



*Local government is operating in a period of unprecedented change and financial pressure.*

*Managing the energy intensity of our activities is an important part of 'good housekeeping', helping us reduce operating costs to protect front line services and to meet our public commitments to reduce greenhouse gas emissions.*

## **Executive Summary**

In 2014/15 we spent just under £7 million on energy for our corporate buildings and our activities such as running street lighting and other illuminated street furniture, as well as moving our staff around the county. Our energy use resulted in the emission of more than 26,000 tonnes of greenhouse gases.

Whilst our energy cost in 2014/15 was 1% less than in 2013/14 and almost 20% less than in 2010/11, continuing our current rate of energy use (business as usual) could see costs rise to £9 million per year by 2019/20 (creating an aggregate £5.5 million pressure over the next five years) primarily due to an increase in the cost of fuel.

We will deliver this strategy through a detailed annual delivery plan that sets out the projects necessary to meet our carbon targets and cost objectives.

This strategy provides a framework to manage energy use in all areas across our estate and activities and meet our objectives to:

- Ensure corporate energy costs do not exceed 2014/15 levels by reducing our energy use and purchasing energy effectively.
- Make use of renewable technologies to reduce risk of supply, reduce costs and generate income.
- Reduce greenhouse gas emissions from our buildings and activities by 3% year on year, on average, in line with the Oxfordshire 2030 Sustainable Community Strategy commitment.

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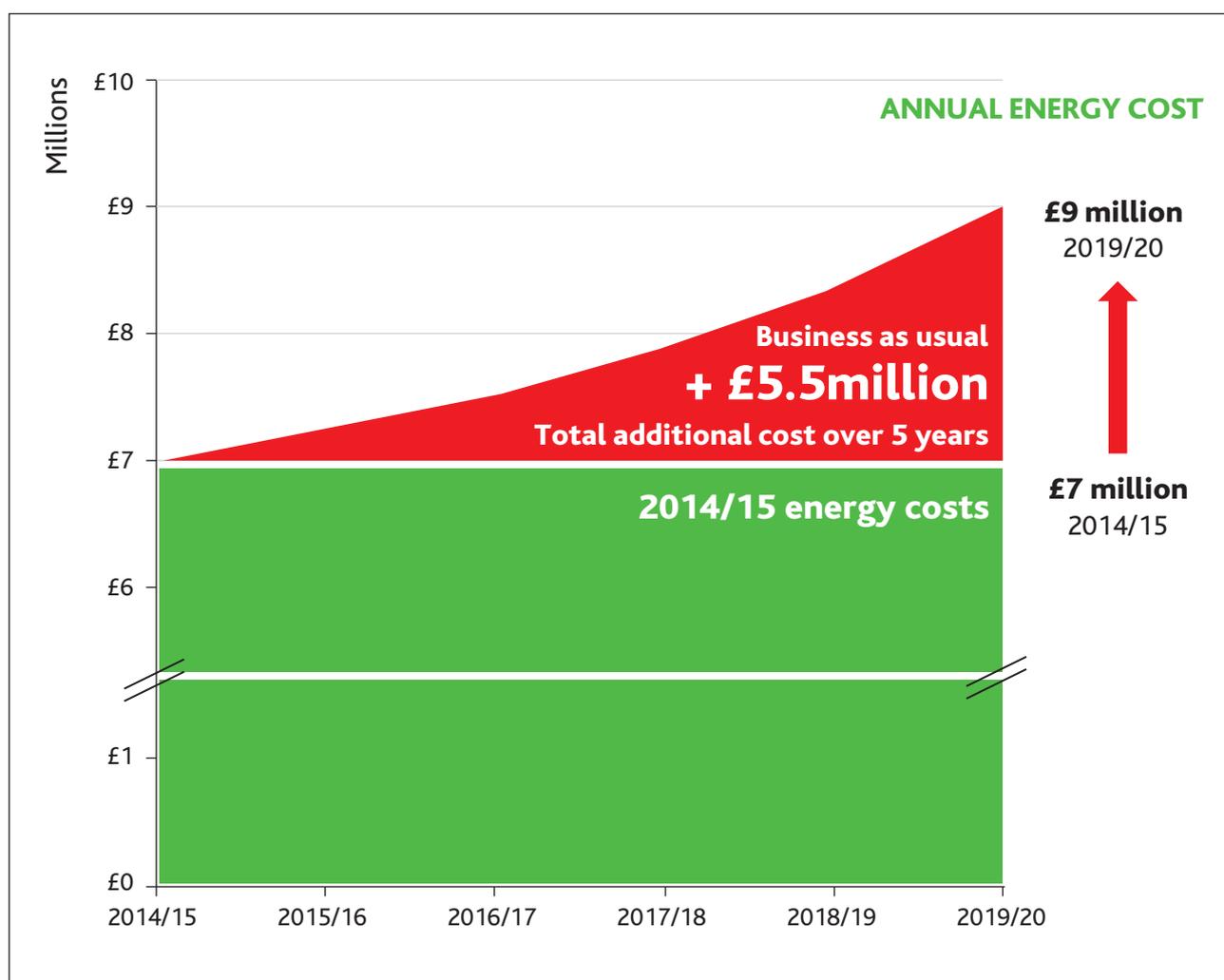
# 1 The Energy Challenge

