

  
ZERO BY  
2040

Climate Strategy  
2016-26



THE UNIVERSITY  
of EDINBURGH



# Foreword

We are pleased to launch the **Climate Change Strategy 2016-2026** which presents our **whole institution approach**, encompassing University research, learning, teaching, operations and investments.

Through the efforts of our staff, student and alumni community and working with our partners, the University of Edinburgh makes strong and lasting contributions to addressing this vital issue.

This new Climate Change Strategy presents our bold vision to be **carbon neutral by 2040**, including ambitious targets and concrete goals.

We build on our outstanding history of discovery and innovation, showing our institutional commitment to sustainability. This commitment drives our cutting-edge climate research with impact, prepares our students to address one of the foremost global challenges of the 21st century, and leads to improvements in the energy efficiency of our estate and operations, reducing campus-wide carbon emissions.

We have learned from and draw on the successes of the University's Climate

Action Plan 2010-2020, and on our experience in investing over £30m in low carbon technology, and attracting more than £50m of climate research since 2010.

The time for debate on the science has long since passed, as has the time for arguments on whether to act. In this Strategy, we commit to long-term goals to ensure we are leading the way in tackling climate change, across all of our activities and recognising the core strength of the University as a globally connected, socially committed research and learning organisation. There is no doubt that the dedicated efforts of our staff, students and partnership working will successfully deliver the programmes set out in the Strategy and ensure that we achieve our new targets.

We look forward to working with you.



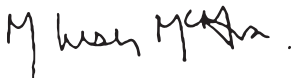
**Professor Charlie Jeffery CBE**  
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Total emissions reductions  
**-26,838 tCO<sub>2</sub>e**

Emissions in 2025 (Business as usual)  
**106,802 tCO<sub>2</sub>e**

2025 net carbon emissions (With this Strategy)  
**79,964 tCO<sub>2</sub>e**

**Figure 1**

**Our emissions in 2025**

Possible indicative pathway based upon predictive calculations



Energy reduction campaign  
-8,363 tCO<sub>2</sub>e



10% cut in expected flight growth  
-2,375 tCO<sub>2</sub>e



Move to electric vehicle fleet  
-760 tCO<sub>2</sub>e



Other policy and behavioural change  
-5,340 tCO<sub>2</sub>e



Land based carbon offsetting  
-10,000 tCO<sub>2</sub>e

# Summary

We recognise that climate change is one of the most significant global challenges of the century.

The United Kingdom, along with more than 170 other countries, officially signed the Paris Agreement in 2016.

The Agreement sets out a global target to reduce greenhouse gas emissions, and a decisive call to action to mitigate dangerous climate change caused by human activity.

To meet this challenge and to support Scotland's and the world's transition to a low carbon economy, the University of Edinburgh has set out these ambitious but achievable targets.

## A whole institution approach

Our Strategy lays out a comprehensive whole institution approach to climate change mitigation and adaptation in order to achieve our ambitious targets.

To meet these new obligations, **we will take action on research, learning and teaching, operations, responsible investment, and will investigate renewables opportunities.**

We will **use the University's five campuses as living laboratories** for learning, and to test innovative ideas.

## Our vision

**We will be carbon neutral by 2040.**

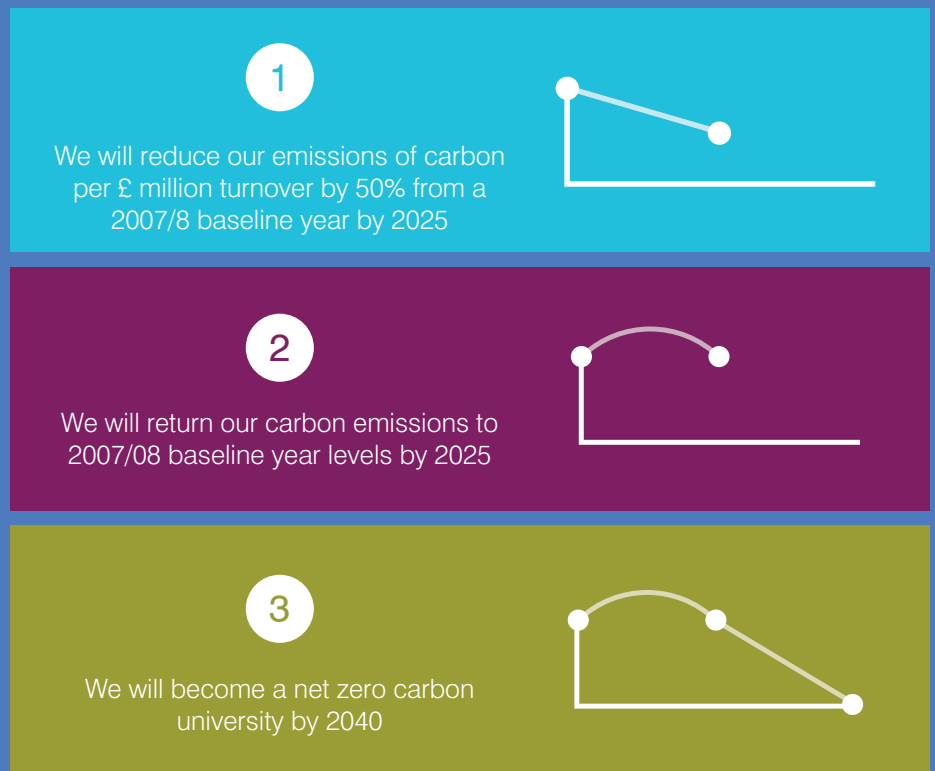
As part of a global community working to address climate challenges, we will demonstrate our commitment through our research, our teaching, and the management of our operations and investments.

We will reduce our energy consumption, enhance our use of renewable energy, and explore new ways to cut our direct and indirect emissions, which will fall in line with the efforts required to avoid dangerous climate change.

We believe in demonstrating the value of climate solutions through our reporting and we will implement processes to understand the carbon impacts of our business decisions.

Following an extensive review of the University's emissions, this Strategy identifies key drivers as electricity, gas and business travel. We are therefore developing targeted programmes to reduce emissions in these areas.

**Figure 2** Climate Strategy targets



## Innovating to reduce our emissions

Our previous approach was ambitious, but did not adequately take into account the key drivers of University emissions. As a result of mergers, new buildings and growth in student numbers, emissions have increased since the introduction of the Climate Action Plan 2010-20. Following an extensive review of the University's emissions, this Strategy identifies key elements as **electricity, gas and business travel**. We are developing targeted programmes to reduce emissions in these areas.

We will **continue to improve our sustainable infrastructure, building on £30 million already invested in low carbon technology since 2006**. We will continue to **develop our metering** to ensure that we have a better understanding of our emissions. **Programmes to encourage positive behaviours are being enhanced** to further reduce emissions and encourage staff and students to participate.

We will **implement completely new projects in order to reach our targets**, including the new **Sustainable Campus Fund** to deliver energy efficiency savings across the University. **Sustainable travel advice** will be rolled out to improve awareness of alternative travel options and drive down business travel contributions to our emissions, and we will **move our vehicle fleet from fossil fuel to electric power**.

We will also **create projects to change our business practices and reduce our emissions in the future**. Projects are underway to re-imagine our approach to carbon performance in IT and building design and have the potential to deliver significant savings and emissions reductions. **A new task group will investigate renewables opportunities** for the University, as investments in renewable energy and direct carbon offsetting could lead to a dramatic reduction in our emissions.

So that different areas do not have different approaches, **we will continue to make sure that the University's policies in waste, transport, procurement and food are aligned with this Strategy**.

## Beyond our own emissions

As a University, we have an opportunity to influence the world beyond our campuses.

**We have already attracted more than £50 million over the last seven years to fund our world-class academics** working in climate science, emissions reduction and sustainable technology. Research has focused on identifying the threats climate change poses, particularly to some of the world's most vulnerable communities, and developing innovative technologies to help mitigate these threats.

**We will continue to promote this research** – to encourage wider public understanding of climate change challenges and solutions – and we will **ensure that all students have the opportunity to understand how their area of study will be impacted by climate change**.

In 2013, we became the first university in Europe to sign the Principles for Responsible Investment.<sup>1</sup> We have **committed to encourage companies to cut their carbon emissions and prioritise low carbon investment**. We have divested from coal and tar sands – reducing our direct exposure to fossil fuels by 90% since 2008. **We publish our annual Principles for Responsible Investment report online** for public viewing.

We will continue our work in this area and are exploring **development of a course in the Business School that will give students hands on experience of managing responsible investments** and recommending stocks to our investment committee.

## Working together

We will only make progress on our climate change ambitions by working with our city, national and international partnerships.

Locally, we are active members of a number of city groups that address adaptation and biodiversity, and participate in the Edinburgh Sustainable Development Partnership to promote the city's sustainability strategy.

Nationally, we work closely with the Scottish Funding Council (SFC) and other peers, and are members of the Environmental Association for Universities and Colleges (EAUC), which advances sustainability measures and information sharing across the sector.

Globally, we are forging links as a member of the International Sustainable Campus Network with leading universities such as Harvard, MIT and Oxford and Cambridge. We are exploring partnerships with leading, European, American, Asian and other global universities to share best practice and explore common objectives.

## What happens next?

Building on more than two decades of progress, this Strategy marks a milestone on our journey to becoming a zero carbon university. We have already started a number of programmes to make our commitments happen, and we will announce further decisions and developments over the coming years, starting with an implementation plan in early 2017 and our next annual social responsibility and sustainability report this winter.



SRS Staff & Student workshop

# Introduction

Climate change is recognised as one of the most significant global challenges of the 21<sup>st</sup> century.<sup>2</sup> The Intergovernmental Panel on Climate Change (IPCC) detailed the current scale of the problem and risks involved in its Fifth Assessment Report (2014), pointing to greenhouse gas emissions from human activities as the dominant cause of global warming since the mid-20<sup>th</sup> century.<sup>3</sup>

The last decade showed the highest global average surface temperatures since records began, about 0.8°C above pre-industrial levels, meaning we already face a global climate never seen before by advanced industrial societies.

