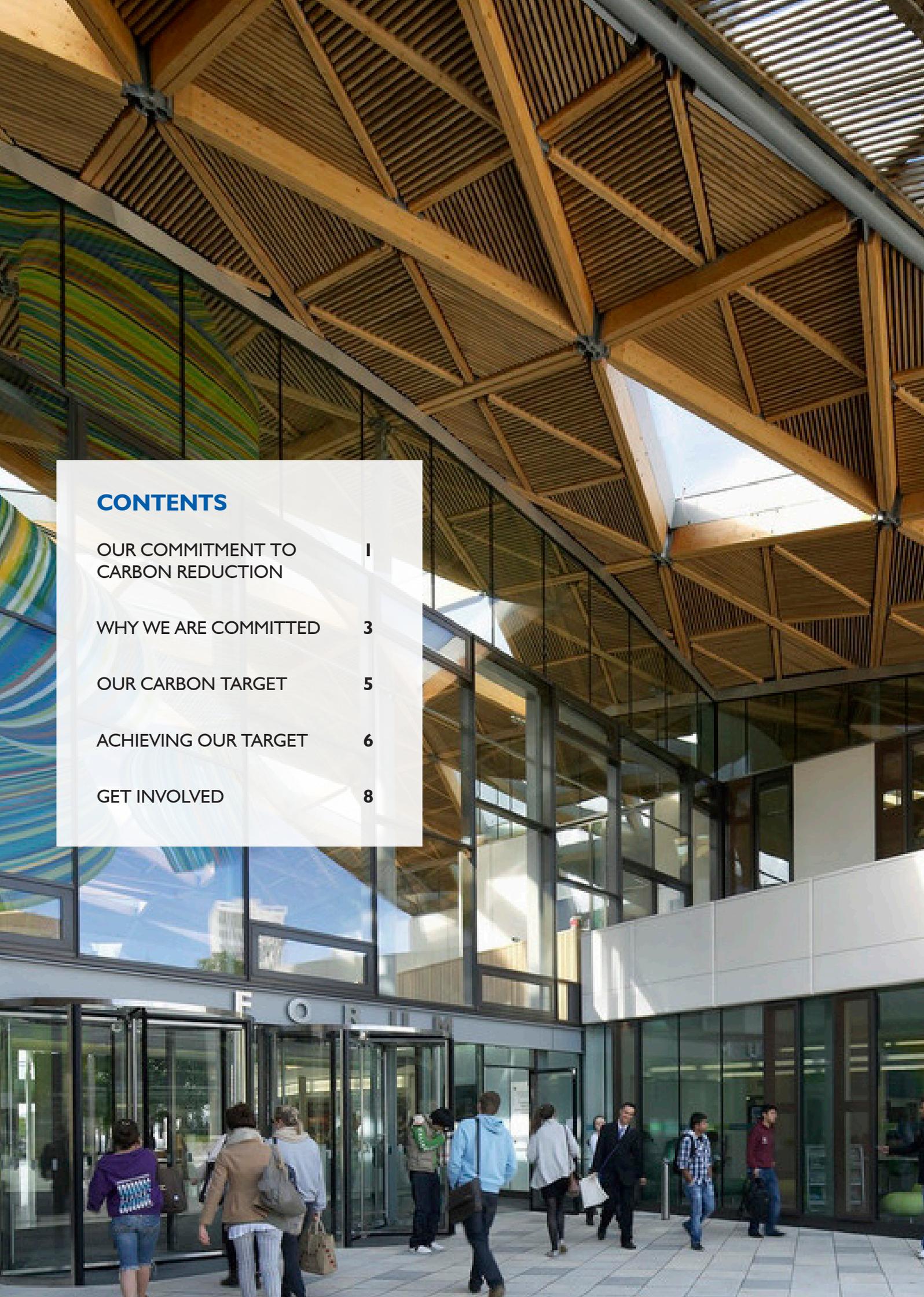




# LOW CARBON COMMITMENT

STRATEGY





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# OUR COMMITMENT TO CARBON REDUCTION

“Over the last decade, the University of Exeter has made rapid progress and is now consistently ranked amongst the top 10 Universities in the UK with an ambition to be among the top 100 in the world. We have seen transformative change and there is more to come. Research undertaken by academic staff and students of the University of Exeter, including collaborative work with the Met Office Hadley Centre for Climate Science and Services, contributes significantly to the scientific consensus that anthropogenic greenhouse gas emissions contribute significantly to recent changes in the climate system.