## 1.1 Costs

In 2014/15 we spent just under £7 million on the energy needed to run our corporate buildings and activities such as street lighting and moving our staff around the County.<sup>1</sup>

Whilst total expenditure in 2014/15 was 1% less than in 2013/14, rising fuel costs and other challenges (such as the need for additional street lighting in areas of new housing development) mean that even if existing activity remains constant, the amount we spend will increase to an estimated £9 million per year by 2019/20.

Business as usual could add an aggregate £5.5 million to our fuel bills over the next five years.<sup>2</sup>



Source: Oxfordshire County Council Energy Data, 2014/15

<sup>1</sup> Oxfordshire Energy Data 2015

<sup>2</sup> Whilst energy prices are volatile (and there has been some fall in wholesale pricing in the last year), the Department of Energy and Climate Change is forecasting positive inflation over the next 5 years of around 3% for gas and 5% for electricity. Carbon Trust has supported OCCs use of average 4% inflation.

## 1.2 Emissions

In the same year, 2014/15, our energy use resulted in the emission of **26,368 tonnes** of greenhouse gases (CO<sub>2</sub> equivalent).

**Oxfordshire 2030: the Sustainable Community Strategy for Oxfordshire** sets “Protecting the environment and responding to Climate Change” as one of four priorities for the County, with a target to halve emissions of carbon dioxide by 2030 compared against 2008 levels.

This public commitment is in line with targets embedded in the national Climate Change Act 2008 which requires the Government to reduce emissions in the UK by at least 34% by 2020 and 80% by 2050, from 1990 levels.

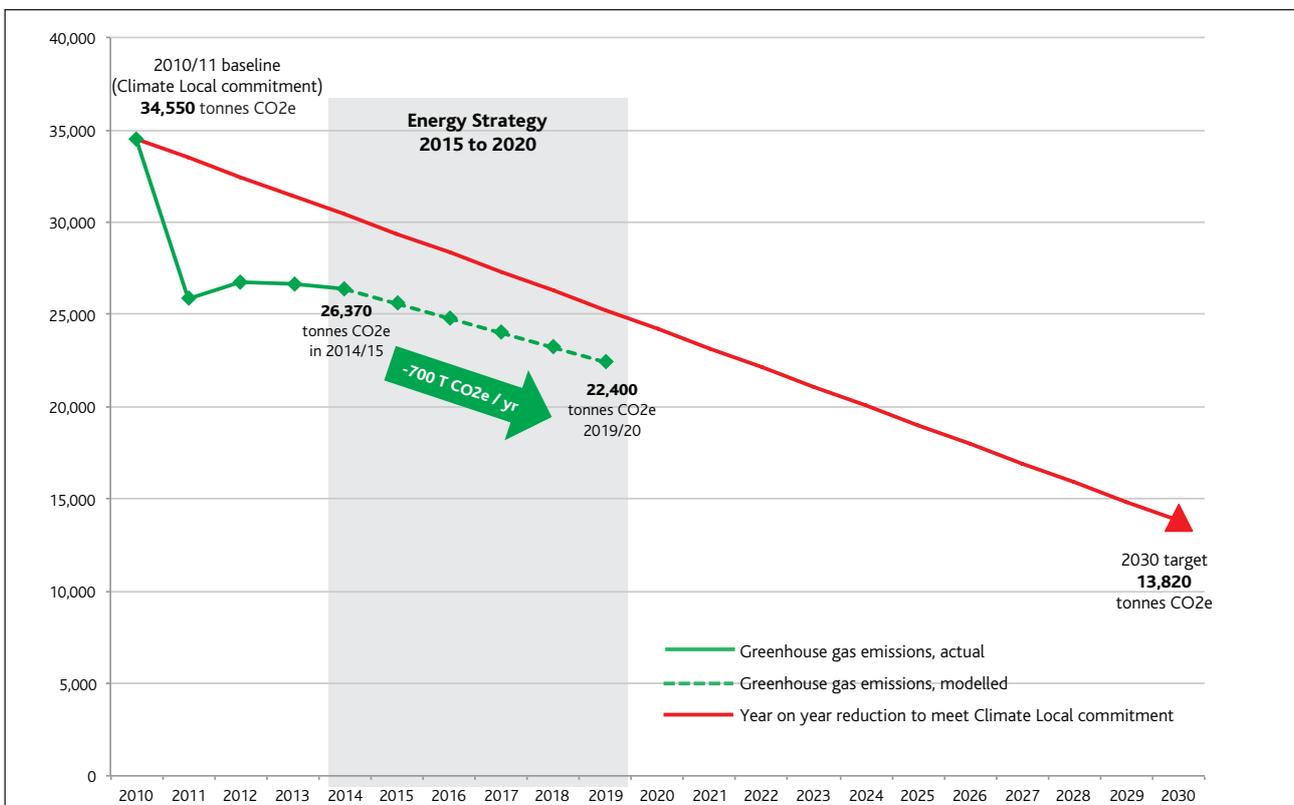
To support the *Oxfordshire 2030* priority the County Council has committed to a 3% year on year decrease in greenhouse gas emissions (using

