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Royal Borough of Windsor & Maidenhead

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Energy and Water Strategy

2019-2023

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Foreword

Sustained energy and water reductions not only make good environmental sense, they make good business sense. They help ensure we deliver on our promise to residents to secure best value in all that we do whilst also protecting the Borough for future generations to enjoy as we do today.

Energy price rises are now common place and we expect to see prices continue to increase for the foreseeable future. At the same time, evidence on human impact to the natural world is mounting with Blue Planet affecting many of us. Now more than ever, we need to take responsibility and ensure we manage our resources efficiently and effectively.

The council recognised the benefits of good energy management many years ago and it was proud to hit its 15% energy reduction target in 2018. This strategy looks ahead and sets out how we will achieve a further 10% reduction in our energy consumption by 2023. This will not be easy and there will of course be difficulties along the way. We are however determined to deliver on our promises and I believe that all areas of the council will step up and collectively, we will meet the challenge.

Cllr. Coppinger, Cabinet Member for Heath and Planning (including Sustainability)

Executive Summary

The Royal Borough of Windsor & Maidenhead is proud of its achievements to reduce energy consumption and its associated environmental impacts. This document commits the council to achieve a further 10% energy reduction by 2023 based on a 2016/17 baseline. This is an ambitious but achievable target and will demonstrate the council's commitment on the issue.

The work already undertaken has saved in excess of £1 million since 2014, providing value for money for residents of the Borough. Further work will build on these savings through a programme of technical, operational and behavioural change projects. We will continue to ensure compliance with all relevant legislation and put in place governance procedures to ensure oversight of the programme.

The scope of the strategy will include buildings within the operational control of the council as well as street lighting. Council maintained schools will not be included in the targets but their energy consumption will be reported on annually to track their energy usage and we will support them in making their own energy reductions. Leisure Centres, academies and investment properties will all be excluded.

Introduction

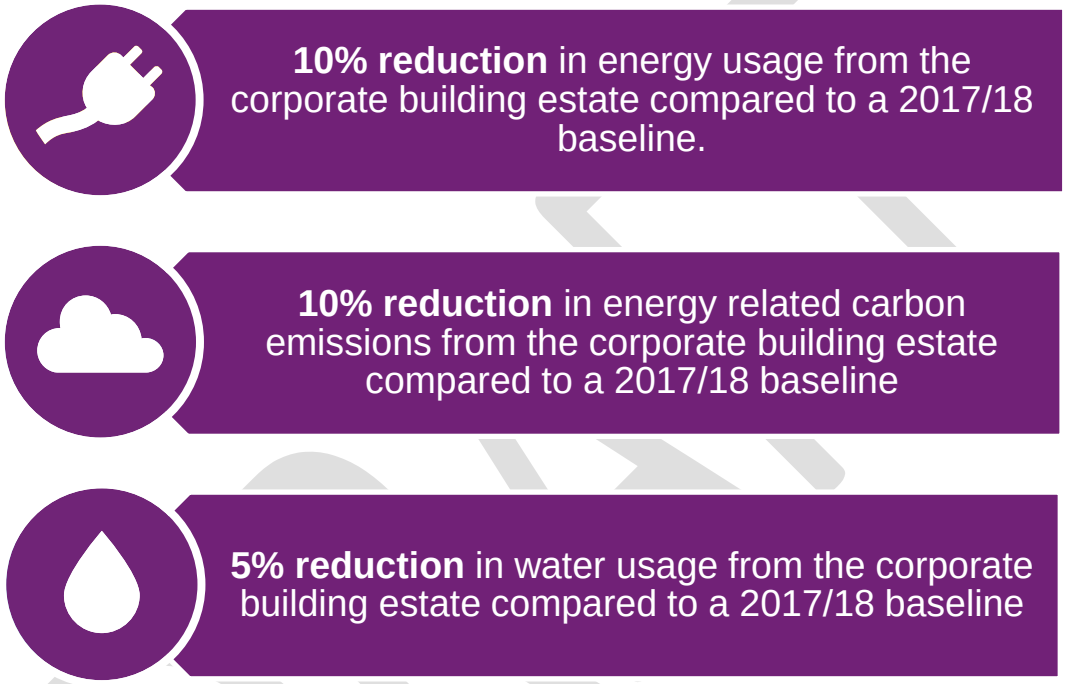
The Royal Borough of Windsor & Maidenhead aspires to be a regional leader in reducing its environmental impact by managing its resources efficiently and effectively. Over the last 5 years, it has been successful in making reductions to its energy consumption which has resulted in both financial and non-financial benefits. This has been against a back drop of significant escalating energy prices and has made the work of energy reduction more important than ever.