Those changes have already had widespread impacts on human societies and natural systems and ‘business as usual’ would set us on a path towards what the Intergovernmental Panel on Climate Change describe, in their 2014 synthesis, as “severe, pervasive and irreversible impacts for people and ecosystems”. Avoidance of these impacts will require both adaptation and significant reductions in greenhouse gas emissions. This presents a challenge to nations, businesses and individuals.

In developing Our Low Carbon Commitment we are: acknowledging the impact of our carbon emissions and our role in defining our future; recognising the need for the skill, knowledge and creativity of all staff and students to develop low carbon solutions; and, seeking to develop an operational model for the institution that is in harmony with our academic endeavour.

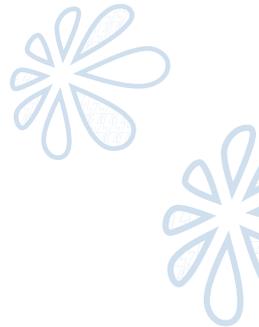
Our Low Carbon Commitment is, therefore, closely aligned to our developing Exeter Global Vision 2050 Project. Conceived as an over-arching research theme and set of values for the University, this poses the question: ***‘What will the world be like in 2050 and how can we use research to shape the future development of our planet?’***

Our Low Carbon Commitment embodies our commitment to embracing this question and to creating a world class university that is both a dynamic and engaging place to study and work and an efficient and sustainable environment. It is based upon our collective understanding that reducing our carbon emissions is the right thing to do.”



PROFESSOR TIMOTHY QUINE  
PROFESSOR OF EARTH SYSTEM SCIENCE

A handwritten signature in black ink, appearing to read 'T. Quine', written over a light blue scribbled background.



# REDUCING CARBON EMISSIONS AT THE UNIVERSITY OF EXETER

Innovation Centre project  
receives the Building  
of the Year Award at  
the Forum of the Built  
Environment (FBE)

2004

2007

First Energy  
Manager  
appointed

Awarded the Carbon  
Trust standard, one of the  
first 10 Universities to  
achieve this

Shortlisted for The  
Times Higher Education  
Outstanding Contribution  
to Sustainable  
Development

Reduced carbon dioxide  
emissions by 6% from  
the previous year

Development of the  
University's first CMP

First class award  
for environmental  
performance in People and  
Planet 2010 Green League

Green Impact delivered for  
the first time

2008

2009

One planet MBA by the  
University of Exeter  
Business School launched  
in 2010, developed in  
partnership with WWF  
International

2010

Environmental and  
Sustainability Institute  
building awarded an  
Outstanding rating by  
BREEAM

Environmental and  
Sustainability Institute to  
continue cutting-edge  
research into problems of  
environmental change

Students' Green Unit  
launched

Climate Change:  
Challenges and Solutions  
'Massive Open Online  
Course' launched

Achieved ISO14001 for  
Campus Services

Biomass boiler installed

Students' Guild achieved  
Gold in the NUS Green  
Impact Awards 2012

2011

2012

28 teams across the  
University receive the  
Green Impact Awards

Ground Source Heat  
Pumps and Labyrinth  
installed at the Forum

2013

IPCC AR5 published,  
with six contributing  
authors from the  
University of Exeter

Hosted the IPCC  
Conference:  
Transformational Climate  
Science

£1 million of annual  
energy savings delivered

Green Gown Award  
for Construction and  
Refurbishment for  
the Cornwall House  
project

2014

# WHY WE ARE COMMITTED

In 2008, the UK established the world's first legally binding climate change target in order to kick-start the transition to a low carbon economy, in line with the UNFCCC's Kyoto Protocol. To support the global effort to reduce greenhouse gas emissions, the University of Exeter has committed to an 80% reduction in emissions from our operations by 2050.