2010/11 as a baseline) from its own estate under the **Climate Local initiative**<sup>3</sup> and through **Low Carbon Oxford**.

Emissions in 2014/15 were 23% less than in 2010/11. This is an average reduction of almost 6% per year, meaning we are currently meeting this target. Continuing business as usual is likely to see our emissions increase due to the demand for additional street lighting in areas of new development around the county (emissions from this area are forecast to increase by around 1% annually).

To stay on track, we will need to reduce our emissions by a total of 3,500 tonnes CO<sub>2</sub>e by 2020 compared with those in 2014/15 (an average of 700 tonnes per year).

### Greenhouse gas emissions from Oxfordshire County Council estate to 2030



Source: Oxfordshire County Council Greenhouse Gas reports and energy data 2014/15

<sup>3</sup> The District and City Councils have also adopted this target.

## **Global agreements, local targets**

The UK, along with 174 other countries, is a signatory to the 2015 Paris Agreement. Governments have agreed a long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels, and are legally bound to 'pursue domestic mitigation measures'.

The UK's Climate Change Act, 2008 commits to reduce national emissions by at least 80% of 1990 levels by 2050, and by 34% by 2020. Local authorities are seen to have a key role in meeting this target\*.

Oxfordshire County Council reports its emissions on an annual basis to the government. Our local commitment to reduce our own emissions by 3% per year is in line with the national target.

## **Meeting the target: carrots and sticks**

National government currently encourages organisations to reduce greenhouse gas emissions using measures such as access to special interest free loans (Salix funding). The council has made use of this funding to implement a significant number of projects such as installation of energy efficient lighting.

All large businesses and public sector organisations are taxed on greenhouse gas emissions through the Climate Change Levy. In 2014/15 the levy amounted to £222,470 for Oxfordshire County Council, however this price is set to increase. Changes announced by the Government in Spring 2016 mean that we could expect to pay £342,000 in 2019/20, an increase of £120k.

Other 'carrot' or 'stick' measures could be introduced in the future by national governments to help them achieve commitments to the Paris Agreement.

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\*2013 Memorandum of Understanding between the Department for Energy and Climate Change and the Local Government Association.