The 21<sup>st</sup> session of the UN Framework Convention on Climate Change Conference of Parties (COP21), held in December 2015, resulted in the Paris Agreement, with consensus that the increase in global average temperature should be kept below 2°C above pre-industrial levels.<sup>4</sup> One hundred and seventy five countries, including the UK, have committed to achieving this goal by officially signing the Paris Agreement on 22 April 2016.

## The Scottish context

The Scottish Government noted that annual national carbon emissions reduction targets were missed for four consecutive years since 2010, but recent reports show that the annual target has been met for 2014.<sup>5</sup> Scotland's emissions have fallen by 45.8% from the 1990 baseline so that the 2020 target of 42% has already been reached. Continued and sustained action is required in order to meet future targets.<sup>6</sup> The Scottish Government has made reporting of carbon emissions by public bodies

mandatory, including universities, with the first official reporting deadline scheduled for November 2016.<sup>7</sup> In addition, Section 44 of the Climate Change (Scotland) Act places duties on public bodies relating to climate change, requiring them to contribute to Scotland's carbon emissions reduction targets, climate change adaptation, and to act sustainably.<sup>8</sup>

The need to take steps to mitigate and adapt has driven innovation towards low carbon energy solutions across sectors. Organisations and governments are increasingly pursuing renewables to reduce future energy costs, meet their moral commitments to reduce their carbon emissions and secure their energy supply in a volatile world.

Solar and onshore wind are now cost-competitive in some parts of the world, with UK solar moving closer to being subsidy-free.<sup>9</sup>

**Renewable energy will represent the largest single source of electricity growth over the next five years, becoming the dominant energy source by the time our undergraduates reach middle age.**<sup>10</sup>

Mitigation and adaptation open up opportunities to apply new technologies, increase efficiency and reduce costs while reducing emissions.

## The University of Edinburgh

The University of Edinburgh is a major energy user: we have 35,000 students, 13,000 staff, 550 buildings and 240,000 alumni and represent a significant part of the City of Edinburgh community. Students, staff and alumni have expectations of the University as a world-leading higher education institution that is a member of the Edinburgh and wider national and global communities and which must address climate change.

The University has an outstanding history of discovery, invention and innovation since its founding in 1583, and on which we are committed to build.<sup>11</sup> University researchers increasingly focus on global challenges, conducting research with impact that feeds into climate change mitigation and adaptation strategies or that addresses responsible investment for the climate. We are also a leader in learning and teaching in the area of climate change, with undergraduate offerings as well as postgraduate courses. Student involvement and the student experience will continue to be integral to the success of climate action. We equally show commitment to addressing climate change as a founding signatory of the Universities and Colleges Climate Commitment for Scotland (UCCCS).<sup>12</sup>

## Our vision

The Climate Change Strategy 2016-2026 for the University of Edinburgh draws on our tradition of leadership and impact, learning from and building on the Climate Action Plan 2010-20 and reflecting approaches laid out in the University's Social Responsibility and Sustainability Strategy 2010-20. It aligns with and helps to deliver on the aims set out in the University Strategic Plan 2016-21, to "build sustainability into our planning processes, ensuring that our new and refurbished buildings are equipped to meet and address the threats of climate change by being energy-efficient and meeting waste and carbon standards throughout their lifetimes".<sup>13</sup>

The Strategy takes a whole institution approach to deliver both global and local impact in mitigation and adaptation. The approach encompasses the University's research, learning and teaching, operations driven by efficient use of space and energy, responsible investment and work with local and global partners. The University campuses serve as a living laboratory for testing innovative ideas, thus bringing together learning, teaching, research and operations, leading to improvements that teach or progress research while reducing carbon emissions.

## We will be carbon neutral by 2040.

As part of a global community working to address climate challenges, we will demonstrate our commitment through our research, our teaching, and the management of our operations and investments.

We will reduce our energy consumption, enhance our use of renewable energy, and explore new ways to cut our direct and indirect emissions, which will fall in line with the efforts required to avoid dangerous climate change.

We believe in demonstrating the value of climate solutions through our reporting and we will implement processes to understand the carbon impacts of our business decisions.

# Background

We conducted an extensive programme of review from 2015-2016, to reconsider our approach to climate change mitigation and adaptation. Consultancy work resulted in the identification of approaches to measuring emissions, reviewing best practice in the university sector, examining the business cases for renewables and a review of international carbon reporting.

Lessons learned and recommendations for the University were identified and collated. This research has informed development of the new Strategy and we present key review findings here.

## Lessons learned

The University's Climate Action Plan (CAP) 2010-20 proposed a reduction in our carbon emissions of 29% by 2020, against a 2007 baseline year. As of 2014/15, the University was 12% above baseline against an interim 2015 target of -20%. The principal reason for this has been an increase in the estate due to mergers and new build, with student numbers and the physical estate growing substantially since 2010. Original targets were not set with sufficient consideration for the likely drivers of carbon in the University such as the scale and context for growth within the period, and did not adequately align with strategic and estates objectives or identify pathways to achieve those targets.

## Previous success

Performance against relative space and turnover indicators has been more positive, demonstrating improvements in the carbon efficiency of the University. Large-scale investment in Combined Heat and Power (CHP) energy centres and district heating networks has

contributed to this performance and the University now leads the way in CHP technology in the UK. We have improved our energy infrastructure through the development of four CHP installations, with a fifth planned for Easter Bush campus, due to be running by 2017.<sup>14</sup> The University has saved almost 10,000 tCO<sub>2</sub>e per year as a result of CHP installation. Progress in energy efficiency has been made against qualitative measures through programmes that encourage sustainable behaviour such as "Switch" and the Edinburgh Sustainability Awards, with increased engagement.

The University has consistently reduced the amount of waste from our operations that we send to landfill. In 2014-15, 47% less waste was sent to landfill, 35% more was recycled or composted and twice as much waste was reused at the University compared to 2013-14. These improvements led to an **increase in waste diverted from landfill**, of 550 tonnes. In 2014-15, landfill diversion reached 93%, and we have shown a continual improvement over the past 3 years.

Figure 3 University growth

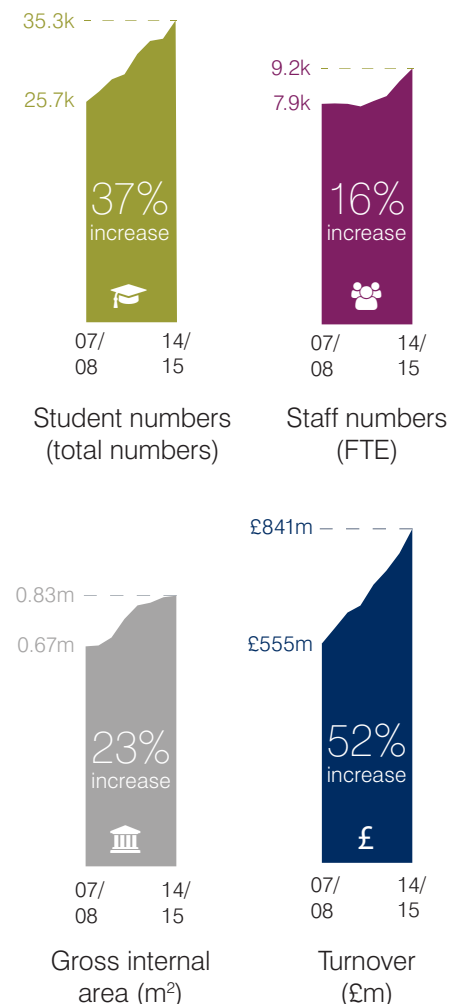
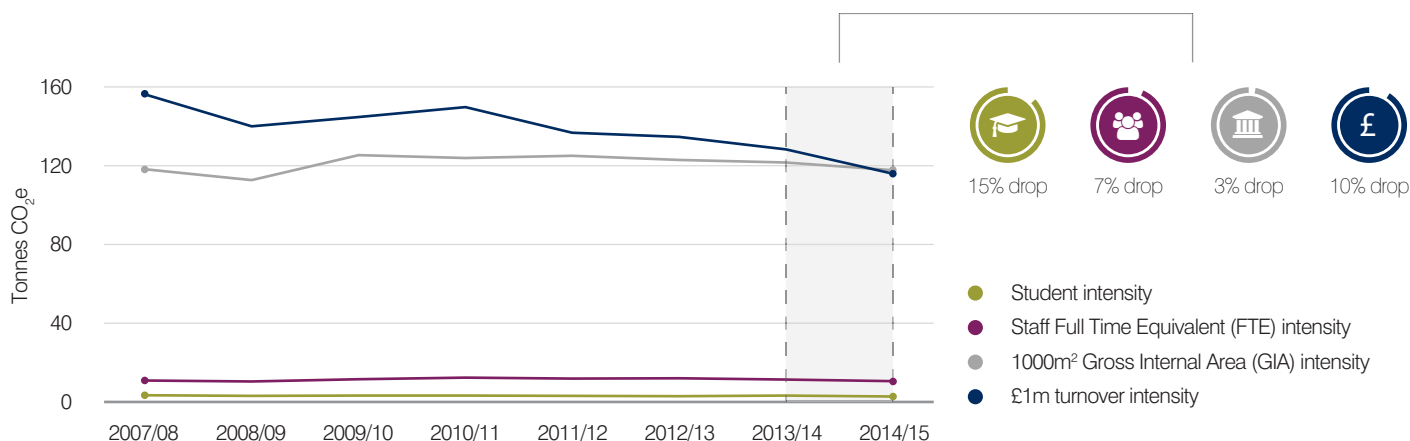
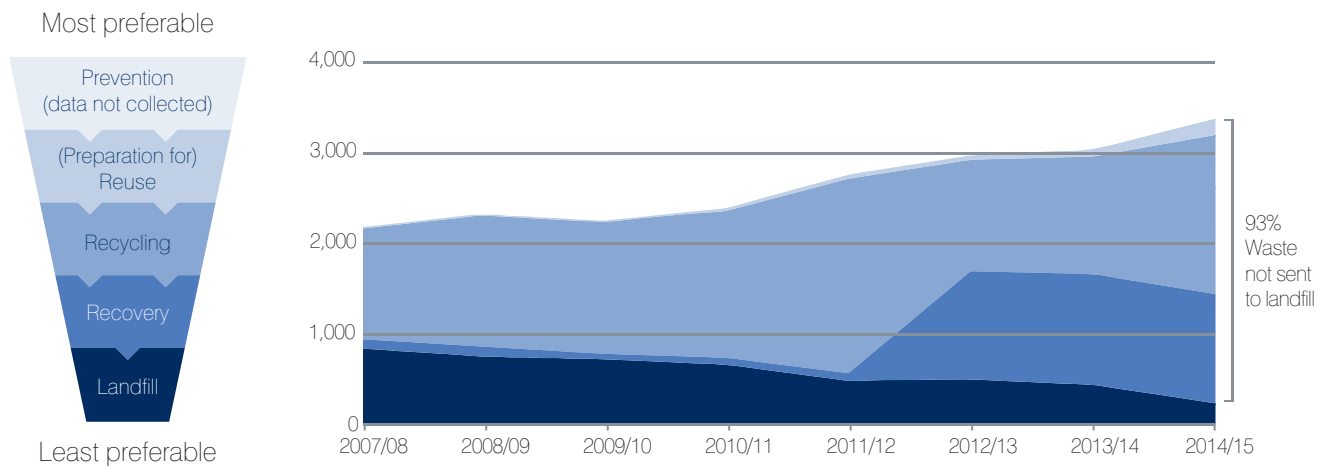