Fundamentally, improving our carbon management efforts comes down to doing the right thing for our staff and students both now and in the future. As a world-leader in the subject of climate change *it's time we walk the talk.*

## Climate change & international agreements:

Research globally and at the University of Exeter continues to support the scientific consensus that anthropogenic carbon emissions contribute significantly to our changing climate, leading to an increase in global mean temperatures, altered precipitation patterns and increasing frequency and intensity of extreme weather events. Through our research at the Met Office Hadley Centre for Climate Science and Services, we have already seen the impact these changes are having on our ecosystems, water and food availability and business continuity. Under the Kyoto Protocol, the UK government is committed to reducing carbon emissions compared to a 1990 baseline. These national targets represent an 80% reduction by 2050.

## National agreements & compliance:

To deliver these savings, legislation has been introduced to encourage organisations to proactively implement measures to reduce consumption, including the CRC Energy Efficiency Scheme, the EU Emissions Trading System, the EU Energy Performance of Buildings Directive and the Energy Efficiency Directive. These schemes have empowered us to monitor and act upon our carbon emissions.

## Local and regional considerations:

The University of Exeter understands that it has a corporate and social responsibility to act in the best interests of the local and regional community. It is for that reason that we work with local councils and community groups to find innovative new ways to reduce our carbon emissions, including the ongoing development of a district heating scheme.

## The Higher Education Funding Council for England (HEFCE):

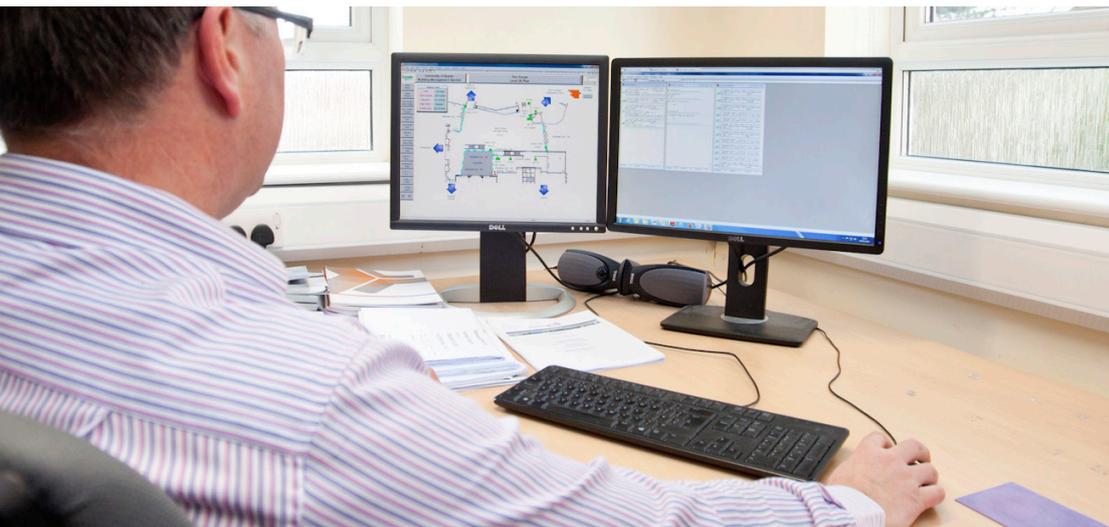
The public sector has responded positively to Government carbon emissions targets. HEFCE has led the way by introducing the Carbon Reduction Target and Strategy for Higher Education in England, which sets challenging targets for carbon emissions. A demanding 43% reduction by 2020 and 80% by 2050 is targeted for scope 1 and 2 emissions, which includes emissions from direct activity and purchased energy.

