



SURREY

# **Carbon and Energy Policy**

**Managing energy and carbon emissions  
from Surrey County Council's estate  
and activities**

**2015 to 2019**

Note: This policy contains a restated baseline for the council's carbon emissions, arising from corrections to the original data.

## Foreword

There is a choice: we can sit back and wait, in a world highly vulnerable to volatile energy prices and a changing climate affecting our services and infrastructure; or we can seek to understand and proactively manage these challenges.

Surrey County Council is committed to becoming a low carbon and climate resilient authority, remaining cost effective into the future.

We must work as one council and in partnership with other local authorities and organisations, to jointly find and implement solutions with mutual benefits; making our buildings more cost effective to run and manage, our vehicles cleaner, our finances more stable and inspiring our residents to also take action.



A handwritten signature in black ink that reads "Mike Goodman".

Mike Goodman  
Cabinet Member for Environment and  
Planning



A handwritten signature in black ink that reads "Denise LeGal".

Denise LeGal  
Cabinet Member for Business Services

## Executive Summary

- This policy helps Surrey County Council to ensure value for money in the management of the council's operations and to fulfil our role as a community leader, in respect of energy consumption, business travel and associated carbon emissions.
- In 2013/14, Surrey County Council spent £6.6m on energy for buildings and streetlighting and schools spent a further £8.2m on energy supplies. Additionally, £5.8m was spent on business travel.
- The council's carbon emissions in 2013/14 (the baseline year for the scope of this policy period), amounted to 62.4ktonnes.
- Since 2009/10 the council has reduced its carbon emissions by 12% (or 9% after normalising for variations in weather between years), through a range of efficiency improvements across the buildings and streetlighting.
- Our target emissions reduction is for a 10% reduction, by 2018/19 vs 2013/14, equating to a reduction of 6.2ktonnes of carbon emissions which is expected to deliver in the region of £1m potential savings to the council and schools, per annum by 2019. Further 'invest to save' projects in other areas, such as large scale renewable, could increase this financial benefit further.
- Actions to deliver these financial and carbon benefits are outlined in the form of eight objectives:
  1. Meet our statutory obligations
  2. Be joined up in our decision making
  3. Achieve efficiency and wider benefits through procurement
  4. Engage staff to be active in saving energy
  5. Optimise the asset performance of our corporate estate
  6. Reduce emissions from fleet vehicles and business travel
  7. Support schools to reduce energy costs and emissions
  8. Monitor and report our progress
- Governance of the carbon and energy management will be integrated into the council's core business processes, with investment decision making involving the council's Investment Panel and progress being monitored through Service and Directorate reporting and the council's Overview and Scrutiny Committee.

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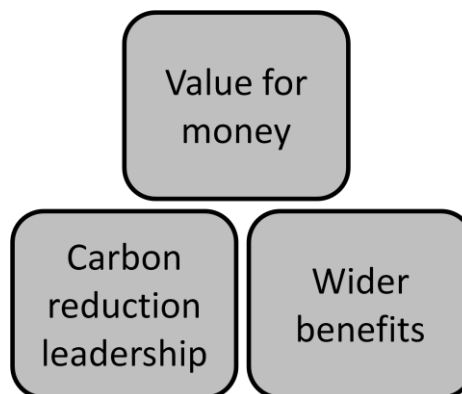
# 1. Introduction

## Why we need a carbon and energy policy

Surrey County Council's Carbon and Energy policy helps us to ensure value for money in the management of our operations and to fulfil our role as a community leader.

In managing its energy, the council needs to:

- Meet its statutory responsibilities with regard to energy management and reporting
- Respond to overall council budget pressures
- Manage costs in a context of above volatile and inflation energy price increases and income generation opportunities in renewable energy
- Demonstrate leadership in reducing carbon emissions
- Develop wider benefits to Surrey's economy and local environment



## Context of the policy

This policy is underpinned by the **Surrey Climate Change Strategy (2009)**; a joint vision of the county council, boroughs and districts and Surrey Police to reduce carbon emissions and enable climate change adaptation, across the public sector estate/services and in domestic and commercial sectors.

Services across the council contribute to these aims, including our role as transport authority, waste disposal authority, lead Flood Risk Management authority, social care provider, Public Health lead and Emergency Management lead.



## 2. Scope of policy and level of influence

The scope of the policy covers multiple sources of carbon emissions and energy generation opportunities. Our approach to each of these is determined by the level of control and influence we have.