Figure 4 University emissions relative to different factors



**Figure 5** The waste hierarchy & waste in tonnes by disposal method 2007-15 (academic estate only)



The University has also made progress in transport and travel. We now have seven small electric vans and five petrol hybrid vehicles. Thirteen charging stations have been installed so that staff and visitors can charge personal electric vehicles. We have partnered with the higher and further education sector in Edinburgh to deliver the city's first electric bike share scheme, eCycle, providing eight bikes for staff use. We have also delivered a student bike hire scheme, UniCycles, in partnership with the Edinburgh University Student's Association (EUSA). Fifty bikes are available to encourage students to cycle to the University. We conduct staff and student travel surveys every two years, capturing valuable information on travel behaviours that feeds into our Transport Strategy.

University of Edinburgh students contribute to solving global problems through innovative projects in the energy efficiency and renewables spaces. Project Elpis, for example, involves development of solar powered mobile chargers for refugees in Greece, which may also have future benefit for climate refugees.

Success is evident in the University's clear focus on climate-related research across disciplines. Our research in climate change spans behaviour and social change, cultural and technology studies, policy, law and business in the College of Humanities and Social Science. Research in our College of Science and Engineering includes atmospheric studies, biochar

investigations, approaches to carbon capture and storage, forest carbon sequestration, offshore renewables and power systems.

Our Global Environment and Society Academy (GESA) encourages multidisciplinary responses to challenging global issues such as climate change through teaching, research and outreach and engaging with civil society.<sup>15</sup>

### Drawing on best practice

Universities worldwide are increasingly adopting innovative measures to reduce their carbon emissions, and best practice within the sector provides inspiration and direction for the University of Edinburgh. The University of British Columbia (UBC) serves as an exemplar, meeting ambitious absolute carbon emissions reduction targets through innovative retrofits and capital projects, despite growth in floor space and student numbers.<sup>16</sup>

Energy efficiency improvements are central to carbon reduction in UK universities, and often successful funding options have included green revolving funds and price per tonne of carbon as the parameter for appraising projects.

Universities are increasingly installing on-site renewables and alternative energy sources with more regularity for climate and financial reasons.<sup>17</sup> We have also identified decarbonisation of the UK electricity grid as a key factor that will reduce our emissions associated with electricity.



## Project Elpis

Creative solutions for refugees in Greece through solar-powered mobile devices.

Two second year students studying Environmental and Ecological Sciences with Management established Project Elpis which aims to provide free electricity for refugees through the use of solar power.

With support from the University's Chaplaincy and crowdfunding efforts, the project installed their first solar powered units on the island of Samos in Greece in June 2016.

The long term objective of the project is to provide a fully sustainable replicable model that addresses social, economic and environmental issues.



# Our operational boundary and baseline

A review of both the University's CAP 2010-20 and best practice provided an opportunity to reconsider the baseline year and the University's operational boundary for carbon emissions. Our Strategy maintains the 2007/8 (academic) baseline year, but revises the boundary.

Along with emissions from electricity, gas and other fuels, water, waste and company-owned vehicles, the Strategy now includes business travel, which accounted for almost 9% of the University's carbon emissions in 2014/15. This has led to a revision of total baseline emissions from 2007/8 to 86,707 tCO<sub>2</sub>e, previously reported as 76,959 tCO<sub>2</sub>e in the CAP 2012 update.

We base our carbon accounting and reporting on the WBCSD/WRI Greenhouse Gas Protocol Corporate standard<sup>18</sup>, using the Carbon Guru platform to generate assessments. We will continue to use this platform to generate annual reports on emissions, and will seek external verification of assessments, in line with standard best practice.

## Scope 1 and 2 emissions

The University is required to report

Scope 1 and 2 emissions. Scope 1 emissions are those from sources owned or controlled by the University, from gas usage (gas boilers) and fuel used by owned vehicles. Scope 2 includes electricity consumed by the University minus electricity generated by CHP units.

As evident in Table 1 (overleaf), electricity and gas are key sources of University operational carbon emissions.

## Scope 3 emissions

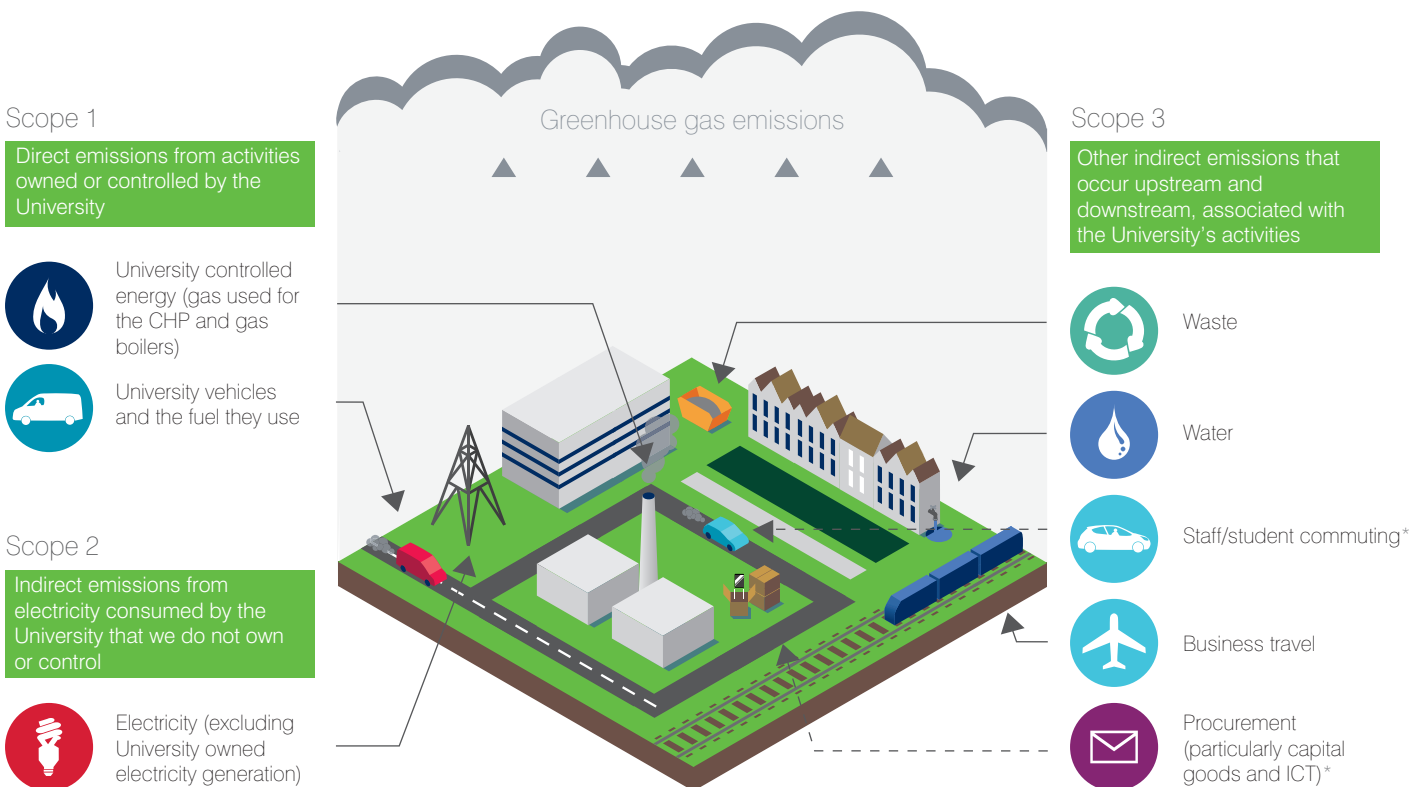
Under recognised corporate standards, reporting on Scope 3 emissions is usually voluntary, however the University must report waste, water, staff and student commuting and business travel to the Higher Education Statistics Agency (HESA) for the Estates Management Record (EMR). The University includes **waste, water and business travel** in reporting, and these will be included in our target setting process. Business

travel is a key source of University Scope 3 carbon emissions.

Staff and student commuting appear in our formal carbon assessments and reports, but these figures are not included in the Strategy's total for target purposes, as these activities are not directly under the University's control. Measurement of Scope 3 emissions from commuting and procurement, with a specific focus on capital goods and ICT, will be developed and refined for future inclusion in reporting.

Over time, the University will both adopt best practice and seek to take the lead through our carbon and sustainability reporting, recognising the need to move beyond merely operational carbon reporting into attempts to quantify broader benefits from our activities. Our efforts here also fit with broader ambitions to show leadership in integrated reporting and linking our annual accounts.

