



Council Overview Board  
1 October 2015

**Carbon and Energy Policy: Yr 1 Progress Report**

**Purpose of the report:** Performance Management

The Carbon and Energy Policy 2015-19 sets out the council's strategy to manage its long term energy costs and reduce carbon emissions. The policy was approved by Cabinet in March 2015. This report provides an update on the activities and outcomes since the policy's baseline year of 2013/14.

Members are asked to consider the report and provide comments in order to steer the future strategy for implementation of the policy.

**Executive Summary**

- The council adopted a new [Carbon and Energy Policy](#) in 2015 which includes a target of reducing carbon emissions from its own estate and operations, by 10% by 2019 against a baseline year of 2013/14
- It was agreed that Overview and Scrutiny Committee would review progress towards this target on an annual basis.
- The main sources of emissions are from energy used in the estate, including corporate buildings and maintained schools and electricity used for streetlighting. Staff business travel mileage and the council's vehicle fleet, including Fire and Rescue vehicles and Highways vans are also within the scope of the council's emissions from its operations.
- Energy used in corporate buildings showed a saving against 2013/14 and electricity used for street lighting fell again for the fourth consecutive year.
- Various activities have been implemented across the estate and operations, which are described in the report.
- Overall emissions increased in 2014/15, due to a change in the factor which the council is required to use, to calculate the carbon footprint of electricity consumption in a given period. Had this carbon intensity factor remained constant, emissions would have decreased by 2.3%, but due to the grid generation change, which is beyond our control, the council's emissions increased by 4.3%.
- Based on carbon emissions change in this first year since the baseline, the council is not yet on track to achieve a 10% reduction in its carbon emissions by 2019. However, it is expected that the external factor that caused the increase in emissions is a short term anomaly, and with a continued investment and management programme focusing on factors within the council's control, a 10% reduction remains an achievable and appropriate target.

## Background

1. Improving the energy and carbon efficiency of the council's operations and buildings is a core element its programme for financial and environmental sustainability. Through its Carbon and Energy Policy, the council has set itself a 10% reduction target to cut carbon emissions arising from its operations by 2019 compared to a baseline year of 13/14. This includes from buildings, street lighting and travel activities within its direct control.
2. The objectives of the policy are to:
  - a. Meet the council's statutory obligations
  - b. Be joined up in our decision making
  - c. Achieve efficiency and wider benefits through procurement
  - d. Engage staff to be active in saving energy
  - e. Optimise the asset performance of our corporate estate
  - f. Reduce emissions from fleet vehicles and business travel
  - g. Support schools to reduce energy costs and emissions
  - h. Monitor and report our progress
3. Governance of carbon and energy management is integrated into the council's core business processes, including member scrutiny, as exemplified by this report.

## Consumption and carbon emissions in 14/15

4. Overall carbon emissions in 14/15 compared to the baseline year increased by 4.3%, after adjusting for the impact of Academy school conversions and the milder winter weather in 14/15. This emissions increase was despite achieving reductions in consumption across many sectors of the estate and was primarily due to a significant increase in the carbon emissions intensity of electricity from the national grid<sup>1</sup>. The methodology and data for the consumption changes and emissions arising are set out in **Annex A**. Had the grid electricity factor remained constant, emissions would have reduced by 2.3%.
5. On the corporate estate, before correcting for weather differences, there was a 4.5% reduction in heating fuels (oil and gas) and after accounting for weather this was a smaller 0.7% reduction. Electricity consumption, which is not significantly affected by weather variations, saw a reduction of 3%. However, changes in the carbon conversion factor for electricity resulted in a 7.9% increase in emissions.
6. The maintained schools sector recorded a 6.8% reduction in absolute consumption of heating fuels, but this drop lessened to no net change, once those Academies that converted during 14/15 were removed from the 13/14 baseline and weather impacts were accounted for. Electricity consumption marginally increased (+0.4%), after accounting for Academy changes. No allowance has been made for the increasing number of school places which

---

<sup>1</sup> The level of carbon emissions arising from the consumption of electricity is determined by the sources of generation which are used. In 2014-15 (which uses 2012 generation mix data) the electricity emissions factor increased by 11% compared to 2013-14 (which uses 2011 activity data). The main influencing factors leading to this increase were quoted as being the decommissioning of nuclear power and greater use of coal in place of gas. This has had a negative impact on emissions arising from our electricity consumption.

creates an upward pressure on energy demand as this is difficult to quantify accurately. An additional 4,170 primary school places were created in time for Sept 2014, following an increase of 2,862 the previous year.

