University of Reading

CARBON AND WATER MANAGEMENT PLAN

2016–2021

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OUR COMMITMENT AND AMBITION

"We are committed to reducing our emissions on an absolute basis, to 45% below our 2008/09 baseline by 2021."

Introduction

"The University is rightly proud of hitting its 35% carbon reduction target in 2016. As a leader in researching and teaching in the field of global climate change, we understand the importance of showing leadership in reducing our own environmental impact. At the same time, we have demonstrated that reducing our carbon emissions makes good business – as well as good environmental – sense.

We are committed to building on this success as we work to embed a culture of sustainability throughout our operations.

At a time of growth for the University, we are committed to reducing our emissions on an absolute basis, to 45% below our 2008/09 baseline by 2021.

Undoubtedly, there will be challenges along the way. So we will need to innovate and adapt to ensure we are up to the task that we face. However, by being focused and showing dedication and enthusiasm, I am confident that we can maintain our position as a leader in effective environmental management."

Sir David Bell, KCB, Vice-Chancellor

OUR CARBON FOOTPRINT

The University had a carbon footprint totalling 28,000 tonnes in 2015/16 with nearly 90% of that as a result of heating and electricity use in buildings. Although building energy use is substantial, all aspects of our carbon footprint need to be effectively managed to ensure we deliver on our commitments.

50% Electricity generation

4% Electricity transmission & distribution

33% Natural gas

8% Business travel

2% Burning oil

2% Water and waste water treatment

1% Refrigerant gases

<1% University vehicles

<1% Waste disposal

Carbon & Water Management

TARGETS

In 2011, the University set at an ambitious 35% carbon reduction target by July 2016 against a 2008/09 baseline. Now as we look ahead, it's important to consider the University's future ambition and associated targets for carbon reduction.

To align with both the current 2026 Estates Strategy and the overarching University Strategy, the next milestone will be 2021 with a target of achieving a 45% absolute carbon reduction against a 2008/09 baseline. The University has also set an aspirational target of 50% absolute carbon reduction by 2026.

This will be a challenging target in what is expected to be a period of sustained growth for the University but also achievable with investment and the right management.

Looking back 2016

35%

Reduction in carbon emissions

Looking forward 2021

45%

Absolute carbon reduction by 2012 (against 08/09 baseline)

Looking forward 2026

50%

Absolute carbon reduction by 2026

Up to 2016, the programme has **saved** **£17m**

Included

- Buildings (inc. halls)
- Business travel
- Waste, water and refrigerant gases

Not included

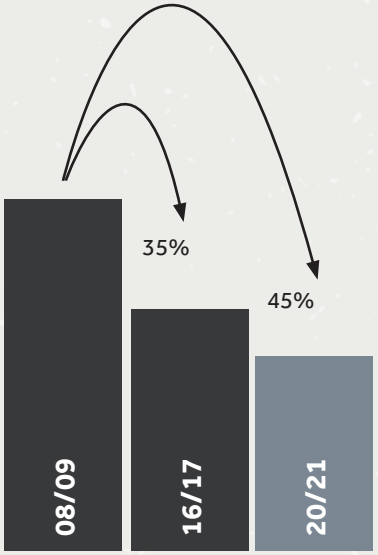
- Buildings outside the University's operational control
- International Operations
- Procurement
- Staff/student commuting