**Figure 6** Greenhouse Gas Protocol emissions scopes and the University of Edinburgh

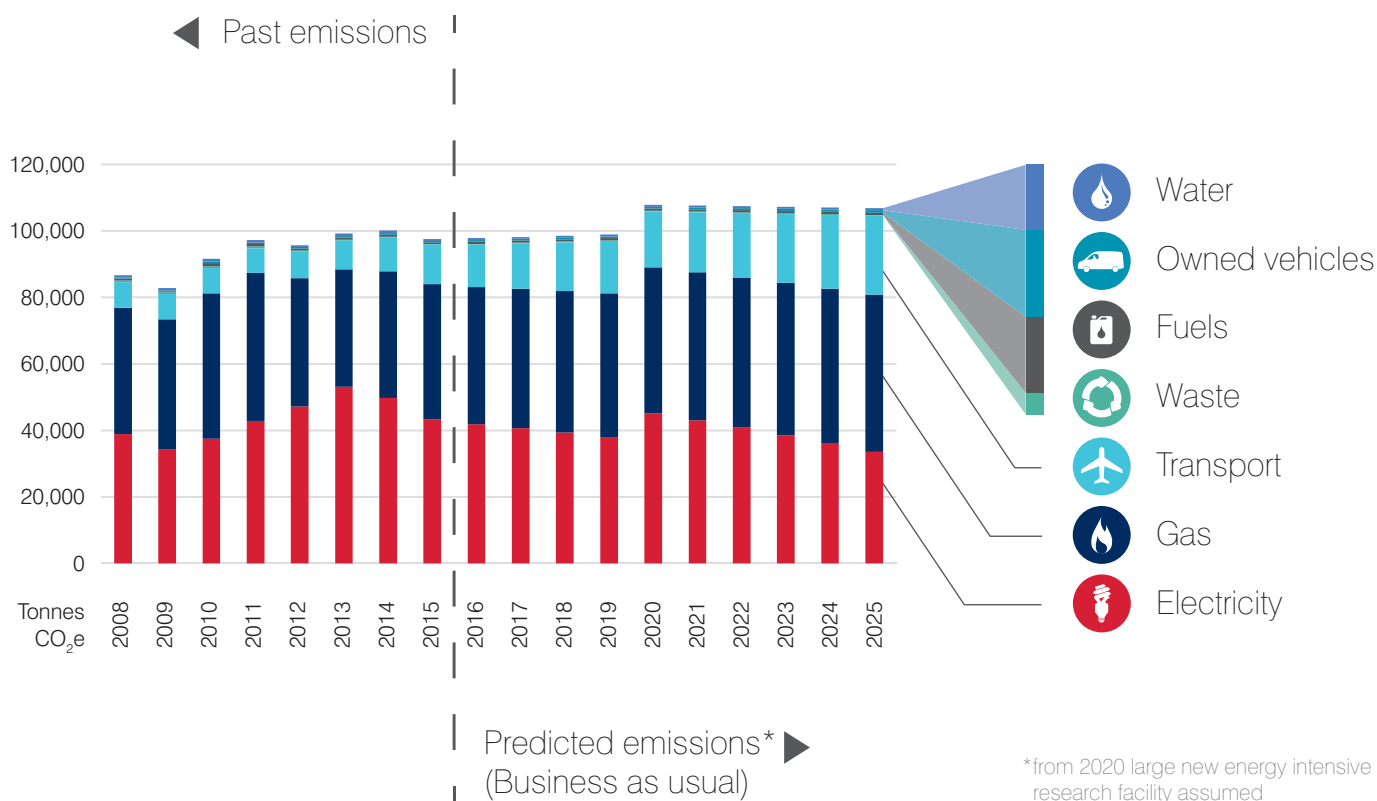


\*Measured but not used for target setting

# Past and business as usual emissions

The University has conducted detailed forecasting of future carbon emissions to identify a 'business as usual' pattern of future growth and the drivers of increasing carbon emissions. This is crucial to understanding the opportunities that exist for reducing direct emissions.

**Figure 7** Past emissions and predicted 'business as usual' emissions 2008-25



**Table 1** Scope 1 and 2 emissions 2007-15

Carbon tCO <sub>2</sub> e	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Electricity	38,836	34,281	37,543	42,877	47,212	53,132	49,791	43,306
Gas	38,054	39,122	43,668	44,439	38,558	35,339	38,073	40,672
Fuel	579	309	895	699	650	658	667	467
Owned vehicles	345	321	495	369	453	455	464	433
<b>Total</b>	<b>77,814</b>	<b>74,033</b>	<b>82,601</b>	<b>88,384</b>	<b>86,878</b>	<b>89,584</b>	<b>88,995</b>	<b>84,878</b>

**Table 2** Scope 3 emissions 2007-15

Carbon tCO <sub>2</sub> e	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Water	700	675	829	790	533	735	726	583
Waste	534	487	576	571	157	350	306	200
Business travel	7,659	7,610	7,602	7,490	8,124	8,544	10,048	11,909
<b>Total</b>	<b>8,893</b>	<b>8,772</b>	<b>9,007</b>	<b>8,851</b>	<b>8,814</b>	<b>9,629</b>	<b>11,080</b>	<b>12,692</b>

# Strategy targets and future emissions

The University proposes the following ambitious targets, achievable through identified projects and programmes.

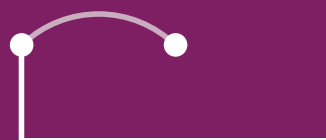
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We will reduce our emissions of carbon per £ million turnover by 50% from a 2007/8 baseline year by 2025



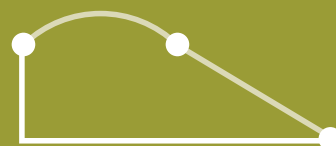
2

We will return our carbon emissions to 2007/08 baseline year levels by 2025



3

We will become a net zero carbon university by 2040



Net zero, or carbon neutrality, includes sequestering or offsetting carbon, where every effort is made to reduce operational emissions and only unavoidable emissions are offset. Detailed forecasting of future carbon emissions with the plotting of “business as usual” and identification of key drivers of increasing carbon emissions gives us confidence in our proposals for a series of interventions to reduce future carbon emissions. We have determined programmes with the most impact, targeting emissions from electricity, gas and business travel.

Decarbonisation of the UK electricity grid and its impact on the University’s future carbon emissions has been incorporated into the analysis and is extremely significant.

Our energy reduction campaign includes the launch of a new Sustainable Campus Fund and extensive programmes encouraging positive behaviours, to deliver tangible pathways for emissions reductions by 2025. Business travel has been central to research collaborations and will continue to be, however it is also

a key driver of the business as usual increase in future University emissions. Sustainable travel advice and a planned Integrated Transport Strategy will provide means to reduce business as usual emissions by 10% by 2025 through recommendations and incentives to use virtual collaborative tools and rail alternatives. There will be further opportunities arising from greening the transport fleet and improvements to the carbon efficiency of ICT.

Total emissions reductions  
-26,838 tCO<sub>2</sub>e

Emissions in 2025 (Business as usual)  
106,802 tCO<sub>2</sub>e

2025 net carbon emissions (With this Strategy)  
79,964 tCO<sub>2</sub>e

Figure 8

Our emissions in 2025

Possible indicative pathway based upon predictive calculations



Energy reduction campaign  
-8,363 tCO<sub>2</sub>e



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-10,000 tCO<sub>2</sub>e

A number of additional opportunities exist which we will explore over the lifetime of the Strategy, but which have not been counted in quantified reductions presented. Further savings will arise from the impending switch on of the new CHP facility at Easter Bush, potential new design standards for Estates developments, improved space management, innovations in energy, ICT and building technology, and substantial opportunities should the University adopt renewables technologies.

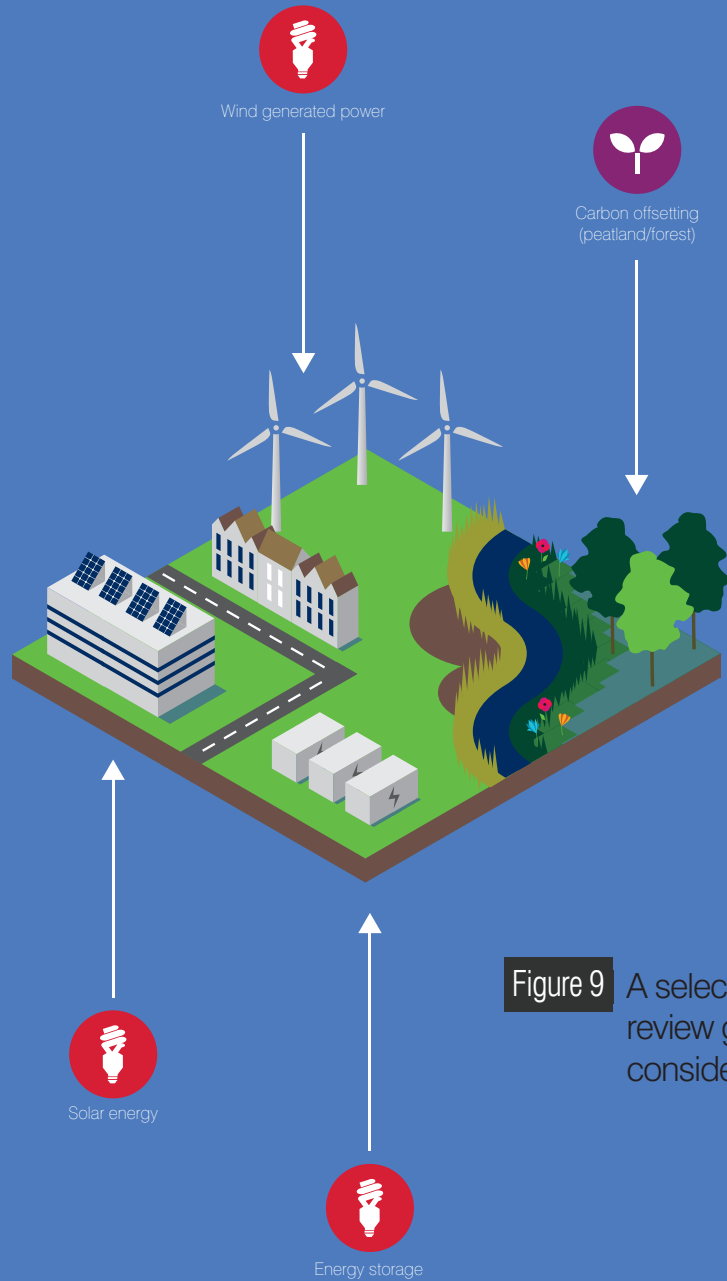


Figure 9 A selection of review group considerations

Renewables provide significant opportunities, as renewable technologies are predicted to continue to fall rapidly in price over the next five to ten years.<sup>19</sup> Many of these opportunities may offer financial and efficiency as well as carbon savings. We introduce the whole institution approach and details of the key programmes and projects that will deliver efficiency and carbon savings in the subsequent sections.