7. Street lighting and other highways electricity consumption reduced by 2.6% in absolute terms and was not subject to any adjustments. The reduction shows the effects of the final phases of the streetlighting renewal PFI programme and is further to a 15% reduction in electricity consumption over the previous four years.
8. Fuel consumed by vehicles which are owned or leased by the council reduced by 21% in 2014/15, representing the largest reduction in a single sector. This is largely due to an exceptionally high consumption of diesel fuel in the previous year, due to the response to flooding in winter 2013/14, rather than a planned reduction this year. No adjustments to consumption have been made and carbon emissions from this area are, in general, directly coupled to consumption and thus emissions reduced by a similar extent.
9. Business travel mileage claims reduced in 2014/15 although it is not certain whether this resulted from an equal reduction in actual mileage travelled or due to a change in the eligibility rules<sup>2</sup>. This reduction reverses the previous trend of year-on-year increases in mileage claimed.

#### **Benchmarking change with other county councils**

10. Comparing the county council's change in carbon emissions with neighbouring South East 7 councils suggests that both East Sussex and Hampshire achieved reductions in emissions, despite the significant counter factor of the carbon intensity of grid electricity. Figures for West Sussex or Kent County Council for 14/15 were not available for comparison within time constraints of this report. Further discussions with officers in neighbouring councils will be conducted, in order to better understand what measures and levels of investment have been deployed, in order to achieve carbon reductions at the levels indicated.

#### **Costs of energy consumption in 2014/15**

11. Spend on corporate premises energy (oil, gas and electricity) amounted to £3.364m and a further £3.366m on streetlighting, both through the LASER contract. This was a 1.9% reduction in costs compared to the previous year. Weather adjustment has not been applied to cost figures.
12. The 'hedging strategy' implemented by LASER on behalf of the council allows forward purchases to be made on the wholesale energy markets as prices change. It aims to strike a balance between protecting the council against the risk of excessive price rises while still retaining some ability to take advantage of falling prices.

---

<sup>2</sup> Since January 2014 staff must only claim business mileage for the any additional miles travelled over and above their typical home to contractual workbase commute. The previous rule allowed staff travelling to a location away from their contractual workbase, to claim either the actual return trip mileage from their home to destination, or their standard workbase to destination return trip mileage, which ever was less. Overall, the historic rule meant more miles were eligible to be claimed, compared to under the new rule.

13. In April 2015, Cabinet agreed to continue with LASER as a Central Purchasing Body for gas and electricity from 2016 on a rolling 2 year basis. LASER were also appointed to negotiate a 2 year oil supply contract on behalf of the council for 2015 to 2017. This will ensure the council continues to achieve value for money in energy procurement.
14. Spend by schools, including voluntary aided status schools but not Academies<sup>3</sup> was £7.093m.
15. Spend on business travel mileage claims reduced by 11.6%, equating to a £0.5M saving, arising from the reduction in mileage claimed, as described earlier. There was a slight increase in lump sum payments.

### Statutory obligations

16. The council ensured ongoing compliance with the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme. In line with the declared level of energy consumption and associated carbon emissions, £493k worth of allowances were purchased. This was a considerable reduction in the cost to the council compared to the previous year, as schools are now excluded from the scheme. Carbon emissions from council operations were also reported to the Department of Energy and Climate Change, as required by the Single data list.
17. Display Energy Certificates describing a building's energy efficiency on a rating scale from A to G are commissioned and displayed in reception areas for all required buildings. This is part of a government initiative to improve transparency in energy efficiency in the public sector.
18. The council has complied with the requirement that all air conditioning systems with an effective rated output of more than 12kW require regular inspection by an appropriately accredited energy assessor. The inspections must be no more than five years apart and result in recommendations for improved efficiency and reductions in energy consumption, operating costs and carbon emissions.