**Finance:** Our energy bills are our second largest cost. By adopting a strategy to reduce consumption, we can mitigate against the dual risks of rising energy costs and reduced security of supply.

**Reputation:** The University of Exeter is renowned for our cutting edge research into sustainability and climate change. National league tables demonstrate the positive impact this has on our reputation, and the National Union of Students have established a clear link between sustainability and student satisfaction, with over 80% believing sustainable development should be actively incorporated and promoted by universities.

**Relationships:** Our expertise in the areas of climate change and sustainability have enabled us to forge unique relationships, including a strategic partnership with the Met Office. Effective management of our own carbon emissions can only act to enhance our relationship with our partners.

**Benefits:** We also understand the positives that embedding a carbon reducing culture can bring to the University. By investing in our future, we will be better equipped to accommodate growing student numbers, while ensuring our campuses remain comfortable and adaptable.



# OUR CARBON TARGET

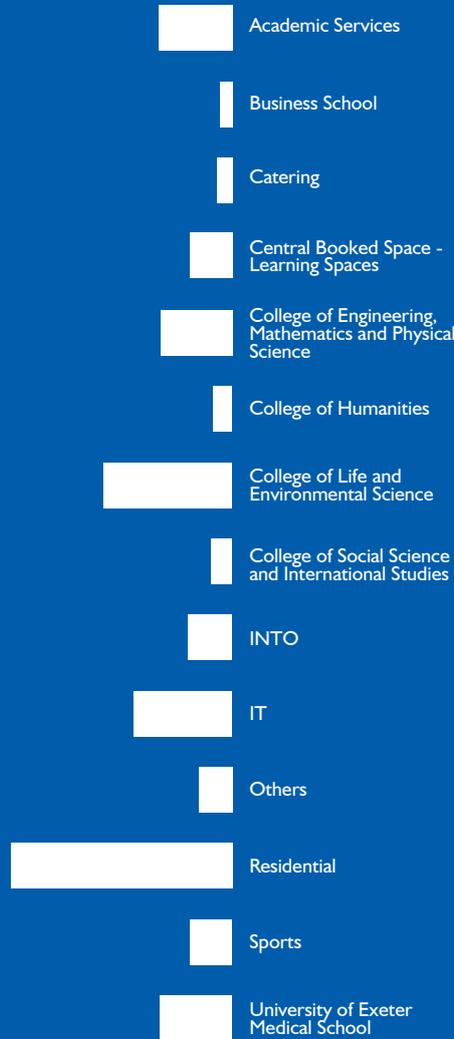
Despite growth in student numbers, we have managed to make overall emissions reductions since our 2005 baseline.

Our target of reducing emissions by 43% by 2020 is challenging in light of the rate of development of the University over the last decade. Despite an incredible increase in staff and student numbers, our emissions have decreased by 11%. When normalised against the increasing use of our campuses, we have experienced a decrease of 45%.