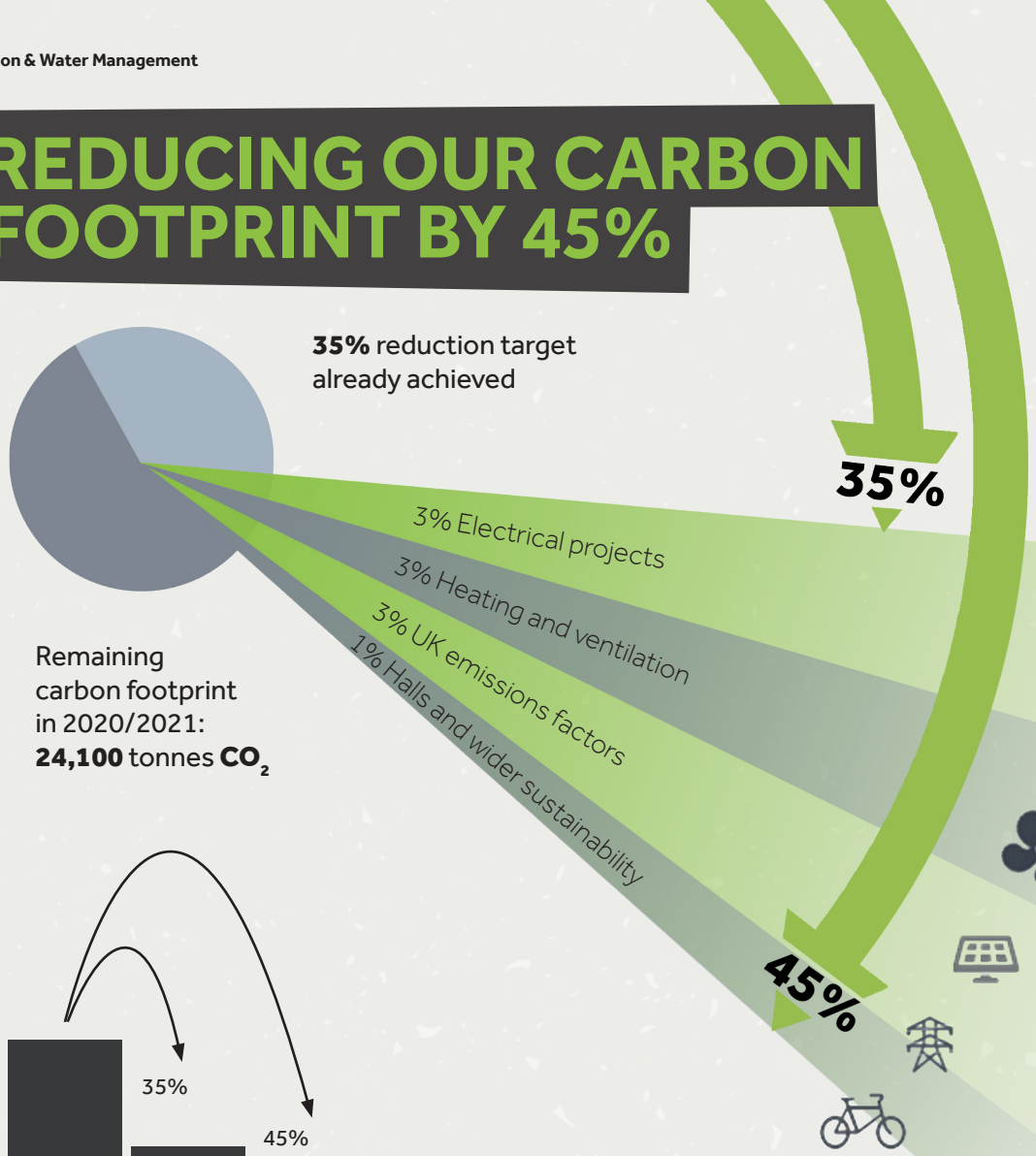
Carbon & Water Management

REDUCING OUR CARBON FOOTPRINT BY 45%

35% reduction target already achieved

Remaining carbon footprint in 2020/2021: **24,100** tonnes **CO_2**





Engagement and behaviour change initiatives are essential to avoid wasted resources. With a regular turnover of students and staff, behaviour change can never be considered “complete”. Delivering short term interventions and long term cultural change are important to strike a balance between sparking peoples’ interest and delivering sustained savings.

Information Technology is an essential and ever growing part of the University. Choosing energy efficient hardware such as solid state drives, new improved data housing solutions, and ensuring equipment is turned off when not in use can deliver significant electricity savings.

Technical improvements to the buildings and equipment used across the estate can offer improved facilities while reducing energy and water use. Heating and ventilation improvements, low energy lighting and lab equipment are important components of the carbon and water management plan, which is continually evolving as new innovative solutions emerge.

Renewable energy generation is increasing across the UK, meaning the carbon footprint of grid electricity is reducing. The University is helping to drive this change by only buying 100% certified renewable energy, as well as generating our own low carbon electricity on site using our CHP engine and solar panels.

Business travel emissions currently account for 14% of the University’s carbon footprint. We’re working to reduce this by promoting lower carbon forms of transport and providing improved alternatives to travel, including video, telephone and online conferencing facilities.

WHY IS IT IMPORTANT?

The University has ambitious growth plans for the coming years. Without intervention, this is likely to result in a significant increase in the University's carbon emissions. This has implications both financially but also more widely in terms of reputation and the University's impact on the environment.

The University is a leader in climate change research, low carbon building design and environmental studies, and strives to deliver strong environmental as well as financial sustainability in its operations. Without managing effectively its carbon emissions, the risk of not achieving this increases.

The higher education sector as a whole is struggling to deliver against its ambitious targets to reduce its carbon emissions by 43% by 2020 and delivering the target 45% reduction in emissions by 2021 will confirm our position as one of the leading universities in this field.