# The Whole Institution Approach

Our Climate Strategy takes an approach that will address key drivers of emissions increases, through targeted programmes, while also acknowledging the key role that the University plays as a leading higher education institution, conducting research with impact and teaching students to contend with a future where climate change will continue to be a global challenge.

The University will work to prevent or reduce emissions, influence emissions from its indirect operations and integrate **a whole institution approach** by linking operations, research, learning and teaching.

Our staff, students and alumni will contribute towards identifying and implementing innovative solutions. A similar holistic approach has been taken by universities such as Harvard, Stanford and UBC, which have met ambitious emissions targets despite growth.

Research, learning and living lab approach

Reducing our operational emissions

Leveraging investments and renewables investigation

Risk management and adaptation

Progress through partnerships

# The Whole Institution Approach

## Research, learning and living lab

The University of Edinburgh is responding to climate change with multi-disciplinary and high-impact research across a range of disciplines.

The University of Edinburgh is responding to climate change with multi-disciplinary and high-impact research across a range of disciplines. Our submissions to the research assessment framework for UK higher education institutions reflect a strong and increasing presence of research designed to better understand the earth and its climate and other systems, and of research on the development of climate change mitigation strategies. Research includes development of renewable energy technologies and carbon capture and storage. Facilities built at the University provide researchers and students with unique research and learning opportunities.

The FloWave Ocean Energy Research Facility was conceived for cutting-edge academic research into wave and tidal current interactions. It provides a testing ground for ocean energy technologies in replicated real ocean conditions.

The ARCHER supercomputing service, based at the University of Edinburgh, is also an invaluable resource for

researchers studying problems with global impact such as climate change.<sup>20</sup> Projects undertaken using ARCHER include development and refinement of extreme weather forecasting and simulations of offshore marine renewable energy devices. The University already provides unique opportunities for students to immerse themselves in climate change issues and approaches.

The Carbon Management MSc is considered a landmark collaboration between the world-renowned Schools of Geosciences, Economics and the Business School at the University of Edinburgh.<sup>21</sup> The University also offers the world's first MSc in Carbon Finance<sup>22</sup>, and an LLM in Global Environment and Climate Change Law.<sup>23</sup>

We also offer an online PGCert in Climate Change Management and in Carbon Innovation.<sup>24</sup> More broadly, the University is piloting a new undergraduate online sustainability course open to on-campus students, with the longer term aim to widen access to alumni.

The Climate Strategy aims to support continued efforts in research, learning and teaching, taking the following approach:

- **Promotion and profiling of climate change related research, reporting on impact and aligning with University research strategy**
- **Ensuring students will have the opportunity to understand how their area of study relates to climate change** and how it will be impacted by climate change
- **Promoting the University as a living laboratory** where new and innovative solutions are applied by both staff and students to our own organisational challenges



### ARCHER

The £43 million ARCHER (Academic Research Computing High End Resource) system provides high performance computing support for research and industry projects in the United Kingdom.

## Objectives

- Promote and profile University climate change research
- Ensure students understand how their area of study relates to climate change
- Promote the University as a living lab

## Challenges


- Sufficient engagement with the University as a living lab
- Embedding of climate change mitigation and adaptation across University learning and teaching

## Staff & student role

- Contribute to research, learning and teaching in climate change areas
- Define and implement innovative projects to positively impact University operations, driving down carbon emissions

The University launched Edinburgh Action for the Climate in September 2015 to harness University expertise in climate change, encouraging global debate and exchange before, during and after the UNFCCC COP 21.<sup>25</sup> It will continue to serve as a hub to promote public awareness<sup>26</sup>, knowledge exchange and collaboration around climate change research and policy development, linking with ClimateXChange.<sup>27</sup>

The Strategy complements on-going efforts to establish undergraduate and staff sustainability courses, as well as supporting development of specialised offerings that exemplify the living lab approach. Across the University, academics, professional services, support colleagues and students are collaborating to develop academic research projects that analyse sustainability related issues and opportunities on campus, proposing and testing solutions. The University as living lab is a key tenet of the Climate Strategy and will continue to be championed, delivering a rich student experience, of solving real world problems while improving our operations.



**Learning for Sustainability**  
**SCOTLAND**  
Ag Ionnsachadh airson  
Seasmhachd ALBA

Based at the University of Edinburgh, Learning for Sustainability Scotland is Scotland's United Nations Regional Centre of Expertise on Education for Sustainable Development.

As part of an international network of more than 125 centres, it supports and promotes Sustainable Development Education, Global Citizenship and Outdoor Learning through shared best practice and support for educators.



## FloWave

The FloWave Ocean Energy Research Facility was conceived for cutting-edge academic research into wave and tidal current interactions. It provides a testing ground for ocean energy technologies in replicated real ocean conditions.

# The Whole Institution Approach

## Reducing our operational emissions

We are committed to climate change mitigation and adaptation through our operational activities, and this commitment is central to delivery of emissions as well as cost reductions.

Our new Estates Strategy will support and underpin this drive to tackle the issue of reducing operational emissions and developing a carbon resilient estate.

The University will continue our commitment to CHP, and we expect to save an additional estimated 2,000 tCO<sub>2</sub>e annually after installation of a further CHP at Easter Bush in 2017.<sup>28</sup>

The Energy Systems Consolidation Project is being led by Estates with the aim to support improved reporting by delivering a metering, monitoring and targeting system solution that will capture and report energy consumption across the University. The project will span two years and include implementation of changes to the existing system and providing a newly procured system.

“We will continue to demonstrate our commitment to address climate change across our operations and buildings. We will have processes in place to understand the carbon impacts of decisions and will integrate these into our decisions. Our estate will be proactively planned to be climate resilient and to embrace the opportunities that our natural environment provides to adapt to climate change.

We will take action to reduce our energy use, and promote effective use of resources and sustainable travel where possible. We will support positive changes in behaviour and investigate innovative forms of energy saving, generation and storage including the greater use of renewable energy. We will protect and where possible enhance the natural value and biodiversity of our estate.”

### Estates Strategy 2016

## Objectives

- Target emissions from electricity and gas through the new Sustainable Campus Fund and enhanced programmes to encourage positive behaviours
- Target business travel emissions through new sustainable travel advice
- Support the Sustainable Information Technology Group in identifying pathways to energy and resource efficiency
- Develop estates design guidelines for future emissions reductions relating to buildings and infrastructure, while also considering adaptation
- Ensure organisational alignment on climate change across policies

## Sustainable Campus Fund

Delivering energy and cost savings through a £2.75m fund.

The University is committed to strong action to ensure we use energy efficiently and wisely.

As a first step, we are excited to launch our first Sustainable Campus Fund, jointly managed and administered by Estates and the Department for Social Responsibility and Sustainability (SRS), as a key part of the Climate Strategy. The Fund supports carbon emissions, cost and energy reduction goals. This measure is vital to engagement and local action, providing financing to parties within the University to implement energy efficiency, renewable energy and other sustainability projects that generate cost savings.

The fund is established with a total allocation of £2.75m over three years, beginning in 2016/17 with an investment of £750k for year 1, and £1m for year 2 and year 3. We will track and measure cost and energy savings and emissions reductions in with a view to learning lessons for total funds.

The success of similar funds is evident in the United States at top performing universities such as Harvard, Caltech and Stanford.<sup>29</sup>

Success can also be found in the UK, with the Higher Education Funding Council for England's (HEFCE) Revolving Green Fund (RGF).<sup>30</sup>

A list of projects has been developed, presenting opportunities in buildings and infrastructure, heating and lighting, and laboratory-specific interventions. On-going location reviews and audits continue to identify these various opportunities. Example projects in the pipeline include ventilation alterations, fume cupboard replacements and lighting upgrades.

Following the initial three years of the fund, we will review performance, with the aim to provide continued funding for innovations in new builds and on-going alterations of existing buildings where needed.

## Challenges

- Adequate staff and student engagement with the Fund and other programmes
- Implementation of guidelines for estates sustainable design

## Staff & student role

- Widespread participation in the Fund and other programmes, to deliver projects that will reduce University operational carbon emissions

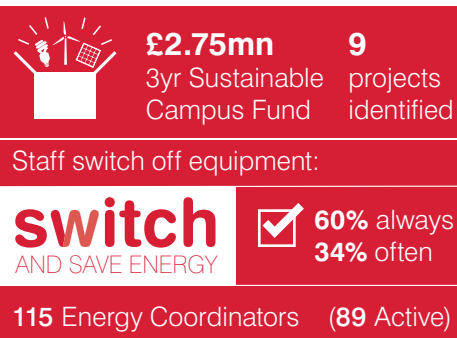


Figure 10 2016 energy highlights



# Encouraging positive behaviours through targeted sustainability programmes

The University has developed a suite of programmes to encourage and recognise positive staff and student behaviours that contribute to carbon reduction, with the goal of nurturing a culture of sustainability and action on climate change.

We recognise that we need to provide information on which behaviours will help (e.g. Be Sustainable guide<sup>31</sup>), provide feedback on the difference being made by adopting these behaviours (e.g. energy data availability), and provide mechanisms to implement original ideas to enable creativity and leadership (e.g. Sustainable Campus Fund). Both new and existing programmes will deliver savings.

