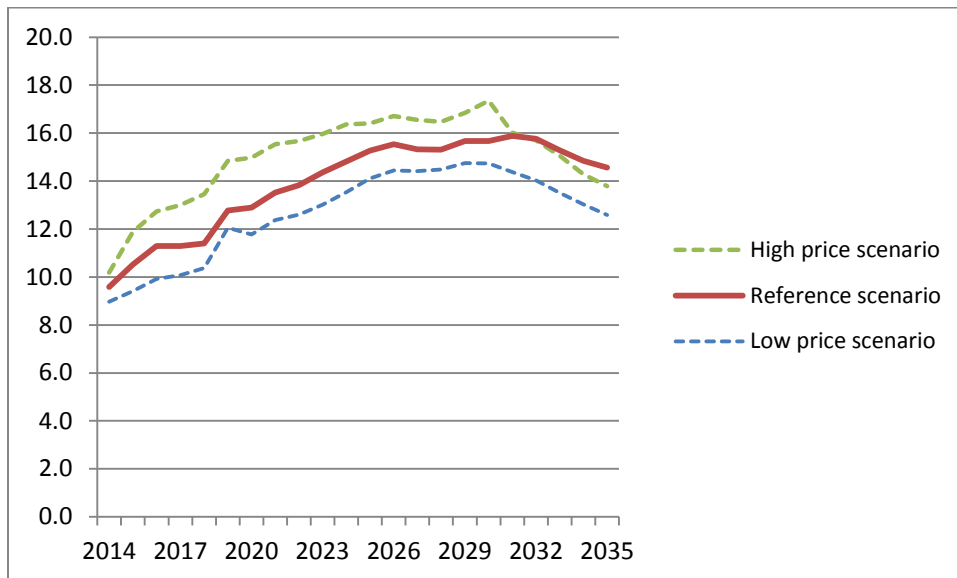


Figure 1. Electricity price forecast. Data taken from Annex M of DECC Updated Energy & Emissions Projections – September 2014.

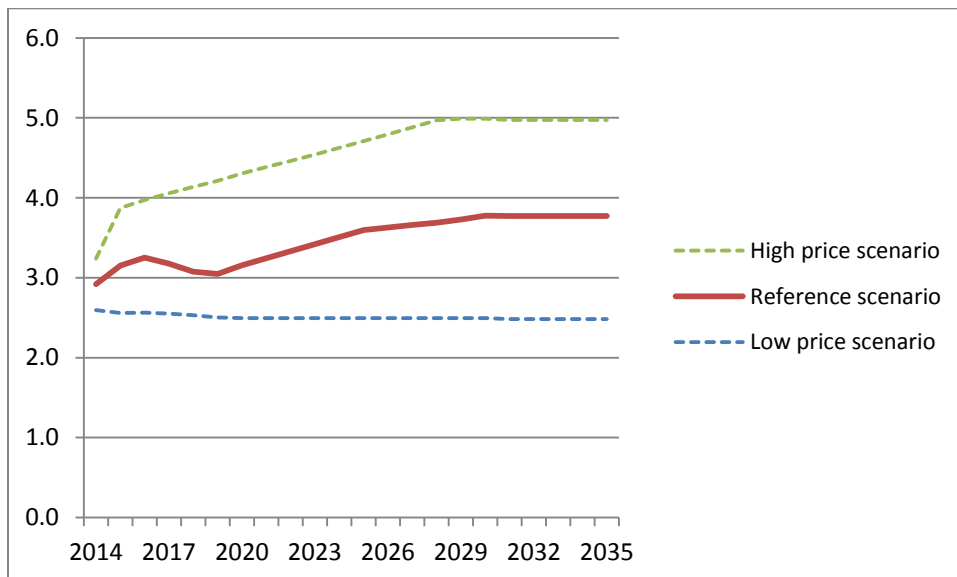


Figure 2. Gas price forecast. Data taken from Annex M of DECC Updated Energy & Emissions Projections – September 2014.

## Appendix 2 – Projects contributing to carbon reduction in 2014/15

Location	Source	Project Type	Technical cost	Total Annual kWhr Units Saved	Total Annual GBP Savings	Total Annual CO2 Savings Tonnes	Payback (yrs)
County Hall LED Lighting - North Block	Salix	LED lighting	£35,473.08	22,321	£2,232.13	11.0	15.9
Silverdale Oil to Gas Boiler conversion	Salix	Heating	£14,738.22		£14,738.00	27.2	1.0
Robertsbridge Community College Lighting Upgrade	Salix	Lighting - Upgrades	£23,789.40	24,080	£2,407.95	11.9	9.9
Ringmer Primary - Heating Controls	Salix	Multiple Project Site	£11,456.81	46,954	£1,408.62	8.7	8.1
Traffic Signals Halogen to LED - Phase 3	Salix	Traffic Lights	£54,782.97	60,169	£6,016.85	29.7	9.1
Traffic Signals Halogen to LED - Phase 4	Salix	Traffic Lights	£51,628.08	57,895	£5,789.53	28.6	8.9
Chyngton Primary - Lighting Upgrade	Salix	Lighting - Upgrades	£8,250.00	11,218	£1,121.80	5.5	7.4
Western Road Primary School - Amenity Lighting	Salix	Lighting - Upgrades	£2,530.00	3,190	£319.00	1.6	7.9
Roselands Infant CWI & Loft Insulation	Salix	Multiple Project Site	£2,310.00	6,555	£196.64	1.2	11.7
Ocklynge Junior School Lighting Upgrade	Salix	Lighting - Upgrades	£10,615.00	16,085	£1,608.45	7.9	6.6
Wallands CP Lighting Upgrade	Salix	Lighting - Upgrades	£8,107.00	11,639	£1,163.93	5.8	7.0
Shinewater Primary Cavity Wall Insulation	Salix	Insulation - Building Fabric	£825.00	2,507	£75.20	0.5	11.0
Helenswood Oil to Gas Boiler conversion	Salix	Heating	£18,273.13		£14,695.00	23.5	1.2
Ocklynge Junior School Cavity Wall Insulation	Salix	Insulation - Building Fabric	£4,743.88	24,285	£14,571.00	66.8	0.3
Rocks Park Primary School Heating Controls	Salix	Heating	£3,652.00	214,102	£6,423.06	39.6	0.6
County Hall BSD Floors - LED Lighting upgrade	Salix	Lighting - Upgrades	£32,886.69	51,778	£4,919.00	25.6	6.7
Milton Grange - Loft Insulation	Salix	Insulation - Building Fabric	£4,965.88	68,752	£2,062.56	12.7	2.4
Beacon Gate Day Centre - CWI & Loft	Salix	Insulation - Building Fabric	£362.34	1,981	£59.43	0.4	6.1
Harbour Primary School (Church Hill site) - CWI	Salix	Insulation - Building Fabric	£6,132.50	24,285	£728.55	4.5	8.4
Beeching Park Centre - CWI	Salix	Insulation - Building Fabric	£2,070.53	12,927	£387.81	2.4	5.3