### Activities affecting consumption and emissions

19. Various energy efficiency improvements were installed in corporate buildings during 14/15 which are part of an ongoing programme of work comprising 100 individual projects. Projects delivered in 14/15 and to date in 15/16 included the installation of new technology to optimise the voltage of incoming electricity for high consumption buildings and the design, installation and commissioning of the council's second biomass pellet boiler, which is at Merrow Highways Depot. Further details of the ongoing capital programme are described later in this report and in **Annex B**.
20. The final major phase of the Skanska PFI streetlighting programme for lighting replacement and lighting management (dimming) was completed in August 2014, with effects observed in the reduced energy demand in 14/15. A small further benefit of the full year effect of the completed programme is expected in 2015/16.

---

<sup>3</sup> Scope is greater than for consumption and emissions data, as this is collated for the purpose of the council's annual budget reporting.

21. Other significant asset related activities contributing to a net energy efficiency improvement were increased use of the Primary data centre in place of local server facilities at Quadrant Court and County Hall and the closure of the Runnymede Centre and staff relocation in to other buildings across the estate, in December 2014. The Runnymede Centre impact will also contribute towards efficiency savings in 15/16, as its full year impact is felt.
22. The LESSCO<sub>2</sub> project supported 20 schools, of all statuses, to implement low and no cost measures to reduce their energy bills, resulting in between £500 to £3,000 annual energy savings per school, equating to £34k savings in total and a carbon emissions reduction of 130 tonnes. These benefits were achieved through a range of activities, from awareness raising amongst pupils and teachers to switch off equipment when not needed and optimising heating times, through to small scale lighting efficiency projects.
23. An Ecoschools summit was held in March 2015 contributing to schools progressing through the Ecoschools award framework, with six new Bronze awards schools and 11 new Silver awards. There are now a total of 50 schools that have achieved the highest award of Green Flag in Surrey.
24. Travel plans have been developed with 62 schools, with a primary focus on expanding schools. Whilst vehicle emissions from school travel is not within the measured scope of carbon emissions reporting for the council, this area makes a key contribution to community-level sustainability, the health and well being of children and helps to mitigate the negative impacts on local residents, of additional traffic arising from expanding schools.
25. Electric vehicle charging points were installed at County Hall, Merrow Highways depot, Quadrant Court, Consort House and Bagshot depot using DfT grant funding. These points are available for use by staff owning electric vehicles and hybrid electric car club vehicles.

#### **National policy change overview**

26. This year has seen a number of changes in national policy which potentially affect energy and carbon matters, either in the short or longer term.
27. In the July 2015 budget, the Chancellor announced that the Climate Change Levy exemption on energy generated from renewable sources will be removed as early as August 2015. This has been estimated to add approximately £180k to the council's energy bill, not accounting for other energy inflation pressures.
28. Also in the budget, it was announced that commitment to the Zero Carbon buildings policy has been withdrawn, which will mean less stringent future carbon emissions obligations in relation to new builds including schools, than was due to be the case. This policy would have required a financial contribution to an off-site solutions fund to offset unavoidable on-site emissions. The government has not yet indicated if an amended approach is to be proposed.
29. Feed in Tariff rates for solar PV have continued to reduce steadily since the schemes launch, under the cost control mechanism for the subsidy of renewable generation. In August 15, government published proposals for a further reduction with cuts of over 80%. Depending on the outcome of the consultation, this may affect business cases and irrespective of the final decision, the climate of ongoing revisions creates an uncertain landscape for

investment decisions. If the level of cuts proposed is implemented, the council's current facilitation through third party investors for solar at schools would cease to be viable, since the consultation claims that the target return on investment is only 4%, over 20 years which is not sufficiently attractive to third party investors.

30. The government recently proposed a number of options for simplifying the current Display Energy Certificates regime to reduce the burden of compliance. Responses to the consultation are being analysed and the outcome will be published in due course though no date or timescale has been announced.

## Looking forward

31. The council is committed to continuing to work to reduce its carbon emissions in the most cost effective way and in line with the wider priorities of the council. This includes strategic decision making across the council and delivering specific energy and carbon projects.

## Statutory obligations

32. We will continue to keep up to date with changes in statutory requirements and seek to ensure the council meets all of its obligations.
33. In our role as a Planning Authority, we will ensure the implementation of policies setting BREEAM standards for new builds and large extensions contained in adopted development plan documents. Many school projects within the Basic Need program are of a scale which engage those policies, although not all boroughs and districts have planning policies which require a minimum BREEAM standard.
34. Furthermore, as the Transport Authority, we will continue to work with all expanding schools to develop travel plans, in support of the schools Basic Need programme to provide sufficient schools places in the most sustainable way possible.