Whilst significant progress has already been made, the basis of a good energy management system is continuous improvement and this strategy sets out how the council will achieve further reductions in energy consumption in the coming years.

The next 4 years are an exciting time for the borough with big regeneration projects being developed. Embedding strong energy management into projects from the outset will support the council's priority of ensuring we provide value for money to our residents whilst protecting the environment for generations to come.

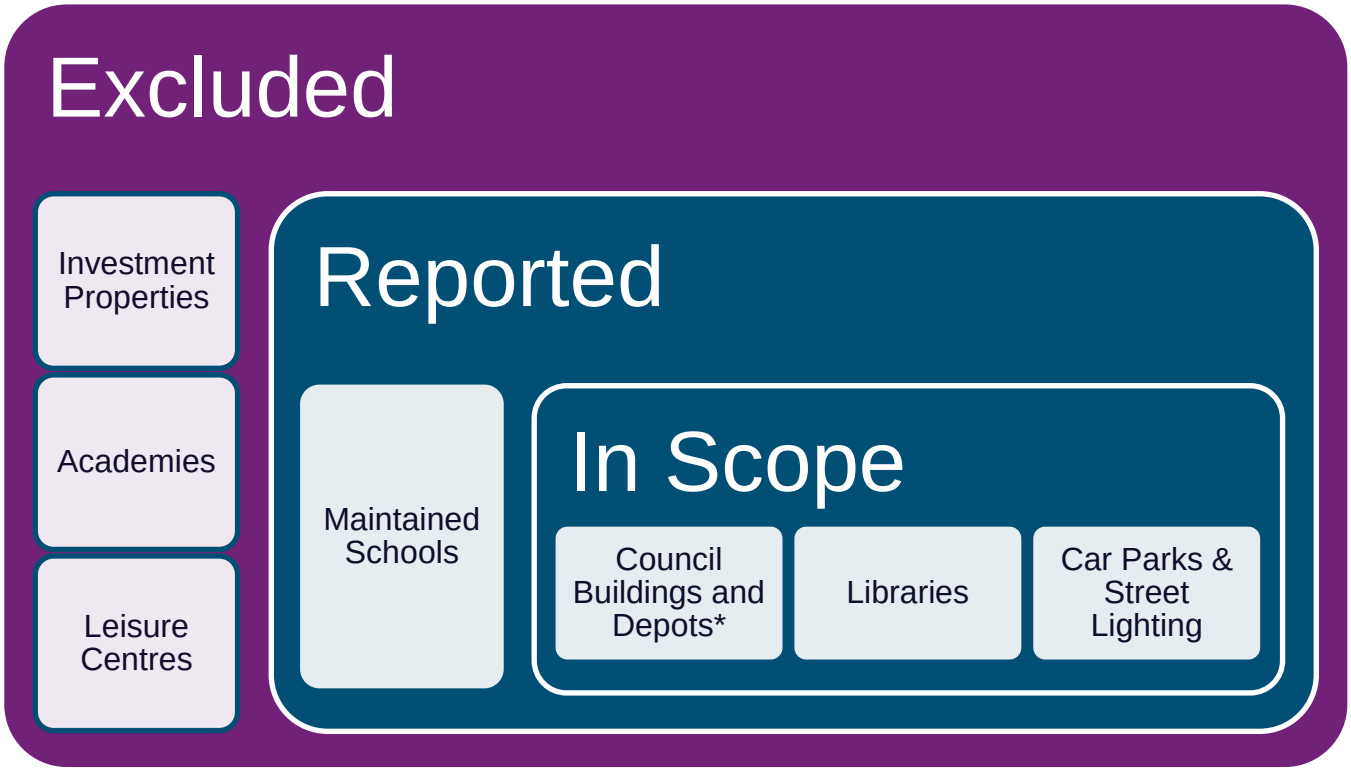
Targets

The council set itself a 15% energy reduction and a 3% water reduction target in 2014 to be achieved by 2018 against a 2013/14 baseline. It successfully achieved these and is now looking ahead by setting new, ambitious targets for further energy and water reductions. These new targets will look forward from 2019, covering the 4 year period to 2023 and are absolute targets, so are not dependent on what happens to the council's estate in the forthcoming years.



Scope

It is important to establish what is, and what is not included within the scope of the energy reduction target. The council's estate is going through a period of change with exciting plans for regeneration of areas of the borough starting to take shape. As we have set an absolute target, these changes may contribute towards the target or make it more challenging. The council has a complex estate and it is difficult to anticipate these changes. The following scope has been set to include the majority of energy consumption under the operational control of the council.