## 2 Meeting the challenge

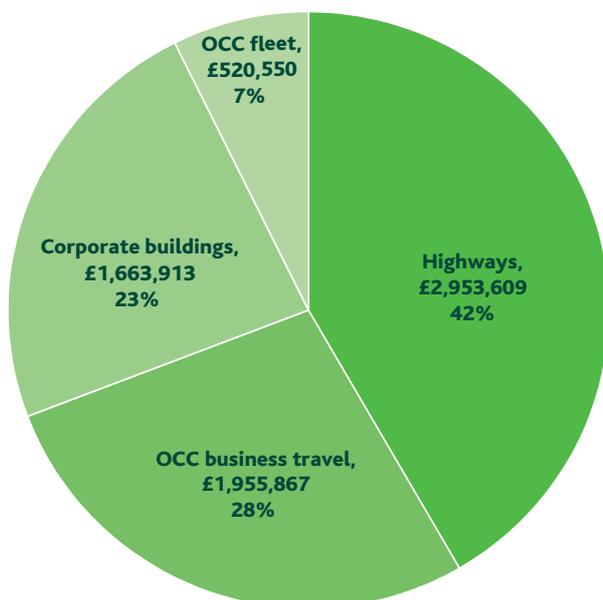
Taking 2014/15 as our baseline, we can manage our energy costs and reduce associated emissions by:

- reducing our energy demand (including the need to travel)
- increasing our energy efficiency and
- generating our own energy and exploring opportunities offered by new technologies.

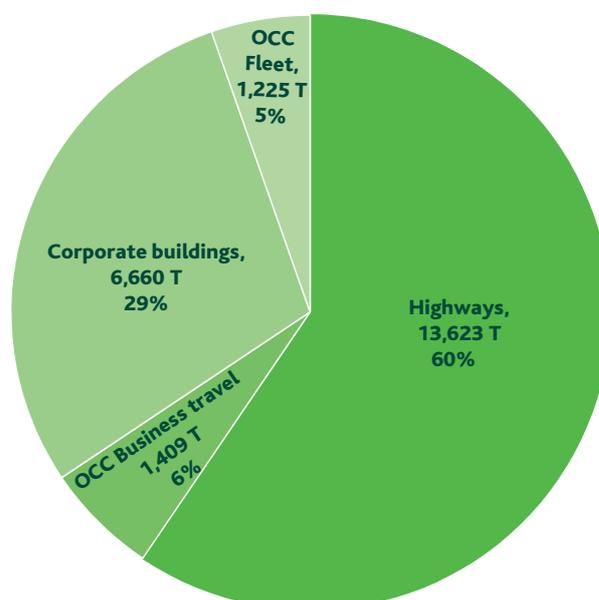
Systematically managing our energy use following the principles set out in the international standard, ISO 50001, will ensure that energy reduction behaviours can be embedded across the organisation leading to continual improvement and helping us to reduce energy demand, manage costs and reduce emissions.

The Energy Strategy to 2020 sets out how we will do this.

**2014/15 corporate energy costs by use**



**2014/15 emissions by source (tonnes CO<sub>2</sub> equivalent)**



Source: OCC Annual Energy Data, 2015

## 3 Underpinning our existing work

The Energy Strategy supports a number of existing strategies and programmes.

### i) Asset Utilisation Programme

The Asset Utilisation Programme (AUP) aims to transform the way we work to make best use of technology, property, and time. This includes exploring opportunities for co-location with the District and City Councils as well as the wider public sector in a move to "One Public Estate".

Opportunities offered via Agile working (a cornerstone of the AUP programme) for virtual meetings, telephone and video-conferencing, working from locations closer to home are likely to have a positive impact on our mileage and emissions.

The Energy Strategy will support AUP by embedding the principles of sound energy management to reduce our energy demand and increase energy efficiency in our buildings. It will also help to measure the positive trends and impacts from such programmes.

### ii) Connecting Oxfordshire

Supporting the transition to a low carbon future is one of five key goals set out in Connecting Oxfordshire, Oxfordshire County Council's Local Transport Plan 4.



As well as being the Transport Authority, the County Council spends £2 million to meet the cost of travelling 4.5 million miles to deliver services. This travel generates 11% of our own greenhouse gas emissions. The Energy Strategy will help the council to measure and monitor our own transport use, seek ways to reduce our costs and impacts and support bids for investment in innovative projects on our own estate such as Park and Rides.

### iii) Strategic Economic Plan

The vision for Oxfordshire is to be a vibrant, sustainable, inclusive, world leading economy, driven by innovation, enterprise and research excellence. The importance of climate change is recognised in the SEP both as a long term threat to the economy and as a business opportunity. Low carbon sectors currently account for about 7% of the economy, and Oxfordshire is considered well placed to deliver innovative solutions to support a global shift to a low carbon economy.

This strategy does not seek to address wider county emissions and strategies, but it does enable Oxfordshire County Council to 'get its own house in order' and encourage innovation, external funding, and positive action on our own estate and across our activities.