Sector	Treatment
<ul style="list-style-type: none"> <li>• Service decisions which have energy implications</li> <li>• Corporate property portfolio, including buildings and land</li> <li>• Streetlighting</li> <li>• Council owned fleet</li> <li>• Business travel</li> <li>• Schools (Community, Foundation and Voluntary Controlled)<sup>1</sup></li> </ul>	Within the scope of measured carbon emissions
<ul style="list-style-type: none"> <li>• Energy and fuel costs within major contracts</li> <li>• Schools (Academies and V.A.)</li> <li>• Staff commuting</li> </ul>	Within the scope of objectives, but not measured emissions
<ul style="list-style-type: none"> <li>• Domestic and wider community and commercial sector<sup>2</sup></li> <li>• Climate change risk management: adaptation and response</li> </ul>	Beyond the scope of this policy

1. Schools are within the scope of monitoring and reporting, but are self-governing organisations

2. See previous 'Context of this policy'..

### 3. Where are we now?

Our previous carbon reduction target was an ambitious 20% reduction in energy consumption and carbon emissions, between 2010 and 2014. In practice we achieved reductions in our energy consumption and carbon emissions (by 12%, before weather correction or 9% after weather correction). We also reduced overall costs, despite above inflation energy price rises during the policy period.

Evaluation of our experience gained during the 2010 to 2014 period has informed the targets and approach for the 2015-19 period.

#### Headline changes

- Energy consumption reduced for streetlighting, buildings energy (including all schools) and transport fleet fuel.
- Carbon emissions overall reduced by 12% (9% after accounting for weather).
- Total energy spend reduced.
- Fleet fuel consumption reduced.
- Business travel mileage and cost of claims has increased

**We reduced our carbon emissions by 12% (9% after weather correction) between 2010 and 2014**

#### Sample of projects completed since 2010 which contributed to energy, carbon and cost savings

##### Data management and staff engagement

- Smart meters for monitoring and targeting were installed in more than 400 of the higher consumption sites across the estate.
- Energy efficiency awareness advice was provided to facilities managers and school bursars

##### Heating efficiency and demand reduction

- Better roof insulation for Farnham Fire Station and 28 other buildings
- More efficient gas boilers installed in Dorking Fire Station, Ashcombe School and 64 other buildings.
- Biomass boiler installed at High Ashurst Outdoor Learning Centre.

##### Power efficiency

- Replacement of 89,000 streetlights and installation of controls for lighting levels.
- Indoor LED lighting installed in 10 buildings.



- Outdoor LED flood lighting installed at the Hays Bridge Business Centre, the Merrow Depot and more than a dozen fire stations.
- IT data centre construction and ‘thin client’ system replacing desk top computers and supporting increasing digital demand
- Voltage Management installed in County Hall, Consort House and Fairmount House.

### **Micro-generation from renewable sources**

- Renewable energy generation capacity on our estate and schools has overall increased from 0.5MW to 1.5MW.
- Solar PV panels installed directly by the council at Consort House office and Applewood Care Home and in partnership with the private sector at over twenty five schools.
- 45% of total electricity was purchased on a green tariff, at no additional cost to the council.

### **Fleet and business travel**

- Flexible working IT provided to staff to reduce need to travel
- Car clubs operating at 5 offices for staff business travel
- Cycle to work and pool bike schemes
- Travel SMART journey planner for efficient route planning
- Eco - Driver training in Fire and Rescue
- Trial of electric van in Fire and Rescue service