**** This includes buildings operated by partner organisations such as Achieving for Children and Optalis.***

Themes and Projects

Technical Projects

Heating and BMS Controls

A new building management system (BMS) was installed in the Town Hall in 2018 so optimising the controls will ensure we get best value from the new system. Other buildings in the estate have few controls on the heating systems and looking at how control of these buildings can be improved, will be an important piece of work.

Heating / Electrical / Water Plant Efficiency

Much of a buildings energy is consumed by essential equipment used to keep a building operational such as pumps, motors and boilers. Ensuring this plant is operating efficiently is important to prevent energy wastage and a programme of replacements of the oldest, most inefficient equipment will be considered. This could also include looking at water efficient alternatives to existing facilities such as low flow taps and waterless urinals.

Low/Zero Carbon (LZC) Opportunities

Renewable energy technologies provide free, low carbon electricity to buildings and are a powerful symbol of the council's commitment to energy management. Solar photovoltaic panels are already installed on a number of buildings across the estate and a further array will be installed on Braywick Leisure Centre where a combined heat and power unit will also be used. Opportunities will be investigated for further solar installations across the estate. In addition, LZC solutions to heating systems especially where current boilers are coming to the end of their life will be looked at.

Operational Projects

Introduction of Energy and Water Policy

The council has no policy in place making it clear its commitment to continuous energy and water reductions. A policy is required to clearly set out the council's overarching energy management principles which will be available to staff, contractors and residents.

Introduction of Heating and Cooling Policy

The council has no policy in place on how it heats and cools its building, when heating and cooling should take place and at what temperature buildings should be conditioned to. A policy, signed off by the corporate leadership team, to provide guidance on how we manage heating and cooling in buildings could significantly reduce the amount of energy required by heating, ventilation and air conditioning (HVAC) systems.

Monitoring, Measuring and Targeting

Smart metering is becoming increasingly common across the country and the council's estate is no different with many of our meters now having smart functionality. Using the data from these energy and water meters to identify opportunities for improvement is an important part of any energy management system.

Procurement

Whilst we do not include emissions associated with the products we purchase, procurement decisions made across the council have an impact on energy and water consumption. Ensuring sustainable procurement is a consideration in the purchase of equipment with a high energy consumption can deliver substantial savings over the life time of the item. It will be important to work closely with colleagues in Procurement to develop sustainable purchasing practices and embed those in decision making processes.

Re-charging

To achieve best value for residents, the council works with partner organisations to deliver services. Many of these partner organisations are based within council owned buildings

where the council pays the energy bills. Using appropriate sub-metering, over time, the council will look to recover the costs of the energy used by those partner organisations subject to contractual obligations and where reasonably practicable.

Engagement Projects

Internal Awareness

Whilst many buildings have lighting sensors installed, embedding a culture of responsibility is an important part of working towards ambitious energy reduction targets. Awareness of the council's commitment to its energy reduction targets and what each member of staff can do to help achieve them can result in significant savings. Simple actions such as not using individual electric heaters or making suggestions on how to improve the energy management system can multiply the impact a small energy management team can have.

Resident Awareness

Communicating the work undertaken by the council to residents is an important way to demonstrate the leadership it has taken on managing energy consumption. By highlighting the success and benefits of the work, it will encourage residents to take a more pro-active role in managing their own energy by switching providers or improving insulation in their homes. This will reduce their energy bills and reduce energy poverty in the borough.

Financial Benefits

Energy prices fluctuate constantly but the long term trajectory has been upward. The council purchases its energy through Crown Commercial Services to benefit from the bulk purchasing they can secure when buying over £2 billion of energy on behalf of the public sector. Whilst this approach has reduced energy prices compared to buying independently ensuring we get best value for residents, we have seen significant increases over the past year with an 18.3% annual increase in our non-half hourly electricity supplies forecast for 2019/20[1].

The final cost for energy is split between the commodity cost, the price for the electricity or gas and the non-commodity costs which are the costs added to bills to support the installation of new generation capacity or distributing that energy around the country. Currently non-commodity costs make up 60% of the electricity unit price where the commodity makes up just 40%. Gas unit prices are approximately 25% non-commodity and 75% commodity costs.