### iv) Smart Cities

The Innovation & Research team drives the Smart Oxford Agenda to enable Oxford and Oxfordshire to become the test bed for new and emerging smart technologies. Working with a wide range of partners, Smart Oxford has a vision to bring together innovative ideas and engaged stakeholders to build a better stronger, safer, economically and environmentally sustainable city through smart solutions. Addressing and reducing energy consumption is central to this vision, not just in Oxford but county wide.

The need to make our assets more sustainable in future cities requires considerable innovation at all levels from policy to deployment. Solutions need to have a strong research element balanced

with good commercial potential – Oxfordshire County Council is well placed to support and facilitate solutions in close partnership with established consortiums with universities and businesses.

The Energy Strategy directly supports this programme, setting out our approach to

managing and reducing the energy required for our street lighting, buildings (and wider assets) and travel, and providing the framework within which to make use of innovative new technologies to reduce energy use and emissions from our sites and vehicles.

## **Agile working: reducing costs and emissions**

Laptops typically use 85 per cent less electricity over a year than desktop PCs.\*

Swapping our desktops for laptops not only makes it easier to work from different locations but will help reduce our energy costs and emissions.



\*Source: Energy Saving Trust

## 4 Partnerships and Innovation

Whilst this energy strategy will focus on our own estate and operations, and opportunities for cost reduction, it is acknowledged that the county council has a much broader role in leadership and influence through its various functions and services.

The Oxfordshire Partnership organisations share the county's commitment to reduce county-wide greenhouse gas emissions by 50% by 2030.

A recent report commissioned by the County Council and the Oxfordshire Local Enterprise Partnership shows that meeting the countywide

target whilst meeting the needs of a growing population and economy will require sustained and active implementation of measures to reduce emissions.<sup>4</sup>

Reducing the overall county emissions is outside the scope of this strategy, but highlights the importance of continuing to work in partnership with others on the transition to a low carbon economy. The Local Enterprise Partnership, Growth Board, Oxfordshire Partnership and Low Carbon Oxford all have a role in encouraging broader action.

### OxFutures: working in partnership



The OxFutures programme, led by Oxford City Council, Oxfordshire County Council and key delivery partner, social enterprise, Low Carbon Hub, was funded by Intelligent Energy Europe to deliver around £18 million of investment into renewables and energy efficiency in Oxfordshire by 2017.

The strongest element of the programme has been "community energy" – renewables schemes developed by the community and

funded by local shareholders. In this model, the host organisation gets a discounted bill for their green energy and "profits" are cycled back into further energy efficiency and renewables projects.

The programme has had an impressive uptake with schools with 4000 panels installed across 20 schools to date. Schools have been motivated as much by the environmental and wider community benefits, as the cost savings and fully managed programme on offer.

<sup>4</sup> Oxfordshire greenhouse gas emissions, 2008 to 2030. Aether, March 2016

## 5 The Energy Strategy, 2015 to 2020

This Energy Strategy sets out how we will manage our energy use to reduce emissions and keep costs as low as possible across our estate and other activities over the next five years compared against our 2014/15 baseline. It provides a framework to:

- understand and address the energy implications of wider organisational change
- direct investment to reduce energy costs and generate income in times of change
- reduce risk by securing and diversifying our energy supplies
- develop our own estate and assets as an exemplar for energy efficiency
- deliver our public commitments to reduce greenhouse gas emissions and to limit the impacts of a changing climate.

### 5.1 Objectives

We will follow the best practice principles set out in ISO 50001, the international standard for Energy Management Systems, to embed an energy management system across our everyday practices which will drive continual improvement to:

- Obj 1. Keep annual energy costs across the corporate estate at or below 2014/15 levels (£7 million) through to 2020 by reducing energy use and purchasing energy effectively;
- Obj 2. Make use of renewable technologies where economically viable to reduce risk of supply, reduce costs and generate income to partially offset remaining costs;
- Obj 3. Reduce greenhouse gas emissions from our buildings and activities by an average of 3 per cent year on year, equivalent to 3,438 tonnes CO<sub>2</sub>e by 2020.

### 5.2 Scope

This strategy focuses on managing energy under the council's direct financial control – corporate building energy, street lighting, and travel (business mileage and fleet) – and therefore excludes schools. Our approach in each of these three areas is set out in section 5.3 below. Section 5.3.4 sets out how the County Council will support schools as bill payers to reduce their own costs.

#### Reducing costs

In the first step to reducing our energy costs, we have secured a new contract with LASER Energy to operate to 2020.