## Joined up decision making

35. An appraisal of carbon impact appraisals for Cabinet papers has been conducted and further guidance to officers will be developed, in order to further support opportunities for energy and carbon reductions to be considered.

## Procurement opportunities

36. Opportunities to achieve cost reductions, through exploring energy efficiency opportunities in the supply chain in conjunction with suppliers are being investigated in some contract areas. For example, the opportunity to introduce electric hybrid buses within the subsidised bus network, in conjunction with local bus operators and a Surrey-based bus manufacturer. This would be subject to securing funding from a national £30M funding allocation from the Office for Low Emissions Vehicles. Residential care homes in the Adult Social Care sector have also been identified as an energy intensive sector, with potential opportunities for energy efficiency improvements.

37. The joint Surrey and East Sussex Business Services collaboration (Orbis) presents opportunities for joint energy projects, in relation to procurement and project delivery and this area is now managed as a single unit across Surrey and East Sussex. Opportunities in this area will be investigated in due course following the establishment of the partnership.

### Optimising corporate estate asset performance including staff engagement

38. An energy management investment budget for corporate buildings is in place to support an ongoing programme of efficiency improvements. Over the remaining policy period, this includes £5.0m for capital projects and a target of £800k in revenue savings has been set for 2015/16.

Figure 1: Corporate buildings projected energy costs, investment and savings

	2015/16	2016/17	2017/18	2018/19
	£'000	£'000	£'000	£'000
Energy spend (business as usual)	4,496	5,170	5,946	6,838
Energy efficiency capital projects	1,212	1,239	1,264	1,289
Savings target	- 800 <sup>4</sup>	*	*	*

\* Savings targets for 2016/17 onwards will depend on future energy price inflation

39. The energy management programme for corporate buildings being delivered over 14/15, 15/16 and 16/17 includes the following:
- Replacing older boilers with new and highly efficient gas fired plant or installing biomass boilers such as at Merrow Depot
  - Lighting upgrades incorporating LEDs and automatic controls
  - Improved insulation to walls, roofs and pipework
  - Installation of Voltage Optimisers
  - Incorporation of Solar PVs into new roofs such as at Cobham Library and Guildford Fire Station (subject to Feed in Tariff policy review)

**Annex C** provides a breakdown between different types of project within the current programme schedule.

40. Streetlighting accounts for half of the council's corporate energy cost and emissions. There are two main options to further reduce emissions and manage costs in this area. The lower cost and lower return option is to further dim lights in addition to the current regime, subject to further consultation. This would deliver a small saving, but since this would not reduce consumption during the early evening peak hour period, the financial savings would be proportionately less than the energy consumption reduction. The second option is a capital project to convert lamps to LEDs, maintaining the current dimming profile. An outline business case has been assessed using a national model from Department for Transport. This found a positive return on investment in the region of £60m of savings over 20 years resulting from a £16m investment programme. However there is long payback period, of 9 to 11 years, increasing to up to 15 years after allowing for the cost of borrowing. This opportunity is being further considered within Highways Service and Finance to determine whether it would be in the best interest for the council to pursue this further.

<sup>4</sup> £800k savings target against budget, comprises £270k in savings arising from energy efficiency projects and a further £530k in adjustments to previous assumptions, including energy price inflation and weather-related energy demand pressures.

41. At the time of policy development, Overview and Scrutiny Committee specifically requested that energy efficiency messages are communicated to staff. As a result, a 'switch the lights off' energy saving message has been included as part of the corporate communications culture change campaign in County Hall over summer 2015. Appropriate messages for other major buildings will be identified and included if the campaign is rolled out to other sites.
42. The development of a large solar PV array at the closed landfill site of Trumps Farm is not being taken forward, due to an inadequate business case. This applies to both council investment and leasing the site to a development partner. A business case was reviewed by the Investment Panel, which concluded that a council led investment case offered insufficient return on investment, once contingency price factors were included. The alternative site leasing option provided insufficient rental income to justify locking up the site for this purpose for the necessary 30 year period. The scheme was decided overall not to be in the best interests of the council.
43. The planned closure of council operated care homes between 2015 and 2017 is expected to result in a reduction in energy consumption within the scope of monitoring, however due to a reduction in the level of service, an allowance for this change will be accounted for, on a similar basis to schools converting to Academy status.