### **Statutory responsibilities**

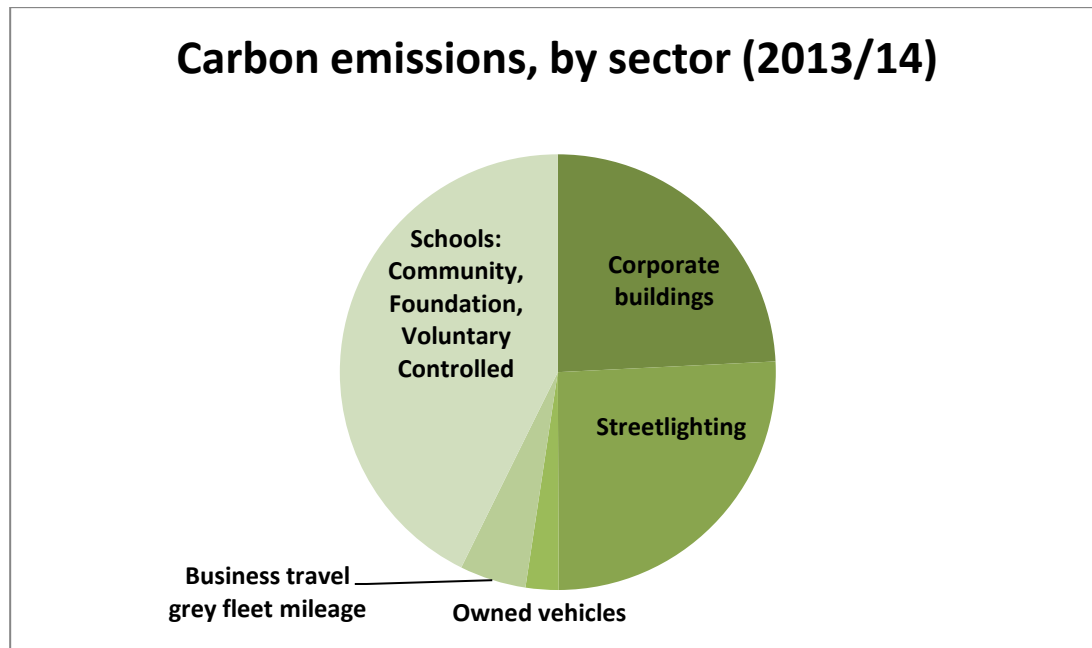
- The council is required to participate in the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme.
- As a public body, the council is required to commission ‘Display Energy Certificates’ for public access buildings and display these in visible locations.
- Energy Performance Certificates may also be required in some circumstances and Air conditioning units must be maintained in line with the statutory regime.
- We must fulfil our responsibilities as the Planning Authority for Waste and Minerals and county council developments.

As a Local Authority, the council is also required to report its carbon emissions to Department for Energy and Climate Change, as set out by the Single Data list.



## Baseline carbon emissions and costs (2013/14)

The council's baseline carbon emissions were 62.4ktonnes, for the scope of this policy. £6.6M was spent on energy for buildings and streetlighting and schools spent a further £8.2M on energy.



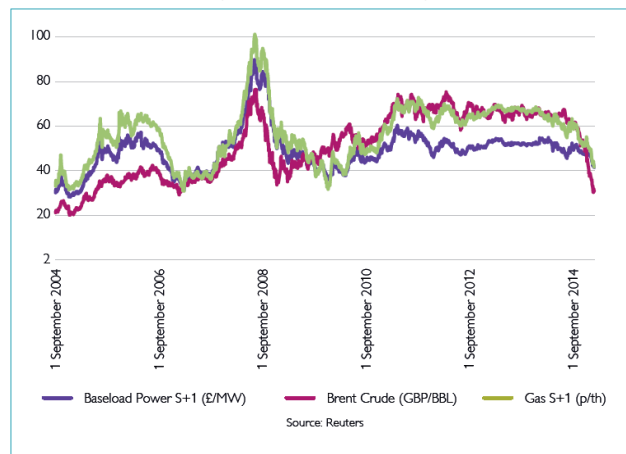
	Energy cost	CO <sub>2</sub> emissions (tonnes) <sup>1</sup>
Energy for corporate buildings	£3.1m	15,124
Streetlighting	£3.5m	16,064
Carbon Reduction Commitment (carbon tax)	£0.8m	n/a
Owned vehicles (estimated fuel spend)	£0.7m approx.	1,526
Business travel mileage, inc lump sum	£5.8m	3,057
<b>County council: sub total</b>	<b>£14m</b>	
Energy for schools : Community status	£8.2m	26,665
Energy for schools: Voluntary controlled		
Energy for schools : Foundation status		
Energy for schools : Voluntary aided		Out of scope
Energy for schools: Academies	Not known	Out of scope
<b>Total emissions</b>		<b>62,436</b>

1. Using DECC/Defra 2013 carbon conversion factors

## 4. Challenges and opportunities

### Challenges

- Growth pressures including schools expansion programme, ICT data centre:** Meeting the demand for school places is expected to exert an upwards pressure on energy consumption. Whilst extensions will be constructed to higher efficiency standards through current Building Regulations and any new schools will be 'zero carbon' from 2016, overall, expansion will lead to a net increase. Furthermore, the county council has recently reconfigured its ITC provision with the construction of a large data centre. Whilst this facility is designed to be highly energy efficient, in meeting growing demands, it has the potential to lead to a net increase in energy consumption and emissions as use of the facility grows.
- Business travel mileage:** We have seen year-on-year increases in business travel mileage and the costs associated with this and therefore a challenge is to understand and address this trend, whilst maintaining effective service delivery.
- Decision making in a context of wider changes in the portfolio and service requirements:** change of status of schools, acquisitions and disposals of buildings within the corporate estate and in-sourcing / out-sourcing of services, will all affect absolute consumption and emissions. Our monitoring methodology aims to deal with these issues transparently.
- Strength of evidence and consistency in investment appraisals:** The challenge in building any business case is proving the value of investment, against a revenue return over an acceptable period of time. This can be a particular challenge for energy projects due to a number of factors, including those listed above. Making sound and consistent assumptions about future price levels and accounting (historically) for factors beyond our control, such as weather variations, are key elements to this.