Linden Court - CWI	Salix	Insulation - Building Fabric	£3,692.15	15,532	£465.96	2.9	7.9
St Nicholas Centre - CWI	Salix	Insulation - Building Fabric	£2,600.36	18,131	£543.93	3.4	4.8
Mark Cross School Loft & CW Insulation	Salix	Insulation	£2,601.36	18,132	£129.00	3.4	20.2
Barcombe School	CRF	BMU & Valvewrap Trial	£13,949.00	55,796	£1,673.88	10.3	8.3
Rye Library	CRF	Insulation, heating controls and rad valves	£7,000.00	28,000	£840.00	5.2	8.3
Ore Library CWI & Loft Insulation	CRF	Insulation	£1,013.85	2,417	£72.51	0.4	14.0
Beacon Gate	CRF	Cavity & loft insulation (part with Salix)	£304.00	TBC	TBC	TBC	TBC
County Hall	CRF	LED lighting upgrade 6 Agile floors	£151,203.00	TBC	TBC	TBC	TBC
Hailsham Library	CRF	New entrance lobby	£40,000.00	TBC	TBC	TBC	TBC
Hailsham Resource Centre	CRF	Loft boarding and insulation	£4,225.00	TBC	TBC	TBC	TBC
Icklesham CE Primary	CRF	Elec meters and lighting works	£5,000.00	TBC	TBC	TBC	TBC
Ore Library	CRF	Insulation and window works	£24,936.00	TBC	TBC	TBC	TBC
LED lantern replacement for residential street lights in Hastings	Invest to Save	LED Lighting	£76,401.65	1,151,284	£115,128.40	569.0	0.7

### Appendix 3 – Estates openings, closures and capital projects affecting carbon emissions in 2014/15

Location	Source	Project type	Total Annual kWhr Units Saved	Total Annual GBP Savings	Total Annual CO2 Savings Tonnes
Warwick House (inc Seaford Library)	Capital Projects	New Build	-385917	£19,295.85	-105.5
Westfield Primary School	Capital Projects	Extension	-35235	-£1,458.99	-8.3
Harbour Primary and Nursery	Capital Projects	Extension	-88020	-£3,644.68	-20.7
Hawkes Farm School - DDA	Capital Projects	Extension	-1350	-£55.90	-0.3
All Saints CEP School	Capital Projects	Extension	-34475	-£1,438.50	-8.2
Newhaven Library	Capital Projects	Refurb	-29160	-£2,916.00	-14.4
Chantry Community Primary School	Capital Projects	Extension	-4180	-£1,693.45	-7.9
Etchingham Primary New	Capital Projects	New Build	-34276	£18,014.93	-27.0
Hankham Primary School	Capital Projects	Extension	-61020	-£2,526.68	-14.4
Dudley Infant School Academy	Capital Projects	Extension	-33615	-£1,391.91	-7.9
Free School Meals in Schools			0		
The Maltings, Castle Precincts, Lewes BN7 1YT - Sale completed 8/7/14	Estates Open&Close	Sale	72097	£4,887.46	25.4
The Maltings Car Park, Castle Precincts, Lewes BN7 1YT – Sale completed 8/7/14	Estates Open&Close	Sale	0	Inc above	0.0
Olive Lodge, Gillsmans Hill, TN38 OSP - Sale completed 20/05/14 ESCC Energy Team do not receive bills for this site	Estates Open&Close	Sale	0	£0.00	0.0
Pinehill Day Centre	Estates Open&Close	Closure	140547	£5,757.90	32.8
Homefield Place	Estates Open&Close	Closure	173674	£8,252.35	45.6
Bexhill KDR	Estates Open&Close	Closure	0	£0.00	0.0
Elm Court (Temp. Library)	Estates Open&Close	Closure	27668	£830.04	5.1
Grays School & CTH	Estates Open&Close	Closure	0	£0.00	0.0
39 Harvard Road	Estates Open&Close	Lease	30605	£3,060.50	15.1
Salisbury Cottage	Estates Open&Close	Sale	54	£5.40	0.0

## Appendix 4 – TEAM Energy Viewer



Figure 1. TEAM Energy Viewer – bill view. This screen allows sites to see an overview of recent bills, as well as downloading individual bills to view.





Figure 2. TEAM Energy Viewer – utility analysis. This screen shows current monthly use versus the previous year for sites to identify annual changes in consumption.



Figure 3. Meter analysis. This view allows sites to understand their daily consumption pattern to help identify unnecessary use for further investigation