#### **Fleet and business travel**

44. Vans used by Community Highways Officer are being replaced with more efficient vehicles over a three year renewal cycle. These will deliver a 6% improvement in fuel efficiency and are fitted with Sat-Nav and on-board equipment to record speed and other driver behaviour information, which will be used to ensure the highest standards of safety and efficiency in driving. Electric vans were considered, but were not taken up following a disappointing trial experience. Further trials of ultra-low emissions vehicles will be considered, in order to inform future fleet replacements.
45. Surrey Fire and Rescue have upgraded their vehicles for improved service delivery capability, whilst reducing emissions in a number of areas. In the emergency response fleet, Fire Officer Response vehicles have been upgraded to more capable all terrain 4-wheel drive vehicles, which have lower emissions than the previous vehicles. In the operational fleet the service has procured two new height access appliances (an Aerial Ladder Platform and a Turn Table Ladder) and three new water tankers have been ordered, which all meet the latest Euro VI standard. This is the highest standard for control of particulate matter pollution for diesel vehicles. In the non-emergency response fleet, the latest ultra low emissions options (including innovative fuel cell vehicles which are potentially compatible and may meet operational needs) are being investigated.
46. In support of efficient business travel, a range of travel support offers will be continued, including public transport discount offers for some routes, cycle parking and challenge events to raise awareness and participation. The car club offering short-term car hire at key offices will be expanded to new areas within Surrey communities and staff will be encouraged to use these vehicles where this offers a cost effective option for business travel.
47. The Modern Worker programme of IT changes to equipment, printing, communications software, security and WiFi networks is designed to ensure



that staff are equipped with an effective IT working environment. Several elements of the programme may support energy and travel efficiency. These include:

- Managed Print service - projected to reduce wasteful printing
- 5 Video Conferencing rooms (in County Hall, Redhill Data Centre, Uckfield Shared Services Centre and ESCC County Hall in Lewes). This enables us to contact our partners and other customers, which has helped to reduce travel.
- A new provision for screen-sharing conferencing, via Skype for Business. Moving to this industry standard method of communication gives the authority the potential to reduce travel demand if take-up increases and should prove more popular with staff than some current working practices.

48. Orbis presents additional challenges in relation to increased pressures for staff in Business Services to work across a larger geographic area of Surrey and East Sussex. Sustainable travel initiatives and the above new IT facilities will be promoted in order to mitigate this.

49. Lease car scheme includes the option of hybrid electric and fully electric vehicles.. Lease car mileage rates are lower than standard business mileage rates, so a cost saving is anticipated, the scale of which is dependent on take up on lease car scheme.

### **Support schools to reduce energy costs and emissions**

50. Schools will be supported increase their understanding of the 0% interest SALIX funding available to them and to bring forward eligible energy efficiency projects. Opportunities in a variety of situations will be considered, including the expanding schools within the Basic Need programme.

51. The current approach to supporting schools to install solar PV through third party finance and long term electricity purchasing agreements will be continued for as long as there remains a mutually attractive case for investors and schools.

52. The LESSCO<sub>2</sub> project and the council's support for the EcoSchools award scheme through EcoSchools summits will be continued in 2015/16, with a further 12 schools already sign-up to participate in the LESSCO<sub>2</sub> project in September and the annual EcoSchools conference is planned for Spring 2016. Officers in the Place and Sustainability team and the Assistant Director for Schools and Learning are working in partnership to encourage take up, so more schools may benefit from these opportunities.

### **Recommendations**

- The Overview Board is recommended to scrutinise the commentary presented in this report and provide any feedback to officers as appropriate.

### **Next steps**

- Officers will continue to identify and deliver project and monitor performance in support of the multiple objectives of managing long term costs, supporting service delivery and reducing carbon emissions.

---

**Report contact:** Bronwen Chinien, Environment Policy Manager

**Contact details:** 020 8541 8538, bronwen.chinien@surreycc.gov.uk

**Sources/background papers:**

- Carbon and Energy Policy 2015 to 2019
- Report of Greenhouse Gas emissions from Surrey County Council estate and own operations in 2014/15