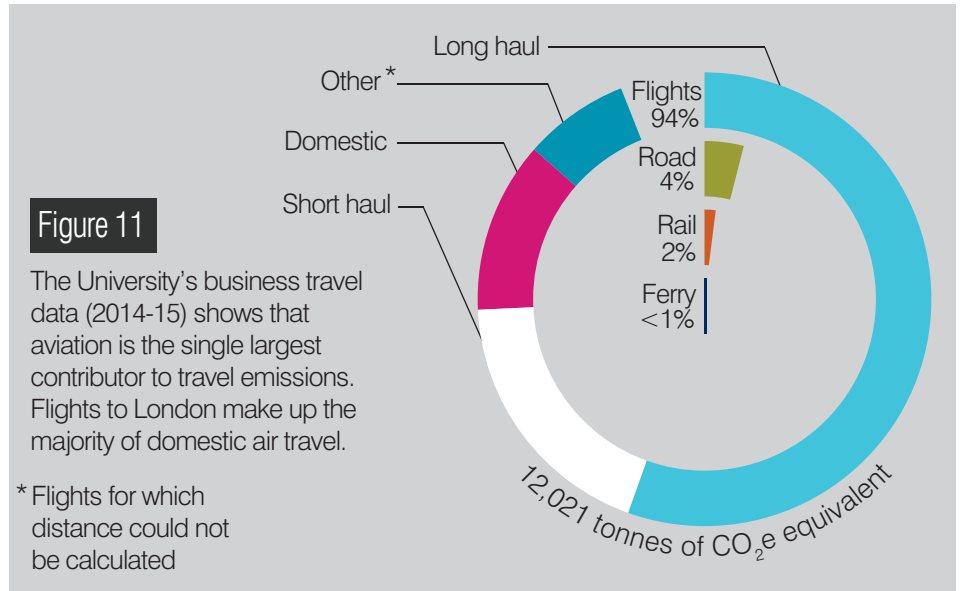
Travel is an integral part of working in both academia and support groups, and international travel is key to the University maintaining collaborations and enhancing its global presence. At the same time, business travel contributes significantly to our total carbon emissions.

Our new University sustainable travel advice will promote alternatives to air travel where possible and develop a range of incentives and policies linked to supportive technologies to provide non-travel solutions that help save time and costs, while also reducing emissions.

Programmes that support and encourage positive behaviours have delivered, and will continue to deliver, significant energy and cost reductions across the University campuses. These programmes are integral to the success of the Climate Strategy.

In 2006, we launched the “Switch and Save” campaign, which included local engagement with staff and students in University buildings and departments, resulting in a total savings of £80K in electricity consumption in its early years. This programme has been renewed and invigorated – as “Switch” – to continue to support emissions reductions.

The Carbon Trust estimates that an investment of between 1-2% of energy spend in an effective employee engagement campaign can save organisations up to 10% on energy costs with the right institutional mechanisms in place. We have these mechanisms. More than one hundred Energy Coordinators form a network to take practical action within their work units, identifying savings opportunities.<sup>32</sup> Energy audits are taking



place and will link with the Sustainable Campus Fund, providing data to inform implementation of energy efficiency, renewable energy and other sustainability projects.

Projects to encourage sustainable behaviour also focus on waste reduction and reuse, and have significant impact on the amount of University waste going to landfill. A network of 50 staff volunteer Waste Coordinators take action to ensure that waste is disposed of sustainably. The WARPit internal reuse platform has over 500 users, who together have saved the University £100,000 in new item purchases over 18 months.<sup>33</sup> A PC reuse project is in progress whilst the SHRUB student cooperative facilitates reuse of student items.<sup>34</sup>

We continue to support reuse initiatives as part of a vision for a circular economy. The University of Edinburgh is keen to support and become a major player in the drive towards a circular economy in the context of Scotland as a thought and practice leader.<sup>35</sup>

We will nurture these valuable opportunities to develop greater understanding of procurement for a circular economy and collaborations with industry on product design and development. In keeping with the whole institution approach, we aim to support further student-led projects

that can impact and improve University operations.

Our Sustainability Awards also contribute strongly to emissions reductions and cost savings through positive behaviour across University operations.<sup>36</sup> The Awards recognise and reward staff and students who act to make our University more socially responsible and sustainable. Since the Awards launched in 2010, an increasing number of schools and departments have taken part every year.

In 2014-15, 35 departments and four student societies participated. Every year teams make an impact by finding new ways to conserve resources, save energy, raise funds for good causes and build links with the local community.

Finally, positive change results from learning opportunities provided by the University. The Be Sustainable resources provide an online guide, face to face workshops and an online training programme, giving access to information on day to day sustainable practices and offering our staff and students ways to get involved.<sup>37</sup> We have a future ambition to link our Be Sustainable staff training to the online undergraduate sustainability course currently under development, as part of continuing professional development.

# Key projects with future quantifiable benefits

A number of projects in sustainable IT, estates management and laboratories are expected to have a significant impact on future carbon emissions and will help the University to adapt to the impacts of climate change.

## Sustainable IT

The Sustainable Information Technology Group (SITG) has been formed with the following objectives that support the Climate Strategy:

- **Evidence building:** to gather data to reach a broad understanding of the scale of the University's footprint associated with IT, including agreeing a boundary in line with the remit of the group
- **Pathways to energy efficiency:** to identify and enable IT efficiency improvement projects throughout the University, assessing the effectiveness and consequences of various opportunities to make energy, carbon and cost savings
- **Pathways to resource efficiency:** to identify and enable IT efficiency improvement projects throughout the University, assessing effectiveness and consequences of various opportunities to make resource savings

The Group's work could assist over time in identifying reductions in expected IT-related emissions growth.

## Estates sustainable design

The built environment is responsible for 45% of UK carbon emissions, with 18% derived from non-domestic buildings.<sup>38</sup>

Sustainable design can minimise environmental impacts of buildings (mitigation), whether new build or existing, while also facing head-on those challenges posed currently by climate change (adaptation). An extensive programme of new buildings and estates improvements is planned for the University over the coming years, so embedding effective climate action in the current Estates design process and practice is imperative.

The University already aims to deliver sustainable buildings, with exemplars such as the Edinburgh Centre for Carbon Innovation (ECCI).<sup>39</sup> Our Estates department has the objective of obtaining a BREEAM rating of "excellent" for new buildings and "very good" for refurbishments.



The Edinburgh Centre for Carbon Innovation brings low carbon leaders and practitioners from business, finance and the public sector together to turn good ideas into reality.

Innovative methods were used to achieve a BREEAM Outstanding rating for its refurbishment. It was designed for exceptionally low energy demand as a listed building, outperforming new builds.

Refurbishment prioritised use of natural, local and sustainable materials, as well as clean and green energy generation through solar, air source heat pump and connection to CHP.

"ECCI's unique building is a successful negotiation of heritage and sustainability that fosters innovation, joint working and bold forward thinking."

**Building Design Magazine**

At the same time, valuable improvements can be made to streamline and cohere processes and practice across new builds and refurbishments, while also testing innovative and cutting-edge approaches. Informal post occupancy evaluations of certain new builds on the University estate reveal instances of sustainability failures. It is important to identify standards or principles that can be followed consistently in order to place our buildings and their surroundings at the leading edge of design developments.

Therefore, supporting our forthcoming new Estates Strategy, the University will develop and apply a proportionate and effective method to assess the carbon implications of our Estates Strategy, capital programme, refurbishments and minor works, based on clear roles and effective methodologies. We will also maintain an understanding of leading edge sustainable building design, and develop and update design guides for sustainability based upon low impact,

low carbon, human health and wellbeing and whole life costs. The University will incorporate low carbon technologies by default across all Estates developments, demonstrating the case for adopting cutting-edge low carbon, low impact technologies, building on the concept of net positive, regenerative buildings.

## Laboratories

Laboratories have been identified as a key contributor to operational emissions, with a high carbon and environmental footprint, and especially high energy consumption. The University, with support from the UK-wide S-Lab project, set up a pilot in 2013 to deliver an assessment of the impact of laboratories and to provide support to develop relevant standards for promoting and implementing effective practices within University laboratories.<sup>40</sup>

Work has extended to laboratory design and we will integrate efforts in this area with the broader estates sustainable design programme.

# Organisational policies contributing to positive change

Our whole institution approach of the Climate Change Strategy prioritises organisational alignment across policies. We will ensure continued coherent development of relevant policies to provide a comprehensive framework for tackling climate change mitigation and adaptation.

## Recycling and waste management policy

The University of Edinburgh is committed to low resource use, recycling and reuse. Our recycling and waste management policy focuses on reducing the unnecessary use of raw materials, reuse of products and encouraging and enabling recycling, composting or energy recovery. The policy recognises the impact of the transport, treatment and disposal of resources and subsequent wastes on the local and global environment, and on the University's carbon footprint.

It clearly aligns with Climate Strategy goals through commitment to reducing impact through continued improvement of recycling and waste management practices, good procurement practice and promotion of sustainable behaviour amongst members of the University community.

Scotland is the first country to become a Circular Economy 100 network member, and the University is part of the Ellen MacArthur Foundation Network Universities Scheme. Researchers and practitioners at the University of Edinburgh have worked together with Zero Waste Scotland to produce a report to identify ways that principles of the circular economy can be embedded in research, learning and teaching as well as University operations.<sup>41</sup> This research will be extremely valuable to inform ways forward.

## Integrated Transport Strategy

Since the University commenced monitoring of its transport impact in the year 2000, we have implemented travel policies and actions to encourage our students and staff to travel by lower carbon forms of transport that benefit our environment by reducing traffic congestion and improving air quality. The main objective of our travel policy has been to reduce the proportion of staff and students who commute by car, as this is the least sustainable form of transport. The actions we have implemented have reduced the proportion of staff driving to work from 28% to 16%, and the proportion of students from 4.5%

to 3%. Our latest travel survey (2016) estimates the carbon footprint from staff and student commuting is 13,283 tonnes CO<sub>2</sub>e per annum.

Our forthcoming Integrated Transport Strategy responds to the objective of the University Strategic Plan to facilitate sustainable and active travel between the different parts of our estate and promote more sustainable modes of business travel. We recognise that our dispersed estate presents significant transportation challenges for our students and staff who need to move between our campuses. The Integrated Transport Strategy will set out how the University will achieve this vision, so that by 2021 our students, staff and visitors will be able to access our estate by the mode of transport best suited to their needs. We will have in place facilities and incentives that make walking, cycling and public transport the obvious and preferred way to travel both for commuting and business travel. All of our sites will benefit from equitable access to travel measures and incentives that take account of the access arrangements and geographic constraints and opportunities of each.

The Transport Strategy recognises that transport makes a significant contribution to our carbon footprint and air quality, and that to address this we need to encourage more active and low carbon travel choices. It will include actions that will increase walking, cycling and public transport use, and increase the proportion of electric vehicles within the University fleet and used by staff and students to commute to the University.

## Procurement policy

The goal of sustainable procurement policy and strategy at the University of Edinburgh is to procure goods and services in ways that maximise efficiency and effectiveness while minimising negative social and environmental impacts.<sup>42</sup>

The Procurement Office works with suppliers to reduce carbon emissions, for instance with the stationary buying initiative, which aims to reduce orders and deliveries through local collaboration.