Climate change

Addressing climate change is one of the great challenges of our era and the University should play its part in reducing carbon emissions

Reputation

As an international institution engaged in the cutting edge of research into climate change, it is important to ensure that operationally we are matching the University's academic ambition.

Risk Management

Effective management of carbon and energy ensures the University mitigates its exposure to fluctuating prices which, if they increase sharply, pose a significant risk to University budgets.

Stakeholder Concern

There is overwhelming evidence that staff, students and the community want the University to take action on climate change and by effectively managing our carbon and water, we will be seen to be doing this.

Cost Savings

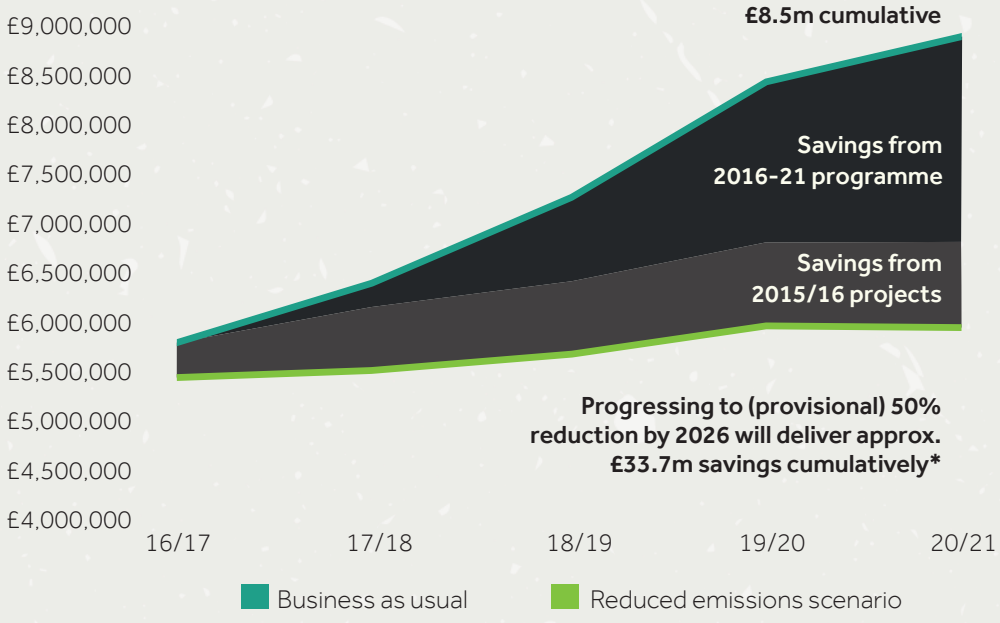
Energy and associated costs are a major spend for the University annually and work to reduce these ensures more money is available to support teaching and research.

Legislation

National and European legislation requires us to report on our emissions and pay a tax on our carbon emissions. By managing our emissions effectively we ensure we meet are compliant with all legislation whilst also minimising our liabilities under the CRC Energy Efficiency Scheme.

Financial

£6.2 million investment – payback of just 5.2 years and savings of £8.5 million over 5 years.



WATER MANAGEMENT

Improving water efficiency

The University is committed to reducing water usage as part of mitigating its environmental impact. The South East of England has less water available per person than the Sudan and therefore it is important that the University plays it part in conserving such a valuable resource.

There has already been investment in improving water efficiency including rainwater harvesting and improving controls on urinals. Leak detection has also been used to identify areas where underground pipes could be improved to ensure less water escapes into the ground.

To deliver on our commitment to reducing water usage across the estate a programme of new meter installations will be undertaken as well as improvements to efficiency through new equipment, better facilities and leak identification. Engagement with staff and students across the campus will be required to help identify opportunities for water savings, from leaky taps to waterless vacuum systems.

HOW TO GET INVOLVED?

Keep in contact

Start by...

Switching off equipment when you leave a room and if you spot things being left on that you aren't sure about, report them to **energy@reading.ac.uk** You can also let us know if you have suggestions on how we can do things better!

Next...

When purchasing new equipment, make sure you procure energy efficient items. They often work out cheaper in the long run and help reduce our emissions.

Finally...

Why not become a champion of all things green in your office and help and guide your colleagues reduce their environmental impact. Sustainability Services can support you to do this and provide all the information you require!

SUSTAINABILITY SERVICES

Estates and Facilities

sustainability@reading.ac.uk

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www.reading.ac.uk/sustainability-services

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