LASER use their bulk buying power to secure gas and electricity supplies at competitive prices. By changing how we buy these supplies through LASER – 'purchasing within supply period' rather than 'purchasing in advance' – we expect to save on average £100,000 pa over the course of the contract.

## 5.3 Our approach

The Energy Strategy provides the framework to reduce costs and emissions resulting from energy consumption in all areas across our estate and activities.

We will deliver this strategy through a rolling Action Plan that sets out the projects necessary to meet our carbon targets and cost objectives. In drawing up the Action Plan we will be guided by the following principles:

- i. We will work within the principles of the ISO 50001 Energy Management system to embed energy management into our everyday business practices and drive continual improvement;
- ii. We will use the energy hierarchy to prioritise activities that save energy at the lowest cost, as well as maximise opportunities for energy efficiency and the generation of energy from renewable sources;
- iii. We will fund activities through an invest to save approach – investing capital and capital finance to save a larger amount of revenue in coming years – making use of external funding where possible and advantageous;
- iv. We will make use of our organisational scale to maximise the opportunities to reduce costs both through the way we procure energy and how we pay bills;
- v. We will ensure the whole life cycle energy impact of the activities we undertake and of the products and services we purchase is taken into consideration within our procurement processes;
- vi. We will continue working with our current partners, and explore new partnerships where there is a clear benefit to the council and the opportunity to lever additional economic and community benefit.
- vii. We will work with colleagues across the organisation to identify projects in our three key areas of energy spend: street lighting; buildings and other assets; and travel (see sections 5.3.1 to 5.3.3 below).

Projects in the annual Action Plan, including no and low cost actions and other 'invest to save' options, will enable us to reduce energy spend (or offset costs) and / or reduce greenhouse gas emissions on a project by project and case by case basis. Each economically viable project will be brought forward through the appropriate financial and governance pathway.

## Good Housekeeping

The energy hierarchy sets out a good housekeeping approach to managing our energy:

1. Reduce the need for energy – a 'no/low cost' solution with immediate returns. For example, a trial of 'part night lighting (turning off street lights when least needed) helped reduce consumption.
2. Make the energy we purchase go further. Replacing old street lighting with low energy dimmable lights reduces consumption and costs: a dimmed light reduces energy use by around one third.
3. Once we've optimised our energy use we can explore opportunities to increase the proportion of our energy supplied through renewable sources. This will help reduce our greenhouse gas emissions, and offer an opportunity to generate income.

Reduce energy use

Use energy more efficiently

Use renewable energy

### 5.3.1 Street lighting



Street lighting accounts for the greatest proportions of our annual energy spend and emissions (42% and 60% respectively in 2014/15). As with many other council assets, the number of street lights will increase as growth across the county is realised.

The management of the number of street lights and their associated energy usage will need to continue through policy and making use of the advancement of technology.

The council is already investing in a small scale roll out of LED technology and implemented dimming practices but further investment and policy changes will be needed to offset the impact of a larger number of street lights across Oxfordshire and expected energy price increases in the coming years.

A new street lighting policy will be produced to set out the approach needed to address these challenges. A new maintenance contract will then be let, potentially bringing cost saving opportunities. Opportunities to replace existing lamps with newer lower energy usage ones will be investigated and a business case for further replacement programmes assessed.

### 5.3.2 Buildings and assets

Where and how we work is changing. In the coming years we expect to occupy fewer buildings and continue to move to agile working. Whilst both these steps will lead to reduced building energy costs, there are further measures we can take to reduce energy demand, improve our energy efficiency and realise further savings.

Set against the backdrop of asset rationalisation, we will maximise the implementation of low or no cost measures, for example:

- embedding energy conservation in our daily activities through staff awareness and behavioural change;
- actively monitoring our energy use to ensure we target and reduce waste;
- embedding energy efficiency measures into our existing building and maintenance programmes;
- adopting a whole building approach to energy efficiency in our core offices.



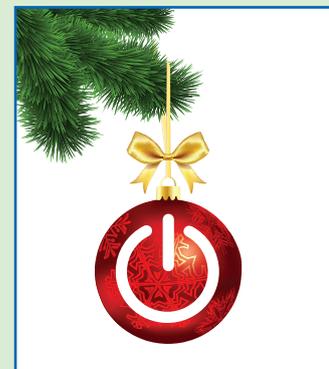
We will also continue to explore opportunities (where the business case allows) to make use of renewable energy and innovative new technologies, not only on our buildings but also on our wider assets, to reduce costs and emissions and at the same time improve our energy security.