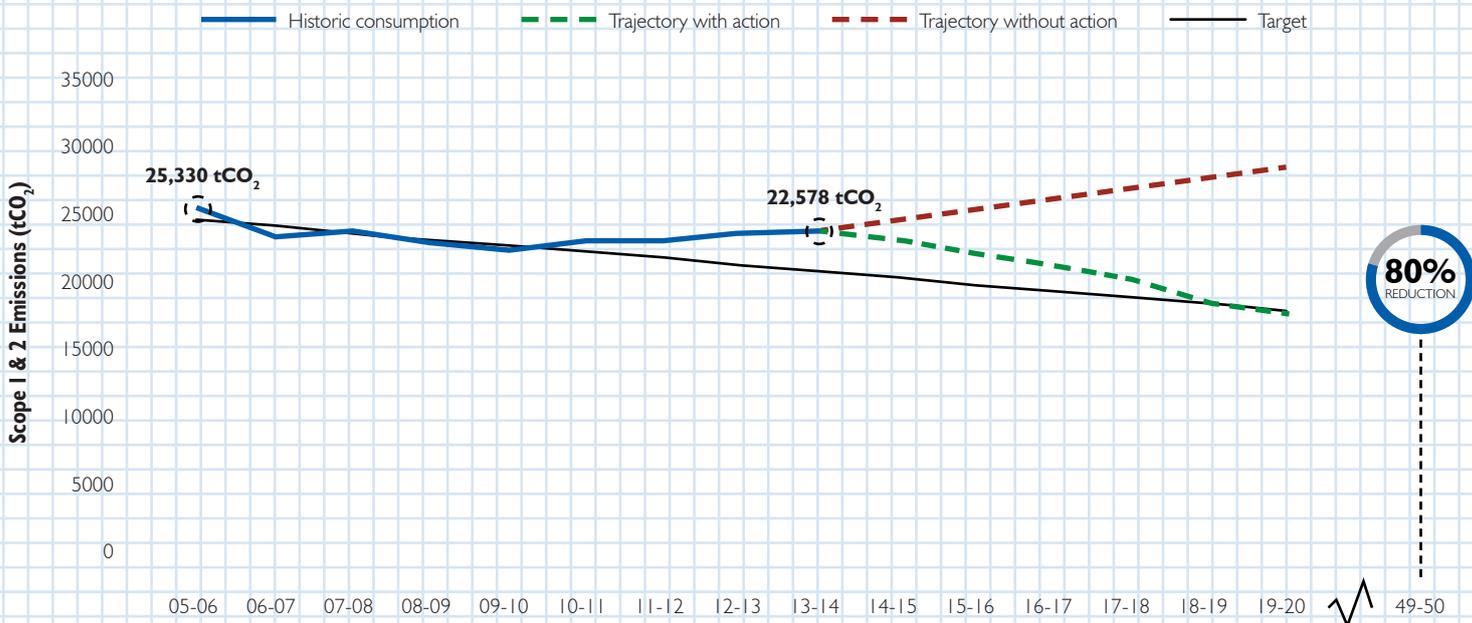
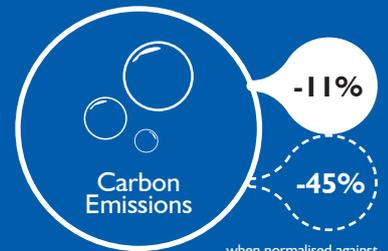
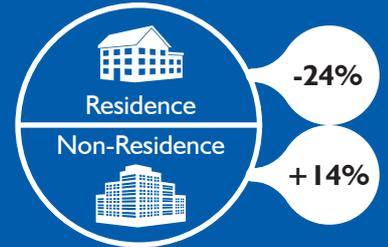
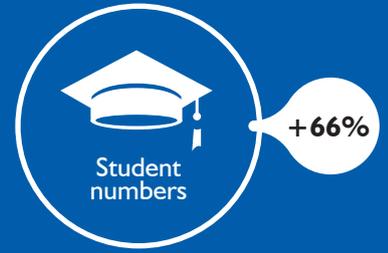
We anticipate continuing growth across our campuses. We have already identified several projects that will deliver tangible energy savings. While steps have been made in the right direction, we understand that there is still a long way to go.



## ANNUAL CONSUMPTION BY FACULTY



## CHANGES TO THE UNIVERSITY 2005 - 2014



# ACHIEVING OUR TARGET

With such ambitious targets, it's important that we proactively seek out opportunities to reduce our consumption.

We have already implemented several projects that will reduce consumption across our campuses. These projects can be broken down into three key areas; investing in technology, renewable energy and staff and student engagement.

## IMPLEMENTATION PLAN

The University of Exeter is committed to delivering on our ambitious targets by adopting a co-ordinated strategic approach to identifying and analysing carbon reduction opportunities, maximising our ability to deliver impactful projects that help reduce our energy use. We recognise the potential to make long-lasting changes by investing in innovative and deliverable technical projects, engaging with staff and students and monitoring and measuring our activity.