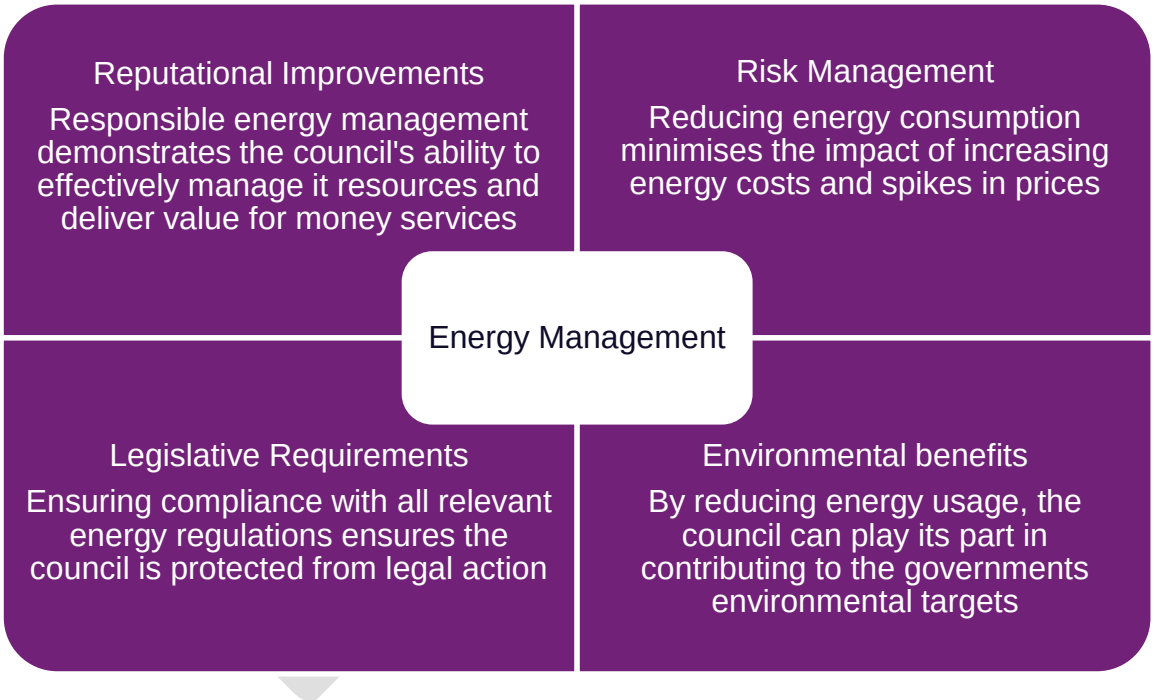
[1] **Crown Commercial Service, *Energy Budget Forecast 2019/20*, Page 3, January 2019**

This means that whilst reducing the unit cost for energy is important, reducing our usage of energy overall is the only way to control both elements of the bill.

Whilst the council has many demands on its funding, investing in energy efficiency often results in the initial investment being returned in less than 5 years with the benefits of reduced energy bills being seen for many years after.

Each project brought forward will have a full financial business case associated with it, with predicted savings being compared to the investment required. Projects will have a target return on investment of less than 5 years and an upper limit of 8 unless in exceptional circumstances. Projects will be monitored after installation to ensure they have been effective.

Non-Financial Benefits



Funding

There are a number of funding opportunities available to the council to deliver its commitments as detailed below. A variety of funding sources were used in the 2014-18 plan and a similar approach is likely to be taken going forward which will include internal and external finance.

Funding Option	Advantages	Disadvantages
Internal funding	• Straightforward • Low administration burden • Council gets maximum benefit	• Competition with other demands on council funding
Community benefit funding	• No revenue investment for council • Good publicity and opportunity to involve residents • Council could jointly invest with residents	• Complex negotiations leading to high administration • Considerations of long-term ownership of plant • Savings will be shared with investors to the scheme
Energy performance contracting	• No revenue investment for council • Independent verification of savings will be an integral part	• Complex negotiations • Council will share savings achieved with contractor
Salix Interest Free Loans	• 0% interest loan • Independent verification of projected savings • No revenue investment for council	• Loan required to be paid back within 5 years • Can put delivery timescales under pressure
Grant funding	• No revenue investment for council • Money does not need repaying	• Competitive and difficult to access • Can be subject to a number of different conditions which limit work • May require the council to also provide funding • Fixed timescales often don't fit in with projects