## Reducing our energy use through changing behaviours

Switching off helped us reduce energy use in our offices by almost 10% over the Christmas holidays in 2014.

Before the holiday we used an intranet headline to ask all staff to remember to 'switch off' before leaving the office.

Information collected from our automatic meter readers for this period suggests that we reduced the amount of energy used on Christmas day by 7% and by 3% on both Boxing Day and New Year's Day compared with the previous year.



### 5.3.3 Travel

We have identified the potential for significant cost saving opportunities around business travel which can be realised through no or low cost measures:

- Ongoing changes to where and how we work, for example introduction of new improved video conferencing facilities and the implementation of the digitisation programme, are expected to reduce the need to travel.
- Promoting and implementing existing travel policies will direct staff to consider how they can undertake essential journeys to lessen and lighten the impact of travel. For example, encouraging the use of pool cars in preference to private vehicles will both increase the utilisation of the existing cars and reduce the cost of business mileage.
- Introducing training for high mileage users to improve fuel efficiency.



The energy strategy will both facilitate and monitor these changes.

Further opportunities to reduce the impact of business travel (both cost and emissions) will be explored through the wider organisation. This will focus not only on reducing business miles but on how we procure and manage our vehicles to take advantage of bulk buying power to reduce fuel and maintenance costs.

Our Officers' Code of Conduct requires that all staff:

*"consider sustainability issues when undertaking your duties, including the procurement of goods and services. In particular you should seek opportunities to improve and promote energy conservation, advocate recycling and waste minimisation, reduce pollution and support positive Council initiatives to improve the environment. You should limit travel on Council business to that which is unavoidable and walk, cycle or use public transport if possible".*

### 5.3.4 Schools

In 2014/15 maintained schools in Oxfordshire spent £3.3 million on energy bills and a further £140,000 on business travel. This is one third of the total OCC energy spend and equated to 15,230 tonnes CO<sub>2</sub> equivalent, 36% of the council's total emissions.

Whilst the Council's target to reduce emissions by 3% year on year also applies across the schools estate, it is recognised that the Council has increasingly limited influence on how these buildings are operated:

- the majority of our secondary schools have already converted to academy status, operating entirely independently;
- we anticipate that significant numbers of those remaining under local authority control at present will become academies over the lifetime of this strategy;
- any remaining maintained schools are considered to be separate bill payers and decision-makers in reducing their own costs.

Working within the limited resources available, we will however continue to offer the following

services to support the remaining maintained schools to reduce their energy costs:

- Include these schools in the energy bulk buying contract through Laser;
- Provide a billing verification service through our property partner Carillion;
- Signpost schools to the financial opportunities available through Salix Finance Limited to fund energy efficiency investments;
- Signpost to opportunities available through other organisations such as the Low Carbon Hub;
- Support innovative energy reduction / renewable programmes to schools where these can be delivered at no cost or on a cost-recovery basis.

Acknowledging the diminishing influence of the County in the schools estate, we will remove academy emissions from our Greenhouse Gas reporting. We will also report on emissions from maintained schools and corporate estate separately.

## 5.4 Governance and review

The sponsor of this energy strategy and the associated delivery plan is the County Council Management Team (CCMT) reflecting the cross-organisational nature of the costs.

The Energy Strategy team will report annually to CCMT on progress against the Action Plan (to coincide with collation of year-end greenhouse

gas and cost data). At the same time we will update the Action Plan, identifying projects for the following year to ensure we continue to meet our objectives to reduce costs and emissions. Projects will be fed into the Council's service and resource planning process.

The Energy Strategy will be reviewed in 2020.

## Annex 1 – Proposed Energy Management System

The international standard for Energy management systems (EnMS), ISO 50001, sets out a systematic approach to energy management. In common with other management standards the approach aims to deliver continuous improvements driven by a plan-do-check-act cycle.

The process requires the organisation to adopt an energy policy which is widely communicated and shared. A review of energy performance sets a baseline, identifies significant areas of energy use and leads to meaningful and realistic objectives and targets – and an action plan setting out the activities needed to meet these. The action plan is reviewed and reported at determined intervals, and a management review is required to drive continuous improvement of the system. The process diagram below shows the steps of the EnMS adapted from ISO 50001 (grey boxes), with the additional detail on planning and projects (coloured boxes).