### INVESTING IN TECHNOLOGY

The University of Exeter has identified technical energy conservation projects that will achieve significant reductions in our carbon emissions to be delivered in line with our implementation plan. These projects not only reduce our emissions but also drive down our energy expenditure, modernise our facilities and deliver comfortable and adaptable campuses.



### RENEWABLE ENERGY

To ensure the ongoing security of our energy supply it is important that we consider alternative energy sources, reducing our dependence on the national grid. We have identified that renewable energy sources can play a role in reducing our carbon emissions and energy expenditure while mitigating against future changes in the energy market.

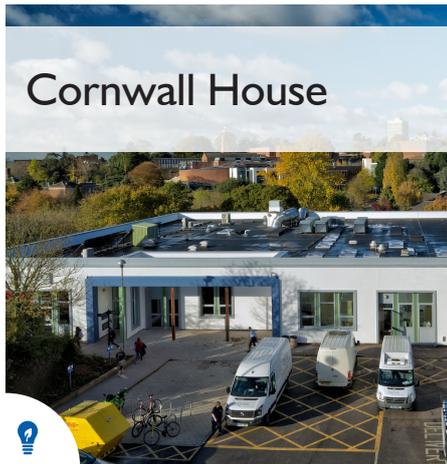


### STAFF AND STUDENT ENGAGEMENT

Carbon reducing action is the responsibility of us all. Staff, students and other users of our campuses all have a key role to play in reducing our carbon emissions. There is a host of initiatives to enable staff and students to be involved in carbon reducing action across the University. We aim to provide regular progress updates, demonstrating our proactive approach to reducing energy use.

## JUST A FEW OF OUR PREVIOUS SUCCESSES

We have already taken great strides in reducing our carbon emissions by taking decisive action in three key areas: investing in technology, renewable energy and staff and student engagement. We understand that there is still plenty of work to do and aim to keep all our staff and students updated on the progress of future carbon reducing action.



Cornwall House



Cornwall House has undergone a complete retrofit to improve the building's carbon performance. A host of measures were implemented including:

- ☐ Fabric upgrades to roof and walls, including thermal insulation
- ☐ Solar control glazing to reduce the requirement for air conditioning
- ☐ Replacement of many lamps and light fittings
- ☐ Provision of renewable energy sources

Thermal modelling was used throughout the design period to constantly update and inform action so that the greatest impact could be made. As a result, carbon savings of 200 tonnes have been delivered and Cornwall House has become a vibrant building at the very heart of the student social scene.



Biomass Boilers



The University has acted decisively in installing a state-of-the-art biomass boiler, producing up to 600,000kWh of heat energy from renewable sources and saving up to 114 tonnes of carbon dioxide each year. The boiler burns pellets sourced from sustainably managed local woodlands and reduces the need to use gas boilers.

Although the combustion of biomass releases carbon dioxide into the atmosphere, this is offset by the carbon dioxide absorbed in the original growth of the biomass. Thus, biomass heating is considered "carbon neutral" and results in very low net lifecycle carbon emissions relative to fossil fired heating systems.



Students' Green Unit and Green Awards



Staff and students at the University of Exeter have demonstrated a real passion for sustainable action across our campuses.

Having recently won the 2014 International Sustainable Campus Network (ISCN) Excellence Award for Student Leadership, the Students' Green Unit is a full-time team providing support for students interested in creating a more sustainable university.

Similarly, staff have engaged in a scheme that encourages them to commit to actions to make their workplaces more sustainable. Teams made up of staff in departments throughout the University have worked through an online workbook to detail the green practices they undertake.



# GET INVOLVED

To reach our targets, we need a united effort from staff and students, collaborating to identify opportunities to reduce consumption. We are eager to involve students and staff in all our activities by adopting an inclusive approach to carbon management.