The trial of this initiative has shown

success, with van deliveries reduced by 25%, thus saving over 200kg of CO<sub>2</sub>.

Use of the eProcurement service saved over 68,000 paper orders in 2014/15. The University directly engages with suppliers to reduce their carbon emissions associated with procurement. This approach is consistent with Climate Strategy goals, delivering emissions reductions.

The difficulties inherent in calculating emissions from supply chains will be addressed in future developments.

## Good Food Policy

The University has recently developed our Good Food Policy (2016), which reflects a whole institution approach and sustainability issues associated with food, such as waste and procurement. University research is helping to solve food sustainability challenges, and we also benefit from innovative student-led initiatives. The Food Researchers in Edinburgh (FRIED) network brings together academics, other staff and students who are interested in food related research. University surveys indicate that food issues are a priority for many students and staff. The University's Accommodation, Catering and Events (ACE) aims to serve healthy food sourced from responsible supply chains. ACE has received numerous awards recognising such achievements.

The Procurement Office works to influence the selection criteria for national food and drink contracts to reflect the University's sustainability objectives.<sup>43</sup> The SRS Department raises awareness and facilitates action on food issues through events and practical support.

The Good Food Policy explains how these activities contribute to a larger ambition and assists the University in publicly expressing its commitment to "good" food. It also enables the University to respond to a number of internal and external drivers. These include legal obligations<sup>44</sup>, evolving best practice across the higher education sector and new opportunities to link University research with practice and, staff and student expectations.<sup>45</sup>

# The Whole Institution Approach

## Leveraging investments

The University of Edinburgh was the first university in Europe to sign the Principles for Responsible Investment in 2013.<sup>46</sup>

Subsequent actions to divest from coal and tar sands and explore positive changes to the endowment portfolio demonstrate leadership and show the whole institution approach in practice, bringing about positive change that reduces emissions from fossil fuels.

We engage with companies still carrying out activities in fossil fuel industries in order to exert influence towards mitigation and alternatives. The University also provides transparency by publishing the annual Principles of Responsible Investment report online for the public.<sup>47</sup>

Drawing on innovative approaches at universities such as Yale and Brown, we are exploring development of a course in the Business School to give students hands on experience of managing investments and recommending innovative low carbon investment strategies.

## Renewables and smart energy

Best practice in the private sector and review of approaches to energy and carbon emissions reduction reveal that companies worldwide have met absolute reduction targets in large part through renewable energy technologies.<sup>48</sup>

Universities in the UK are also embracing renewables options with greater frequency. Feasibility studies for widespread use of renewables technology (PV specifically) on the University of Edinburgh campuses are already being conducted by MSc students, and we can consider these findings in future discussions.

The University will harness our academic expertise, working with support group colleagues, to conduct a fundamental review of renewables options.

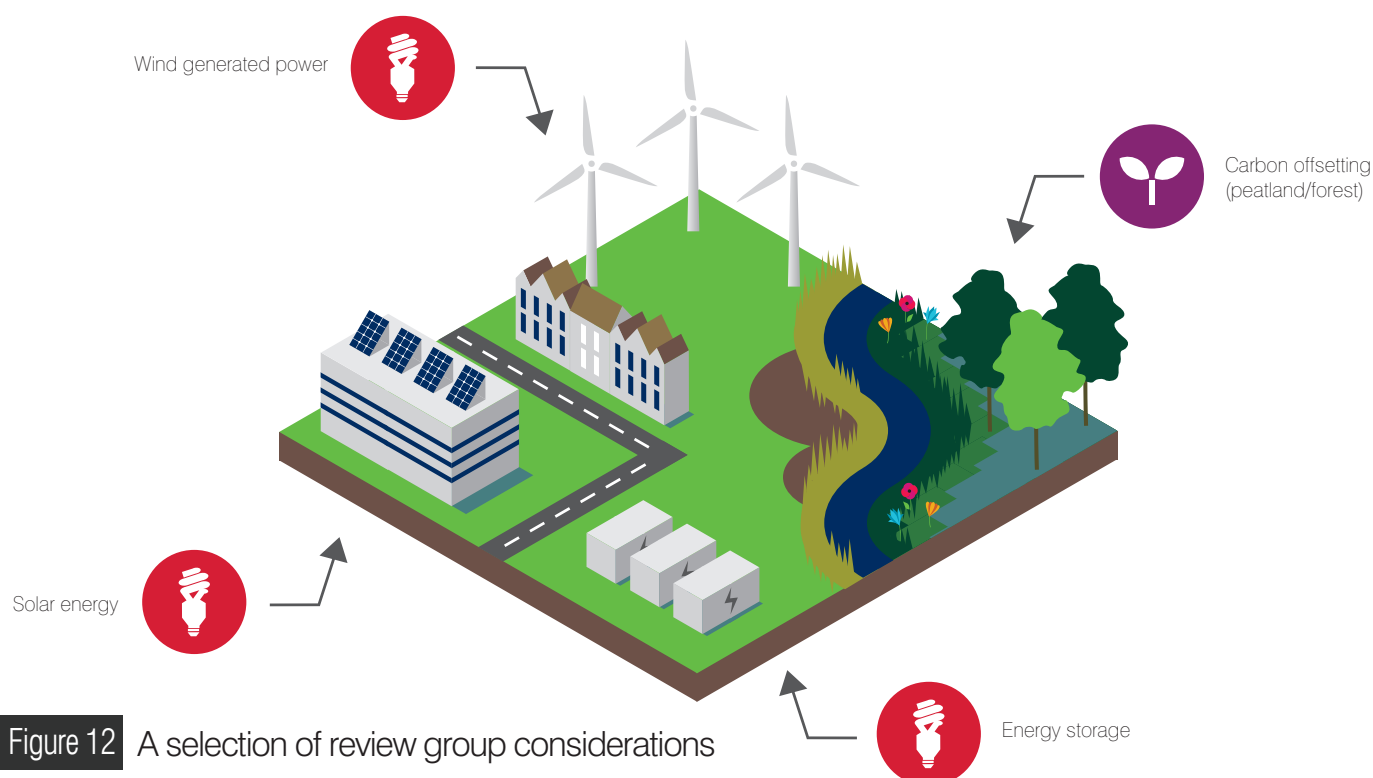
A renewable energy and carbon

offsetting review group will be formed to examine the business case for and opportunities and risks associated with investment at scale in renewable energy and carbon offsetting. The review will explore measures such as solar, off site solar and wind as well as evaluating the future fuel supply of our existing CHP energy centres and rapid developments in demand management and energy storage.

The Group will examine emerging low carbon and storage technologies suitable for our estate. Land-based carbon offsetting will be assessed as it

may provide multiple benefits in terms of linking to practical Scottish sustainability action and offsetting University emissions via peatland or woodland planting or restoration.

The University will also consider partnerships and collective infrastructure for renewables and energy. The review group will report findings to University management on recommended options with the aim to gain momentum for a future commitment to renewables investment and to identify the right mix of renewables investments for the University.



**Figure 12** A selection of review group considerations

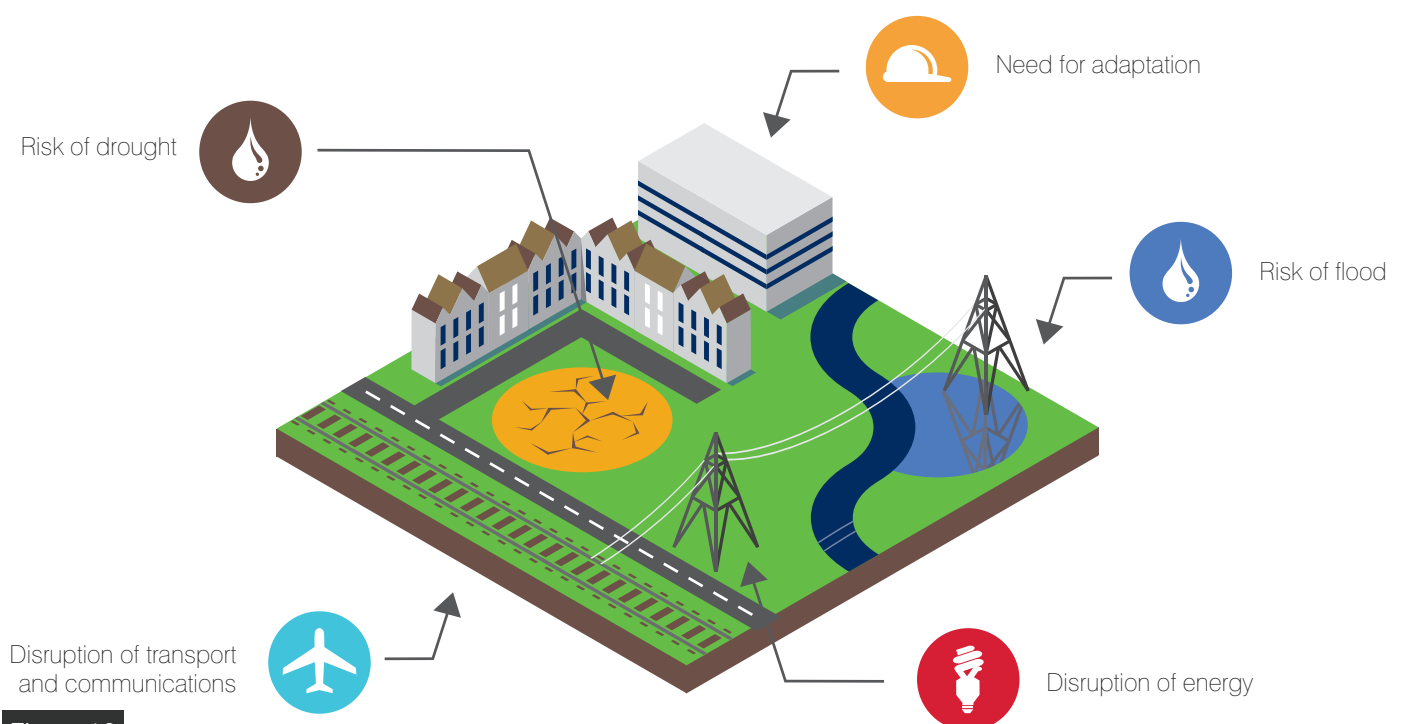
# The Whole Institution Approach

## Risk management and adaptation

The Scottish Government's Climate Change Adaptation Programme, launched in 2014<sup>49</sup>, addresses issues raised by the climate change risk assessment undertaken for Scotland, and its aims and themes provide the foundation for the University of Edinburgh's approach to adaptation: climate ready natural environment, climate ready buildings and infrastructure networks, and climate ready society.