## Opportunities

- **Technology:** There are opportunities for the further deployment both well established and new energy efficiency and low carbon technologies, across the built estate and fleet.
- **Financial incentives:** Government tariffs for renewable power and heat can support the business case for investment, although their time limited availability also presents a challenge.
- **Locally available waste and virgin resources:** Surrey is the most densely wooded county and there is adequate over-stood timber in woodlands across the south east to support a step change in biomass heating across the region. Furthermore the county council is the waste disposal authority managing over 500kt of waste per year, some of this with energy value.
- **Multiple benefits from activities that reduce carbon emissions:** reducing carbon emissions does not just have financial and climate change benefits, it offers significant social benefits from improved comfort from reducing drafts, health benefits from improved local air quality and more active lifestyles from lower carbon forms of transport.



## Further factors affecting absolute spend and carbon emissions

- **Weather variations:** Weather variations are generally the biggest year on year variable influencing energy demand. We apply a technique to isolate this variable, to consider the impact of more controllable factors.
- **Variations in carbon intensity of energy:** The changing carbon intensity of grid electricity is beyond our control. During the medium term of the period of the policy, carbon emissions factors for grid electricity are anticipated to decrease (positive impact), although in short term (14/15 vs 13/14) the carbon emissions per unit of grid electricity, have increased.

## 5. Where we want to be by 2019

### Aim

Our aim is to be a resilient and low carbon council in the most cost effective way, whilst enhancing the wider benefits to Surrey's economy and environment.



### Carbon Reduction Target

In light of the growth pressures highlighted earlier in this document, by 2018/19, we will aim to reduce carbon emissions from our corporate estate, schools\*, and streetlighting/other highways electricity, **by 10%**, compared to our baseline year of 13/14.

**We aim to reduce our emissions by a further 10% by 2019**

From our baseline of 62,436 tonnes of carbon emissions, our target is to achieve a reduction of 6,244 tonnes of carbon.

\* Community, Voluntary controlled and Foundation status schools only.

## 6. Objectives and Guiding principles

We have identified the following **objectives** that underpin this policy:

1. Meet our statutory obligations
2. Be joined up in our decision making
3. Achieve efficiency and wider benefits through procurement
4. Engage staff to be active in saving energy
5. Optimise the asset performance of our corporate estate
6. Reduce emissions from fleet vehicles and business travel
7. Support schools to reduce energy costs and emissions
8. Monitor and report our progress

### Guiding principles

In implementing this policy, we will follow a number of **guiding principles**:

1. We will be joined up in our decision making as one council
2. We will develop proposals on a prioritised basis, considering:
  - Any statutory obligations
  - Cost of implementation on a full life cycle basis
  - Our scope of influence to implement/ facilitate change
  - Scale of contribution reducing carbon emissions
  - Wider impacts (positive and negative)



3. We will work in partnership to address issues of shared interest, including with other local authorities, third sector organisations, expert advisors and other potential partners.

## 7. Outline Action Plan

Objective	Actions	Lead
<b>I. Meet our statutory obligations</b>	<ol style="list-style-type: none"> <li>1. Participate in the CRC Energy Efficiency Scheme</li> <li>2. Provide Display Energy Certificates and Energy Performance Certificates and Air conditioning maintenance</li> <li>3. Report our Greenhouse Gas (GHG) to DECC (not a statutory responsibility, but required by the Single Data List)</li> <li>4. Perform our role as a Planning Authority in relation to county council developments.</li> </ol>	Property Property  Environment Planning
<b>II. Be joined up in our decision making</b>	<ol style="list-style-type: none"> <li>5. Consider full lifecycle energy and carbon implications of major projects and strategic decisions, within key scrutiny and decision making processes, including Cabinet, Investment Panel and Procurement Review Group reports</li> </ol>	All services
<b>III. Achieve efficiency and wider benefits through procurement</b>	<ol style="list-style-type: none"> <li>6. Secure best value energy and fuel supply and contract service delivery</li> <li>7. Investigate opportunities within our major contracts to achieve cost reductions through exploring energy efficiency opportunities in the supply chain</li> <li>8. Use contract opportunities to stimulate and sustain the local economy</li> </ol>	Procurement and Property Procurement  Procurement and across services
<b>IV. Engage staff to be active in saving energy</b>	<ol style="list-style-type: none"> <li>9. Promote energy efficiency awareness and responsibilities to all staff as building users</li> </ol>	Property