Governance

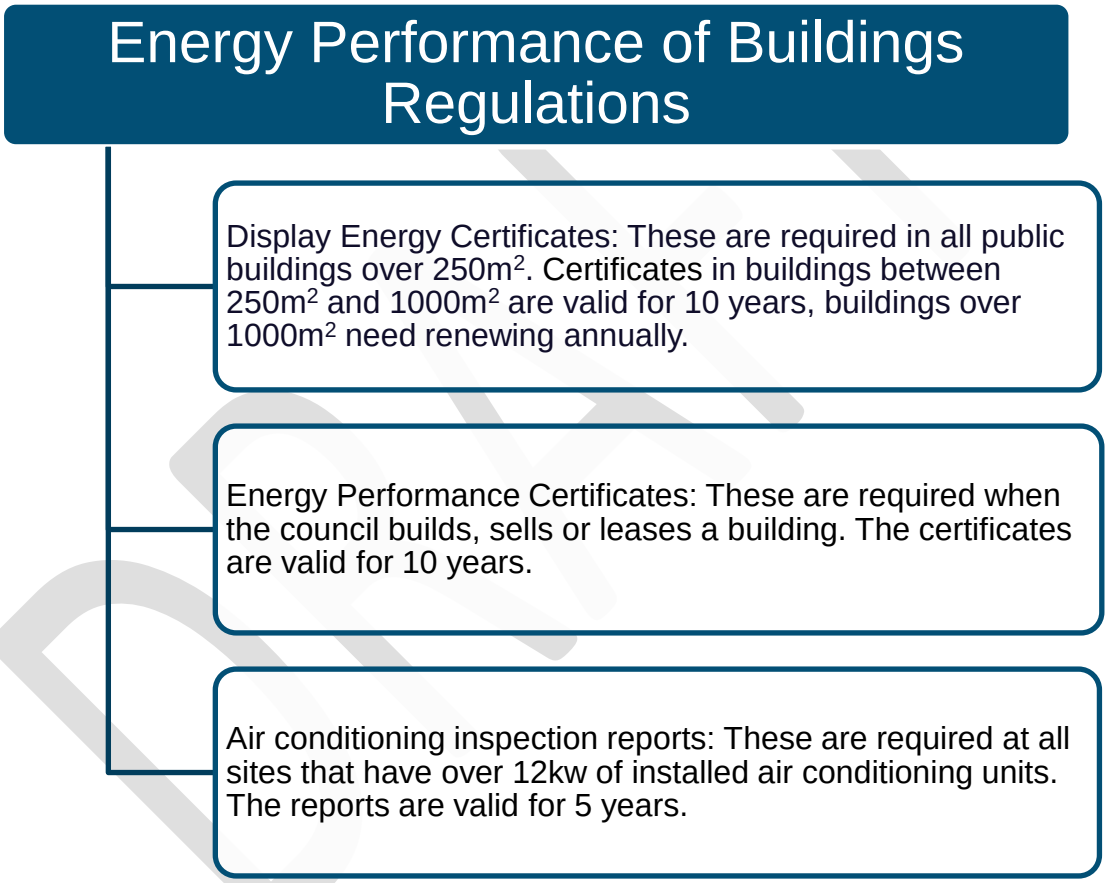
The Energy and Water Strategy will be delivered by the Energy Reduction Manager, on a day to day basis. The Lead Member for Sustainability, will sponsor the work at Member level.

An annual report will be written each year which will detail the work undertaken in the previous year to improve energy performance. This report will follow the end of the financial

year and will be reported annually to Communities Overview and Scrutiny Panel. The report will also include the annual plan for the following 12 months of work.

Compliance

There are a number of different regulations relating to energy management which the council is legally bound to adhere to. The most relevant is the Energy Performance of Buildings Regulations 2012 for which the council is required to undertake a number of different actions each year as detailed below.



The council must also comply with the Building Regulations 2010 - Conservation of Fuel and Power Part L. This ensures that any significant works done to new or existing buildings are done to the latest energy efficiency standards.

The Fluorinated Greenhouse Gases (Amendment) Regulations 2018 form another way that harmful greenhouse gases are contained. The regulations require specified fluorinated greenhouse gases to be tracked in systems that they are used such as air conditioning systems. If any leaks are detected then they must be resolved promptly. The regulations

provide a mechanism to phase out the most harmful gases over time and a regulated procedure for decommissioning of systems.

Our Commitments

- We are committed to playing our part in helping the UK meet its ambitious carbon target of an 80% reduction by 2050 based on 1990 levels.

- We will continue to invest in energy efficiency across our estate as well as low/zero carbon generation technology.

- We are committed to using our resources effectively so that we can get best value for the residents of today whilst also protecting the environment for the residents of tomorrow.

- We will work with schools to reduce their impact and engage with the next generation, our leaders of the future, to help them understand how they can reduce their energy consumption.