Climate change in Scotland has already brought warmer, wetter autumns and winters and hotter, drier summers.<sup>50</sup> The consequences of climate fluctuations with potential impact on the University of Edinburgh include:

- **Increased flood risk**, threatening the estate (particularly the historic environment)
  - Water shortages from **drought** in summers, affecting University-held land
  - The **need to adapt** performance and design, construction, management and use of buildings and surroundings
  - Possible **disruption of transport, energy and communication networks** in Scotland and around the world, impacting markets and affecting supply chains – lack of resilience in this area could mean that the University feels the effects of a potential decrease in international student enrolment
- **Global energy market** impacts affecting energy supplies and energy security
- Beyond consideration of these direct impacts and risks to estate and functions and capacities within it, the University adopts an approach to climate change that acknowledges that we are embedded locally in the city of Edinburgh, but also in the context of Scotland and more widely in the world. As also emphasised in the University Strategic Plan 2016-21, the Scottish adaptation programme notes that actions must be taken at local, national and international levels.<sup>51</sup>
- The University of Edinburgh is developing an adaptation strategy to include the following objectives to mitigate risk and increase opportunities and well-being:
- **Deliver globally by supporting/encouraging research**, learning and teaching in adaptation, in keeping with the Strategy's whole institution approach
  - **Act in partnership locally**, with continued representation on the City of Edinburgh Council Edinburgh Adapts Steering Group and participation in the Edinburgh Living Landscapes (ELL) Partnership, which addresses issues of adaptation for the city and will feed into estates design
  - **Identify, evaluate and monitor adaptation actions**, following Adaptation Scotland guidance: assess climate threats and opportunities, assess climate risks and identify actions, report and implement, monitor and review
  - **Conduct assessments of risk** to operations and impact on stakeholders and future business every three years, collating data and information for the new Scottish Government mandatory climate change reporting requirements for adaptation



**Figure 13** Possible effects of climate change

# The Whole Institution Approach

## Progress through partnerships

The University aims to progress climate change ambitions through engagement in our city and Scottish, UK and international partnerships.

At local level, our active memberships in the City of Edinburgh Council Edinburgh Adapts Steering Group and Edinburgh Living Landscape (ELL) Partnership address both adaptation and biodiversity issues that do not remain confined within the borders of our campuses. We also participate in the Edinburgh Sustainable Development Partnership (ESDP), which has a broad remit to collaborate to promote Edinburgh's sustainability strategy, strengthen partnership working across stakeholders, share best practice and identify areas of city life in need of improvement.



The Informatics Forum: one of the University's roof gardens



EAUC Scotland Conference  
November 2015

The University partners on reuse, for example, as a member of the Community Resources Network Scotland (CRNS), Scotland's national community repair, reuse and recycle charity. We utilise the network of over 100 members to find homes for items what would have otherwise become waste.

The University works closely with the Scottish Funding Council (SFC) and other peers to contribute to climate change policy for the sector and we have worked jointly with SFC to develop reviews of renewables technology, best climate strategy practice and a carbon forecasting tool. We are a member of the Environmental Association for Universities and Colleges (EAUC), which advances sustainability measures and information sharing across the sector while also providing key support to higher education institutions in development of climate action plans.



Innovative Learning Week:  
Japanese Tea Ceremony at the  
National Museum of Scotland.

At an international level, we are forging links as a member of the International Sustainable Campus Network. The University is exploring partnerships with leading US and other global universities to share best practice and explore common objectives.

The partnerships introduced by no means represent all University partnership working relevant to climate change mitigation and adaptation. They illustrate central areas of activity. We aim to continue to strengthen and widen collaborative efforts such as these.

# Governance, review, and reporting

Progress to meet climate change goals requires strong leadership and commitment from the entire University of Edinburgh community, with appropriate plans for review and an understanding of obligations for reporting.

**Table 3** The University adheres to the following annual reporting schedule

CRC* Energy Efficiency Scheme	Only emissions from Energy in CO <sub>2</sub> e
EU Emissions Trading System	CO <sub>2</sub> only from energy generation
UoE Sustainability Report	Full carbon footprint
Scottish Government	Full carbon footprint
Higher Education Funding Council	Full carbon footprint
UoE Financial Report	Full carbon footprint



Since 2009/10 we have reported our achievements through an annual 'Highlights' report, and we have more recently reported progress on social responsibility and sustainability issues alongside the University's Annual Report and Accounts.

In 2014/15 we continued to improve our approach to reporting through alignment with good practice that would guide us to report on those issues that are most

important to our stakeholders as well as the long term success of the University.

The Social Responsibility and Sustainability Committee (SRSC) provides climate change governance for the University and will review and monitor the Climate Change Strategy on behalf of the Central Management Group (CMG).

We will conduct a midterm review in 2021 to gauge progress against the

Strategy objectives and assert any new measures needed to meet proposed targets. Reviews will lead to continual improvement of both our targets and means to achieve these targets.

The Sustainable Operations Advisory Group (SOAG), a sub-committee of our SRS Committee, will ensure oversight on sustainable operations issues such as climate change and energy efficiency.





# Implementation and next steps



In 2017 the University will finalise a three year Implementation Plan, 2017-20, to set out the critical steps and time frame for programmes integral to achieving Climate Change Strategy targets.

We are committed to delivering the Strategy through a whole institution approach that relies on a wide range of effective measures, as set out in previous sections.

Planning will span communications and engagement, research, learning and teaching, ways to reduce our operational emissions, further development of an adaptation strategy, growing partnerships and exploring investment in renewables.

## Communications and engagement

- The devolved nature of the University means that a communications strategy will be essential to ensuring that the whole institution approach is successful. All objectives rely upon positive engagement with our community, and many will require action to be taken by staff and students themselves.
- As such, the communications plan will require both an internal and external focus, reflecting the multiple and diverse range of stakeholders concerned with the Climate Strategy.
- We embed public and community engagement, as well as student experience, into our implementation plans. This means that all significant activities will be explained and promoted to our community so that they can understand what the University is doing and why.

## Research, learning and teaching

- The University will reflect climate change thinking in research, learning and teaching through support for expansion of student course offerings in climate change and development of the living lab concept.
- We will work to engage the wider public – both at the University and beyond – in understanding the research conducted on climate change, what this means to Scotland and the world, and how the University will help to tackle these challenges.

## An adaptation plan

- Further work will be undertaken to develop an adaptation plan, through an assessment of threats and opportunities, and implementation of relevant actions in partnership.





## Reducing operational emissions

- We are committed to an energy reduction programme that will deliver energy and cost savings. This programme includes the new Sustainable Campus Fund, the expansion of renewables across campuses and the Switch Energy Awareness campaign.
- We will support and encourage positive behaviours through targeted programmes such as the Sustainability Awards as well as through comprehensive guidance for sustainable labs and business travel.
- We will ensure that mitigation and adaptation planning are integral to design programmes for new builds and refurbishments, including laboratories, identifying best practice and developing a leading edge and innovative approach.
- The University will continue to ensure organisational alignment and Climate Change Strategy input across IT, recycling and waste management, travel, procurement and food policies and strategies, so that we are all speaking the same language of sustainability in order to meet our targets.
- Finally, we will develop our carbon reporting and accounting capabilities in order to deliver refined data and a sound evidence base for action.

## Growing partnerships

- We will also grow partnerships and continually search for new partnership possibilities to progress our own climate change goals while contributing to the wider community.

## Investment in renewables

- We will harness academic and support group expertise to explore renewables and new technology options for the University, with the aim to gain momentum for a future commitment to renewables investment and to identify the right mix of renewables investments for the University.

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44. For example, in the Procurement Reform (Scotland) Act.
45. The SRS staff and student surveys found that a large majority of staff and students expect University food provision to be sustainable across a range of issues.
46. University of Edinburgh SRS Themes, Responsible Investment <http://edin.ac/2cZDCBf>
47. University of Edinburgh SRS Responsible Investment <http://edin.ac/2cZDfa4>
48. Carbon Masters - University of Edinburgh Boundaries & Reporting at <http://edin.ac/2exvnTE>
49. Climate Ready Scotland, p. 5 at <http://edin.ac/2dSbqqd>
50. Ibid, p. 13
51. Ibid, p. 13



## Our vision

### We will be carbon neutral by 2040.

As part of a global community working to address climate challenges, we will demonstrate our commitment through our research, our teaching, and the management of our operations and investments.

We will reduce our energy consumption, enhance our use of renewable energy, and explore new ways to cut our direct and indirect emissions, which will fall in line with the efforts required to avoid dangerous climate change.

We believe in demonstrating the value of climate solutions through our reporting and we will implement processes to understand the carbon impacts of our business decisions.

Following an extensive review of the University's emissions, this Strategy identifies key drivers as electricity, gas and business travel. We are therefore developing targeted programmes to reduce emissions in these areas.



We will reduce our emissions of carbon / £ million turnover by 50% from a 2007/8 baseline year by 2025



We will return our carbon emissions to 2007/08 baseline year levels by 2025



We will become a net zero carbon university by 2040

You can read more online at [www.ed.ac.uk/sustainability/zero-2040](http://www.ed.ac.uk/sustainability/zero-2040)  
This Strategy can be made available in alternative formats on request.

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## Our pathway to 2025



Energy reduction campaign  
-8,363 tCO<sub>2</sub>e



10% cut in expected flight growth  
-2,375 tCO<sub>2</sub>e



Move to electric vehicle fleet  
-760 tCO<sub>2</sub>e



Other policy and behavioural change  
-5,340 tCO<sub>2</sub>e



Land based carbon offsetting  
-10,000 tCO<sub>2</sub>e

Total emissions reductions  
**-26,838 tCO<sub>2</sub>e**

2025 net carbon emissions  
**79,964 tCO<sub>2</sub>e**