Objective	Action	Lead
<b>V. Optimise the asset performance of our corporate estate</b>	10. Improve energy efficiency of our operations through efficient building operation 11. Invest in energy efficiency/carbon reduction projects on a prioritised basis within existing budgets 12. Develop new investment cases and the full range of options for delivery (including Energy Services Company (ESCo) models), for land and buildings assets.	Property Property Across services
<b>VI. Reduce emissions from fleet vehicles and business travel</b>	13. Review and implement policies and initiatives that support the reduction of the costs (including time) and carbon emissions of business mileage 14. Improve fuel efficiency and emissions reduction of fleet vehicles through specification of vehicles, route planning and driving techniques 15. Support flexible working and sustainable commuting options	Across services Across services Across services
<b>VII. Support schools to reduce energy costs and emissions</b>	16. Support schools to identify projects and finance options for carbon and energy cost reduction projects 17. Support schools to embed sustainability in learning and operations, including energy issues and healthy and safer travel to school 18. Delivery of school planned maintenance and school expansion programmes which align to energy efficient standards.	Property/Environment Environment Property
<b>VIII. Monitor and report our progress</b>	19. Monitor energy consumption, costs, sources carbon emissions to inform our energy management programme 20. Publish performance and progress against targets, within the council and to the public and government	Property and Environment



## 8. Indicative investment, financial return and carbon savings

Investment at the scale shown below should see the council and maintained schools **avoid £0.9m p.a.** in energy costs in buildings by 2019, with further subsequent cumulative savings. Corporate estate and schools projects at the scale below would reduce emissions **by 9% by 2019**, although some of this gain will be offset by growth. Further projects (if approved) could increase emissions reduction further, to exceed the target of **10%**. Financial return will be dependent on the business cases approved.

Area	Energy costs (13/14)	Indicative Investment over 4 yrs (2015 to 19)	Returns (p.a.) full year effect	Indicative Payback	Indicative Carbon emissions reduction (tonnes)	Funding stream and status
<b>Corporate estate: Efficiency and micro-generation</b>	£3.1m	£3.2m	£0.4m	8 years	2,300	Capital maintenance, within MTFP
<b>Schools: Efficiency and micro-generation<sup>(1)</sup></b>	£8.2m	£4.2m <sup>(1)</sup>	£0.50m <sup>(1)</sup>	8 years	3,300	Schools' borrowing e.g. Salix 0% interest lending
<b>Corporate estate: 2.5MW solar PV array<sup>(2)</sup></b>	n/a	£3.8m	Business case in development	Business case in development	1,500	Business Case requires Investment Panel approval
<b>Fleet vehicles (Electric vans)</b>	Not known	approximately £0.3m	Business case in development	Less than 10 yrs	17	Business Case requires Investment Panel approval
<b>Business travel (mileage and lump sum)</b>	£5.8m	Business case to be developed	n/a	n/a	n/a	To be identified
<b>Street lighting LED<sup>(3)</sup></b>	£3.5m	£8.0m (research ongoing)	Business case in development	19yrs <sup>(3)</sup>	2,300	Subject to an acceptable business case being established, funding options would be considered further.

- (1) Schools: Community, Foundation and Vol. Controlled statuses. Revenue benefit to schools, not SCC budget. Subject to agreement for schools to borrow from Salix, permission required from Secretary of State for other sources. SCC Planned Maintenance projects e.g. boiler replacement, could also contribute to further carbon savings and financial savings to schools.
- (2) Solar PV: Subject to further consideration by Investment Panel.
- (3) Streetlighting- Subject to further research to determine whether an acceptable business case exists. 19yrs payback is considered unacceptable.



## 9. Monitoring, Reporting and Scrutiny

Reporting area	Frequency	Reporting led by	Purpose
<b>CRC Energy efficiency scheme</b>	Annual, by 31 July	Property	Government requirement (statutory duty)
<b>Greenhouse Gas emissions</b>	Annual, by 31 July	Environment	Government requirement (single data list)
<b>Service reporting</b>	Quarterly	All services involved in C&E policy delivery	Council performance monitoring - detail
<b>Overview and Scrutiny Committee</b>	Annual, following July	Joint: Business Services and Environment & Infrastructure	Council performance monitoring - oversight