## STUDENT ACTION



## PLAY YOUR PART

It's the little, habitual actions that will go a long way to helping us meet our targets:

- ☐ Turn off lights and appliances
- ☐ Use a lid on a saucepan
- ☐ Keep doors and windows closed
- ☐ Don't overfill the kettle
- ☐ Wear warmer clothing

## BECOME A CHANGE AGENT

There are various opportunities across the University for students to get involved and drive carbon reduction. We hope you will grasp the initiative and rise to the challenge of becoming a change maker and playing an active role in our vision to reduce our carbon footprint.

Sustainability skills can help improve your chances of getting a job in the growing Green Economy sector, giving you that extra edge when making your applications. Remember that all extra curricular activities are recorded as part of your Higher Education Achievement Record!

### *Take the lead at the Students' Guild*

Through the Activities and Volunteering committee, the Students' Guild provide numerous routes to taking a more active role in carbon reduction. These include:

- ☐ Societies focused on how to reduce the University's carbon footprint
- ☐ Community Action, the Guild's volunteering organisation, which offers practical volunteering projects on a fortnightly basis
- ☐ Further volunteering opportunities and support for students interested in creating a more sustainable University

### *Develop your understanding*

There are numerous opportunities to further your understanding of driving carbon reduction at the University. Why not become a Green Consultant, sign up to the Exeter Award and opt for the Sustainability Sessions or undertake sustainability modules as part of your course?

UNIVERSITY OF EXETER  
**STUDENTS'**  
**GUILD**

## STAFF ACTION

It's important that our staff understand the influence that their behaviour has on our carbon emissions and the simple steps that they can take to reduce their impact. We want our staff to understand the actions they can take from their very first day at the University, enabling them to be more efficient and effective in their chosen role.

### CONSIDER OUR IMPACT

Small changes can make the biggest difference. By modifying our behaviour we can reduce our energy expenditure by over £80,000 per year, simply by turning lighting and equipment off when not required. It's by making these actions habitual that we can become more effective and efficient.

We all know that items left on standby continue to use energy, so it's just a simple matter of turning items off when not in use to further minimise your impact on our energy consumption.

### BE EFFICIENT

We can also reduce our carbon footprint by making sure that the equipment we use on a daily basis has the correct settings.

- ☐ Before making any changes to heating and cooling settings, consider the impact it will have on other users
- ☐ Rather than turning the heating up, why not bring a jumper to work?
- ☐ Keep doors and windows closed between different areas of the building to ensure that all users remain comfortable

### PLAN AHEAD

The University of Exeter operates a sustainable purchasing policy, where the life cycle cost of appliances is considered at the point of purchase for large pieces of equipment.

Before purchasing an item of equipment, consider the cost over the lifetime of the product. Is it worth saving a few pennies and pounds now only to have to pay them back many times over throughout the life of the item?

### TAKE THE LEAD

Why not take a hands on role in reducing our energy by becoming a Sustainability Coordinator? The opportunities are endless:

- ☐ Directly influence energy consumption within your area
- ☐ Meet likeminded and committed people during our regular Sustainability Coordinator meetings
- ☐ Share best practice amongst one another

### RUN A PROJECT

Ever thought of a way to make your workplace more sustainable or to raise awareness of environmental issues but don't have the time or resources to do so? Why not work with student Green Consultants to create and manage your own sustainability project on campus?

Green Consultants is an employability led initiative which aims to provide those students interested in a career in sustainability with practical experience and includes a five day on-campus project to put into practice what they have learnt in their training. Green Consultants have worked together with staff at the University to implement sustainability projects as part of this experience.

Please contact the Sustainability Mailbox if you are interested in developing your own project with the help of Green Consultants.



## CONTACT US

We are always eager to hear your comments regarding our Low Carbon Commitment. We want you to help shape the direction we take in reducing our carbon emissions. Please share your ideas, comments and suggestions by contacting the Energy Team at..

**[energy@exeter.ac.uk](mailto:energy@exeter.ac.uk)**

or visit the website...

**[www.exeter.ac.uk/sustainability](http://www.exeter.ac.uk/sustainability)**

